



Study on Living Income and Economic Resilience in Better Cotton Programme Communities in Pakistan

(Final Report)
April 2025



HIMAT CONSULTING PRIVATE LIMITED

Office no: 123, Ground Floor, Khudadad Heights, E11/4,
Main Margalla Road, Islamabad

Email: info@himmatconsulting.com Phone: (051) 6131366

Acknowledgement

We would like to express our sincere gratitude to all the cotton farmers who generously shared their time, experiences, and insights for this study. We are especially thankful to Ms. Munazza from Better Cotton for her dedicated coordination of the assignment from start to finish. Our appreciation also goes to the data collection and monitoring teams from HCPL for their invaluable assistance in fieldwork. Special thanks to the BC's local partners and field facilitators for their support in engaging with communities across Punjab and Sindh. We are grateful to Better Cotton for commissioning this study and for their continued commitment to improving the livelihoods of smallholder cotton farmers. The comments and feedback provided by the Better Cotton team on the draft report and study tools enriched the quality and relevance of this study.

Fazal Ali Khan, Study Team Lead
Himatullah, CEO HCPL

Contents

Executive Summary.....	0
1. Introduction.....	3
2. Study Background	3
2.1. Objectives of the study	4
3. Methodology/Approach.....	4
3.1. Study Approach and design.....	4
3.2. Concepts and definition of living income.....	4
3.3. Key elements of living income and resilience study	6
3.4. The living income and resilience assessment framework.....	7
3.5. Estimating the living Income Benchmark.....	0
3.6. Methodology for estimating the existing household income	5
3.7. Methodology for qualitative assessment	8
3.8. Methods for Data Analysis.....	9
4. RESULTS.....	10
5. Overall Key Findings, Conclusions, and Recommendations	25
6. Local Livelihood Model and Roadmap for Enhancing Economic Resilience among Cotton-Farming Households in Punjab and Sindh (2025–2030).....	31
7. Implementation Roadmap for the Local Livelihood Model (2025–2030) - Enhancing Economic Resilience and Feasible Incomes for Smallholder Cotton Farmers in Punjab and Sindh	37
Annex 1: Additional Tables.....	0
Annex 2: Data Collection Tools.....	1
Annexure- 2 (a): Household Survey Questionnaire.....	1
Household Survey Questionnaire	1
Annex 2 (b): (Focus Group Discussion (FGD) Guidelines).....	24
Annex 2 (c): Key Informant Interview (KII) – Government Officials/Extension Service Providers.....	0
Annex 2 (d): Key Informant Interview (KII) – Market/Ecosystems players	0
Annex 2 (e): Key Informant Interview (KII) – Partner Staff	0
Annex 2 (f): Village/Market Prices	0
Annex 2 (g): Housing Costs.....	0
Annex 2 (h): Education and Health Costs.....	0

Executive Summary

Commissioned by Better Cotton, this study evaluates the income levels, economic resilience, and livelihood potential of cotton-farming households in eight districts across Punjab and Sindh, Pakistan. Using a mixed-methods approach—combining a survey of 801 households, focus group discussions (FGDs), and key informant interviews (KIIs)—the study analyses income drivers, cost structures, climate and market vulnerabilities, and alternative livelihood opportunities. It benchmarks annual household incomes against province-specific Living Income thresholds, estimated for 2024–25, to identify income gaps and guide strategic livelihood interventions aligned with Better Cotton’s 2030 targets.

Key Findings

- **Severe Income Gaps:** Smallholder farmers with less than 2.5 acres earn PKR 339,000 annually on average—208 per cent below the Living Income Benchmark in Punjab and 241 per cent below in Sindh. Only farmers with over 10 acres surpass the benchmark, underscoring deep inequality based on landholding size.
- **Income Drivers & Disparities:** Land size, crop yield, cotton prices, production costs per unit, and income diversification determine household income. Large farmers achieve higher earnings as they benefit from economies of scale, with cotton contributing 69 per cent to their annual income. In contrast, smallholders rely heavily on uncertain off-farm sources such as daily wage labour and earn only 31 per cent of their income from cotton farming.
- **Low Yields and High Costs:** Average cotton yield stands at 803 kg/ha—far below global leaders like China and Brazil. Smallholders face the highest production costs (PKR 210/kg), driven by limited access to quality inputs, mechanisation, and collective services.
- **Resilience Gaps:** Farmers in Sindh face more frequent climate shocks, such as droughts and floods, while those in Punjab recover less successfully after the shocks. Many households rely on distress-driven coping strategies—such as migration, wage labour, or withdrawing children from school—rather than adopting adaptive approaches like diversifying income sources, using climate-resilient farming methods, building savings, or accessing insurance and community support.
- **Market Barriers:** Price distortions, taxes on locally produced cotton, and the strong influence of intermediaries significantly depress farmgate prices, leaving farmers with low returns on their harvest. In addition, poor rural infrastructure, limited access to timely price information, and weak connections with buyers prevent farmers from negotiating better prices or entering more profitable markets. Together, these challenges restrict farmers' ability to increase their incomes and make cotton farming more sustainable.
- **Underutilised Potential of Women and Youth:** Women and young people remain an untapped resource in cotton-farming communities. Only 10 per cent of women currently earn an income, despite their potential to contribute to household livelihoods. Meanwhile, many young people express interest in vocational and digital skills that could offer alternative sources of income. However, they face significant barriers to accessing relevant training and employment opportunities, particularly in remote and underserved areas of rural Sindh.

Strategic Recommendations

To close the income gap and build economic resilience, the study proposes the following:

1. **Feasible income planning & diversification:** Support households to increase their incomes by 20–30 per cent through improvements in cotton productivity, reductions in input costs, and the development of secondary income sources — for example, livestock rearing, vegetable farming, and small or medium enterprises.
2. **Productivity gains through sustainable practices:** Promote the use of certified seeds, Integrated Pest and Nutrient Management (IPNM), climate-smart agriculture (CSA), and water-efficient techniques. Continue using demonstration plots and Farmer Field Schools to transfer knowledge and encourage adoption.
3. **Cost reduction via collective action:** Encourage smallholders to form groups for joint procurement of inputs, mechanisation services, and access to revolving funds. Collective action will help reduce per-unit production costs and improve profitability.
4. **Market access and price transparency:** Strengthen farmers' connections with buyers and expand collective marketing arrangements. Pilot contract farming models and introduce digital platforms to improve farmers' negotiation power and ensure fairer prices at the farmgate.
5. **Inclusive livelihood diversification:** Expand vocational training and microenterprise development programmes targeted at women and youth. These should focus on generating better and sustainable off-farm income, adding value to local products, and linking to low-risk rural businesses.
6. **Climate resilience and financial protection:** Introduce crop and livestock insurance schemes, develop early warning systems, and promote on-farm water harvesting. Encourage farmers to adopt risk-tolerant seeds and climate-smart practices to reduce vulnerability to shocks.
7. **Policy and system strengthening:** Engage in targeted advocacy on cotton pricing reform, rural infrastructure investment, extension services, and insurance expansion. Strengthen links with public subsidy schemes and vocational training institutions to build long-term resilience.

Livelihood Strategy & Roadmap (2025–2030)

The study outlines an eight-pillar Local Livelihood Model (LLM) to address income gaps and structural vulnerabilities. The model focuses on:

- Feasible income planning
- Sustainable cotton productivity
- Cost-effective production
- Livelihood diversification
- Market access and readiness
- Climate resilience integration
- System strengthening and advocacy.
- Monitoring, learning, and adaptation

A three-phase roadmap (2025–2030) guides implementation:

- Phase 1 (Foundation & Pilots): Baseline income mapping, pilot sites, and integrated livelihood packages.
- Phase 2 (Scale & Diversification): Expansion to new districts, focus on youth and women-led enterprises, insurance scale-up.
- Phase 3 (Integration & Sustainability): Institutionalise successful models via partnerships, policy advocacy, and impact evaluation.

This strategy provides a transformative pathway to improving farmer livelihoods, achieving Better Cotton's 2030 goals, and securing long-term resilience in Pakistan's cotton sector.

1. Introduction

This document presents the findings of the "Study on Living Income and Economic Resilience in Better Cotton Programme Communities in Pakistan," commissioned by Better Cotton (BC) Pakistan to Himat Consulting Pvt Ltd (HCPL). The study aimed to assess the living income of cotton farming households and their economic resilience, providing evidence-based insights to inform strategies for improving the livelihoods of Better Cotton farmers in Sindh and Punjab Pakistan.

The report synthesises the data collected through surveys, key informant interviews, and focus group discussions across selected Better Cotton Programme communities in eight districts of Sindh and Punjab. It evaluates key economic indicators, income sources, household expenditures, access to financial services, and coping mechanisms against economic shocks. The study also examines the challenges faced by cotton farmers in achieving a sustainable living income and proposes actionable recommendations to enhance their resilience.

By analysing the current income levels in comparison to the estimated living income benchmarks, this study offers a comprehensive understanding of the economic conditions of cotton farming households in Sindh and Punjab. The findings contribute to Better Cotton's broader efforts to promote sustainable and equitable farming practices, ensuring improved economic well-being for farmers and their communities.

This report serves as a valuable resource for stakeholders, policymakers, and development practitioners working to enhance the economic resilience of cotton farming communities in Pakistan.

2. Study Background

Better Cotton is the world's largest cotton sustainability programme, committed to transforming the cotton sector by helping cotton farming communities thrive while ensuring environmental protection. As part of this global initiative, Better Cotton Pakistan is at the forefront of promoting sustainable farming practices through its network of field-level partners, working with over 300,000 smallholder cotton farmers across Punjab and Sindh.

In line with Better Cotton's 2030 Strategy, which aims to enhance the net income and resilience of 2 million farmers globally, the Income & Resilience Study seeks to evaluate the current income levels and economic resilience of smallholder cotton farming households in Pakistan. The study will assess the gap between household income and living income, defined as the minimum income required for a household to meet its basic needs, such as food, housing, education, and healthcare. Additionally, the study will explore the economic resilience of these households, focusing on their ability to withstand external shocks and stressors.

The findings of this study are crucial in developing a roadmap for sustainable livelihood improvements, ensuring that the smallholder farmers not only survive but thrive in the face of challenges such as climate change, market fluctuations, and socio-economic vulnerabilities.

This study directly informs Better Cotton's efforts to strengthen the livelihoods and resilience of cotton farming communities in Pakistan, making them more self-reliant and better prepared for future challenges.

Through close collaboration with Programme Partners, local communities, and key stakeholders, the study provides insights into feasible and locally adaptable livelihood strategies, contributing to the long-term sustainability and prosperity of cotton farming households in Pakistan.

2.1. Objectives of the study

The primary objective of the Income & Resilience Study is to evaluate the gap between the current household incomes of smallholder cotton farmers and the living income required for a decent standard of living. The study also aims to assess the economic resilience of these communities, determining their capacity to absorb and recover from external shocks and stressors.

The goal is to propose practical, locally adaptable livelihood models and interventions that will help Better Cotton meet its 2030 target of improving the livelihoods and resilience of smallholder farmers in Pakistan.

The specific objectives include:

- **Understand the current income levels of smallholder cotton farming households and establish a baseline.** This involves determining the gap between their actual income and the living income required to meet basic needs such as food, housing, education, and healthcare.
- **Assess the level of economic resilience among smallholder farming households.** This includes analysing how well they cope with external shocks — such as climate change, market fluctuations, and socio-economic challenges — and identifying opportunities to strengthen their resilience.
- **Develop and recommend locally appropriate and adaptable livelihood models.** These models should align with Better Cotton's 2030 targets and aim to increase income, improve economic resilience, and enhance the overall well-being of cotton farming communities.

3. Methodology/Approach

3.1. Study Approach and design.

We have adopted a participatory and collaborative methodology, ensuring active engagement of the Better Cotton team and Programme Partners throughout the study. This participatory approach was vital to align the study with the principles of Better Cotton Principles & Criteria 3.0, which emphasise contextually appropriate livelihood interventions.

We used a mixed-methods design that combines quantitative and qualitative research techniques, along with the collection of both primary and secondary data. This approach aims to provide comprehensive insights into household income, living income gaps, and economic resilience among smallholder cotton farmers in Punjab and Sindh.

3.2. Concepts and definition of living income

The Living Income approach is a comprehensive and socially conscious strategy designed to enhance the economic well-being of individuals and communities, particularly in agricultural and low-income sectors. It originates from the broader discourse on economic justice and sustainable development, emphasising fair compensation that ensures a dignified standard of living for all. This approach

extends beyond traditional poverty reduction efforts, focusing on ensuring that people earn sufficient income to lead a dignified life, meet their basic needs, and move out of poverty.

Unlike conventional poverty reduction strategies that focus on short-term relief, the Living Income approach drives systemic change by promoting economic resilience, fair market access, and sustainable livelihoods. It focuses on ensuring stable and sufficient earnings, fair prices, and better labour conditions so that individuals can move beyond temporary poverty relief and achieve lasting economic independence. By integrating financial security, improving value chains, and reducing risks, this approach helps communities withstand economic shocks, avoid reliance on aid, and build long-term stability. As a result, it offers a more sustainable and empowering model for agricultural households.

It has gained traction through advocacy by organisations such as the Living Income Community of Practice, which includes global nonprofits, development agencies, businesses, and researchers. Prominent supporters include entities like the Sustainable Food Lab, Fairtrade International, IDH and Better Cotton, which champion its principles in their efforts to promote equitable and sustainable value chains. The Global Living Wage Coalition (GLWC) is another pivotal supporter, advocating for living wages and incomes through collaborations with certification bodies such as Rainforest Alliance, Social Accountability International (SAI), and the Forest Stewardship Council (FSC). The GLWC provides robust methodologies for calculating living wages tailored to local contexts and fosters partnerships with governments, businesses, and civil society. Together, these organisations are driving the adoption of the Living Income approach as a critical tool for achieving economic empowerment, social equity, and sustainable development worldwide.

The Living Income Community of Practice defines living income as:

"The net annual income required for a household in a particular place to afford a decent standard of living for all members of that household."

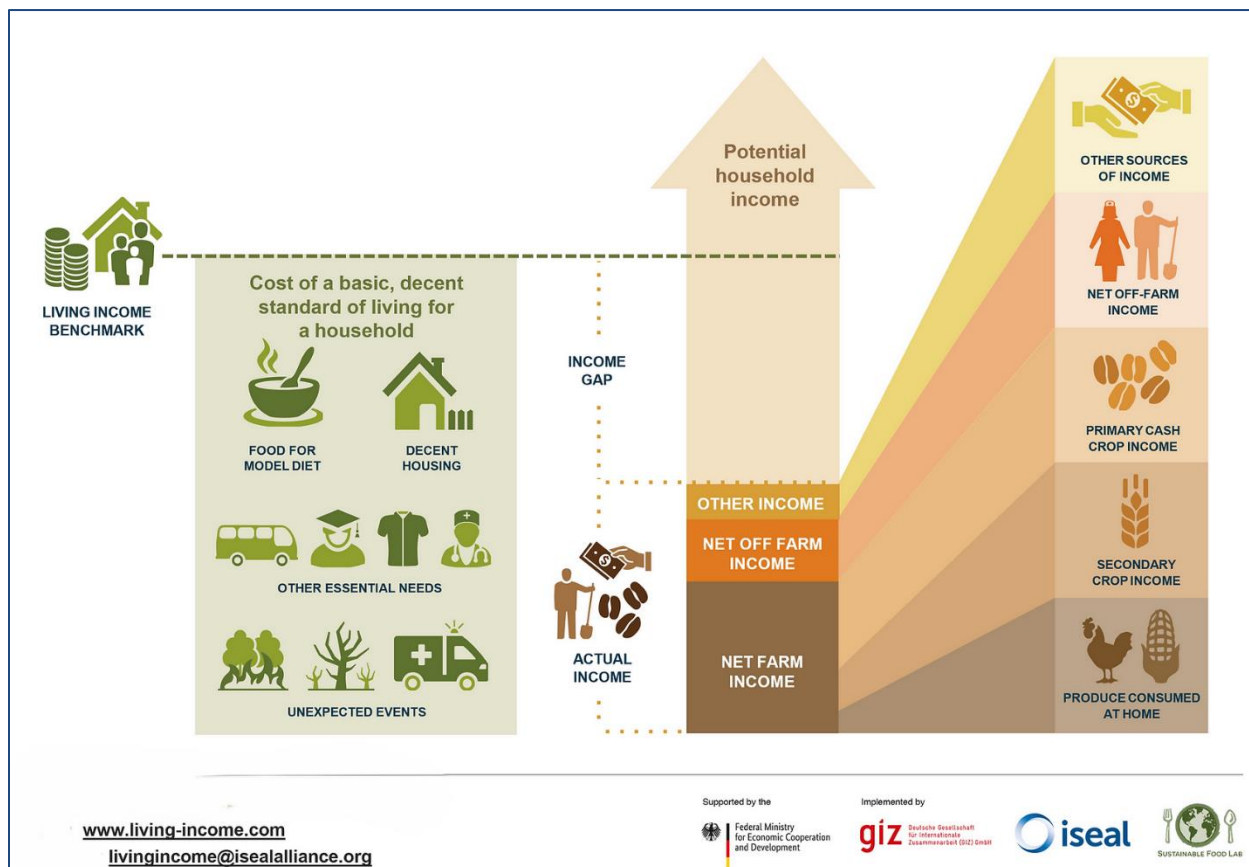
"Elements of a decent standard of living include food, water, housing, education, healthcare, transport, clothing, and other essential needs including provision for unexpected events".

As the concept of living income extends beyond traditional poverty alleviation focused on mere subsistence and survival. It highlights the importance of earning enough to ensure a decent and comfortable standard of living.

Unlike wages, income encompasses all earnings a household generates from various sources. For smallholder farmers, for instance, this may include revenue from crop sales, off-farm businesses, and remittances.

To qualify as a living income, these earnings must be sufficient to cover the essential costs required for a dignified and decent life. Figure 1 illustrates the concept of living income.

Figure 1: The concept of living income diagram



Source: www.living-income.com/the-concept

The approach recognises that achieving economic sustainability is a shared responsibility that requires collaboration between farmers, producers, governments, and market stakeholders. By tackling key issues such as fair pricing, productivity, and sustainable farming practices, the Living Income approach aims to close the gap between current earnings and the living income benchmark. In doing so, it helps build resilience and improve the livelihoods of historically marginalised and underserved populations. Ultimately, this approach reflects a commitment to economic justice and social equity, empowering individuals, and communities to achieve dignity and financial security.

3.3. Key elements of living income and resilience study

- (a) **Living Income Benchmark:** Determining the annual income required to cover the cost of a decent standard of living, which includes essential needs such as food, housing, education, healthcare, transportation, clothing, and provisions for unexpected events. This will include calculating the annual expenses required for a household to achieve a decent standard of living based on local conditions and market prices.
- (b) **Existing and Feasible Income:** Evaluating the current income levels of households, including all income sources (farm with a focus on Cotton and other crops, off-farm e.g. livestock, and non-farm e.g. income from government jobs, private jobs, remittances and

social security) to establish a baseline annual income for comparison with Living Income Benchmark.

- (c) **Income Gaps:** Analysing the difference between current household incomes and the established living income benchmark.
- (d) **Income Drivers:** Identifying factors that influence income levels, such as landholding size, production volumes, crop prices, production costs, and additional income sources like remittances and government programmes. Formulating actionable recommendations and strategies to bridge income gaps and achieve the Living Income standard.
- (e) **Income Resilience assessment:** Considering environmental, social, and economic factors to ensure income strategies are sustainable and resilient to shocks.

3.4. The living income and resilience assessment framework

The following **Assessment Framework** provides a comprehensive approach for evaluating household income dynamics and resilience in rural cotton farming communities. It focuses on five key components: (1) estimating the living income benchmark, (2) existing and feasible income, (3) income gaps, (4) income drivers, and (5) income resilience. The framework aims to establish a baseline for current income levels, analyse the gap between actual income and the Living Income Benchmark (LIB), identify the main factors that influence income generation, and assess the sustainability of income sources when faced with environmental, social, and economic shocks. This structured approach will guide the collection, analysis, and interpretation of data, helping to shape actionable strategies that improve household livelihoods and support long-term income sustainability. Table 1 presents the Living Income and Resilience Assessment Framework matrix.

Table 1: The living income and resilience assessment framework matrix

Assessment Area	Purpose/Objective	Key Indicators/Variables	Data Collection Methods	Analysis & Interpretation	Areas for possible Recommendations
(a) Living Income Benchmark	Determine the annual income required for a household to achieve a decent standard of living. This includes food, housing, education, healthcare, transportation, clothing, and provisions for unexpected events.	Reference Family Size	Secondary sources (Households Income and Expenditure Survey 2018-19)	- Compare household income against Living Income Benchmark (LIB)	- Define feasible strategies to bridge income gaps
		<ul style="list-style-type: none"> • Food costs based on model diet. • Cost of decent housing including utility costs • Costs of Education • Costs of Healthcare • Costs of transportation • Costs of clothing • Small margin for unforeseen events 	Secondary sources (Household Income and Expenditure Survey 2018-19)	- Identify gaps between actual income and LIB	- Recommend income diversification approaches or programme/policy interventions based on identified gaps
		Local market prices for essential goods and services	Rapid post check price data from local market		

Assessment Area	Purpose/Objective	Key Indicators/Variables	Data Collection Methods	Analysis & Interpretation	Areas for possible Recommendations
(b) Existing and Feasible Income	(i) Evaluate the current income levels of households from all sources (farm, off-farm, and non-farm income).	Income sources (Cotton and other crops farming, livestock, remittances, social security, government/private jobs, etc.)	- Household income surveys	Assess total annual household net income and compare with LIB	- Promote income diversification strategies
	(ii) Establish a baseline annual income to compare with the LIB.	Net Income levels from each source	- Household income surveys		- Encourage access to new income sources (e.g., skills development, access to microcredit)
(c) Income Gaps	Analyse the difference between actual household income and the established Living Income Benchmark (LIB).	- Difference between actual income and LIB	Household income surveys and Secondary sources for LIB	- Calculate the income shortfall for each household	Develop targeted interventions to increase household incomes, such as improved agricultural practices, access to new markets, or financial inclusion initiatives.
		- Proportion of households below the LIB		- Identify the percentage of the population below the LIB	
(d) Income Drivers	Identify key factors influencing household income levels, such as landholding size, crop yields, market prices,	- Landholding size	- Household surveys	- Correlate income levels with key factors (e.g., land size, yields)	- Recommend strategies for increasing agricultural productivity and profitability

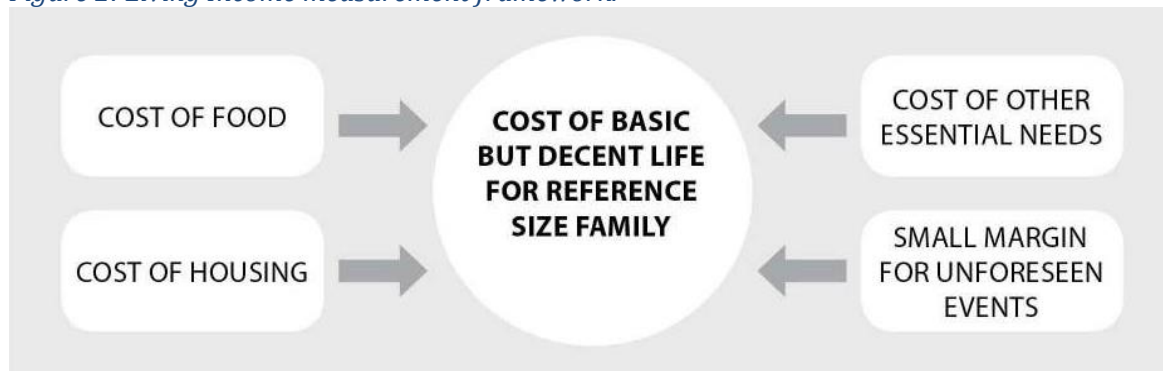
Assessment Area	Purpose/Objective	Key Indicators/Variables	Data Collection Methods	Analysis & Interpretation	Areas for possible Recommendations
	production costs, and additional sources like remittances and government programmes.	- Crop yields and prices	- Interviews with farmers	- Identify income-generating opportunities and barriers	- Facilitate access to higher-paying off-farm jobs and remittances
		- Costs of production	- Focus group discussion		
		- Access to government programmes (subsidies, credit, etc.)	- Secondary data (market prices, production costs)		
		- Remittances and non-farm income			
(e) Income Resilience Assessment	Assess the sustainability of household income strategies in the face of environmental, social, and economic shocks. Evaluate the capacity of households to adapt and recover.	- Household coping strategies	- Household surveys	- Assess the effectiveness of coping strategies	- Develop strategies to increase resilience (e.g., diversify income sources, improve access to insurance, build social safety nets, strengthen community support network)
		- Vulnerability to environmental, social, and economic shocks	- Focus group discussion	- Identify vulnerabilities and resilience gaps in income sources	
		- Access to savings, insurance, and external support			
		- Social networks (family, community)	- Key informant interviews		

3.5. Estimating the living Income Benchmark

We have used **the Anker's Living Income** Measurement framework presented in Figure 1, to estimate the income needed for a decent standard of living for individuals and their families. This involves assessing:

1. **Food costs:** Estimating the cost of a nutritious diet.
2. **Housing costs:** Calculating the cost of adequate housing.
3. **Non-food/non-housing costs:** Assessing expenses for clothing, healthcare, education, transportation, etc.
4. **Provision of small margin for unforeseen events:** Accounting for unexpected expenses or unforeseen events.

Figure 2: Living Income measurement framework.



2. Key Methods for Rural Sindh and Punjab Context

2.1 Data for measuring living income benchmark.

We utilised secondary data from the 2018-19 Household Income and Expenditure Survey (HIES) of Pakistan (the latest available) and inflation data from the Pakistan Economic Survey 2023-24 to obtain inflation-adjusted expenditure figures for 2025.

To validate our analysis, we conducted a household survey with cotton farmers in Better Cotton project areas across Punjab and Sindh. Additionally, from the surveyed villages, we collected current price data on food items, as well as household expenditures on health, education, and housing to ensure accuracy and relevance.

2.2 Defining the Reference Family Size

To estimate the living income for a representative household, it was first necessary to establish a reference household size. We calculated the reference household size based on data from the 2018-19 Household Income and Expenditure Survey (HIES) and subsequently validated through the primary household survey undertaken as part of this study.

Step 1: Estimating Caloric Requirements

To calculate food costs for the reference household size in Punjab and Sindh, we followed the approach and methodology outlined in the *Living Income Report for Rural Pakistan (Khyber Pakhtunkhwa)* by Dawani, Hasan, and Sayeed (April 2021). This model diet estimates caloric requirements using the Schofield equations, which consider adult height, age, sex, and activity levels of household members in Pakistan.

This approach applies the following assumptions: one full-time farmworker is classified at a vigorous activity level, while the second adult (a part-time worker) and children are classified at moderate activity levels. Based on these parameters, the estimated daily caloric requirement for each person in the reference household is 2,224 kcal.

The model diet was formulated in accordance with Pakistan's dietary guidelines and the Minimum Dietary Energy Requirement (MDER) established by the WHO and FAO, ensuring compliance with the following nutritional principles:

- **Nutritious:** The diet provides adequate calories, meets global standards for macronutrient distribution (carbohydrates, fats, proteins), includes sufficient fruits and vegetables for micronutrients, and limits oil and sugar.
- **Cost-effective:** We selected affordable food items while maintaining nutritional value, quality, and alignment with local food preferences.
- **Locally acceptable:** The diet reflects local eating habits and includes commonly consumed items in appropriate quantities, validated through interviews.

The reference model diet consists of the following food items and their daily edible quantities per person:

- **Grains & Staples:** Wheat (335g), Rice (60g), Potato (55g)
- **Legumes & Dairy:** Lentils - Dall Channa (28g), Cow Milk (180g), Yogurt (30g)
- **Protein Sources:** Chicken Egg (23g), Beef (36g)
- **Vegetables:** Cabbage (59g), Tomato (30g), Onion, Cauliflower (59g), Indian Squash - Tinda (59g)
- **Fruits:** Banana (30g), Guava (30g)
- **Other Essentials:** Oil (34g), White Sugar (30g), Tea

Step 2: Validating Prices, Availability, and Accessibility

To ensure accuracy, we gathered the current prices of each food item included in our model diet, validated availability, accessibility, and use of these food items in the sample districts of Sindh and Punjab. For this we conducted discussions with farmers and visited local markets in 42 villages across the 8 sample districts covered by the Better Cotton programme.

Step 3: Calculating Model Diet Costs

As a next step, we calculated the cost of the model diet, as presented in Table 2.

Table 2: Cost of model diet per month per household in Rural Punjab and Rural Sindh 2025 (PKR)

Food Item	Required quantity for model diet (edible grams)	Pric per KG (2025)		Price per gram (2025)		Cost of Model Diet	
		Punjab	Sindh	Punjab	Sindh	Punjab	Sindh
A. Consumption (per person per day) of food items required for model diet:							
Wheat	335	73	76	0.07	0.08	24.46	25.36
Rice	60	237	205	0.24	0.21	14.22	12.32
Potato	55	67	50	0.07	0.05	3.66	2.72
Lentils (Daal Mash, Mong, Masoor)	28	320	361	0.32	0.36	8.95	10.1
Milk (Cow)	180	156	175	0.16	0.18	28.04	31.54
Yoghurt	30	209	228	0.21	0.23	6.26	6.84
Chicken Egg	23	457	373	0.46	0.37	10.52	8.59
Beef	36	1,132	1,100	1.13	1.1	40.75	39.6
Cabbage	59	73	53	0.07	0.05	4.28	3.12
Tomato	30	52	24	0.05	0.02	1.55	0.71
Onion	30	81	53	0.08	0.05	2.43	1.59
Indian Squash (Tinda)	59	106	106	0.11	0.11	6.25	6.25
Banana	30	181	170	0.18	0.17	5.43	5.11
Apple/Guava	30	337	317	0.34	0.32	10.1	9.51
Oil	34	437	370	0.44	0.37	14.86	12.56
White Sugar	30	161	161	0.16	0.16	4.82	4.84
Tea	3.3	1,773	1,621	1.77	1.62	5.85	5.35
A. Total food item cost per day per capita (PKR)						192.41	186.13
B. Cost of additional necessary ingredients:	Percent of A						
Salt, spices, sauces, and condiments	3%					5.77	5.58
Spoilage & waste	4%					7.7	7.45
Variety in items	12%					23.09	22.34
C. Total cost of model diet per day per person (PKR)	(A+B)					228.97	221.5
D. Average Household Size (HIES 2018-19)						5.84	6.5
E. Cost of model diet per day per household (PKR)	(C*D)					1,337	1,440
F. Cost of model diet per month per household (PKR)	(E*30)					40,115	43,192

Step 4: Comparing Costs with Existing Data

Finally, we compared the per capita per day cost of our model diet with food cost data from the Household Integrated Economic Survey (HIES) 2018-19. After adjusting for food inflation from 2019 to 2024¹, we found that the per capita per day food costs in the fourth quintile of HIES closely matched our model diet costs (see Table 3 and Table 4).

Table 3: Inflation adjusted per capita per day food costs in Rural Punjab for year 2024 based on HISE 2018-19

Food costs	Total	Quintiles				
		1st	2nd	3rd	4th	5th
Monthly Household Total Consumption (PRK) - HISE 2018-19	30,254	19,862	24,537	27,586	33,083	45,817
% share of Food	40	46	45	43	41	34
Cost of Food (PKR)	12,174	9,109	10,917	11,810	13,438	15,358
Household Size	6	7	7	6	5	4
Per capita per day costs (2028-19)	70	41	56	68	85	119
Inflation Adjusted per capita per day costs:						
2019-20	81	48	64	79	99	138
2020-21	91	54	73	89	111	156
2021-22	103	61	82	100	126	177
2022-23	145	86	116	142	178	249
2023-24	184	109	147	179	225	315

Table 4: Inflation adjusted per capita per day food costs in Rural Sindh for year 2024 based on HISE 2018-19

Food costs	Total	Quintiles				
		1st	2nd	3rd	4th	5th
Monthly Household Total Consumption (PRK) - HISE 2018-19	25,899	19,894	25,420	27,244	30,594	44,453
% share of Food	45	50	47	46	42	34
Cost of Food (PKR)	11,706	10,021	11,919	12,385	12,816	15,070
Household Size	7	8	7	6	5	5
Per capita per day costs (2028-19)	60	43	58	71	86	110
Inflation Adjusted per capita per day costs:						
2019-20	71	50	67	82	100	129
2020-21	80	57	76	93	113	146
2021-22	91	64	85	105	128	165
2022-23	128	90	121	148	180	233

¹ The inflation rate is taken from the Economic Survey of Pakistan 2023-24

2023-24	162	114	152	187	228	295
---------	-----	-----	-----	-----	-----	-----

Step 5: Calculation of the percentage of Non-food items

We used households in the fourth quintile of **HIES 2018-19** as a reference since their food costs matched the cost of our model diet. Next, we calculated the cost of non-food items as a percentage of food costs in the HIES data to estimate the non-food expenses included in our living income benchmark.

Table 5: Housing and None-housing cost as percentage of food cost in HISE 2018-19 for LIB indicators

	Rural Punjab		Rural Sindh	
	Cost (PKR)	% of food cost	Cost (PKR)	% of food cost
Food costs	13,438		12,816	
Housing, Water, Electricity, Gas and Other Fuels	6,445	48%	4,926	38%
Education	913	7%	529	4%
Healthcare	1,251	9%	967	8%
Transportation	2,534	19%	2,233	17%
Clothing and footwear	2,746	20%	2,487	19%
Communications	562	4%	685	5%

Step 6: Estimation of the Living Benchmark Income

Finally, we estimated the housing, non-food, and non-housing expenses included in the living benchmark income. This estimation was based on the monthly household cost of the model diet (Table 2) and the percentage distribution of non-food expenses (Table 5). We have also included 10 per cent of total costs for unforeseen expenses or long-term needs like weddings, funerals, or savings for old age or other shocks.

For 2024-25, the estimated monthly household living benchmark income is identical in both regions, at PKR 91,578 for Rural Punjab and PKR 91,358 for Rural Sindh (EUR 304 and EUR 303, respectively)².

Food expenses constitute half of the total monthly costs, making them the largest expenditure. Housing and utilities account for one-fifth, while non-food, non-housing (NFNH) expenses make up the remaining 30per cent of household costs. Details are presented in Table 6.

² The exchange rate (1 EUR = 301.48 PKR) used is the 12 months average for Jan – Dec 2024 from [Exchange Rate Average \(Euro, Pakistani Rupee\) - X-Rates](#) accessed on 31 March 2025

Table 6: Estimated Monthly Household Living Benchmark Income for Rural Punjab and Rural Sindh, 2024-25

Cost categories	Rural Punjab	Rural Sindh
Costs per household per month (PKR):		
Food Model Diet	40,115	43,192
Housing, Water, Electricity, Gas and Other Fuels	19,238	16,600
Education	2,726	1,784
Healthcare	3,733	3,258
Transportation	7,565	7,527
Clothing and footwear	8,197	8,383
Communication (mobile phone and internet)	1,679	2,310
Sub-Total	83,252	83,053
+Provision for unforeseen events (10%)	8,325	8,305
Total	91,578	91,358
Costs per household per month (USD)	304	303
Costs per household per year (PKR)	1,098,932	1,096,300
Costs per household per year (USD)	3,648	3,636

3.6. Methodology for estimating the existing household income

We conducted a quantitative, sample-based Income Measurement Survey among farmers supported by Better Cotton to evaluate the current net household income of cotton farmers in Sindh and Punjab. The survey also aimed to provide a comprehensive understanding of the socio-economic profiles of these households and to analyse their income sources, including farm-based, off-farm, and non-farm activities.

Given the expected variations in key factors — such as landholding size, access to irrigation, cotton farming practices, and cropping patterns — across the two provinces, the study adopted a carefully structured sampling strategy. The required sample size was determined using the following sample size calculation formula³:

$$n = \frac{Z^2 \times p \times (1-p)}{E^2}$$

Where:

n: Required sample size.

Z: Z-value (e.g., 1.96 for a 95 per cent confidence level)

p: Estimated proportion (e.g., 0.5 if unknown, which maximises the sample size)

E: Margin of error (e.g., 0.05 for 5 per cent margin of error).

$$N = [(1.96^2) \times 0.5 \times (1-0.5)] / (0.05)^2 = 384$$

³ Cochran, W. G. (1977). *Sampling Techniques* (3rd ed.). John Wiley & Sons.

We carefully designed the proposed sampling approach to ensure a 95 per cent confidence level, a 5 per cent margin of error, and an allowance for a 5 per cent non-response rate. These parameters were essential for achieving statistically significant and reliable results. Based on this framework, the calculated sample size was 384. Adjusting for the anticipated non-response rate, a planned sample size of 400 households per province was determined. This design enabled a robust comparative analysis between Punjab and Sindh.

The sampling strategy for this study ensures representativeness, inclusivity, and robustness in analysing the living income and resilience of cotton farmers. The approach considered farm size, geographic distribution, and programmatic contexts of cotton farming in both Sindh and Punjab.

1. Clustering Around Better Cotton Implementing Partners

To enhance inclusivity and ensure representativeness, we clustered the selected districts around the operational areas of each Better Cotton implementing partner. We included one district per partner to represent all partners in the study. This approach captured the diversity of programme contexts and provided insights into how different partner interventions can influence income and resilience.

2. Representation Across Farm Size Categories

We stratified the sample by farm size to ensure proportional representation of different farmer groups:

- Smallholder farmers (<2 ha)
- Medium-sized farmers (2–20 ha)
- Large farmers (20–200 ha)

Since smallholder farmers made up the majority, they received a larger share of the sample to reflect their prevalence in the sector. However, we have also included medium, and large farmers to allow for comparisons across different scales of production.

3. Balanced Sampling at the District Level

The study ensured equal sample distribution across selected districts to provide sufficient data for district-level analysis. This allowed for localised insights into farming dynamics, including economic conditions, resilience strategies, and environmental factors affecting livelihoods.

- **Punjab:** The four selected districts (Bahawalnagar, Vehari, Multan, and Muzaffargarh) represented key cotton-growing regions with different agronomic and economic conditions.
- **Sindh:** The four districts (Khairpur, Sanghar, Tando Allah Yar, and Umer Kot) covered diverse agroclimatic zones, reflecting variations in cotton farming systems and resilience factors.

Each district contributed 100 farmers to the total sample of 800, ensuring comparability across districts and partners.

4. Proportional Allocation Within Districts

Within each district, we allocated the sample according to the distribution of farmers by farm size. However, we adjusted the sample to ensure adequate representation of all farm sizes, especially in areas with relatively few large farmers, such as Umer Kot and Tando Allah Yar.

This approach helped in gaining statistical power while improving the feasibility of the survey in terms of cost and logistical efficiency.

5. Ensuring Robust Comparability and Insights

The stratified sampling method ensured representation across farm sizes, regions, and implementing partners.

It enabled comparative analysis of income, resilience, and farming practices across different partner interventions and local contexts.

The study provided a comprehensive understanding of the economic conditions and resilience of cotton farmers, supporting evidence-based decision-making for future interventions.

This partner-inclusive, district-clustered, and stratified sampling strategy ensured a balanced, representative, and analytically robust approach to studying living income and resilience in cotton farming communities. By incorporating all Better Cotton implementing partners and distributing samples evenly across selected districts, the study enhanced local relevance, comparability, and actionable insights.

Within each district, we identified at least five villages for survey implementation. We focused on villages with a higher concentration of farmers supported by Better Cotton and enough small and medium-sized farmers to meet the sampling criteria. This targeted approach ensured that the survey included households actively participating in Better Cotton initiatives. Their inclusion was essential for establishing a baseline income, which will help measure the gap between actual income and the income needed for a decent standard of living, as well as assess programme impacts in the future.

Table 7: Distribution of Total and planned Sampled Cotton Farmers by Farm Size and District

Districts	Population: Total number of cotton farmers supported by BC				Sample: Number of sampled farmers			
	Less than 2 ha	>2 - 20 ha	>20- 200 ha	Grand Total	Less than 2 ha	>2 - 20 ha	>20- 200 ha	Total
Bahawalnagar - CABI	10,493	7,511		18,004	58	42		100
Vehari - REEDS	23,573	4,223		27,796	85	15		100
Multan - WWF	11,665	3,869		15,534	75	25		100
Muzaffargarh - SWRDO	2,254	630		2,884	78	22		100
Punjab Total	47,985	16,233		64,218	296	104	-	400
Khairpur- WWF	5,499	5,801	385	11,685	41	40	18	100

Sanghar – RDF	4,654	1,118	246	6,018	65	19	16	100
Tando Allah Yar – CABI	5,062	1,972	98	7,132	67	28	5	100
Umer Kot – SAMI Foundation	5,542	366		5,908	94	6	-	100
Sindh Total	20,757	9,257	729	30,743	268	93	40	400
Grand Total	68,742	25,490	729	94,961	564	196	40	800

Although minor differences arose between the planned and actual survey samples (as shown in Table 8), these reflect on-ground realities. The final sample remains representative across districts and landholding categories and offers deeper insights into smallholder farmers — the primary focus of the study. While readers should consider the reduced representation of large landholders when interpreting income comparisons, this does not affect the study’s overall objectives.

Table 8: Planned vs. Actual Household Survey Distribution by Land Size and District

Districts	Original Sample Planned				Actual Survey Conducted			
	Less than 2 ha	>2 - 20 ha	>20- 200 ha	Total	Less than 2 ha	>2 - 20 ha	>20- 200 ha	Total
Bahawalnagar – CABI	58	42		100	64	36	0	100
Multan – WWF	75	25		100	74	26	0	100
Muzaffargarh – SWRDO	78	22		100	79	21	0	100
Vehari – REEDS	85	15		100	78	22	0	100
Punjab Total	296	104	-	400	295	105	0	400
Khairpur-WWF	41	40	18	100	51	36	13	100
Sanghar – RDF	65	19	16	100	64	34	3	101
Tando Allah Yar – CABI	67	28	5	100	67	28	5	100
Umer Kot – SAMI Foundation	94	6	-	100	94	6	0	100
Sindh Total	268	93	40	400	276	104	21	401
Grand Total	564	196	40	800	571	209	21	801

3.7. Methodology for qualitative assessment

To gain a comprehensive understanding of the context-specific challenges and opportunities faced by cotton farmers in relation to income and resilience, we adopted a multi-faceted qualitative approach. This included Focus Group Discussions (FGDs), Key Informant Interviews (KIIs), and Stakeholder Consultations.

We conducted FGDs with male and female farmers, while KIIs were held with local community leaders, agricultural extension officers, financial institutions, and market experts. These interviews offered valuable insights into viable livelihood models, market access, and the availability of financial services to meet farmers' needs.

We also organised stakeholder consultations with Programme Partners and farming communities to validate the findings from the FGDs and KIIs. These sessions helped refine the proposed livelihood models and interventions based on real-world experiences and practical considerations, supporting the development of a more targeted and effective strategy to improve farmers' income and resilience.

The qualitative data focused on the following areas of **resilience measurement**:

- Social Capital (community networks and support systems)
- Access to Services (agricultural extension and healthcare)
- Coping Strategies (how farmers respond to shocks)
- Environmental Awareness (knowledge of climate risks)
- Market Access and Participation
- Feasible income analysis, identifying existing challenges and potential for income enhancement.

Table 9 presents a summary of the number of FGDs, KIIs and Consultative meetings held.

Table 9: Number of proposed FGDs, KIIs and Consultation meetings

Activity	Description	Punjab		Sindh		Total	
		Number of Events	Total Participants	Number of events	Total Participants	Number of events	Total Participants
Focus Group Discussions (FGDs)	Conducted FGDs Separately with male and female group of cotton farmers	2	20	2	20	4	40
Key Informant Interviews (KIIs)	Local community leaders	3	3	3	3	6	6
	Agricultural extension officers	3	3	3	3	6	6
	Financial institutions and market experts	2	2	2	2	4	4
Stakeholder Consultations	Consultation with Programme Partners	3	15	3	15	6	30
Grant Total		13	43	13	43	26	86

3.8. Methods for Data Analysis

Analysis of Quantitative Survey Data

- We analysed the household survey data using descriptive statistics to establish baseline household income, identify the gap between actual income and the living income benchmarks, and assess the level of economic resilience among cotton-farming households.

- Although we initially reviewed the dataset based on the original sample categorisation, we later refined the analysis to present findings by province (Punjab and Sindh) and by landholding size. The categories used include: up to 2.5 acres, >2.5–5 acres, >5–10 acres, >10–25 acres, and >25 acres.
- This disaggregated approach offers a more accurate and inclusive understanding of the economic conditions faced by cotton farmers, particularly smallholders. It also strengthens the relevance of the findings for developing locally tailored, data-driven interventions, supporting Better Cotton’s 2030 goals to improve livelihoods and build resilience.

Table 10: Breakdown of Survey Respondents by Landholding Category in Punjab and Sindh

Land Size	Punjab	Sindh	Grand Total
Up to 2.5 Acres	179	180	359
>2.5-5 Acres	151	116	267
>5-10 Acres	59	55	114
>10-25 Acres	11	17	28
>25 Acres		33	33
Grand Total	400	401	801

Key Areas for analysis

1. Current Income Analysis:

- Assessed agricultural costs (inputs, labour) and revenue (cotton and other crops).
- Calculated net income and profitability.
- Evaluated income from farm (cotton, intercrops, livestock), off-farm, and non-farm sources.
- Used descriptive statistics to identify income patterns by household and region.

2. Income Gap Assessment:

- Calculated the difference between current income and LIB.
- Stratified findings by land size and province.

3. Economic Resilience:

- Analysis of income drivers’ income sources, prices, volume, and costs
- Analysis of coping strategies, shock frequency, and recovery capacity.

Analysis of Qualitative Data

- We conducted thematic analysis of the FGDs and KIIs to identify key challenges, local coping strategies, and opportunities to strengthen the study’s core themes. These insights informed the development of livelihood models that are both contextually appropriate and adaptable.

4. RESULTS

4.1. Demographic profile of the sample households

The demographic profile of cotton-farming households shows an average household size of 6.8, with a balanced gender composition (3.4 males and 3.3 females per household) as shown in Table 11. However, only 2.4 members contribute to income, indicating a high dependency ratio. Male members are the primary earners (1.7 per HH), while female income participation remains low (0.6

per HH), without any significant difference between the Punjab and Sindh. This highlights both a reliance on limited income sources and a missed opportunity to engage women in productive roles—pointing to the need for gender-inclusive and diversified livelihood strategies to enhance household resilience and economic security.

Table 11: Household Demographic Profile of Cotton-Farming Households among the sample households in Punjab and Sindh

Household demography	Punjab	Sindh	All Households
Number of Households	400	401	801
Population	2682	2745	5427
Average Household Size	6.7	6.8	6.8
Average female members/HH	3.3	3.4	3.3
Average male members/HH	3.4	3.4	3.4
Average Earning Members/HH	2.3	2.4	2.4
Average Earning Female Members/HH	0.6	0.7	0.6
Average Earning Male Members/HH	1.8	1.7	1.7

4.2. Income Gap Assessment

This section presents an analysis of the current income levels of cotton-farming households in Punjab and Sindh, against the estimated benchmarked living income required for a decent standard of living in 2025.

Using data from the household survey, we disaggregated average annual incomes household by province and landholding size to highlight disparities across different farmer groups. The analysis aims to highlight the extent of the income gap faced by smallholder farmers — who are most vulnerable to poverty and livelihood insecurity — and to assess how land size affects their ability to achieve a living income. These insights are essential for designing targeted interventions that align with Better Cotton’s 2030 goals to improve farmer livelihoods and strengthen economic resilience.

Table 12 presents the average annual household income across five landholding categories in Punjab and Sindh. The data confirms a positive correlation between land size and income: households with larger landholdings consistently report higher incomes. In both provinces, smallholders with up to 2.5 acres earn significantly less—PKR 357,257 in Punjab and PKR 321,494 in Sindh—while those with over 10 acres earn more than three times this amount. Notably, households with more than 25 acres in Sindh report an exceptionally high average income of PKR 6.7 million, which heavily skews the provincial and national averages. This wide disparity illustrates the role of landholding size as a key determinant of income in cotton farming communities and underscores the economic vulnerability of smallholder farmers.

Table 12: Average Current Annual Household Income of Sample Households in PKR for the year 2024-25

Land Size	Punjab	Sindh	All Households ⁴
Up to 2.5 Acres	357,257	321,494	339,326

⁴ The figures under the "All households" column are calculated by taking the average across all surveyed households. This means we used data from every household in the sample to calculate one overall average—not an average of group or area-level averages.

>2.5-5 Acres	526,036	482,145	506,967
>5-10 Acres	724,787	896,231	807,501
>10-25 Acres	1,615,009	1,430,685	1,503,098
>25 Acres		6,725,414	6,725,414
All households	509,770	1,020,825	765,616

Table 13 outlines the annual income gap between actual annual household income and the estimated annual household living income benchmark (PKR 1,098,932) for cotton farmers in Punjab. The data highlights substantial income deficits among small and medium landholders. Farmers with up to 2.5 acres fall short of the living income by over PKR 741,000—a gap of 208 per cent—while those with 2.5 to 5 acres remain 109 per cent below the benchmark. Even farmers with 5–10 acres face a considerable shortfall of PKR 374,145. Only households with landholdings above 10 acres exceed the living income threshold, earning 32 per cent more than the benchmark. These findings reveal a significant divide in economic security based on land size and emphasise the urgent need for targeted support for smallholder farmers in Punjab.

Table 13: Average Annual Households Income gap for Punjab in 2024-25

Land Size	Actual Income (PKR)	Living Income Benchmark (PKR)	Income Gap (PKR)	Income Gap (%)
Up to 2.5 Acres	357,257	1,098,932	(741,675)	(208)
>2.5-5 Acres	526,036	1,098,932	(572,896)	(109)
>5-10 Acres	724,787	1,098,932	(374,145)	(52)
>10-25 Acres	1,615,009	1,098,932	516,077	32
All Households	509,770	1,098,932	(572,896)	(109)
Note: Figures in parentheses indicate negative numbers of values (e.g., actual income short of living income).				

Table 14 shows the annual household income gap analysis for cotton farmers in Sindh, using the annual household living income benchmark of PKR 1,096,300. The data reveals even greater income deficits among smallholders compared to Punjab. Households with less than 2.5 acres earn 241 per cent below the annual household benchmark income, while those with 2.5 to 5 acres fall short by 127 per cent. Although households with 5–10 acres remain below the threshold, their gap narrows significantly to just 22 per cent. Landholders with more than 10 acres surpass the annual household benchmark income, and those with over 25 acres report incomes six times higher than the annual household benchmark income. However, this significantly inflates the provincial average and masks the deep income inequality among smaller farmers. The data reinforces the importance of disaggregated analysis to avoid misrepresenting the economic reality of most farming households.

Table 14: Annual Households Income gap for Sindh in 2025

Land Size	Average Actual Income (PKR)	Living Income Benchmark (PKR)	Average Income Gap (PKR)	Income Gap (%)
Up to 2.5 Acres	321,494	1,096,300	(774,806)	(241)
>2.5-5 Acres	482,145	1,096,300	(614,155)	(127)
>5-10 Acres	896,231	1,096,300	(200,069)	(22)

>10-25 Acres	1,430,685	1,096,300	334,385	23
>25 Acres	6,725,414	1,096,300	5,629,114	84
All households	1,020,825	1,096,300	(75,475)	(7)
Note: Figures in parentheses indicate negative numbers of values (e.g., actual income short of living income).				

Summary of Key Findings and Conclusion: Income Gap Assessment of Cotton Farmers

The income gap assessment of cotton-farming households in Punjab and Sindh reveals significant disparities based on landholding size, with smallholder farmers facing severe economic vulnerability. The analysis shows a strong positive correlation between land size and income: farmers with larger landholdings consistently earn more, while those with less than 5 acres fall far below the estimated living income benchmark for 2025. In Punjab, smallholders with up to 2.5 acres earn 208 per cent less than the living income threshold, and those with 2.5–5 acres fall short by 109 per cent. Similarly, in Sindh, the income gap is even more pronounced, with the smallest farmers earning 241 per cent less than the benchmark. Only farmers with more than 10 acres surpass the living income line, and in Sindh, households with over 25 acres report exceptionally high incomes, which skew provincial averages and obscure the challenges faced by the majority. These findings underscore the critical role of land size in determining income security and highlight the deep inequality among cotton farmers, particularly smallholders who are most at risk of poverty and livelihood insecurity.

4.3. Economic Resilience

- **Analysis of Income Drivers of Cotton Farming Households in Punjab and Sindh**

Income Drive 1: Multiple sources of household income

The analysis of income sources across different landholding sizes reveals clear trends in the drivers of household income and the increasing role of cotton as land size increases. Table 15 highlights the strong correlation between landholding size and both income level and income composition among cotton-farming households. Smallholders with up to 2.5 acres earn an average of PKR 339,326 annually, with 43 per cent of annual aggregate income coming from off-farm sources such as daily wage labour—underscoring their economic vulnerability and reliance on precarious livelihoods. In contrast, larger landholders (over 10 acres) report significantly higher incomes (up to PKR 6.7 million) and derive 69 per cent of their income from cotton farming, reflecting a greater degree of specialisation and commercial orientation. Medium-sized farmers (5–10 acres) display a more balanced income profile, combining cotton, other on-farm sources, and a smaller share of off-farm income.

Overall, the data shows that larger farmers benefit from economies of scale and higher agricultural income, while smallholders remain trapped in low-return farming and rely heavily on supplementary income sources. This highlights the urgent need to provide targeted livelihood support and promote diversification strategies. Annex 1 presents detailed information on income sources and farmer participation.

Table 15: Annual Household Income by Source and Landholding Size

Income Sources	Up to 2.5 Acres	>2.5-5 Acres	>5-10 Acres	>10-25 Acres	>25 Acres	All households
Sample Households	359	267	114	28	33	801
Average Annual Household Income/HH (PKR)	339,326	506,967	807,501	1,503,098	6,725,414	765,616
% Share in Aggregate Annual Household Income:						
Cotton Income	31	45	54	69	69	54
Other On Farm Income	26	26	39	27	28	29
Off-Farm Income	43	28	7	4	3	17

Income Driver 2: Volume

The yield data in Table 16 shows that the average cotton yield across all landholding categories in the sample is approximately 803 kg per hectare, with minimal variation between Punjab (806 kg/ha) and Sindh (800 kg/ha). Yields remain relatively consistent across land sizes, although larger farms (10–25 acres) in Punjab achieve slightly higher yields (841 kg/ha), suggesting potential advantages in input efficiency or better farm management.

However, the yield gap becomes significant when compared to global top producers. For the 2023/24 season, China achieved an average yield of approximately 2,065 kg/ha, Australia reached 2,054 kg/ha, and Brazil reported 1,910 kg/ha (USDA Cotton and Wool Outlook, March 2024). By contrast, Pakistan’s national average yield was around 608 kg/ha.

These comparisons clearly show that yield is a major driver of income disparity. Improving productivity through better seeds, improved agronomic practices, and stronger extension support is therefore essential to closing the income gap and improving the livelihoods of smallholder cotton farmers.

Table 16: Average Cotton Yield in Kgs per hectare for the sample households

Land Size	Punjab	Sindh	All Households
Up to 2.5 Acres	801	797	799
>2.5-5 Acres	808	812	810
>5-10 Acres	810	793	802
>10-25 Acres	841	791	811
>25 Acres	-	789	789
All Households	806	800	803

Income Driver 3: Prices

Cotton price remains a key driver of income, particularly in relation to net income per hectare and per unit of yield. In Punjab, where farmers consistently received PKR 400 per kg, average net income per hectare increased with land size—from PKR 136,060 for smallholders (up to 2.5 acres) to PKR 188,209 for larger farms (10–25 acres) as shown in Table 17. In Sindh, where the average price was

slightly lower at PKR375 per Kg, farmers still managed to earn higher net incomes per acre across all categories, ranging from PKR 153,023 to PKR 180,306 per hectare.

When analysing net income per Kg of yield, Sindh outperforms Punjab across all landholding sizes. For instance, smallholders in Sindh earned PKR 191 per Kg, while their counterparts in Punjab earned only PKR 170. Farmers with 10–25 acres reported the highest per-kg net incomes, with PKR 228 in Sindh and PKR 220 in Punjab.

The overall sample averages, as shown in Table 17, confirm this trend: PKR 192 per kg and PKR 154,850 per hectare, with better net income performance among medium to large landholders. These findings demonstrate that price interacts closely with other drivers like yield and cost-efficiency to influence income outcomes.

However, broader market and structural realities complicate this picture. As of late 2024, cotton prices ranged from PKR 16,209 to PKR 17,500 per maund (≈ 405 to ≈ 437.5 per Kg) in Sindh, PKR 17,200 to PKR 17,500 (≈ 430 to ≈ 437.5 per Kg) in Punjab, as per weekly spot rate updates ([Business Recorder, 2024](#)). Despite relatively strong prices, trading volumes remain limited due to weakened domestic demand. Around 40per cent of textile mills have shut down, and cotton production has dropped by over 50per cent in the past decade ([APTMA, 2024](#)). Cotton arrivals by November 15, 2024, totalled just 4.89 million bales, down 33.6per cent from 7.37 million bales the previous year ([Pakistan Cotton Ginners Association, 2024](#)).

This sharp decline in domestic supply has forced Pakistan to import cotton worth \$2 billion annually, creating further pressure on local producers. The imbalance is worsened by tax disparities: imported cotton and yarn are exempt from sales tax, while domestic cotton is taxed at 18per cent, making imported fibre more attractive to textile mills ([Dawn Business, 2024](#)). Meanwhile, cotton acreage in Punjab has declined by over 931,000 acres, as farmers switch to maize and rice due to better profitability and market access.

In the regional context, cotton prices in Pakistan are relatively competitive. India's average cotton price in 2023 was around INR 6,500 per quintal, equivalent to PKR 13,000 per maund ([Cotton Corporation of India, 2023](#)). China's average price was CNY 15,000 per tonne, or approximately PKR 12,500 per maund (USDA GAIN Report, 2024). Despite this, Pakistan's cotton quality is reportedly deteriorating, and coupled with high energy costs and policy uncertainty, the local industry is struggling to remain competitive. Electricity for the textile sector costs 15 cents per unit in Pakistan, while regional competitors like Bangladesh, India, and China offer power at 9 cents per unit ([APTMA, 2024](#)).

In conclusion, although price is a critical income driver, it is not sufficient on its own. Its impact depends on how it interacts with yield, input costs, taxation policies, market conditions, and regional competitiveness. Table 17 clearly shows that higher prices, without improvements in productivity or policy support, result in uneven and limited gains. To ensure that cotton farmers — especially smallholders — benefit meaningfully, a comprehensive reform agenda must tackle structural, agronomic, and economic barriers.

Table 17: Average net income from cotton in PKR per unit of yield (in Kg) and land (hectare)

Land Size	Punjab		Sindh		All Households	
	Net Income per Kg. of yield (PKR)	Net income per hectare (PKR)	Net Income per Kg of yield (PKR)	Net income per hectare (PKR)	Net income per Kg of yield (PKR)	Net income per hectare (PKR)
Up to 2.5 Acres	170	136,060	191	153,023	181	144,565
>2.5-5 Acres	186	150,662	214	175,658	198	161,521
>5-10 Acres	199	161,539	196	154,522	198	158,153
>10-25 Acres	220	188,209	228	180,306	225	183,410
>25 Acres	-	-	225	177,113	225	177,113
All Households	181	146,764	203	162,915	192	154,850

Income Driver 4: Costs

Production cost is a critical factor influencing the profitability of cotton farming and directly shapes household income outcomes. While cotton prices and yields often receive more attention, the cost of inputs such as labour, fertiliser, pest control, irrigation, and machinery can significantly reduce net returns—particularly for smallholder farmers. Understanding the structure and scale of production costs across different landholding sizes helps identify key inefficiencies and opportunities for improving farm-level profitability. This section analyses cost per acre and per mound across farm sizes and examines the share of individual cost components, highlighting how economies of scale contribute to income disparities between small and large cotton producers.

Table 18 highlights that cost of production is a significant determinant of net income in cotton farming, particularly when analysed by landholding size. Smaller farmers (up to 2.5 acres) incur the highest production costs per kg (PKR 210) and per hectare (PKR 167,392), while the largest landholders (>25 acres) face significantly lower costs per kg (PKR 150) and per hectare (PKR 118,772). This inverse relationship between land size and cost per unit indicates economies of scale—larger farms are more cost-efficient, which directly contributes to higher profit margins.

In terms of cost composition, labour and fertiliser are the two largest contributors across all farm sizes, but their share increases with landholding size. For larger farms, labour accounts for 31 per cent and fertiliser for 32 per cent of total costs, likely reflecting the use of hired labour and larger input volumes. However, their overall unit costs remain lower, suggesting greater operational efficiency. In contrast, smallholders face higher proportional costs across nearly all categories, particularly for micronutrients, seeds, and irrigation, which constitute a larger financial burden due to smaller volumes and lack of bulk purchasing power.

Interestingly, the cost share for machinery, pest control, and irrigation decreases with land size, possibly reflecting better integration of mechanisation and more efficient input use among larger farmers. Meanwhile, other costs—such as interest on loans, soil/water testing, and certification—

remain minimal overall (1–3per cent) but may still be burdensome for smallholders with limited access to affordable credit or subsidised services.

Overall, the data clearly shows that cost structure plays a key role in driving income disparities. Farmers with larger landholdings benefit from lower per-unit costs and higher returns, while smallholders face pressure from lower yields, higher costs, and market disadvantages. Any meaningful intervention to improve farmer incomes—particularly for smallholders—must address input price rationalisation, access to subsidised services, efficient water management, and labour-saving technologies.

Table 18: Cotton Production Costs by Landholding Size and Cost Component for all sample farmers in Punjab and Sindh (in PKR and per cent Share)

Cost component	Up to 2.5 Acres	>2.5-5 Acres	>5-10 Acres	>10-25 Acres	>25 Acres	All Households
Per Kg of Cotton (PKR)	210	192	189	160	150	197
Per Hectare (PKR)	167,392	154,466	151,895	128,841	118,772	157,527
Share in total costs (%):						
Labor Cost	25	25	25	29	31	28
Fertilizer (chemical, bio, and compost)	21	22	22	31	32	26
Micronutrients, pest control	16	15	16	13	10	13
Equipment/machine	12	12	10	7	11	11
Seeds	11	11	10	9	7	9
Irrigation	10	10	11	8	6	8
Transportation	3	2	3	2	3	3
Other (interest on loans, soil/water testing, storage, certification)	3	2	2	1	1	2

Summary of Key Findings and Conclusion: Income Drivers of Cotton Farming Households in Punjab and Sindh

The analysis of income drivers among cotton-farming households in Punjab and Sindh reveals that landholding size is a key determinant of income diversification, productivity, and profitability. For smallholders (up to 2.5 acres), household income remains low (PKR 339,326), with 43 per cent coming from off-farm sources, primarily daily wage labour (78 per cent), while cotton contributes only 31 per cent—signalling economic vulnerability and dependence on precarious work. In contrast, larger landholders (over 10 acres) earn significantly higher incomes (up to PKR 6.7 million), with cotton comprising 69 per cent of total income, alongside earnings from on-farm diversification, land and equipment rental, and value-added activities.

In terms of productivity (volume), cotton yield is relatively consistent across land sizes (≈ 803 kg/ha), with Punjab slightly outperforming Sindh. However, yields remain well below global averages, highlighting a major productivity gap. Prices, though relatively competitive, are not sufficient on their own—Sindh farmers generally achieve higher net income per kg and per hectare than Punjab,

reflecting better cost efficiency and market access. Despite this, structural issues such as low trading volumes, declining domestic demand, tax disadvantages, and shrinking cotton acreage (particularly in Punjab) undermine potential gains.

Production costs emerge as a critical factor shaping income outcomes. Smallholders face the highest unit costs—PKR 210/kg and PKR 167,392/ha—compared to large landholders who benefit from economies of scale, with significantly lower per-unit costs (PKR 150/kg and PKR 118,772/ha). While labour and fertiliser dominate cost shares, small farmers bear disproportionately higher costs for micronutrients, irrigation, and seeds due to limited buying power and lack of access to efficient technologies.

Overall, the data underscores that income disparities result from a complex interplay of landholding size, income source diversity, productivity, market access, and cost structure. Smallholders remain trapped in a cycle of low yields, excessive farming costs, and limited opportunities, which makes them the most vulnerable group. To close income gaps and strengthen resilience, targeted interventions must focus on improving productivity, reducing input costs, enhancing market access, and expanding support for off-farm income generation — particularly for small and medium-scale cotton farmers.

- **Assessing Shocks, Challenges, and Coping Among Cotton Farmers**

Table 19 presents the frequency of shocks reported by farmers in Punjab and Sindh in response to a multiple-option question, where respondents could select more than one type of shock that affected them. The results highlight that natural events such as droughts and floods were the most frequently reported shocks, affecting 311 farmers, with a disproportionately higher occurrence in Sindh (245) compared to Punjab (66).

This pattern reflects the region’s greater exposure to climate-related risks. Health shocks (63 reports) and cotton price shocks (53) also featured prominently, affecting both provinces but occurring more frequently in Sindh, which suggests higher vulnerability in household well-being and market stability. Pest and disease attacks (29) emerged as another major agricultural stressor. Farmers also reported other shocks — including loss of property due to theft (13), loss of employment (10), political unrest (3), and policy changes (2). While they reported these shocks frequently, they still contribute to the overall picture of rural vulnerability. Notably, 408 farmers reported no shocks, primarily in Punjab, indicating regional disparities in shock exposure. Overall, these findings underscore the multi-dimensional nature of risks faced by rural households, particularly in Sindh, and highlight the importance of region-specific resilience-building strategies.

Table 19: Province-wise Frequency of Reported Shocks Among Farmers in Punjab and Sindh

Shock Type	Punjab	Sindh	Total
Natural events (drought/flood)	66	245	311
Health shocks	24	39	63
Cotton price shocks	22	31	53
Pests/diseases attack	21	8	29
Theft / Property loss	4	9	13
Loss of job	5	5	10
Political unrest	0	3	3
Policy changes	1	1	2
Other	11	7	18
None	281	127	408

The data presented in Table 20 highlights that the most frequently reported challenge across both provinces was significant loss from pests, affecting one in five farmers (19.8 per cent), with Sindh (22.2 per cent) facing a higher burden than Punjab (17.3 per cent). Other major challenges included poor market prices (12.4 per cent) and the excessive cost of inputs (10.8 per cent), which are critical economic pressures for smallholder farmers. Notably, water scarcity due to failed monsoons was more acute in Sindh (10.6 per cent) compared to Punjab (4.4 per cent). Conversely, a higher proportion of farmers in Punjab (42.9 per cent) reported experiencing no agricultural challenges, in contrast to only 26.9 per cent in Sindh, suggesting greater resilience or more favourable conditions in Punjab. Overall, the data reveals both regional disparities and priority areas for intervention—particularly pest management, market access, input affordability, and irrigation in Sindh.

Table 20: Percentage Distribution of Agricultural Challenges Reported by Farmers (per cent)

Agricultural Challenge	Punjab	Sindh	All households
Significant loss from pests (insects, animals, diseases)	17.3	22.2	19.8
Poor market prices	14.7	10.2	12.4
High cost of inputs	8.5	12.9	10.8
Lack of dependable water supply/irrigation (monsoon failure)	4.4	10.6	7.6
Lack of good quality, affordable seed for improved varieties	5.6	2.7	4.1
Lack of credit	1.6	4.6	3.1
Seed failure	1.8	2.7	2.2
Poor, degraded, or eroded soils	0.2	2.5	1.4
Lack of access to sufficient, affordable fertilisers	1.0	1.5	1.3
Lack of access to labour	1.2	1.5	1.4
Others	0.8	1.7	1.3
None (No challenge reported)	42.9	26.9	34.8
Total	100	100	100

To link and interpret the shock data with the agricultural challenges table, we need to recognise that shocks represent sudden, external stressors that disrupt agricultural livelihoods, while agricultural challenges are ongoing or systemic issues that hinder productivity and resilience. The data suggests a strong correlation between external shocks and agricultural challenges. For example, the high frequency of natural events in Sindh (245) aligns with the significantly higher reports of irrigation challenges (10.6 per cent), soil degradation (2.5 per cent), and seed failure (2.7 per cent) in the province. Similarly, widespread pest and disease shocks in Punjab (21 cases) appear in the high incidence of pest-related agricultural challenges, which affected 17.3 per cent of farmers. Cotton price shocks align directly with poor market price challenges, one of the top concerns in both provinces. Although farmers did not directly cite health shocks as agricultural challenges, these likely affect labour availability and household decision-making, which may reduce productivity and weaken their ability to manage other shocks.

The linkage shows that shocks often intensify existing agricultural challenges, especially in Sindh, where both shock exposure and systemic challenges are more acute. This calls for integrated interventions that address both sudden shocks (e.g., climate resilience, pest control) and chronic

issues (e.g., input affordability, credit access, market stabilisation) to strengthen rural livelihoods. Table 21 presents data on the link between the shocks and challenges faced by farmers.

Table 21: Link between shocks and agriculture challenges faced by farmers

Shock Type	Related Agricultural Challenges
Natural events (drought/flood)	- Lack of dependable water supply/irrigation - Poor, degraded, or eroded soils
Pests/diseases attack	- Significant loss from pests, including insects and animals - Seed failure
Cotton price shocks	- Poor market prices - High cost of inputs
Health shocks	- Indirect impact: Reduced access to labour or productivity on farms
Loss of job	- May push individuals into farming with inadequate preparation or increase reliance on agriculture
Theft / Property loss	- Reduces productive assets, possibly linked to high input costs or insecure areas
Political unrest/policy changes	- Could result in limited credit, poor market structures, or disrupted supply chains

The data presented in Table 22 shows that reducing household expenditures was the most common coping strategy adopted by farmers facing shocks, with 38.6 per cent cutting essential spending and 26.7 per cent cutting non-essential expenses. More Punjab farmers reduced essential costs (45.1 per cent), while Sindh farmers were more likely to cut non-essentials (28 per cent) and engage in migration (11.4 per cent) or wage labour (10.3 per cent)—suggesting deeper livelihood stress in Sindh. Strategies like pulling children from school (3.1 per cent) and switching crops (4 per cent) reflect distress-driven decisions, while adoption of new farming practices (3.8 per cent), more common in Punjab, points to adaptive resilience. Alarming, reliance on external support was extremely limited, with just 0.9 per cent finding government support and 1.5 per cent relying on community help, indicating a significant gap in formal and informal safety nets for rural households.

Table 22: Coping Strategies Adopted by Farmers in Response to Shocks (per cent)

Coping Strategy	Punjab	Sindh	All households
Reduced essential expenses (food, essentials)	45.1	36.6	38.6
Reduced non-essential expenses (clothes, leisure)	22.2	28.0	26.7
Started new wage labour	4.3	10.3	8.8
Moved to another area	3.7	11.4	9.6
Took children out of school for work	1.9	3.5	3.1
Switched to other crop cultivation	2.5	4.4	4.0
Adopted new farming practices/technologies	8.6	2.3	3.8
Found support from community/neighbours	2.5	1.2	1.5
Found support from government	3.1	0.2	0.9
Other response	6.2	2.1	3.1

Table 23 reveals important contrasts between Punjab and Sindh in terms of shock impact and recovery status. In terms of shock impact, most farmers in both provinces experienced slight or moderate effects, with Punjab (55.5 per cent) showing a higher share of slight impact, while Sindh (34 per cent) had more cases of moderate impact. Severe impacts were more frequent in Sindh (15 per cent) than in Punjab (11 per cent), though Punjab had a higher share reporting the shock as the "worst ever" (4 per cent), suggesting that while fewer in Punjab are affected, those who may face more extreme hardship.

The recovery outcomes further highlight provincial differences. In Punjab, a substantial portion of farmers (45 per cent) reported being "not significantly affected", consistent with lower shock exposure noted earlier. However, Punjab also had the highest proportion of farmers who did not recover (12 per cent), showing that some of those affected struggled to bounce back. Conversely, Sindh shows stronger active recovery, with 55 per cent of households reporting they recovered and are better off, despite higher overall shock exposure. However, a notable 10 per cent in Sindh recovered but were worse off, reflecting more distress-driven recovery paths (e.g., migration, wage labour).

Overall, the data shows that Sindh faces more frequent and severe shocks but demonstrates stronger recovery activity. This likely reflects a combination of adaptive behaviours, livelihood diversification, and necessity-driven coping mechanisms. Migration and wage labour — more common in Sindh — appear to provide immediate income that supports quicker recovery, in contrast to the more passive strategies observed in Punjab, such as cutting essential expenses.

Frequent exposure to natural shocks may also have built behavioural resilience in Sindh's rural communities, encouraging faster decision-making and greater flexibility in switching crops or income sources. Informal safety nets, cultural norms around labour mobility, and experience with past shocks may further support this pattern.

However, much of this recovery appears survival-oriented rather than sustainable. Trade-offs such as school dropouts and asset depletion may weaken long-term resilience. By comparison, Punjab faces fewer but sometimes deeper shocks, with more varied recovery outcomes.

These findings highlight the need for targeted support. In Sindh, strengthening shock-responsive safety nets and adaptive capacities will be critical to building sustainable resilience.

Table 23: Shock Impact and Recovery Status Among Farming Households (per cent)

Category	Punjab	Sindh	All Households
Shock Impact:			
Slight impact	55.5	51.1	52.4
Moderate impact	29.4	33.6	32.3
Strong impact	10.9	15.0	13.7
Worst ever happened	4.2	0.4	1.5
Recovery Status:			
Not affected significantly	45.2	14.0	21.6
Recovered and better off	32.1	55.3	49.7
Recovered to the same level	9.5	15.5	14.1
Recovered some, but worse off	1.2	9.8	7.8
Did not recover	11.9	5.3	6.9

Summary of Key Findings and Conclusion: Assessing Shocks, Challenges, and Coping Among Cotton Farmers

The analysis of cotton farming households in Punjab and Sindh highlights clear differences in shock exposure, agricultural challenges, coping strategies, and recovery outcomes. Natural events, such as droughts and floods, emerged as the most reported shocks. Farmers in Sindh (245 cases) were far more affected than those in Punjab (66), underscoring Sindh's greater vulnerability to climate-related risks.

Other frequent shocks included health issues, cotton price drops, and pest attacks. Punjab reported lower overall shock exposure, reflected by a higher number of households reporting no shocks (281 in Punjab compared to 127 in Sindh).

Agricultural challenges were also more concentrated in Sindh, particularly pest damage, water scarcity, and high input costs. In contrast, a larger share of farmers in Punjab (42.9 per cent) reported no challenges, suggesting relatively more stable farming conditions.

A strong correlation is evident between the type of shocks and the challenges faced—e.g., natural events are intricately linked with irrigation issues and degraded soils, pest shocks align with crop damage and seed failure, and cotton price shocks reflect the widely reported market volatility. When it comes to coping strategies, Punjab farmers largely relied on cutting essential spending, a more passive response, while Sindh farmers were more likely to adopt active, distress-driven strategies such as migration and wage labour. However, both provinces reported extremely limited support from government or community networks, exposing significant gaps in formal safety nets.

Despite facing more frequent shocks, Sindh showed stronger recovery, with 55 per cent of households reporting they had recovered and were better off, compared to 32 per cent in Punjab. This trend likely reflects greater livelihood diversification, adaptive behaviour, and the need to act quickly in response to recurring crises.

In contrast, Punjab — though less exposed — recorded a higher proportion of households that did not recover (12 per cent), suggesting that shocks, when they do occur, may be more damaging or less expected.

Overall, these findings highlight the multi-dimensional vulnerabilities of cotton farming households. Sindh requires more targeted investments in resilience and recovery systems, while Punjab needs focused support for households struggling to bounce back after adverse events. Strengthening both preventive and adaptive capacities remains essential to improving rural livelihoods in both regions.

- **Insights from Qualitative Data**

1. Structural and Agronomic Barriers Undermining Cotton Incomes

Participants from both Punjab and Sindh identified a range of structural, technical, and institutional barriers that limit sustainable income generation from cotton farming. Chief among these were poor-quality inputs, including uncertified or counterfeit seeds and ineffective pesticides. Illegal markets, where quality control is weak and prices are inflated, further worsen the problem.

Moreover, climate shocks—like delayed monsoons, flash floods, and prolonged heatwaves—have become more frequent, leading to reduced yields and increased vulnerability. Farmers repeatedly pointed out that they lack early warning systems, weather forecasts, or institutional support to adapt to changing climatic conditions. Despite these growing risks, crop insurance remains virtually unknown or inaccessible, especially for smallholders. Many do not understand the concept or do not know which institutions offer it.

“We are not aware of what crop insurance is... Nobody has ever told us about it.” – FGD participant, Umer Kot, Sindh

A significant market barrier is the dominance of commission agents (middlemen), who provide informal loans and dictate the sale price of cotton. This creates a vicious cycle of debt and dependency, especially for small and medium farmers. Lacking real-time market information and direct links to textile mills, producers remain vulnerable to exploitative intermediaries.

“We don’t have access to real-time price information, so we rely on what middlemen tell us.” – FGD participant, Muzaffargarh, Punjab

In addition, poor rural infrastructure—like inadequate roads and high transportation costs—prevents farmers from accessing better markets, reinforcing localised exploitation and market inefficiency.

2. Community Priorities and Solutions: From State Support to Market Reform

Across FGDs and KIIs, farmers expressed a strong demand for *proactive state intervention to support cotton farming as a viable livelihood*. Participants drew comparisons with other crops—like sugarcane—where government-fixed prices and subsidies provide a level of protection and predictability. They advocated for a similar regulatory framework for cotton, including:

- Price support mechanisms with subsidies on diesel, fertilisers, and machinery
- Monitoring and elimination of fake inputs
- Expansion of agricultural extension services
- Awareness campaigns about financial services and crop insurance

“Government should provide subsidies to cotton farmers and fix the prices of cotton, just like they fix the prices of sugarcane.” – FGD participant, Sanghar, Sindh,

As one FGD participant in the Muzaffargarh, Punjab put it “We need more agricultural extension services to educate farmers.” referring to the need for field-based technical guidance, training, and access to modern farming practices.

Farmers also emphasised the need to eliminate intermediaries (middlemen) and promote direct linkages with textile mills, which they believe would enable them to fetch fairer prices, reduce dependency, and enhance income predictability. There was also growing awareness of the role civil society and private sector actors can play in delivering training, credit access, and input quality control.

3. Expanding Livelihood Pathways Beyond Cotton

The discussion around alternative livelihoods highlighted the economic fragility of cotton-dependent households, especially among smallholders. Participants widely reported pursuing or expressing interest in livestock rearing, vegetable cultivation, and small-scale trade as coping strategies. Small farmers regarded livestock as climate-resilient, low-risk, and profitable, especially during cotton off-seasons or crop failure.

“There is a high margin in livestock, and it can generate good income.” – FGD participant, Umer Kot, Sindh.

Participants widely acknowledged women’s role in agricultural labour, particularly during cotton harvesting. However, restricted mobility makes home-based income-generating activities — such as embroidery, sewing, and food processing — more practical. Women also expressed a strong interest in training and enterprise support, and asked for sewing kits, beautician tools, and capital to start home-based businesses.

Youth, on the other hand, leaned towards digital work, vocational training, and off-farm technical labour, but reported lacking access to structured opportunities or mentorship.

“Youth need modern Agri skills and tools to succeed.” – KII, Muzaffargarh, Punjab

4. Envisioning a Locally Grounded Livelihood Model for Resilience

Participants across all groups recommended a hybrid livelihood model, tailored to district-level realities and resource availability. The model should prioritise:

- Livestock integration with crop farming
- Women-led microenterprises (handicrafts, sewing, food processing)
- Climate-resilient practices like intercropping, off-season water management, and Integrated Pest Management.
- Capacity building in modern agriculture, Agri-tech, and digital skills
- Formation of farmer cooperatives to enable collective bargaining, input procurement, and access to credit

Participants advocated for demonstration plots, peer-to-peer learning, and mobile-based information services (for weather, pricing, and extension advice). There was also emphasis on **public-private partnerships** that could support technical training, input supply chains, and scalable market linkages.

“Flexible and scalable livelihood models should be promoted based on farm size.” – KII, Sukkur

“Simple and low-cost models utilising local resources are more accessible.” – KII, Vehari

Cross-Cutting Reflections

- **Trust Deficit:** There is an obvious lack of trust in existing systems—be it subsidies, financial institutions, or market intermediaries. Participants want greater transparency, community engagement, and accountability in development efforts.
- **Gender and Youth Inclusion:** While not always explicitly asked for, many participants—especially key informants—highlighted the need for gender-responsive and youth-inclusive

programming. This reflects a growing recognition of shifting demographic and social dynamics in rural Pakistan.

- **Adaptation is Already Underway:** Many farmers are already diversifying income, adjusting cropping patterns, or engaging in non-farm activities. What they lack is systemic support to scale up these transitions, along with tools and training to improve outcomes.

Summary of Key Findings and Conclusion: Insights from Qualitative Data

The qualitative findings from FGDs and KIIs across Punjab and Sindh reveal deep-rooted structural, agronomic, and institutional barriers that hinder income generation from cotton farming. Farmers consistently pointed to the inferior quality of inputs, such as counterfeit seeds and ineffective pesticides, exacerbated by illegal markets and the absence of regulatory enforcement. Climate shocks, such as floods and heatwaves, have become more frequent, yet farmers lack access to early warning systems or crop insurance, particularly smallholders who remain unaware of such financial tools. Market dependency on commission agents (middlemen) further traps farmers in cycles of debt and price exploitation, as they lack direct access to real-time pricing or buyers like textile mills. Poor infrastructure compounds this challenge, limiting market access and reinforcing local vulnerabilities.

Participants across communities called for state support through price stabilisation, subsidies on inputs, and stronger agricultural extension services to promote modern, climate-smart practices. They advocated for the elimination of exploitative intermediaries and improved linkages with the private sector for training, inputs, and credit. In terms of livelihood diversification, smallholders see promise in livestock, vegetable farming, and small trade, while women favour home-based enterprises and youth show interest in vocational and digital skills—though access to such opportunities remains limited.

Participants envision a locally grounded livelihood model combining crop-livestock integration, women-led microenterprises, and climate-resilient practices like intercropping and IPM, supported by farmer cooperatives, mobile advisory platforms, and public-private partnerships. They emphasised the need for scalable, low-cost, district-specific solutions that leverage local resources and capacities. Cross-cutting themes included a trust deficit in institutions, and a strong call for gender-responsive and youth-inclusive programming. Overall, while adaptation efforts are already emerging at the grassroots level, farmers require systemic support, training, and inclusive models to build lasting resilience and secure livelihoods.

5. Overall Key Findings, Conclusions, and Recommendations

5.1. Overall Key Findings

1. Income Gaps Are Evident Across Landholding Sizes

Household income levels vary notably by landholding size, with smallholders earning substantially less than the 2025 living income benchmark. In Punjab, households with up to 2.5 acres earn an average of PKR 357,257 per year, while the living income benchmark is PKR 1,098,932—an income gap of PKR 741,675 (208 per cent). In Sindh, smallholders earn PKR 321,494, with a gap of PKR 774,806 (241 per cent) compared to the benchmark of PKR 1,096,300. Only households with more

than 10 acres report incomes above the benchmark, with households owning more than 25 acres in Sindh earning an average of PKR 6.7 million annually.

2. Sources of Income Differ by Farm Size

Income composition shifts notably with land size. Among smallholders (up to 2.5 acres), only 31 per cent of household income comes from cotton farming, while 43 per cent comes from off-farm sources, primarily daily wage labour. In contrast, farmers with landholdings above 10 acres derive 69 per cent of their income from cotton. Medium-sized farmers (5–10 acres) display a mix of income sources, with 54 per cent from cotton and 39 per cent from other on-farm activities. This suggests increasing reliance on cotton as the primary income source with scale.

3. Cotton Yields Are Lower Than International Averages

The average cotton yield among sample households is 803 kg per hectare, with minimal variation between Punjab (806 kg/ha) and Sindh (800 kg/ha). Yields are consistent across landholding sizes, ranging between 789 for small holders and 841 kg/ha for medium holders. However, this yield level is considerably lower than yields in top cotton-producing countries. For the 2023/24 season, China reported an average yield of 2,065 kg/ha, Australia 2,054 kg/ha, and Brazil 1,910 kg/ha. In comparison, Pakistan's national average was 608 kg/ha, indicating a significant productivity gap.

4. Cotton Prices Contribute to Income Differences Between Provinces

While cotton prices were broadly similar across regions—ranging from PKR 405 to 437.5 per kg. However, net income (revenue minus costs) from cotton differed between Punjab and Sindh. For instance, smallholders in Sindh earned PKR 191 per kg in net income compared to PKR 170 per kg in Punjab. Net income per hectare also varied, with Sindh's smallholders earning PKR 153,023 compared to PKR 136,060 in Punjab. This difference is mainly due to lower production costs in Sindh, more efficient input use, and possibly better local market access, allowing farmers to retain a greater share of the sale value despite similar yields. Larger landholders (>10 acres) in both provinces reported net income per hectare above PKR 180,000 largely due to economies of scale, better access to capital, and more cost-efficient production practices.

5. Production Costs Are Higher for Small Farmers

Production cost analysis shows an inverse relationship between land size and cost per unit. Farmers with up to 2.5 acres incur costs of PKR 167,392 per hectare, while those with more than 25 acres report PKR 118,772 per hectare. Across all land sizes, fertiliser and labour are the largest cost components. Smallholders also face relatively higher per-unit costs for seeds, irrigation, and pest control due to limited purchasing power and lack of mechanisation.

6. Farmers in Sindh Report More Frequent Exposure to Shocks

Among all types of shocks reported, natural events such as floods and droughts were the most frequent, affecting 311 farmers—245 from Sindh and 66 from Punjab. Other shocks included health-related issues (63 farmers), cotton price fluctuations (53 farmers), and pest/disease outbreaks (29

farmers). In Punjab, 281 farmers reported no shocks, compared to 127 farmers in Sindh, suggesting a relatively lower exposure level in Punjab.

7. Agricultural Challenges Are More Commonly Reported in Sindh

Significant pest-related losses were the most frequently cited agricultural challenge, affecting 20 per cent of farmers—22 per cent in Sindh and 17 per cent in Punjab. Farmers also commonly reported poor market prices (12 per cent) and high input costs (11 per cent). Water scarcity due to monsoon failure affected 11 per cent of farmers in Sindh compared to 4 per cent in Punjab. A larger share of Punjab farmers (43 per cent) reported facing no major agricultural challenges compared to 27 per cent in Sindh.

8. Reported Shocks and Agricultural Challenges are Closely Linked

There is a pattern of correlation between the types of shocks experienced and the challenges reported. Droughts and floods directly contributed to irrigation problems by reducing water availability and damaging infrastructure. They also worsened soil degradation through erosion, nutrient loss, and waterlogging, further undermining agricultural productivity. Pest attacks were associated with crop losses and seed failures. Cotton price shocks corresponded with reported difficulties in accessing affordable inputs and in selling produce at fair prices. These linkages suggest that external shocks often intensify ongoing production-related constraints.

9. Coping Strategies Reflect Regional and Economic Differences

The most common coping strategies reported by households included reducing essential expenses (38.6 per cent) and non-essential spending (27 per cent). Farmers in Sindh were more likely to report migration (11 per cent), and new wage labour (10 per cent) compared to those in Punjab. In Punjab, 45 per cent of farmers reduced essential costs, while fewer adopted migration-based strategies. Across both provinces, few farmers relied on external support. Only 0.9 per cent reported receiving government assistance, and just 1.5 per cent received help from their communities.

10. Differences in Recovery Outcomes Between Punjab and Sindh

Farmers in Punjab more frequently reported being unaffected or only slightly affected by shocks, with 45 per cent of farmers reported that they were not significantly impacted. However, 12 per cent of those affected in Punjab reported not recovering from the shocks they experienced. In Sindh, 55 per cent of farmers reported having recovered and being better off than before. A smaller portion (5 per cent) reported not recovering, while 10 per cent stated they had recovered but were worse off, indicating variation in the nature and consequences of recovery.

11. Structural Constraints Affect Input Use and Market Participation

- Focus group participants and key informants identified a range of structural barriers to effective cotton farming. These included the use of counterfeit or poor-quality seeds and pesticides, a lack of weather and market information, and limited access to insurance programmes. Farmers also described challenges associated with reliance on intermediaries for credit and crop sales, and the absence of direct access to buyers. Inadequate rural

infrastructure was also cited as a factor limiting mobility and mill and improving extension services.

There is high interest in training, credit access to markets.

12. Households Depend on Multiple Livelihood Strategies

Farmers reported engaging in various livelihood activities beyond cotton, including livestock rearing, vegetable farming, and small-scale trade. Women mentioned to engage actively in farm labour and expressed strong interest in sewing, embroidery, and home-based enterprises such as sewing and food processing as more accessible given mobility limitations. Youth expressed interest in digital or technical skills development but faced limited access to relevant training and job markets. These patterns indicate the importance of non-cotton income sources in household survival strategies.

13. Farmers Emphasise the Need for Locally Adapted Livelihood Models

Participants from both Punjab and Sindh discussed the potential value of district-specific livelihood approaches that consider available resources, gender roles, and landholding size. Suggested components included crop-livestock integration, women-led microenterprises, intercropping, and climate-resilient practices such as Integrated Pest Management (IPM). Farmers also noted the potential of cooperatives, peer learning, and mobile-based advisory services to improve access to inputs, credit, and information.

5.2. Overall Conclusion

This study provides a comprehensive analysis of the income gaps, economic drivers, vulnerabilities, and resilience strategies of cotton farming households in Punjab and Sindh. The evidence reveals that landholding size is the most decisive factor in shaping income levels, economic security, and resilience among cotton farmers. Smallholder farmers—particularly those owning less than 5 acres—consistently earn well below the living income benchmark for 2025, with income deficits ranging from 109 per cent to 241 per cent. These farmers are highly dependent on precarious off-farm income sources such as daily wage labour, while their returns from cotton remain minimal due to low yields, limited market access, and high per-unit production costs.

Larger landholders, on the other hand, demonstrate significantly higher incomes and better resilience, benefitting from economies of scale, lower input costs, greater on-farm diversification, and access to value-added income streams. However, despite these intra-group differences, the entire cotton farming sector remains constrained by key structural barriers: low productivity relative to global standards, poor input quality, exposure to climate shocks, and dependency on informal markets and intermediaries.

Sindh presents a unique paradox: while it faces higher shock exposure and more frequent climate and price-related disruptions, its farmers show stronger recovery and active coping behaviour—albeit often through distress-driven strategies like migration and wage labour. Punjab farmers, in contrast, show lower exposure but weaker recovery when affected, indicating the need for context-specific resilience-building approaches.

Qualitative insights further reinforce the need for systemic reforms. Farmers across both provinces expressed frustration over unregulated input markets, lack of institutional support, inadequate infrastructure, and limited access to information and finance. They also voiced strong aspirations for diversification, especially into livestock, home-based enterprises, and digital livelihoods—highlighting a readiness to adapt if given the right tools, training, and opportunities.

In conclusion, the cotton farming sector in Pakistan is characterised by high income inequality, low productivity, and systemic vulnerability, especially among smallholders. Achieving Better Cotton's 2030 goals—particularly on improved livelihoods and resilience—will require a transformative approach that goes beyond cotton yield and pricing. It calls for an integrated, inclusive, and regionally tailored strategy that supports smallholders through productivity gains, reduced costs, secure markets, and diversified income sources. Without such targeted efforts, most cotton farmers—who form the backbone of the supply chain—will remain trapped in cycles of poverty and risk, undermining the long-term sustainability of cotton in Pakistan.

5.3. Recommendations

Based on the income and resilience assessment of cotton-farming households in Punjab and Sindh, these strategic recommendations aim to guide Better Cotton's programme direction for the next five years (2025–2030). They aim to address the persistent income gaps, production inefficiencies, high input costs, market vulnerabilities, and exposure to shocks that undermine the livelihoods of smallholder cotton farmers. The recommendations below prioritise feasible, climate-resilient, and inclusive solutions that align with Better Cotton's sustainability standards, while offering locally adapted, scalable actions for long-term resilience and economic transformation.

- **Promote Feasible Income Gains Through Integrated Livelihood Programming:** Better Cotton may adopt a feasible income model that aims to increase smallholder earnings by 20–30 per cent over five years through integrated interventions. This includes improving productivity, reducing input costs, and diversifying income sources. Producer organisations and partners can support farmers in setting and reaching realistic income goals by co-developing household-level income improvement plans. Integrated livelihood packages should include support for on-farm improvements, kitchen gardening, livestock rearing, and enterprise development for women and youth. These interventions must be locally adapted and implemented through pilots in target districts to demonstrate viability and build evidence for scale-up.
- **Facilitate Yield Improvement Through Sustainable Agronomic Practices:** To improve cotton productivity, Better Cotton should promote the use of sustainable agronomic practices tailored to local conditions. This includes the adoption of certified seeds, Integrated Pest and Nutrient Management (IPNM), efficient irrigation systems, and soil conservation techniques. Farmer Field Schools (FFS) and demonstration plots can help to enable experiential learning, led by trained lead farmers. Partnerships with research institutions and Agri-input providers will be essential to ensure access to quality inputs and dissemination of locally relevant agronomic innovations.
- **Support Cost-Efficiency Through Group-Based Services and Input Access:** Reducing the cost of production is critical for improving net income. Better Cotton and its Programme Partners can support the formation of new (where needed) and strengthening of existing

farmer groups or cooperatives to enable bulk procurement of inputs at lower prices. These groups can also facilitate shared access to equipment and machinery, improving production efficiency. Training on input tracking and record-keeping can help farmers make informed investment decisions. Additionally, linking farmer groups with microfinance institutions, government subsidies, and revolving input funds will ease financial barriers and support cost-effective farming.

- **Encourage Diversification Within Cotton-Growing Households:** Income diversification can significantly enhance household resilience. Better Cotton and its Programme Partners can promote locally viable diversification options such as small livestock rearing, poultry, vegetable farming and horticulture. At the same time, partners should extend vocational skills training and microenterprise development opportunities to women and youth in cotton-producing households. Partnerships with NGOs and government departments can support the design and implementation of these interventions, while small grants or seed capital can incentivise uptake and sustain alternative income streams.
- **Strengthen Farmer Market Readiness and Price Transparency:** Improved access to market information and stronger negotiation capacity are essential for better returns. Better Cotton and its implementing partner may invest in market readiness by facilitating digital and SMS-based platforms that provide real-time updates on cotton and input prices. Farmer groups should receive support to engage in collective marketing and build direct links with ginners and buyers. Training in quality grading, post-harvest handling, and price negotiation will help farmers secure better deals. In addition, piloting contract farming models could promote fair pricing and greater transparency.
- **Foster Climate Resilience Through Low-Cost, Sustainable Practices:** Building resilience to climate risks is vital for long-term income stability. Better Cotton should promote low-cost climate-smart agriculture (CSA) techniques such as mulching, crop rotation, drought-tolerant seeds, intercropping, and water-efficient practices. Farmers need on-farm water harvesting structures and improved irrigation methods, such as drip irrigation to address water scarcity. Farmers also need support to understand and prepare for climate risks through community-based risk mapping, early warning systems, and access to climate insurance products.
- **Engage in Strategic Advocacy for System Strengthening:** To support sustainable change, Better Cotton should engage in advocacy at the policy and system level. This includes collaboration with government departments to improve the regulation and quality of agricultural inputs and to invest in rural infrastructure like storage, transport, and digital access. Better Cotton can also support evidence-based dialogue on key issues such as cotton pricing, rural finance, and youth employment. Creating platforms that enable farmers to raise their voices will help ensure provincial and national policies reflect their needs.
- **Embed Monitoring, Feasible Income Tracking, and Learning Loops:** A robust monitoring system is essential to track progress and adapt strategies effectively. Develop a “feasible income dashboard” that regularly tracks key indicators related to income, costs, productivity, and resilience. Partners should integrate these metrics into routine monitoring tools and farmer diaries. Holding annual learning reviews with stakeholders to assess what is working and where adjustments are needed is critical for continuous improvement. Investing in action research and continuous learning will keep the programme responsive, evidence-based, and focused on long-term impact.

1. Support Income Diversification for Smallholders

- Promote agri-based microenterprises (e.g., seed production, value-added cotton).
- Facilitate access to credit and direct linkages with markets and service providers.

2. Boost Productivity through Extension and Inputs

- Scale up access to quality seeds, integrated pest management, and training on modern practices.
- Invest in off-season management and district-level extension systems.

3. Improve Price Competitiveness and Market Access

- Work with government to rationalise tax policy—remove the 18 per cent GST on local cotton and create a level playing field.
- Strengthen market intelligence systems and enable premium cotton channels (organic, sustainable, traceable).

4. Reduce Costs for Smallholders

- Expand pooled procurement schemes, subsidies on fertiliser and bio-inputs.
- Support community-based mechanisation and affordable irrigation technologies.

5. Revitalise Research and Ensure Policy Coherence

- Collaborate and strengthen local institutions working on cotton research and policy to innovate on high-yield, climate-resilient varieties.
- Work with policy makers to ensure continuity of textile and agriculture policies and align energy tariffs with regional competitors.

6. Local Livelihood Model and Roadmap for Enhancing Economic Resilience among Cotton-Farming Households in Punjab and Sindh (2025–2030)

This section outlines a livelihood strategy designed to address the persistent income gaps and economic vulnerabilities among smallholder cotton farmers in Punjab and Sindh. Based on quantitative and qualitative insights from the Income & Resilience Study (2024-25), the proposed model focuses on feasible, climate-resilient, and inclusive livelihood options to diversify income sources, improve farm productivity, reduce cost burdens, and enhance market access. The goal is to build long-term economic resilience while aligning with Better Cotton's 2030 targets. The proposed livelihood strategy is based on findings of the study and touches upon broader themes. A detailed strategy would need further consultation among the better cotton and implementing partner's team and management before finalisation.

Objectives of the local livelihood model

- Increase household income by 20–30 per cent through integrated livelihood support.
- Improve cotton yield and reduce input costs by 10–15 per cent.

- Diversify household income through off-farm and non-cotton enterprises.
- Strengthen farmers' resilience to climate and market shocks.
- Embed feasible income tracking and adaptive learning in programme delivery.

Pillars of the Local Livelihood Model

Grounded in the study's findings and recommendations, the proposed Local Livelihood Model (LLM) presents a practical and evidence-based approach to enhancing the economic resilience of cotton-farming households—particularly smallholder farmers—in Punjab and Sindh. The model focuses on addressing key challenges identified through field research, such as low and unstable incomes, limited diversification opportunities, market exclusion, and vulnerability to climate and financial shocks.

Structured around eight interconnected pillars, the LLM provides actionable strategies for feasible income planning, sustainable cotton productivity, cost-effective production, livelihood diversification, and improved market readiness. It also emphasises climate resilience, system strengthening, and continuous learning. Tailored to the needs and capacities of small farmers, this model offers a scalable pathway toward inclusive rural transformation and long-term livelihood security.

Pillar 1: Feasible Income Planning

- Set household-specific income improvement targets.
- Use planning tools to identify income sources and gaps.
- Co-develop action plans with producer organisations and community groups.

Pillar 2: Sustainable Cotton Productivity

- Promote certified seeds, IPNM, and water-efficient practices.
- Establish demo plots and lead farmer networks.
- Link farmers with Agri-research and input providers.

Pillar 3: Cost-Effective Production

- Form producer groups to procure inputs in bulk.
- Promote shared services (equipment, irrigation, storage).
- Link groups to financial services (microfinance, subsidies, revolving funds).

Pillar 4: Livelihood Diversification

- Identify local non-cotton income opportunities (livestock, poultry, vegetables, vocational skills).
- Support women and youth with enterprise training and seed funding.

- Integrate diversification modules in extension and FFS sessions.

Pillar 5: Market Access and Readiness

- Use digital tools for real-time price sharing and buyer linkages.
- Train farmers on post-harvest handling, grading, and negotiation.
- Facilitate collective marketing and fair contracting arrangements.

Pillar 6: Climate Resilience Integration

- Promote CSA practices (intercropping, mulching, water conservation).
- Establish on-farm water harvesting and storage structures.
- Link households to weather alerts, risk mapping, and insurance schemes.

Pillar 7: System Strengthening and Advocacy

- Advocate for better input regulation and infrastructure support.
- Collaborate with government for extension and subsidy alignment.
- Elevate farmer voices in regional cotton and agriculture platforms.

Pillar 8: Monitoring, Learning, and Adaptation

- Develop a feasible income dashboard with household-level tracking.
- Embed income, cost, and resilience metrics into routine M&E tools.
- Facilitate annual reflection and learning sessions with stakeholders.

Pillars and Intervention Areas

Pillar	Intervention Area	Key Activities	Target Group	Purpose
1. Feasible Income Planning	Income Planning & Goal Setting	Set household-specific income targets; use planning tools to map income gaps and sources; co-develop improvement plans introducing high yield crops, vegetables, fruits on cotton margins	All smallholder households	Provide a clear, goal-oriented path to income growth

Pillar	Intervention Area	Key Activities	Target Group	Purpose
2. Sustainable Cotton Productivity	Climate-smart Agronomic Practices	Promote certified seeds, IPNM, and water-efficient irrigation; establish demo plots and lead farmer networks	Smallholder cotton farmers	Increase yields, enhance sustainability, and build peer-led learning
	Research & Input Access	Facilitate access to Agri-research and quality inputs through linkages with research institutions and suppliers	Smallholder and medium farmers	Strengthen adoption of innovative, evidence-based practices
3. Cost-Effective Production	Group-based Procurement	Form producer groups/cooperatives for bulk input purchases and shared infrastructure (e.g., machinery, storage)	Small and medium producers	Reduce input costs, improve ROI, and enable resource-sharing
	Financial Services Linkages	Connect groups with microfinance, subsidies, and revolving input funds	Producer groups and cooperatives	Increase access to capital and smooth seasonal cash flow
4. Livelihood Diversification	On-farm Diversification	Promote livestock, poultry, vegetables, and horticulture alongside cotton farming	Smallholders (men and women)	Reduce dependency on cotton and enhance year-round income
	Off-farm Income & Skills	Train women and youth in enterprise development and vocational skills	Rural youth, women, and girls	Create employment opportunities and foster microenterprises
	Extension Integration	Integrate diversification training into FFS and community extension platforms	All farming households	Mainstream alternative livelihoods within core outreach

Pillar	Intervention Area	Key Activities	Target Group	Purpose
5. Market Access and Readiness	Market Intelligence	Use digital tools and SMS to provide real-time input and crop price updates	Smallholder and medium farmers	Improve market awareness and informed decision-making
	Post-Harvest & Collective Marketing	Train in grading, storage, and negotiation; support collective selling and contract farming models	Farmer groups and cooperatives	Increase market leverage and value retention at farm level
6. Climate Resilience Integration	CSA Practices & Technologies	Promote mulching, intercropping, drought-tolerant seeds, and water conservation methods	All smallholders	Enhance resilience to weather variability and climate risks
	Water Security & Risk Preparedness	Support on-farm water harvesting; link communities to early warning systems and weather alerts	Smallholder households	Mitigate water scarcity and climate-related shocks
	Risk Insurance	Facilitate access to crop/livestock insurance and savings/ROSCAs	Vulnerable and marginal households	Reduce income volatility and enhance household safety nets
7. System Strengthening and Advocacy	Institutional Engagement	Advocate for improved input regulation, extension services, and rural infrastructure	Policy actors, local government, cooperatives	Strengthen the enabling environment and delivery ecosystem
	Farmer Voice & Representation	Promote farmer participation in policy dialogue platforms and producer networks	Farmer leaders and community representatives	Ensure farmer priorities shape programmes and policy
8. Monitoring, Learning, and Adaptation	Income Tracking & Dashboards	Develop and use a feasible income dashboard at household and district levels	Programme teams, producers, partners	Track progress toward income targets and enable course correction

Pillar	Intervention Area	Key Activities	Target Group	Purpose
	M&E Integration & Learning Loops	Embed income, cost, and resilience indicators in routine tools; hold annual reflection workshops	All stakeholders (farmers, staff, partners)	Support data-driven decision-making and adaptive management

Though the proposed livelihood model for Punjab and Sindh is grounded in the survey data and stakeholder consultations conducted for this study, it also draws from global and regional evidence to quantify the potential impact of its interventions. For instance, farm diversification strategies—such as intercropping with legumes Malawi—have shown to increase dietary diversity scores by 2–3 food groups, extend food availability by 2–4 months, and contribute to 10–20 per cent yield gains and reduced fertiliser costs in smallholder systems.⁵

This model also builds on successful field-level experience, including outcomes from the *Producing Better Cotton in Pakistan* project by CABI. This project demonstrated the effectiveness of integrated soil and water management, promotion of women’s enterprises, and improved cotton processing and labour standards in enhancing smallholder productivity and resilience.⁶ This aligns with Pakistan’s urgent need for climate-resilient practices amid declining cotton yields (570 kg/ha vs. China’s 1,992 kg/ha) and frequent pest outbreaks such as pink bollworm. Furthermore, collective input procurement and efficient irrigation systems adopted by Farmer Producer Organisations in India reduced production costs by 15–25 per cent, suggesting potential gains in Pakistan’s smallholder context.⁷

Livestock integration, a critical source of resilience, has shown to increase household income by 20–35 per cent in Pakistan and Bangladesh through small ruminants and backyard poultry.⁸ Additionally, microinsurance can further mitigate risks, with studies from Ghana and Pakistan demonstrating 23–60 per cent reductions in asset depletion or post-shock income loss.⁹ In a context where 70 per cent of Pakistan’s smallholders already raise livestock but earn minimal returns, this integration is particularly relevant.

Empowering women and youth are another cornerstone of the model. IFAD and CARE programmes have shown that women-led enterprises can boost incomes by 25–50 per cent and enhance social

⁵ Snapp, S. S., et al. (2014). *Filling the maize basket supports crop diversity and quality of household diet in Malawi*. *Food Security*, 6(4), 437–450. <https://link.springer.com/article/10.1007/s12571-014-0410-0>

⁶ CABI (2023). *Producing better cotton in Pakistan*. <https://www.cabi.org/projects/producing-better-cotton-in-pakistan/>

⁷ NABARD (2020). *Impact Evaluation Study (IES) 2020-21 of NABARD Promoted FPOs*.

https://www.nabard.org/auth/writereaddata/tender/pub_22062306150099.pdf

⁸ Aga Khan Rural Support Programme (AKRSP) (2015). *Progress Review 2015-16*.

<https://akrsp.org.pk/wp-content/uploads/2018/09/AKRSP%20AR%202015-16%20may%2030.pdf>

BRAC (2017). *BRAC’s Ultra-Poor Graduation Programme*.

<https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2017/04/Lamia-Rashid-BRAC-Ultrapoore-Graduation-Paper-for-UN-Expert-Group-Meeting-May-2017-25Apr17.pdf>

⁹Osei, R. D., et al. (2014). *The Impact of Microinsurance on Household Asset Accumulation in Ghana: An Asset Index Approach*.

https://www.researchgate.net/publication/261959073_The_Impact_of_Microinsurance_on_Household_Asset_Accumulation_in_Ghana_An_Asset_Index_Approach

5. International Cotton Advisory Committee (ICAC) (2025). *Press Release: Pakistan’s Cotton Industry*.

<https://mnfsr.gov.pk/Detail/YzU4M2JkMWItYjAzMy00MTUzLThkMzktZDZjNmE1NDE1NGFh>

empowerment, while Bolivia's experience reflects a 19 per cent income increase for similar ventures.¹⁰ In Pakistan's cotton belt, where women contribute 40–60 per cent of agricultural labour yet face pesticide exposure and limited control over income, such initiatives can be transformative.¹¹ Moreover, youth-focused technical and vocational training programmes, such as Hunarmand Pakistan and ILO's regional initiatives, resulted in a 30–40 per cent job placement rate and up to 20 per cent income growth.¹²

Local value addition—particularly through cottonseed oil and feed processing—has increased profits by 10–40 per cent in India and other South Asian contexts, while retaining more value within farming communities¹³. Complementing this, farmer cooperatives in Punjab and Nepal improved market access and farm-gate prices by 10–20 per cent, reducing market inefficiencies.¹⁴ Finally, index-based crop insurance, proven to reduce income volatility by 32 per cent in Ghana¹⁵, is vital for Punjab and Sindh, where climate shocks led to a 41 per cent decline in yields between 2017 and 2021.¹⁶

7. Implementation Roadmap for the Local Livelihood Model (2025–2030) - Enhancing Economic Resilience and Feasible Incomes for Smallholder Cotton Farmers in Punjab and Sindh

The roadmap lays out a phased, results-oriented approach to operationalising the proposed livelihood model over a five-year period. It provides a strategic framework for action, guiding stakeholders through the planning, piloting, expansion, and institutionalisation of diversified income-generating opportunities for cotton-farming households. The roadmap also outlines key actors and expected outcomes for each phase to ensure coordinated delivery and long-term sustainability of interventions.

Phase 1: Foundation and Pilot Implementation (2025–2026)

The first phase lays the groundwork for the Local Livelihood Model by focusing on building evidence, testing integrated livelihood solutions, and establishing enabling systems for future scale. The key priority is to generate credible baseline data and develop proof-of-concept in diverse cotton-growing settings in Punjab and Sindh. This will involve conducting comprehensive income and vulnerability assessments in select districts to understand household-level income flows, production inefficiencies, exposure to climate and market risks, and the potential for diversification. Better Cotton's existing operational reach through Producer Units (PUs) and Programme Partners (PPs) will be instrumental in carrying out this exercise efficiently.

Select pilot sites using criteria such as poverty levels, market access, agro-climatic conditions, and the strength of local partners. Implement integrated livelihood packages—combining sustainable cotton practices, low-cost diversification (e.g., poultry, vegetables), and enterprise training with 4–6 communities per province. Establish new or continue with existing demonstration plots and Farmer Field Schools (FFS) that serve as community learning hubs for promoting certified seeds, integrated

¹⁰ International Fund for Agricultural Development (IFAD) (2016). *Rural Development Report 2016: Fostering Inclusive Rural Transformation*. <https://www.ifad.org/documents/38714170/40724622/Rural%2Bdevelopment%2Breport%2B2016.pdf>

CARE (2023). *She Feeds the World: An Integrated Framework for Ending Hunger*. <https://www.care.org/impact-magazine/archive/issue-31/she-feeds-the-world-framework/>

¹¹ CABI, 2023: <https://www.cabi.org/news-article/using-sustainable-agricultural-practices-to-strengthen-pakistan-s-cotton-sector/>

¹² NAVTTC, 2021; ILO, 2020: <https://navttc.gov.pk/publications/>

¹³ Patil et al., 2018; Better Cotton, 2023: <https://bettercotton.org/resources/impact/>

¹⁴ FAO, 2019; IFPRI, 2020: <http://www.fao.org/3/ca2904en/CA2904EN.pdf>

¹⁵ Akoto et al., 2021: <https://onlinelibrary.wiley.com/doi/10.1111/jori.12345>

¹⁶ Pakistan Cotton Ginners Association, 2021: <https://www.pcgga.org>

pest, and nutrient management (IPNM), and water-saving practices. Simultaneously, mobilise farmer groups for collective input procurement, training, and piloting of income planning tools tailored to smallholders.

The role of external partnerships in this phase is critical. Collaboration with government agriculture departments, input suppliers, vocational training institutes, and NGOs will enhance the delivery of services and technical support. Local government buy-in and community leadership engagement will be essential to anchor the model in existing structures.

Proposed key activities:

1. **Baseline Income and Vulnerability Mapping:** As a starting point, it may be helpful for Better Cotton to initiate the Local Livelihood Model with a focused Baseline Income and Vulnerability Mapping exercise to better understand the needs and realities of cotton-farming households. This could involve participatory household profiling in selected districts using tools like the *Feasible Income Tracker* and *Livelihood Mapping Tools* to explore income sources, cost structures, shocks, gender dynamics, and access to basic services.

Drawing on Better Cotton's existing field teams, Producer Units (PUs), and Implementing Partners (IPs) might make the process more efficient and grounded in local context. Light training or refreshers on participatory methods and ethical engagement could support data quality and consistency. This initial step would offer a valuable foundation for tailoring interventions, prioritising support for vulnerable households, and setting meaningful income improvement benchmarks over time.

2. **Selection of Pilot Sites (6–8 per province):** In moving toward implementation, it may be useful for Better Cotton to select pilot sites that offer a diverse representation of the ecological, market, and social conditions found across cotton-growing regions. For example, choosing 6–8 sites per province that include both irrigated cotton belts in Punjab and more water-scarce, vulnerable zones in Sindh can help ensure that the model is tested under varying conditions.

This diversity would allow for a more comprehensive understanding of what works where and why, enabling future adaptation and scale-up. It could also be advantageous to prioritise locations where Better Cotton already has strong partnerships and an active community presence, as these relationships can facilitate smoother coordination, community engagement, and implementation. This approach would help balance learning opportunities with operational feasibility in the early phases of the Local Livelihood Model.

3. **Design and Delivery of Integrated Livelihood Packages:** To effectively test and demonstrate the potential of the Local Livelihood Model, Better Cotton may consider designing and delivering integrated livelihood packages that are grounded in local needs and build on existing resources.

These packages could bring together a mix of sustainable cotton practices to improve productivity and improve cost efficiency, low-cost intercropping, livestock rearing, and youth skills development to promote diversified and climate-resilient livelihoods. Where needed, demonstration plots and Farmer Field Schools (FFS) can be established—or existing ones utilised—to support peer learning, showcase good practices, and serve as local innovation

hubs. To further support vulnerable households, Better Cotton could consider providing enterprise start-up capital, basic agri-tools, or materials for small-scale processing and marketing. And piloting crop and livestock insurance could help participating farmers build resilience to climate-induced shocks and price volatility, creating a safety net for their investments.

To improve productivity and cost-efficiency through sustainable cotton practices, Better Cotton can support farmers in adopting certified, high-yield seed varieties and applying integrated pest and nutrient management based on soil health and actual crop needs. Promoting water-efficient irrigation techniques, timely land preparation, and use of shared equipment can further reduce input and labour costs.

Demonstration plots and Farmer Field Schools can facilitate firsthand learning, while group-based input procurement helps lower expenses through collective bargaining. Introducing simple cost and yield tracking tools enables farmers to make informed decisions, and training on better post-harvest handling can reduce losses and improve cotton quality. These practices, when linked to household income planning, offer a clear pathway for smallholders to increase profitability while building resilience.

As part of this package, vocational training plays a crucial role in expanding income opportunities beyond cotton as the finding of this study confirms that most of the small farmers depend on off-farm income and largely on labour income. Better Cotton could promote locally relevant trades such as agri-mechanics and equipment repair, which respond to the rural demand for maintenance services, and solar technology installation, which aligns with Pakistan's growing interest in renewable energy, particularly in off-grid areas.

For women and smallholders, livestock management, poultry rearing, food processing are promising microenterprise pathways. Meanwhile, youth could benefit from training in mobile repair, digital marketing, IT services, community-based agriculture and livestock extension workers, organic composting, and biofertilizer production, which offer both employment and entrepreneurial options. These trainings are likely to be more impactful if linked to certified training institutions, market demand assessments, and follow-up support, including mentoring, seed capital, and buyer linkages.

To deliver these components effectively, Better Cotton may explore partnerships with a range of experienced institutions for example:

- Punjab Skills Development Fund (PSDF): Offers over 250 demand-driven trades across agriculture, renewable energy, and enterprise development through a network of 2,500+ training centres in Punjab.
- National Vocational & Technical Training Commission (NAVTTTC): The national authority for accrediting and standardising vocational institutes and programmes across Pakistan.
- GIZ Pakistan: Through initiatives like the *Solar Schools Project*, GIZ offers training on solar technology and promotes green energy livelihoods in rural areas.
- Small and Medium Enterprises Development Authority (SMEDA): Conducts enterprise training and facilitates food processing and small-scale business development.
- DigiSkills.pk: The largest digital skills platform in Pakistan, offering free online training in freelancing, marketing, and IT tools—suitable for youth and rural entrepreneurs.

- National Rural Support Programme (NRSP): Pakistan’s largest rural development network, with ongoing training programmes in sustainable farming, composting, and income diversification.
- Pakistan Microfinance Network (PMN): Has supported pilots of weather index-based crop insurance and livestock insurance with multiple MFIs across Pakistan.
- Adamjee Insurance & Jubilee Insurance: Have developed agriculture and livestock insurance products and partnered with rural finance institutions.
- Karandaaz Pakistan: Can be engaged to provide technical and financial support for designing innovative, inclusive insurance solutions.

Partnering with these actors would allow Better Cotton to pilot context-relevant risk mitigation instruments and generate valuable lessons for wider adoption, especially in climate-sensitive regions of Punjab and Sindh.

4. **Mobilisation of Producer Groups and Cooperatives:** To strengthen local ownership and improve efficiency in service delivery, Better Cotton could consider facilitating the mobilisation of producer groups and cooperatives within selected pilot sites. This process may begin with engaging cotton farmers in forming or revitalising producer groups, with a focus on collective planning, bulk input procurement, shared training, and market engagement. Such groups can serve as key platforms for peer learning, negotiation with buyers, and improved access to financial and extension services.

Over time, these producer groups may evolve into or link with formal cooperatives, enabling them to take on larger roles in service delivery. It may be useful to test cooperative-led services such as rental of agri-machinery, collective spraying operations, and community-managed storage facilities. These shared services can reduce production costs, improve input access, and address smallholder constraints such as land size, capital, and labour shortages. Strengthening producer groups and cooperatives would also create a solid foundation for piloting contract farming, digital traceability, and resilience-building interventions in later phases of the Local Livelihood Model.

5. **Advocate for Improved Public Extension Services and Strengthen Farmer Linkages to Agriculture Support Mechanisms:** A critical area for system-level impact under the Local Livelihood Model is strengthening public extension services and ensuring that cotton farmers—particularly women, youth, and marginalised groups—are effectively linked to existing government schemes, subsidies, and support programmes.

Despite the presence of public agriculture and livestock extension departments in both Punjab and Sindh, many smallholders remain excluded due to limited outreach, resource constraints, and lack of localised, inclusive delivery mechanisms.

Better Cotton, through its field presence and evidence base, is well positioned to advocate for more responsive and inclusive extension services. This could involve engaging provincial agriculture and livestock departments to improve extension worker coverage, increase the frequency and relevance of field visits, and tailor advisory services to smallholder needs—including those related to cotton, livestock integration, intercropping, and post-harvest handling.

One practical step could be to support the training of community-based extension workers (CBEWs)—trusted local individuals, including women and youth, who can provide ongoing, low-cost support within their communities. Equipping these para-extension workers with basic technical knowledge, farmer-friendly guides, and connections to government experts will enable them to bridge the gap between formal extension services and remote farmers. Their presence can also help promote more gender-sensitive outreach, particularly in areas where female farmers are often excluded from formal advisory systems.

Better Cotton may consider facilitating farmer awareness sessions and registration drives to help producers access government input subsidy schemes, mechanisation grants, livestock vaccination campaigns, and insurance pilots. Better Cotton and its Partners can strengthen these linkages by working with departments such as the Punjab Agriculture Extension Services, Sindh Livestock & Fisheries Department, and provincial agricultural research institutes.

Better Cotton can play a strategic advocacy role by using field-level data and farmer feedback to push for more transparent and equitable cotton pricing mechanisms, particularly during peak harvest periods. This may include engaging with ginners, local traders, and cotton procurement boards to reduce information asymmetries and promote fair pricing practices that reflect crop quality and rising input costs.

Collectively, these actions would not only empower smallholders with better access to technical advice and public support but also help build a more enabling environment for sustainable, inclusive cotton farming in Pakistan.

Phase 2: Expansion and Diversification (2027–2028)

Building on the foundational work of Phase 1, the second phase of the Local Livelihood Model (LLM) will focus on scaling up, deepening, and diversifying successful interventions across a broader set of cotton-growing districts in Punjab and Sindh. The emphasis during this phase is on refining tested models, extending outreach to new communities, and embedding solutions that improve income stability, increase household resilience, and create sustainable off-farm livelihood pathways—particularly for women and youth.

Using insights and data generated from the pilot districts, Better Cotton, and its Implementing Partners (IPs) can expand the LLM to additional target areas, tailoring activities to specific agroecological and social contexts. While the core design principles remain consistent, flexibility will be maintained to adjust delivery based on community feedback, performance of interventions, and evolving external conditions (e.g., climate variability, market access).

A major focus of Phase 2 is on diversification and inclusivity. Drawing on findings from the baseline assessment and pilot implementation, this phase will support the structured rollout of microenterprise opportunities and vocational training for youth and women based on the learnings of phase 1. Practical, high-demand skills can be scaled up with institutional support from partners engaged in phase 1. For smallholders and women, support for livestock rearing, poultry farming, food processing, and organic inputs (e.g., compost, biofertilizer) can be expanded—backed by enterprise development training, mentoring, and small grants or starter kits.

To embed financial resilience, Better Cotton can promote community-based savings groups, connect producer groups to microfinance, insurance providers, and government subsidy schemes, and expand the use of income tracking and cost-monitoring tools introduced during Phase 1. Alongside this, there needs to be a concerted push to mainstream climate-smart agriculture (CSA) practices, including improved soil and water management, crop rotation, mulching, and the adoption of drought-resilient seed varieties with a goal to improve productivity and cost efficiency. Working with partners such as the Pakistan Meteorological Department and NGOs, localised early warning systems and climate risk alerts can be implemented to enhance preparedness and reduce losses.

Phase 2 can also introduce and scale up inclusive risk mitigation instruments, such as crop and livestock insurance, in collaboration with financial partners (insurance companies and financial institutions) engaged in phase 1. These tools are especially important for safeguarding smallholders from shocks related to erratic weather patterns, pests, and livestock diseases—risks which disproportionately affect the most vulnerable farming households.

A critical element of system strengthening in this phase is to continue mobilising and formalising producer groups and cooperatives, building on the foundations laid in Phase 1. These groups will receive support to grow into community hubs for extension services, input procurement, market aggregation, contract negotiation, and service delivery.

Where feasible, cooperative-led services — such as equipment rental, shared storage, and group-based spraying — can be expanded to lower costs and improve access for smallholders. These cooperatives can also provide a platform to test and scale contract farming models, traceability pilots, and local enterprise development initiatives.

Finally, Phase 2 can place increasing emphasis on advocacy and public sector engagement. Using field evidence and farmer voices, Better Cotton and its partners can engage government departments to improve the quality and reach of agriculture and livestock extension services—especially for women and marginalised farmers. One scalable approach may be to train community-based extension workers, who can deliver localised support where public extension coverage is weak. At the same time, Better Cotton can facilitate farmer registration in subsidy schemes, advocate for transparent cotton pricing mechanisms, and promote policy dialogues on inclusive rural development.

Proposed Key Activities - Phase 2

1. Scale the LLM to new districts, adapting models based on Phase 1 learnings.
2. Support women- and youth-led enterprises through vocational training, mentoring, and seed funding.
3. Expand diversification interventions in livestock, vegetables, and off-farm microenterprises.
4. Mobilise and strengthen community savings groups for household financial security.
5. Link producer groups to microfinance, insurance, and input subsidy schemes.
6. Mainstream climate-smart practices, such as mulching, intercropping, and water conservation.
7. Introduce early warning systems and risk alerts via digital and community channels.
8. Scale crop and livestock insurance through partnerships with relevant financial institutions, and private insurance companies.
9. Strengthen producer cooperatives to deliver shared services and support value chain integration.

10. Train community-based extension workers to improve outreach and knowledge dissemination.
11. Advocate for improved extension services and fairer cotton pricing, using evidence from pilot areas.

Phase 3: Consolidation, Integration, and Sustainability (2029–2030)

Phase 3 of the Local Livelihood Model (LLM) marks a shift from expansion to consolidation, system integration, and long-term sustainability. Having piloted and scaled diverse interventions across multiple cotton-growing districts in Punjab and Sindh during the first two phases, this final phase focuses on embedding the most effective and inclusive practices into institutional frameworks, transitioning programme ownership to local actors, and strengthening policy and market systems for continued support beyond Better Cotton’s direct involvement.

At this stage, Better Cotton, and its Implementing Partners (IPs) will assess and consolidate high-performing approaches—including vocational training, enterprise development, financial services, CSA practices, and cooperative-based service delivery—and prepare them for institutionalisation within government, market, and community systems. Special attention will be given to ensuring these models are scalable, adaptable, and accessible to smallholders, particularly women, youth, and marginalized groups.

A core objective of this phase is to institutionalise inclusive livelihood models through partnerships with local government departments (agriculture, livestock, social protection, and youth), vocational and technical training authorities (e.g., PSDF, NAVTTC), and rural finance institutions. Successful vocational and enterprise training modules piloted in earlier phases can be formally embedded into public training curricula, local skills centres, and extension services. Likewise, better-performing producer groups and cooperatives will be supported to register formally and operate as sustainable rural enterprises offering services such as input procurement, shared equipment rental, aggregation, and contract facilitation.

To reinforce the gains in climate and financial resilience, the use of tools like the household income tracker, cost-benefit calculators, and CSA planning modules will be mainstreamed into routine extension and monitoring systems. Partnerships with the Pakistan Meteorological Department and insurance companies can be strengthened to institutionalise early warning systems and expand crop and livestock insurance coverage. These tools and practices should become part of district-level agricultural resilience plans and cooperative strategies.

Policy and advocacy efforts will intensify in this phase. Drawing on field-level evidence, Better Cotton can support multi-stakeholder dialogues with government agencies, private sector actors, and farmer platforms to promote enabling policies for inclusive cotton pricing, equitable subsidy distribution, sustainable agriculture financing, and youth employment in rural value chains. Advocacy will also aim to strengthen farmer representation in national and provincial decision-making spaces and promote regulatory frameworks that support cooperative development and inclusive insurance products.

To ensure that the LLM remains farmer-led and adaptive, Better Cotton may guide the formation of local livelihood leadership groups—comprising farmer representatives, cooperative leaders, extension workers, and youth/women’s champions—who can provide strategic direction, oversee quality assurance, and lead community-based scaling efforts. These groups can play a key role in

ensuring accountability, learning, and local innovation as Better Cotton transitions from implementation to a support and advisory role.

Finally, the programme will conduct a comprehensive endline evaluation, measuring changes in income, productivity, resilience, diversification, gender inclusion, and institutional strength across participating districts. The results will be shared widely through impact stories, national learning events, and a Local Livelihood Model (LLM) toolkit—offering practical guidance for replication across cotton-producing regions in Pakistan and beyond.

Proposed Key Activities – Phase 3

1. Evaluate and consolidate high-performing interventions across target districts for sustainability and scalability.
2. Institutionalise successful training models within government-run vocational and agricultural training institutions.
3. Support formal registration and capacity-building of cooperatives to operate as independent rural enterprises.
4. Mainstream climate-smart and financial tools into public extension systems and cooperative operations.
5. Expand inclusive crop and livestock insurance schemes in collaboration with financial partners and local insurers.
6. Strengthen early warning systems and integrate climate risk management into district agricultural planning.
7. Promote farmer registration in subsidies and support schemes, ensuring wider access through cooperatives.
8. Advocate for inclusive cotton pricing, subsidy reforms, and rural financing policies using field evidence.
9. Facilitate farmer engagement in policy platforms, supporting stronger representation of smallholder interests.
10. Support local livelihood leadership groups to guide, monitor, and scale community-led livelihood initiatives.
11. Conduct endline evaluation and national learning events to share results, lessons learned, and scale-ready practices.
12. Develop and disseminate an LLM toolkit for use by government, donors, NGOs, and cooperatives to replicate the model.

Cross-Cutting Enablers

(i) Extension & Training

Establish and strengthen existing Farmer Field Schools (FFS) and peer learning clusters in cotton-growing areas of Sindh and Punjab. These can be co-implemented with district and tehsil-level agricultural extension departments, leveraging existing infrastructure of Punjab Agriculture Extension Services and Sindh Agriculture Extension Wing. Technical content may be co-developed with Cotton Research Institutes (CRI Multan, SARC Tandojam) and private sector partners (e.g. seed, pesticide, and irrigation companies). Align training with the cotton crop calendar, focusing on site-specific issues such as pest outbreaks (e.g. pink bollworm, whitefly), nutrient management, and low-cost soil improvement techniques. Community Resource Persons and lead farmers may be identified and trained to facilitate continuity and local ownership.

(ii) Gender Inclusion – How the Project Will Operationalise It

Recognising the critical yet often invisible role of women in the cotton value chain, especially in picking, weeding, and post-harvest processing, the following approach can be adopted:

- Conduct a gendered activity mapping to identify where and how women participate in the local cotton economy.
- Co-design training modules with women's groups and female extension workers, focusing on safe cotton picking (e.g. PPE use), household budgeting, food security, and home-based value addition (e.g. using cottonseed by-products).
- Deliver training in women-accessible venues such as community centres, schools, or homes, and schedule sessions at times that accommodate domestic workloads.
- Engage men and community leaders early to create enabling environments and reduce backlash.
- Leverage existing women's platforms formed by SUCCESS, RSPN, and local CSOs to ensure continuity and scalability.

(iii) Youth Engagement – Suggested Platforms and Approach

To support the involvement of rural youth (women and men):

- Deliver targeted training on agri-tech tools (e.g. mobile pest diagnostic apps, soil sensors), solar irrigation systems, and mechanised cotton-picking equipment.
- Partner with established vocational and technical training bodies available in both provinces, such as:
 - NAVTTC (National Vocational & Technical Training Commission)
 - Punjab Skills Development Fund (PSDF)
 - Sindh TEVTA (Technical Education and Vocational Training Authority)
 - Sindh Skills Development Programme (SSDP)
- Promote youth-led enterprises in input delivery, spraying services, post-harvest logistics, and agri-digital service delivery.
- Create district-level youth agri hubs that offer rental equipment, digital information access points, and field-based demonstrations.

(iv) Climate Resilience

Given the cotton sector's sensitivity to erratic weather, drought, and pest pressure:

- Promote climate-resilient seed varieties validated in Pakistan.
- Train farmers on water-saving techniques such as drip and pitcher irrigation and promote rainwater harvesting systems using farm bunds and rooftop collection.
- Mainstream Integrated Pest Management (IPM) practices in all training content and field demos.
- Partner with PARC, the Department of Plant Protection, and district extension offices to deliver locally appropriate, field-tested solutions.

8. Digital Integration – Delivery and Access Mechanisms

To ensure smallholder access to timely and actionable information, the following activities may be explored:

- Partner with trusted platforms like BaKhabar Kissan, Pak Agri Market, and the government Agriculture Helpline to deliver WhatsApp/SMS-based alerts on pest outbreaks, weather risks, and market prices.
- Use IVR (interactive voice response) in low-literacy areas and local FM radio for broader message dissemination.
- Train women and youth as “digital intermediaries” or community infomediaries, equipping them to use smartphones to assist others in accessing advisories.
- Facilitate digital literacy sessions and explore partnerships with telecom providers for subsidised SIM/data packages for agri-use.

Monitoring Indicators (2025 Baseline vs. 2030 Targets)

The following table presents a set of outcome-level monitoring indicators designed to track progress in improving household incomes, economic resilience, and diversification among cotton-farming households from 2025 to 2030. These indicators are aligned with the Local Livelihood Model (LLM) and informed by detailed baseline data and feasibility assessments. Each indicator is **SMART**—Specific, Measurable, Achievable, Relevant, and Time-bound—and directly linked to key pillars such as income planning, diversification, risk mitigation, and climate resilience. By comparing baseline values with realistic 2030 targets, the framework supports continuous learning and adaptive programme management to ensure progress toward sustainable, inclusive, and climate-resilient livelihoods. A detailed M&E framework can be developed based on these indicators and design of the programme.

Indicator	2025 Baseline	2030 Targets	Notes / Rationale
Avg. Annual HH Income	PKR 339,000	PKR 700,000+ (real terms)	Based on feasible income planning
% Households with ≥2 Income Sources	38%	80%	Linked to income diversification and stability
% Women Generating Income	<10%	50%	Tracks inclusivity and household resilience
% Farmers Linked to Markets	15%	70%	Market access is a key enabler of income gains
% Households with Insurance (Crop/Livestock)	0%	50%	Risk mitigation and resilience indicator
% Reduction in Input Costs	—	25%	Through bulk procurement, CSA, and IPNM

Indicator	2025 Baseline	2030 Targets	Notes / Rationale
% Households Reporting Income from Livestock, Poultry, or Vegetable Farming	~25% (est.)	60%	Tracks adoption of feasible income pathways beyond cotton
% of HHs with income from at least one off-farm enterprise (trade, services, digital, home-based work)	<15% (est.)	40%	Monitors feasibility and uptake of non-farm income sources
% of HHs recovering from shocks through income diversification (vs. distress coping)	<20%	60%	Measures resilience through quality of recovery strategies
% HHs meeting or exceeding their household income improvement plans	0%	50%	Directly measures success of feasible income planning tools
Avg. monthly HH savings (PKR)	<PKR 1,000	≥ PKR 5,000	Reflects improved financial resilience
% of HHs with access to and use of climate-smart practices (e.g., intercropping, water-saving tech)	~15% (est.)	70%	Indirectly contributes to income stability and risk reduction

Risks and Mitigation Measures

Implementing the Local Livelihood Model (LLM) over a five to six years period will require careful navigation of policy, institutional, environmental, and behavioural risks. These risks can affect uptake, scalability, and the achievement of income and resilience targets, particularly for the most vulnerable smallholder households. The table below outlines key risks identified through analysis and stakeholder consultations, and presents targeted, pillar-linked mitigation strategies to ensure that the LLM remains responsive, adaptive, and impact-oriented.

Risk	Linked LLM Pillar	Mitigation Strategy
Limited policy support	System Strengthening & Advocacy	Engage in multi-level, evidence-based advocacy with government and private sector and implementing partners; support farmer voice in policy forums.

Infrastructure deficits (roads, storage, ICT)	Market Access & Readiness	Coordinate with local governments to prioritise rural infrastructure; advocate for investment in digital access.
Gender barriers limiting women's participation	Livelihood Diversification	Promote culturally appropriate, home-based livelihoods; engage men and leaders to support women's inclusion.
Climate shocks (floods, droughts, heatwaves)	Climate Resilience Integration	Scale CSA practices, pilot weather-indexed insurance, and strengthen early warning systems through local channels.
Market saturation for specific value chains	Market Access & Diversification	Support diversified production; build urban and digital market linkages; promote value addition at local level.
Low adoption of CSA and income planning tools	Feasible Income Planning, CSA	Ensure participatory training and farmer-led demonstrations; co-design tools that are simple, visual, and usable.
Weak coordination among implementing partners	System Strengthening & M&E	Establish joint planning and reflection mechanisms; appoint district-level coordination focal points and sign MoUs with district relevant departments
Dependence on donor financing without exit strategy	Sustainability & Institutionalisation	Engage early with public institutions for model uptake; build capacity of cooperatives to manage key services.
Elite capture in producer groups or cooperatives	Cost-Effective Production	Promote transparent group formation; conduct periodic audits and facilitate inclusive leadership training.
Youth disengagement or disinterest in agriculture	Youth Engagement & Vocational Skills	Co-create attractive income pathways (digital, service-based); use youth hubs and role models to increase uptake.
Resistance to change among traditional farmers	Extension & Training	Use peer learning, lead farmers, and community resource persons to showcase benefits; tailor content to local realities.

Conclusion

The proposed livelihood model and roadmap offer a pathway to close income gaps and build long-term resilience among smallholder cotton farmers. By focusing on diversification, skilling, market access, and institutional support, this strategy will support rural households to reduce dependency on volatile cotton incomes and transition toward sustainable, inclusive economic growth. The integration of gender, youth, climate adaptation, and digital tools ensures scalability and alignment with Better Cotton's vision for 2030.

Annex 1: Additional Tables

Table 24: Composition of Annual Household Income by Source and Landholding Size and participation rate among the overall sample households

Sources of Income	Up to 2.5 Acres	>2.5-5 Acres	>5-10 Acres	>10-25 Acres	>25 Acres	All Households
Number of Sample Households	359	267	114	28	33	801
Total and Average Annual Income (PKR):						
Avg. Total Annual Household Income from all sources/HH	339,326	506,967	807,501	1,503,098	6,725,414	765,616
Avg. Annual Cotton Income /HH	104,403	230,298	434,300	1,032,584	4,646,208	412,881
Avg. Annual Intercropping Income/HH	98,626	58,254	143,203	113,900	236,533	92,177
Avg. Annual Income from Other Crops/HH	244,285	359,072	679,716	1,256,125	3,505,291	625,812
Avg. Annual Livestock Income/HH	32,873	45,410	33,022	79,200	70,967	41,886
Avg. Non-Farm Income per Household	145,515	144,265	271,879	550,000	556,833	158,821
Aggregate Total Annual Household Income (Million)	121.82	135.36	92.06	42.09	221.94	613.26
Income Composition (% of Aggregate Total Income):						
Cotton	31%	45%	54%	69%	69%	54%
Intercropping	4%	3%	5%	2%	0%	2%
Other Crops	19%	20%	32%	24%	27%	24%
Livestock	3%	3%	2%	2%	1%	2%
Non-Farm Income	43%	28%	7%	4%	3%	17%
Non-Farm Income Breakdown (% of Non-Farm Total):						
- Daily Wage Labor	78%	86%	7%	-	-	70%
- Long-term Employment	10%	1%	57%	91%	46%	13%
- Business	11%	12%	13%	-	19%	12%
- Renting land and equipment	0.09%	0%	6%		33%	3%
- Other	1%	1%	17%	9%	2%	2%
Household Participation Rates (% Reporting Income):						
Cotton	100%	100%	100%	100%	100%	100%
Intercropping	15%	27%	26%	21%	9%	21%
Other Crops	27%	28%	39%	29%	52%	30%
Livestock	28%	38%	48%	36%	70%	36%
Non-Farm Income	100%	100%	21%	11%	36%	83%

Annex 2: Data Collection Tools

Annexure- 2 (a): Household Survey Questionnaire BCI's Income & Resilience Study in Better Cotton Programme in Pakistan

Household Survey Questionnaire

Introduction

Greetings according to local culture! My name is [Your Name] from HIMMAT Consulting Private Limited (HCPL). We are conducting a study for the Better Cotton Initiative (BCI) to assess cotton farmers' income and explore ways to improve farming practices, reduce costs, and increase income opportunities.

Informed Consent

Your participation is voluntary, and all information will be confidential. You can skip questions or stop at any time. The survey will take 45–60 minutes.

#	Question	Response	Instructions
A.	Informed consent		
1.	Do you wish to participate in the survey?	<input type="radio"/> Yes <input type="radio"/> No	
	<i>Only answer if you responded Accepted to participate to Q1</i>		
2.	Did you harvest cotton in the last cotton season?	<input type="radio"/> Yes <input type="radio"/> No	[If no, terminate]
3.	Name of the Province	<input type="radio"/> Punjab <input type="radio"/> Sindh	Auto filled
4.	Name of district	Dropdown: Bahawalnagar, Vehari, Multan, Muzaffargarh, Tando Allahyar, Khairpur, Sanghar, Umer Kot	Auto-filled and linked to respective province.
5.	Name of Village	Dropdown list	Auto filled and linked to respective district
6.	Interview start time		Autofill in the CAPI
7.	Geolocation		Autofill in the CAPI
8.	Name farmer group	<input type="radio"/> Small (less than 2 hectares) <input type="radio"/> Medium (>2-20 hectares) <input type="radio"/> Large (> 20 to 200 hectares)	Auto fill in the CPI
B.	Respondent Information		
9.	Name:		
10.	Age:		(only write number of completed years)
11.	Gender:	<input type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Other Gender	
12.	Education level:	<input type="radio"/> Class (1-5) <input type="radio"/> Class (6-8) <input type="radio"/> Class (9-10) <input type="radio"/> Class (11-12) <input type="radio"/> Class (13-14) <input type="radio"/> Class (15-16)	

		○ Not literate	
--	--	----------------	--

Household Demographic Information						
[Household is a group of people living together in one house who share resources and expenses to meet their basic needs. Temporary guests are not included.]						
C	Category	Total	Female	Male	Other Gender	
13.	How many members live in your household?					If none, enter zero.
14.	How many adults live in the household? (18 years and above)					If none, enter zero.
15.	How many earning members do you have in your household? (Individuals contributing to household income on regular basis)					If none, enter zero.

C.	Livelihoods of the Household Members		
16.	What is your household's primary source of income? <i>(This refers to the main source from which you earn the most income and spend the majority of your working hours.)</i>	<input type="checkbox"/> Cotton cultivation <input type="checkbox"/> Other crops, horticulture, etc. <input type="checkbox"/> Livestock rearing (dairy, fishing, poultry, etc.) <input type="checkbox"/> Salaried employment (Government or private sector) <input type="checkbox"/> Daily wage labour (construction, casual labour, etc.) <input type="checkbox"/> Own business, enterprise, or shop <input type="checkbox"/> Remittances (money sent by family members working elsewhere) <input type="checkbox"/> Social assistance programmes (e.g., BISP, Baitul Mal, etc.) <input type="checkbox"/> Other (please specify)	Select one primary option
17.	What are the secondary sources of income for your household? (Include any additional income-generating activities by you or your household members.)	<input type="checkbox"/> Cotton cultivation <input type="checkbox"/> Other crops, horticulture, etc. <input type="checkbox"/> Livestock rearing (dairy, fishing, poultry, etc.) <input type="checkbox"/> Salaried employment (Government or private sector) <input type="checkbox"/> Daily wage labour (construction, casual labour, etc.) <input type="checkbox"/> Own business, enterprise, or shop <input type="checkbox"/> Remittances (money sent by family members working elsewhere)	Multiple Response Possible

		<input type="checkbox"/> Social assistance programmes (e.g., BISP, Baitul Mal, etc.) <input type="checkbox"/> Other (please specify)	
D.	Farm Information-Overall (Please give information related to last year's cropping season)		Reference period for last cropping season: Last cotton season (Check responses mandatory)
18.	How many hectares of land have you cultivated during the last cotton season for all crops?		If none, enter zero.
19.	Own land (hectares)		If none, enter zero.
20.	Land taken on lease (hectares)		If none, enter zero.
21.	Land taken on shared cropping (hectares)		If none, enter zero.
22.	Land given on lease (hectares)		If none, enter zero.
E.	Farm Information - Cotton		
23.	How many total areas of land did you cultivate for cotton in the last cotton season? (hectares)		If none, enter zero.
24.	Own land (hectares)		If none, enter zero.
25.	Land taken on lease (hectares)		If none, enter zero.
26.	Land taken on shared cropping (hectares)		If none, enter zero.
27.	Is the land under cotton cultivation irrigated?	<input type="radio"/> Yes, fully irrigated. <input type="radio"/> Yes, partly irrigated. <input type="radio"/> No	If no, skip to Q37
28.	What is the total irrigated area of land used for cotton cultivation (in hectares)?		
29.	Do you have any additional land that could be used for cotton cultivation in the next 3 years? If yes, what is the size of this land (in hectares)?		(Enter 0 if no land)
30.	How many years have you been engaged in cotton farming?	<input type="radio"/> Less than 5 years <input type="radio"/> 6-10 years <input type="radio"/> 11-20 years <input type="radio"/> More than 20 years	
31.	How many years have you been associated with Better Cotton ?	<input type="radio"/> Less than 1 year <input type="radio"/> >1-3 years <input type="radio"/> >3-5 years <input type="radio"/> More than 5 years <input type="radio"/> Not associated with BC	

32.	Which cotton varieties do you predominantly cultivate?		
33.	When did you sow cotton during the last cotton season?	Jan Feb Apr May Jun Jul Aug	Multiple choice possible
34.	When did you harvest cotton during the last cotton season?	Aug Sep Oct Nov Dec Jan	Multiple choice possible
35.	How many picking rounds did you conduct during the entire cotton season last year?		Integer only
36.	How many total cotton-picking days have you had during the last cotton season?		Integer only
F.	Workers and labour costs of Cotton farming		
37.	How many family members , including yourself, were actively involved in cotton farming in the last cotton season?		
38.	How many permanent workers did you hire for cotton farming?		(Enter 0 if not hired)
39.	What was the monthly wage per worker? (PKR)		(Enter 0 if not hired)
40.	What was the total amount paid to all permanent workers during the last cotton season? (PKR)		(Enter 0 if not paid)
41.	How many short-term/seasonal workers did you hire in the last cotton season?		(Enter 0 if not hired)
42.	How were the short-term workers typically paid? (Select all that apply)	<input type="checkbox"/> Per unit of land <input type="checkbox"/> Per day <input type="checkbox"/> Per hour <input type="checkbox"/> Per week <input type="checkbox"/> Per month <input type="checkbox"/> Per person for all the work <input type="checkbox"/> Other (please specify): _____	
43.	What was the total amount paid to all short-term/seasonal workers in the last cotton season? (PKR)		(Enter 0 if not paid)

44.	What was the total amount (in PKR) you spent on additional labour-related expenses (e.g., food, shelter, conveyance) during the last cotton season?		(Enter 0 if not paid)
45.	What was the total transportation cost (in PKR) for selling your cotton to buyers, considering the total weight and multiple rounds of picking? (e.g., transport to the local market using a truck or bus).		(Enter 0 if not paid)
G.	Cotton Input Costs		
46.	How did you primarily purchase inputs (seeds, fertilizers, pesticides) for your cotton crop in the last cotton season? (Select only one option that best describes your primary method)	<input type="checkbox"/> Bought with cash from local markets <input type="checkbox"/> Bought with cash from agricultural input dealers/suppliers <input type="checkbox"/> Bought on credit from local markets <input type="checkbox"/> Bought on credit from agricultural input dealers/suppliers <input type="checkbox"/> Received inputs as a loan or advance from input suppliers <input type="checkbox"/> Used own saved seeds/fertilizers <input type="checkbox"/> Received inputs as part of a government program or subsidy <input type="checkbox"/> Purchased through a cooperative or farmer group <input type="checkbox"/> Other (please specify): _____	Chose only main methods (multiple options possible)
47.	How much have you spent on Cotton <i>Seeds and/or seedlings</i> in the last cotton season?		Enter '0' if no expenses incurred
48.	How much have you spent on chemical fertilizers for your cotton crop in the last cotton season ? (PKR)		Enter '0' if no expenses incurred
49.	How much have you spent on compost & biofertilizers for your cotton crop in the last cotton season ? (PKR)		Enter '0' if no expenses incurred
50.	How much have you spent on micronutrients (e.g., zinc, iron, boron, etc., excluding fertilizers) for		Enter '0' if no expenses incurred

	your cotton crop in the last cotton season? (PKR)		
51.	How much have you spent on biotic (e.g., pests, diseases, weeds) and abiotic (e.g., drought, extreme temperatures, soil salinity, waterlogging, flood) and bioinoculants for your cotton crop in the last cotton season? (PKR)		Enter '0' if no expenses incurred
52.	How much have you spent on physical traps (e.g., pheromone traps) for your cotton crop in the last cotton season? (PKR)		Enter '0' if no expenses incurred
53.	How much have you spent on chemical pesticides, insecticides, fungicides, and weedicides for your cotton crop in the last cotton season? (PKR)		Enter '0' if no expenses incurred
54.	How much have you spent on irrigation (e.g., electricity charges, diesel, water purchased from fellow farmers, user fees, or any other irrigation-related costs) for your cotton crop in the last cotton season? (PKR)		Enter '0' if no expenses incurred
55.	How much have you spent on storage materials (e.g., gunny bags, plastic sheets) for your cotton crop in the last cotton season? (PKR)		Enter '0' if no expenses incurred
56.	How much have you spent on any other input(s) for your cotton crop in the last cotton season?		Enter '0' if no expenses incurred
	Total Input costs		Auto calculate
H.	Expenses for hiring or owning farm equipment during the last cotton cropping season		Reference period for last cropping season: Last cotton season
57.	What types of equipment/machinery have you used for the cotton crop in the last cotton season?	<input type="checkbox"/> Hired equipment <input type="checkbox"/> Purchased new equipment <input type="checkbox"/> Used previously owned equipment	Multiple option possible
58.	How much have you spent in total on hiring equipment/machinery for		Enter '0' if no expenses incurred

	your cotton crop in the last cotton season?		
59.	If you used your own equipment/machinery for cotton cultivation, how much did you spend in total on maintenance, fuel, and other operational expenses for your agricultural equipment during the last cotton season? Please include all stages of cotton cultivation from sowing to harvesting.		Enter '0' if no expenses incurred
60.	How much have you spent on new equipment/machinery purchased for your cotton crop during the last cotton season?		Enter '0' if no expenses incurred. If zero skip the next question
61.	Please specify the type(s) of equipment/machinery you purchased for your cotton crop. (Select all options that apply)	<input type="checkbox"/> Tractor <input type="checkbox"/> Plough <input type="checkbox"/> Seed drill <input type="checkbox"/> Sprayer (for pesticides/fertilizers) <input type="checkbox"/> Cotton picker <input type="checkbox"/> Harvester <input type="checkbox"/> Irrigation pump <input type="checkbox"/> Tiller <input type="checkbox"/> Weeder <input type="checkbox"/> Others (please specify): _____	
I.	Other Expenses in Cotton crop		
62.	How much have you spent on leasing or renting land for cotton cultivation in the last cotton season? <i>(PKR)</i>		(Enter 0, if there is no rental of land)
63.	How much have you spent on soil testing, water testing, or crop testing for your cotton crop in the last cotton season? <i>(PKR)</i>		(Enter 0, if no expenses)
64.	How much have you spent on certification standards for your cotton crop in the last cotton season? <i>(PKR)</i>		(Enter 0, if no expenses)
65.	How much have you spent on cotton crop insurance in the last cotton season? <i>(PKR)</i>		(Enter 0, if no expenses)

66.	How much have you spent on other activities related to cotton cultivation (e.g., training, advisory services, subscriptions to crop-related information applications, etc.) in the last cotton season? (PKR)		(Enter 0, if no expenses)
67.	Have you taken any loans for cotton cultivation in the last cotton season?	<input type="radio"/> Yes <input type="radio"/> No	If no skip the next question
68.	If yes, how much have you paid or are you required to pay as interest on the loan for cotton cultivation in the last cotton season? (PKR)		(Enter 0, if no expenses)
69.	Although we have covered most of the expenses incurred for the cotton crop, based on your records or estimations, what is the total expense incurred for the entire land under cotton cultivation?		Check if any difference, adjust accordingly
J.	Crop Revenue – Cotton Please give information related last year’s cropping season)		(Reference period for last cropping season: last cotton season
70.	What was your total cotton production in the last cotton season Mounds (40KG)?		Use mound as standard measure and convert other units accordingly
71.	What quantity of cotton from your total harvest in the last cotton season did you sell in mound (40KG)?		
72.	What was the price you received per unit of cotton sold? (PKR per Mound)	<ul style="list-style-type: none"> • Highest Price Per Mound (PKR): • Lowest Price Per Mound (PKR): • Average Price Per Mound (PKR): 	If you have a fixed price, write the same price in all options
73.	What is the total amount you have received from selling cotton in the last cotton season? (in Rs)		(Enter 0, if no revenue)
74.	What was the total amount, if any, that you received from selling cotton crop residue or other parts of the crop (excluding seed cotton) during the last cotton season? (in PKR)		(Enter 0, if no revenue)
75.	What is the value (in PKR), if any, of the cotton production that remained		(Enter 0, if no revenue)

	unsold in the last cotton season, but is still sellable?		
76.	What is the value (in PKR), if any, of the cotton production or by product that is kept for own use?		(Enter 0, if no revenue)
77.	What is the value (in PKR), if any, of the cotton production that was damaged or lost due to any reason in the last cotton season?		(Enter 0, if no revenue)
78.	Ask the respondent about his/her estimation of the net income and share the result of this calculation.		
79.	If net income is zero or negative note reasons of variations:		Text (open ended)
K.	Certification and participation in community institutions: Please provide information related to your participation during last year's cropping season.		Reference period for last cropping season: Last cotton season
80.	Are you a member of a farmer organization or community organization?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> I used to be, but not anymore. <input type="radio"/> I don't know	
81.	Which sustainability standard certification do you hold? Select all that apply	<input checked="" type="checkbox"/> Better Cotton Initiative (BCI) <input checked="" type="checkbox"/> ISCS Plus Certification <input checked="" type="checkbox"/> Made in Green Certification <input checked="" type="checkbox"/> Global Organic Textile Standard (GOTS) <input checked="" type="checkbox"/> Global Recycle Standards (GRS) <input checked="" type="checkbox"/> Regenerative Agriculture (Regen Agri) <input checked="" type="checkbox"/> Organic Certification <input checked="" type="checkbox"/> Other (please specify): ___ <input checked="" type="checkbox"/> I do not know	Multiple option possible
82.	Do you receive higher prices for certified cotton crop compared to others in your neighbourhood who do not have any certification?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> I don't know	If no skip the next question
83.	What is the premium payment amount you receive from the organization/community institution for your crop? (Please specify the amount in PKR per mound of your crop.)		

L.	Net Income from Intercropping along with cotton		Reference period for last cropping season: Last cotton season
84.	Have you cultivated any inter crops with cotton during the last cotton season?	<input type="checkbox"/> Yes, for household consumption only <input type="checkbox"/> Yes, for both sale and household consumption <input type="checkbox"/> No	If No, Skip to the next section M
85.	If yes, please list the intercrops you cultivated with cotton in the last cotton season. (Select all that apply or specify others if not listed.)	<input type="checkbox"/> Moong (Green Gram) <input type="checkbox"/> Mash (Black Gram) <input type="checkbox"/> Pigeon Pea (Tur) <input type="checkbox"/> Groundnut (Peanut) <input type="checkbox"/> Chillies <input type="checkbox"/> Onions <input type="checkbox"/> Tomatoes <input type="checkbox"/> Sorghum (as fodder) <input type="checkbox"/> Bajra (Pearl Millet) <input type="checkbox"/> Sesame (Til) <input type="checkbox"/> Mustard <input type="checkbox"/> Sunflower <input type="checkbox"/> Garlic <input type="checkbox"/> Other (please specify): [_____]	Multiple response possible
86.	How much were the expenses incurred exclusively for the intercrops cultivated alongside cotton during the last cotton season? PKR		Enter '0' if no expenses incurred
87.	What was the total revenue generated from selling the intercrops cultivated alongside cotton in the last cotton season? PKR		Enter '0' if no revenue generated
88.	What was the estimated value of intercrops used for household consumption in the last cotton season? PKR		Enter '0' if no revenue generated
89.	What was the estimated value of the intercrop damaged or lost during the last cotton season for any reason? PKR		Enter '0' if no revenue generated
M.	Other Crops		
90.	Did you grow any other crops in addition to cotton during the last 12 months? (Please consider all the land your household owns or rented and all seasons within the last 12 months)	<input type="checkbox"/> Yes, for household consumption only <input type="checkbox"/> Yes, for both sale and household consumption <input type="checkbox"/> No	If no skip to the next section N

91.	If yes, please list the other crops cultivated during the last 12 months, ranked by their production value in terms of contribution to household income, from highest to lowest.	<input type="checkbox"/> Wheat <input type="checkbox"/> Rice <input type="checkbox"/> Sugarcane <input type="checkbox"/> Maize <input type="checkbox"/> Pulses – Gram (chickpea) and lentils. <input type="checkbox"/> Oilseeds – Sunflower and mustard. <input type="checkbox"/> Vegetables – Tomatoes, onions, and chillies. <input type="checkbox"/> Fodder Crops <input type="checkbox"/> Others	
		Others, please specify _____	
92.	What expenses were incurred exclusively for these other crops cultivated during the last 12 months?	a. Labor (PKR): b. Input costs (PKR): c. Equipment/machinery (PKR): d. Transportation/marketing (PKR): e. Any Other (PKR): f. Total (PKR):	Enter '0' if no expenses incurred
93.	What was the total revenue generated from selling these other crops cultivated during the last 12 months? PKR		Enter '0' if no revenue generated
94.	What was the estimated value of these other crops used for household consumption in the last 12 months? PKR		Enter '0' if no revenue generated
95.	What was the estimated value of these other crops damaged or lost during the last 12 months for any reason? PKR		Enter '0' if no loss
0.	Net Income from Livestock and Poultry		
96.	Did you raise any livestock or poultry in addition to crops during the last cotton season? (Please consider all animals owned or managed by your household during this period.)	<input type="checkbox"/> Yes, for household consumption only <input type="checkbox"/> Yes, for both sale and household consumption <input type="checkbox"/> No	If no skip to next section
97.	If yes, please write number of the livestock or poultry raised during the last 12 months?	Cattle (e.g., cows, bulls): Buffaloes: Goats: Sheep: Poultry (e.g., chickens, ducks): Other (please specify):	Multiple response possible
98.	How much were the total expenses incurred exclusively for raising all	a. Feed costs (for all livestock/poultry): (PKR)	Enter '0' if no expenses were incurred.

	your livestock/poultry during the last 12 months? (Please provide the expenses for each category below)	<ul style="list-style-type: none"> b. Veterinary/healthcare costs (for all livestock/poultry): (PKR) c. Labor costs (for all livestock/poultry): (PKR) d. Shelter/housing costs (for all livestock/poultry): (PKR) e. Transportation/marketing costs (for all livestock/poultry): (PKR) f. Any other costs (related to raising all livestock/poultry): (PKR) g. Total cost (for raising all livestock/poultry): (PKR) 	
99.	What was the total revenue generated from selling products of these livestock/poultry during the last 12 months?	<ul style="list-style-type: none"> a. Milk Sale (PKR): b. Animal/Meat Sales (PKR): c. Egg Sales (for poultry) (PKR): d. Wool/Hair Sales (PKR): e. Manure Sales (PKR): f. Offspring Sales (Calves, Kids, Chicks, etc.) (PKR): g. Sales of Other Products (e.g., honey, hides, etc.) (PKR): h. Total revenue (PKR): 	Enter '0' if no revenue generated
100.	What was the estimated value of livestock and poultry products used for household consumption in the last 12 months? PKR		Enter '0' if no revenue generated
101.	What was the estimated value of livestock and poultry products damaged or lost in the last 12 months for any reason? PKR		Enter '0' if no loss
N.	Off-farm Income (Business, Salaries, Daily wage worker and other sources of)		
102.	Have you or any of your household members earned any income from running a business in the last 12 months?	<ul style="list-style-type: none"> <input type="radio"/> Yes <input type="radio"/> No 	If no, skip to next section e
103.	If yes what type of business	<ul style="list-style-type: none"> <input type="checkbox"/> Grocery/general store/cloth/mobile shop <input type="checkbox"/> Agricultural inputs or equipment <input type="checkbox"/> Cotton processing unit (individual farmer level) <input type="checkbox"/> Small processing mills (flour, oil, spices, etc.) <input type="checkbox"/> Trading goods/commodities 	Multiple option possible

		<input type="checkbox"/> Factories <input type="checkbox"/> Other (Specify:	
104.	How many people work in the business during the last 12 months?		
105.	How much net income did the household make from running the business in the last 12 months? (Refer to the net income after deducting all the expenses except self/family worker)	PKR:	
106.	Have you or any household members earned income from employment in the government or private sector in the last 12 months?	<input type="radio"/> Yes <input type="radio"/> No	If no skip to next section
107.	If yes how many household members earned from any government or private employment in the last 12 months?		
108.	How much Salary Income earned by all those employed in the last 12 months? PKR		
109.	Have you or any household members earned income from daily wage skilled or unskilled labour in the last 12 months?	<input type="radio"/> Yes <input type="radio"/> No	If no skip to next section
110.	If yes how many household members earned from daily wage skilled or unskilled labour in the last 12 months?		
111.	How much total income was earned by all those working as daily wage skilled or unskilled labour in the last 12 months? PKR		
112.	Other Income Source Did you or any member of your household receive any income from the following sources in the last 12 months? (Please provide the amount in PKR)	a. Government transfers or social security schemes (e.g., pensions, direct benefit transfers): <i>(PKR)</i> b. Income from renting out land: <i>(PKR)</i> c. Profit from renting agricultural equipment/machinery: <i>(PKR)</i>	Enter 0 if no income

		<ul style="list-style-type: none"> d. Income from value-added activities (e.g., food or goods processing): <i>(PKR)</i> e. Sale of seeds or seedlings: <i>(PKR)</i> f. Investment income (e.g., bank interest, stock market, etc.): <i>(PKR)</i> Remittances (money received from family members or friends working outside the city or country): <i>(PKR)</i> g. Gifts (money received from extended family or non-family members): <i>(PKR)</i> h. Income from selling technical expertise or farming practices: <i>(PKR)</i> i. Other income sources (please specify): <i>(PKR)</i> 	
O.	Access to Finance		
113.	In the last cotton season, did you take any loans for farm activities? <i>(e.g., from a local lender, microfinance bank, NGO, relative, cooperative)</i>	<ul style="list-style-type: none"> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> I do not know 	If no skip to next section
114.	What was the primary sources of the loan?	<input type="checkbox"/> Formal financial institutions (e.g., banks, microfinance institutions) Cotton agents/traders <input type="checkbox"/> Landlord/employer <input type="checkbox"/> Community institutions (e.g., SHGs, savings groups, cooperatives) <input type="checkbox"/> Relatives/Friends <input type="checkbox"/> Others (please specify) <input type="checkbox"/> Do not know	Multiple option possible
115.	If other, <i>(Please specify)</i> :		
116.	How much did you spend on interest payments for loans during the last cotton season? <i>(Please specify the amount in PKR)</i> :		
117.	In the last cotton season, did you buy or receive any of the following products or services? <i>(Select all that apply)</i>	<input type="checkbox"/> Loan to buy agricultural inputs <input type="checkbox"/> Financial training <input type="checkbox"/> Agricultural training <input type="checkbox"/> Crop insurance <input type="checkbox"/> Climate/weather information services <input type="checkbox"/> None of the above	

		<input type="checkbox"/> I do not know	
118.	If you received agricultural training from Better Cotton, how effective was this training in improving your cotton farming practices?	<input type="checkbox"/> 1 - Not effective at all <input type="checkbox"/> 2 - Slightly effective <input type="checkbox"/> 3 - Moderately effective <input type="checkbox"/> 4 - Effective <input type="checkbox"/> 5 - Very effective	
P	Shocks and Resilience		
119.	Over the last 3 years, did your household experience any of the following shocks (i.e. negative events that lead to a significant reduction of your HH income, assets, or consumption)?	<input type="checkbox"/> Natural events such as droughts or floods <input type="checkbox"/> Sharp decline in cotton prices <input type="checkbox"/> Any health related issue that significantly affected HH members' ability to contribute to farming activities <input type="checkbox"/> Plant pests or diseases that significantly reduced farm production <input type="checkbox"/> Theft of property or crops <input type="checkbox"/> Serious civil or political issues or crimes <input type="checkbox"/> Major policy changes such as ending subsidies or other farmer programs <input type="checkbox"/> Unemployment or job loss <input type="checkbox"/> Other, please specify _____ <input type="checkbox"/> None	Please list the main THREE shocks (multiple options)
120.	For EACH shock selected: How many times did your household experience [shock x] over the last 3 years?	<input type="checkbox"/> One time <input type="checkbox"/> Two times <input type="checkbox"/> Three times <input type="checkbox"/> Four times <input type="checkbox"/> Five times or more	Repeat for each selected shock
121.	How severe was the negative impact of [shock x] on the livelihood of your household over the past 3 years? Rank from 0-4	<input type="checkbox"/> 0. No impact <input type="checkbox"/> 1. Slight impact <input type="checkbox"/> 2. Moderate impact <input type="checkbox"/> 3. Strong impact <input type="checkbox"/> 4. Worst ever happened	Repeat for each selected shock
122.	Please indicate if you encountered any of the following agricultural challenges during the last production year. (Enumerator will read aloud each option and ask for a "Yes" or "No" response for each item)	<input type="checkbox"/> Significant loss from pests, including insects, animals, and diseases <input type="checkbox"/> Lack of dependable water supply/irrigation (monsoon failure) <input type="checkbox"/> Lack of good quality, affordable seed for improved varieties <input type="checkbox"/> Lack of access to sufficient, affordable fertilizers <input type="checkbox"/> High cost of inputs <input type="checkbox"/> Lack of credit	Multiple option possible

		<input type="checkbox"/> Lack of agronomic advice or expertise <input type="checkbox"/> Theft of farming equipment, inputs or crops <input type="checkbox"/> Poor, degraded, or eroded soils <input type="checkbox"/> Poor market prices <input type="checkbox"/> Lack of access to labour <input type="checkbox"/> Seed failure <input type="checkbox"/> Lack of organized cotton supply chain <input type="checkbox"/> None	
123.	What are the THREE main ways your household reacted to shocks experienced?	<input type="checkbox"/> Reduced essential expenses (reduced consumption of food, essential goods) <input type="checkbox"/> Reduced of non-essential expenses (clothes and leisure expenses) <input type="checkbox"/> Moved to another area <input type="checkbox"/> Started new wage labour <input type="checkbox"/> Took children out of school and send them to work <input type="checkbox"/> Switched to other crop cultivation <input type="checkbox"/> Adopted new farming practices or technologies <input type="checkbox"/> Found external support from community or neighbours <input type="checkbox"/> Found external support from government <input type="checkbox"/> Other (Specify) <input type="checkbox"/> My household did not experience any shocks	Multiple option possible
124.	To what extent was your household able to recover its livelihood over the past 3 years from [shock x]?	<input type="radio"/> Not affected significantly <input type="radio"/> Recovered and better off <input type="radio"/> Recovered to the same level <input type="radio"/> Recovered some, but worse <input type="radio"/> Did not recover	Repeat for each selected shock
125.	Does your HH have any of the insurance plans listed below?	<input type="checkbox"/> Crop insurance <input type="checkbox"/> Weather Index insurance <input type="checkbox"/> Climate Risk Insurance (floods, draught) <input type="checkbox"/> Fire insurance <input type="checkbox"/> Livestock insurance <input type="checkbox"/> Health insurance <input type="checkbox"/> Other (Specify)	Multiple option possible
126.	Would you participate in a pilot project that offers Takaful (Sharia-compliant) insurance against select climate risks (floods/drought) and/or	a) Yes b) Not sure c) No	If yes skip the next question

	yield losses for two years free of charge?		
127.	if no or not sure, why would you not participate?	a) I don't understand how the program works b) I don't think it will benefit me. c) Past negative experience d) social pressure not to participate e) Concerns about future costs f) Religious or cultural reasons g) Lack of trust in the program/provider h) Other (please specify)	
128.	Would you be interested in purchasing insurance coverage after the two-year pilot, where you would pay the premium?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> It depends on cost	
129.	After two years of free crop insurance, what amount would you be willing to pay per year?	<input type="checkbox"/> PKR 15000-30,000 per year <input type="checkbox"/> PKR > 30,000-60,000 per year <input type="checkbox"/> Over PKR 60,000 per year <input type="checkbox"/> I would not be willing to pay <input type="checkbox"/> Other (please specify)	
130.	Please check which kind of support you could receive in your community in case of necessity: (select all that apply)	<input type="checkbox"/> Food and/or water (e.g., government groceries/ ration distribution through Public Distribution System) <input type="checkbox"/> Housing <input type="checkbox"/> Cash <input type="checkbox"/> Health care (includes health care treatment for free by government) <input type="checkbox"/> Agricultural Inputs <input type="checkbox"/> Training and Capacity building <input type="checkbox"/> Subsidies on utilities like LPG, electricity, etc. <input type="checkbox"/> Farm loan waiver <input type="checkbox"/> DBT (direct benefit transfer) by local or central government <input type="checkbox"/> Other (Specify) <input type="checkbox"/> None	Multiple options possible
131.	In case of necessity, what types of support are available to you in your community? Please select all that apply: (Select all that apply)	<input type="checkbox"/> Food and/or water assistance (e.g., government groceries, ration distribution through the Public Distribution System) <input type="checkbox"/> Housing support (e.g., temporary shelter or repair assistance) <input type="checkbox"/> Financial assistance (e.g., cash	Multiple Options possible

		grants or emergency relief) <input type="checkbox"/> Healthcare services (e.g., free or subsidized treatment through government programs) <input type="checkbox"/> Agricultural support (e.g., seeds, fertilizers, or other inputs) <input type="checkbox"/> Skills training and capacity-building programs <input type="checkbox"/> Subsidies (e.g., on utilities like LPG, electricity, or water) <input type="checkbox"/> Debt relief (e.g., farm loan waiver) <input type="checkbox"/> Direct Benefit Transfer (DBT) from local or central government <input type="checkbox"/> Other (please specify): <input type="checkbox"/> None (I am not aware of any support available)"	
132.	Who could give you this kind of support? Select all that apply)	<input type="checkbox"/> Farmers' cooperatives/ producer organizations <input type="checkbox"/> Family and relatives <input type="checkbox"/> NGOs <input type="checkbox"/> Other non-farmer organizations which you belong to <input type="checkbox"/> Other private agribusiness companies <input type="checkbox"/> Local and national government <input type="checkbox"/> Other (Specify)	Multiple option possible
133.	How much influence do you personally have in making decisions for your household?	<input type="checkbox"/> I make decisions solely or almost solely on my own <input type="checkbox"/> I have a strong influence over the decisions <input type="checkbox"/> I share equal influence with other household members <input type="checkbox"/> I have only a little influence <input type="checkbox"/> I have no influence	
134.	What proportion of decisions about cotton production are made by you? <i>(Read out each option and the mark)</i>	<input type="checkbox"/> Most or all decisions <input type="checkbox"/> A substantial proportion <input type="checkbox"/> About half of the decisions <input type="checkbox"/> A small proportion <input type="checkbox"/> Almost none <input type="checkbox"/> None	
135.	What proportion of decisions about cotton sales are made by you? <i>(Read out each option and the mark)</i>	<input type="checkbox"/> Most or all decisions <input type="checkbox"/> A substantial proportion <input type="checkbox"/> About half of the decisions <input type="checkbox"/> A small proportion <input type="checkbox"/> Almost none <input type="checkbox"/> None	
136.	Did you receive any of the following types of information during the last	<input type="checkbox"/> Agricultural information (e.g., soil and water conservation, productivity practices, pest	Multiple option possible

	production year? <i>(Read out each option and the mark)</i>	management) <input type="checkbox"/> Weather information (e.g., rainfall, temperature) <input type="checkbox"/> Market information (e.g., prices) <input type="checkbox"/> Health and nutrition information (e.g., sanitation, hygiene, clean water) <input type="checkbox"/> Financial information (e.g., credit, savings, insurance) <input type="checkbox"/> Other information (please specify): _____ <input type="checkbox"/> None	
137.	Please mark the three most important ways you received the above information: <i>(Read out each option and the mark)</i>	<input type="checkbox"/> Radio <input type="checkbox"/> Newspaper <input type="checkbox"/> TV <input type="checkbox"/> Internet <input type="checkbox"/> Extension Agent <input type="checkbox"/> Government Official <input type="checkbox"/> social media (e.g., WhatsApp, YouTube) <input type="checkbox"/> Better Cotton <input type="checkbox"/> Training <input type="checkbox"/> Community Meetings <input type="checkbox"/> Farmer Groups <input type="checkbox"/> Neighbours/Family Members/Friends <input type="checkbox"/> Other (please specify):	Select three options
138.	How long do your household members travel to access safe drinking water?	<input type="checkbox"/> Tap inside the house <input type="checkbox"/> Tap outside the house <input type="checkbox"/> Less than 5 minutes away <input type="checkbox"/> 5–10 minutes <input type="checkbox"/> 10–20 minutes <input type="checkbox"/> More than 20 minutes	
139.	What type of mobile phone do you have access to?	<input type="checkbox"/> Basic phone <input type="checkbox"/> Smartphone (with Wi-Fi, 3G+, etc.) <input type="checkbox"/> Feature phone (camera, internet access, standard keypad)	
140.	Check the tillage and soil treatment practices you followed on the farm in the last production year: <i>(Read out each option and the mark)</i>	<input type="checkbox"/> Conservation tillage <input type="checkbox"/> Mulching <input type="checkbox"/> Cover crops for soil fertility and/or erosion control <input type="checkbox"/> Intercropping with Cotton <input type="checkbox"/> Biochar application <input type="checkbox"/> Organic fertilization <input type="checkbox"/> None of these	
141.	Check all the following features that are present on the farm:	<input type="checkbox"/> Water catchment systems/rainwater cisterns (e.g., farm ponds)	

	<i>(Read out each option and the mark)</i>	<input type="checkbox"/> Drip irrigation (if applicable) <input type="checkbox"/> Buffer zones between crops/livestock and natural water bodies <input type="checkbox"/> None of these	
142.	What portion of your target crop plants are locally adapted varieties (e.g., varieties that resist drought or disease, improve productivity, etc.)?	<input type="checkbox"/> All or almost all (90%+) <input type="checkbox"/> Most (75%) <input type="checkbox"/> About half (50%) <input type="checkbox"/> Some (25%) <input type="checkbox"/> Little (10% or less) <input type="checkbox"/> None	
Q	Household Cost Module		
143.	Food Consumed Last 30 days: Including (Wheat, Rice, Potato, Lentils (Dall), Milk, Yogurt, Chicken egg, Beef, vegetables, Tomato, Onion, fruits, Oil, Sugar, Tea)	a. Purchased from market and consumed PKR: ____ b. Own produced and consumed PKR: ____ c. Total PKR ____	
144.	What is your average monthly cost for the following household utilities, in PKR?	a. Monthly house rent (if rented) PKR: b. Monthly electricity bill (PKR): c. Monthly gas bill (PKR): d. Monthly water bill (PKR): e. Monthly mobile/internet bill (PKR):	
145.	Education costs during last 12 months including fee, stationery, books, and uniform	(a) Number of children going to Primary school (class 1-5): (b) Secondary (Class 6-10): (c) College/University (above class 10): (d) Total Costs PKR:	
146.	Do any members of your household have health insurance or a Sehat Card?	<input checked="" type="checkbox"/> Yes, government's Sehat Card <input checked="" type="checkbox"/> Yes, private insurance <input checked="" type="checkbox"/> No	
147.	Did any member of your household experience a health event or illness in the last 12 months?	<input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes, chronic illness <input checked="" type="checkbox"/> Yes, minor illness (e.g., flu, fever) <input checked="" type="checkbox"/> Yes, injury/accident <input checked="" type="checkbox"/> Yes, Surgery/Operation <input checked="" type="checkbox"/> Yes, maternal Health (e.g., pregnancy-related) <input checked="" type="checkbox"/> Other (Please specify): _____	
148.	What were the total health expenses incurred by your household in the 12 months? (Include doctor/clinic fees, medicines, lab tests, treatment, and any other health-related costs.)	PKR:	

149.	What are the most commonly used modes of transport for your household when commuting to market, health facility, schools etc?	<input type="checkbox"/> Owned Motorcycle <input type="checkbox"/> Owned Car <input type="checkbox"/> Public transport (bus/van) <input type="checkbox"/> Rented Taxi, rickshaw <input type="checkbox"/> Bicycle <input type="checkbox"/> Other specify	
150.	How much did you and your household members spend on transportation cost in the last 12 months?		
151.	How much did your household spent on social events like weddings, funerals, or for any emergencies in the last 12 months:	PKR: Number of events happened last year:	
R	Housing and amenities		Use only one main option
152.	What is your present occupancy status?	<input type="radio"/> Owned <input type="radio"/> Rented <input type="radio"/> Rent free	
153.	Total area of the house in Marla		Only integers
154.	How many rooms are there in the house? (Excluding kitchen, bathrooms, and storerooms)		
155.	What is the dwelling type?	<input checked="" type="checkbox"/> Pucca <input checked="" type="checkbox"/> Partly pucca and partly kacha <input checked="" type="checkbox"/> Kacha	
156.	Which main material is used for the floor?	<input checked="" type="checkbox"/> Earth/Sand <input checked="" type="checkbox"/> Dung <input checked="" type="checkbox"/> Ceramic tiles/Marbles/Chips <input checked="" type="checkbox"/> Parquet or polished wood <input checked="" type="checkbox"/> Cement <input checked="" type="checkbox"/> Brick floor <input checked="" type="checkbox"/> Other (please explain)	
157.	Which main material is used for the roof?	<input checked="" type="checkbox"/> RCC/RBC <input checked="" type="checkbox"/> Wood/Bamboo <input checked="" type="checkbox"/> Iron/Cement sheets <input checked="" type="checkbox"/> Metal/Tin/Girders/T-Iron <input checked="" type="checkbox"/> Other (please explain)	
158.	Which main material is used for the walls?	<input checked="" type="checkbox"/> Burned bricks/blocks <input checked="" type="checkbox"/> Raw bricks/mud <input checked="" type="checkbox"/> Wood/Bamboo <input checked="" type="checkbox"/> Plywood/Cardboard <input checked="" type="checkbox"/> Stone <input checked="" type="checkbox"/> Other (please explain)	
159.	What is the main fuel used for cooking?	<input checked="" type="checkbox"/> Firewood <input checked="" type="checkbox"/> Gas	

		<input type="checkbox"/> LPG <input type="checkbox"/> Kerosene oil <input type="checkbox"/> Electricity <input type="checkbox"/> Dung cake <input type="checkbox"/> Crop residue <input type="checkbox"/> Charcoal/Coal <input type="checkbox"/> Other (please explain)	
160.	What is the main fuel used for heating?	<input type="checkbox"/> Solar energy <input type="checkbox"/> Electricity <input type="checkbox"/> LPG <input type="checkbox"/> Gas <input type="checkbox"/> Biogas <input type="checkbox"/> Crop residue <input type="checkbox"/> Kerosene oil <input type="checkbox"/> Charcoal/Coal <input type="checkbox"/> Dung cake <input type="checkbox"/> No facility <input type="checkbox"/> Other (please explain)	
161.	What is the main fuel used for lighting?	<input type="checkbox"/> Electricity <input type="checkbox"/> Solar energy <input type="checkbox"/> Gas <input type="checkbox"/> Kerosene oil/Diesel/Petrol <input type="checkbox"/> Firewood <input type="checkbox"/> Candle <input type="checkbox"/> Other (please explain)	
162.	What is the main source of drinking water for the household?	<input type="checkbox"/> Inside dwelling: <ol style="list-style-type: none"> 1. Piped water. 2. Hand pump 3. Borehole (Motor Pump)/Tube well 4. Closed well. 5. Open well 6. Protected spring. 7. Unprotected spring <input type="checkbox"/> Outside dwelling: <ol style="list-style-type: none"> 8. Piped water/Public tap/Standpipe 9. Hand pump 10. Motorized pumping/Tube well 11. Closed well 12. Open well 13. Spring (protected) 14. Spring (unprotected) 15. Pond/Canal/River/Stream 16. Bottled water 17. Tanker/Truck/Water bearer 18. Filtration plant 19. Other (please specify) 	
163.	What type of toilet is used by your household?	<input type="checkbox"/> No toilet <input type="checkbox"/> Flush connected to public sewerage <input type="checkbox"/> Flush connected to septic tank <input type="checkbox"/> Flush connected to pit <input type="checkbox"/> Flush connected to open drain <input type="checkbox"/> Dry raised latrine	

		<input type="checkbox"/> Dry pit latrine <input type="checkbox"/> Composting toilet <input type="checkbox"/> Other (please specify)	
--	--	---	--

Concluding Remarks.

In your view how much monthly income one should have for a basic but decent living for a family? (To cover costs of food, housing, education, health, transportation and unforeseen events like funeral, marriages, or any shocks)

PKR per month_____

Is there anything else which you want to add or ask before we close this interview.

Thanks a lot for spending time with me and participating in this important research study. It's been a delightful experience to have you as one of the valuable members of our survey process. We once again assure you that, information shared by you will remain confidential and will not be used for any other purpose other than the mentioned study.

BCI's Income & Resilience Study in Better Cotton Programme in Pakistan

Annex 2 (b): (Focus Group Discussion (FGD) Guidelines)

Objective: To gather insights into sustainable income and economic resilience, explore income drivers (volume, price, and cost), identify alternative livelihoods, and develop context-specific livelihood models for smallholder cotton farmers.

Guidelines for Selection of FGD Participants

Number of FGDs: Conduct two FGDs (one male group and one female group) in one of target district in Punjab and Sindh - Total 4 FGDs

Number of Participants: 8–12 participants per FGD.

Selection Criteria:

- Experience: Participants must have direct involvement in cotton farming or related activities.
- Diversity: Ensure representation across:
 - Socioeconomic levels (low-income, middle-income).
 - Farming practices (traditional vs. modern).
- Perspective: Include individuals with insights into challenges and opportunities in cotton farming.

1. Introduction

- Introduce yourself and ask the participants to introduce themselves.
- Welcome participants and explain the purpose of the discussion.
- Ensure confidentiality and obtain verbal consent for participation and audio recording of the discussion (if applicable). My name is _____, and I am here on behalf of HCPL. We are conducting a study supported by Better Cotton (BC) Pakistan to analyse the needs of smallholder cotton farmers. The study aims to gather insights on sustainable income, economic resilience, income drivers (volume, price, and cost), alternative livelihoods, and develop tailored livelihood models for smallholder farmers.
- This discussion will take 40–60 minutes, and your responses will remain confidential. You are free to skip any question or stop the discussion at any time. While we may quote insights from this discussion, we will not mention any participant's name in study-related documents.
- **Consent:**
 - Do you agree to participate in this discussion? Yes, No
 - Do you consent to audio recording for accuracy? Yes, No
 - May we take pictures during the session? Yes, No
 - If participants agree, proceed with the discussion, and follow their preferences regarding recording or photography. If they decline to participate in the discussion, thank them for their time and conclude the session.
- Provide an overview of the topics to be covered.

2. Guiding Questions

Ask the main questions starting with integer numbers (1,2,) and then prob with probing questions with roman numbers (i,ii....) where needed.

Section A: Sustainable Income and Economic Resilience

Volume:

1. **What factors affect your ability to produce and sell higher volumes of cotton?**
 - (i) How do market demand and access to buyers influence your production decisions?
 - (ii) Are there infrastructure challenges (e.g., storage, transportation) that limit your ability to produce or sell more?
 - (iii) How do you face competition from other farmers or regions?

- (iv) How do farmers in your villages meet the financial requirement for cultivating cotton? Please do share various sources available to them? (*Own funds, input traders, own money, Bank loans*)
- (v) Explain which are the most preferable sources of finance for agriculture activities in your village and why?
- (vi) Have you ever insured your crop against losses due to untimely weather events or any other reasons? If yes, who are the insurance providers? How has the experience about claim settlements been?

2. How do weather conditions, soil quality, and access to inputs (seeds, fertilizer, labour, pesticides, etc.) impact your production?

- (i) How does the availability or quality of inputs affect your farming decisions?
- (ii) Can you please mention the varieties of cotton normally cultivated by the people in your village? Why did the people choose the variety? (*Probe for different variety in rainfed and irrigated cultivation, fibre fineness and maturity, length uniformity, strength, non-lint content, better prices, availability, or any other factor*)
- (iii) From where did you/do you get the information about the land preparation methods, sowing practices and good quality of seeds etc.? (*Probe for local fertilizer shops, KVVKs, Agriculture department, CSOs and any other organisation*)
- (iv) What specific weather conditions have impacted your yields most in recent years?
- (v) Are there resources or techniques available to mitigate challenges with soil quality or extreme weather?

3. What recommendations do you have to increase production or productivity?

Price:

4. How are the prices for your cotton determined?

- (i) Do you negotiate prices directly with buyers, or are prices set by the market or intermediaries? Please explain with examples
- (ii) Are there fluctuations in price based on quality, quantity, or timing? If yes how much give examples

5. What challenges do you face in negotiating better prices for your produce?

- (i) Are there buyer monopolies or power imbalances that limit your negotiation capacity?
- (ii) Do you have access to market information or price trends? How do you get the information please explain

6. What role do cooperatives, traders, or other intermediaries play in pricing?

- (i) Do you have these intermediaries in your area? Do these intermediaries add value or create challenges in the pricing process?
- (ii) Are there cases where cooperatives have helped farmers secure better prices? Any example
- (iii) What are the major challenges being faced by the farmers in marketing, and post-harvest management of your crops?

7. What recommendations do you have for having better and fair price for your produce?

Cost:

8. What are the major cost components in cotton production (e.g., seeds, fertilizers, labour)?

- (i) Which cost component is the most burdensome, and why?
- (ii) Are there seasonal variations in costs?

9. Are there opportunities to reduce costs without compromising productivity?

- (i) Have you tried any cost-saving measures (e.g., organic inputs, shared equipment)? If yes how if not, why?
- (ii) Do you know or have access to subsidies or government support programs that could help reduce costs? Please explain with examples
- (iii) What are your recommendations to reduce costs?

Section B: Alternative Livelihoods

Current Livelihoods:

10. Besides cotton farming, what other income-generating activities do you engage in for example other crops, horticulture, livestock, business, skills-based jobs, or other services?

- (i) List the key activities and ask are these activities seasonal or year-round?
- (ii) How does the income from these activities compare to income from cotton farming? Ask for their share in total income as percentage?
- (iii) Which are major stages of crop cultivation, value addition and marketing, where female members have a greater role??
- (iv) What is the role of women in decision making in farming, processing, and marketing?

11. What challenges do you face in diversifying your income sources?

- (i) Ask about barriers such as time, resources, or lack of skills?
- (ii) Ask about cultural or community norms influence your ability to pursue other livelihoods?
- (iii) Ask about access to markets? Access to finance or any other challenges do they faces in diversifying their income sources?

Potential Alternatives:

12. What additional livelihood opportunities do you believe have potential in your community?

- (i) Are there resources (human, physical or natural) in your community or households that are currently underutilised?
- (ii) Do you see opportunities in areas such as livestock, handicrafts, business, or services?
- (iii) What are potential livelihood opportunities where female members having a greater role?
- (iv) What are potential livelihood opportunities where youth members have a greater role?

13. What support or resources would you need to explore these alternatives (e.g., training, financial support)?

- (i) Are there specific skills or tools you believe would help you succeed in these alternatives?
- (ii) What role could local organisations or government programmes play in supporting you?

Sustainability and Feasibility:

14. How feasible are these alternatives in terms of time, investment, and skills?

- (i) Would these alternatives require significant changes to your current lifestyle or farming practices?
- (ii) Are there any risks or challenges that might make these alternatives difficult to pursue?

15. How do you perceive the long-term sustainability of these alternative livelihoods?

- (i) Could these alternatives provide a stable income throughout the year?
- (ii) Do you think they would face similar challenges to cotton farming (e.g., market access, costs)?

Section C: Context-Specific Livelihood Models

Community Insights:

16. Are there examples of successful alternative livelihoods in your community or nearby areas?

- (i) What are the other sources of income where households from your villages are engaged for their livelihoods? What is the nature of such income sources (permanent and temporary)?
- (ii) What factors contributed to the success of these examples?
- (iii) Are these examples replicable or scalable for others in the community?

17. What lessons can be drawn from these examples?

- (i) Were there specific practices or support systems that made these initiatives successful?
- (ii) What challenges did they face, and how were they overcome?

Adaptation to Local Context:

18. What cultural, environmental, or economic factors should be considered in developing new livelihood models?

- (i) Are there traditional practices that align with alternative livelihood options?
- (ii) How do environmental conditions in your area affect the viability of these models?

19. How can these models be adapted to suit smallholder farmers like yourself?

- (i) What would make these models more accessible or attractive to small-scale farmers?
- (ii) Are there existing resources or community networks that could support these models?

3. Probing Techniques

- Ask follow-up questions to gain deeper insights.
- Use scenarios or examples to encourage participants to think critically.
- Encourage all participants to share their experiences and perspectives.

4. Closing

- Summarise the key points discussed.
- Invite participants to share any additional thoughts.
- Thank participants for their time and valuable contributions.

Notes for Facilitators

- Ensure the discussion remains focused and within the allotted time.
- Create a comfortable and non-judgmental environment to encourage open sharing.
- Record responses in detail for analysis and integration into the deliverables.

Notes for Facilitators

- Focus on Key Points: Record main ideas and recurring themes; note impactful quotes when necessary.
- Organise Notes: Follow the structure of the guiding questions and sections for clarity.
- Capture Non-Verbal Cues: Note significant gestures or emotions to add context.
- Stay Neutral: Record only what is said without personal interpretations.
- Clarify if Needed: Ask the facilitator for clarification if responses are unclear.
- Ensure Confidentiality: Handle all information securely and respectfully.
- Backup Notes: Save digital notes or securely store handwritten ones after the session.

Name of FDG facilitator:

Name of FDG notetaker:

Location of the FGD:

District:

Date of FGD:

List of participants

Name	Age	Gender	Socioeconomic characteristics
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional) <input type="checkbox"/> Farming practices (modern)
		<input type="checkbox"/> Woman <input type="checkbox"/> Man	<input type="checkbox"/> Socioeconomic levels (Less than 2.5 acre) <input type="checkbox"/> Socioeconomic levels (>2-10 acres) <input type="checkbox"/> Farming practices (traditional)

			☐ Farming practices (modern)
--	--	--	------------------------------

BCI's Income & Resilience Study in Better Cotton Programme in Pakistan

Annex 2 (c): Key Informant Interview (KII) – Government Officials/Extension Service Providers

Name of respondent: **Designation:** **Department:** **Date:**

Introduction:

My name is [Your Name] from HIMMAT Consulting Private Limited (HCPL). We are conducting a study for the Better Cotton Initiative (BCI) to assess cotton farmers' income and explore ways to improve farming practices, reduce costs, and increase income opportunities.

The interview will take about 30 minutes, and your responses will remain confidential. You are free to skip any question or end the interview at any time. Your name or designation will not be mentioned in any study-related documents. While we may quote insights from this interview, we will not attribute them to you personally.

Consent

- Do you agree to participate in this discussion? Yes, No
- Do you consent to audio recording for accuracy? Yes, No
- May we take pictures during the session? Yes, No
- If participant agrees, proceed with the interview and follow her/his preferences regarding recording or photography. If the participant declines to participate in the discussion, thank the participant for her/his time and conclude the session.

Interview Questions:

Department Responsibilities and Priorities

1. What are the government department's key responsibilities in the cotton sector?

Probe for explaining services (Technical knowledge, Skill development, Marketing support, Input provision, Access to finance, subsidies, Regulation and compliance, fair pricing, Research & development)

Sustainable Production Practices

2. What is your view on the current cotton production practices? Do the farmers promote sustainable cotton production? What challenges/constraints the farmers face to promote sustainable cotton production?
3. How is climate change effecting cotton production and practices?
4. What efforts are being made by government to promote sustainable cotton production, and how can they improve farmers' income?

Probe on how the government is supporting farmers on the following areas: Soil fertility management, Fertilizer and pesticide recommendations, Irrigation methods, Intercropping and mechanisation, Quality maintenance and value addition, Biodiversity conservation and sustainable agriculture any other initiatives.

5. How does your department coordinate with other organisations to promote sustainable cotton production and practices?
6. How can civil society, industry associations, or businesses play in supporting sustainable cotton production?

Income Diversification

7. What are the potential income opportunities for small cotton growers from the following sources how can they benefit from it?
 - **Farm-based activities:** Agri-commodities, value addition, yield improvement
 - **Off-farm activities:** Livestock management, other income avenues in cotton or other crop value chain
 - **Non-farm activities:** Business, skill-based work, or services
8. In your view what challenges/constraints the farmers face to benefit from available opportunities that can enhance their household income?
9. Are current measures adequate to address the challenges faced by small cotton growers? If yes, how? If not, why?
10. What additional steps can be done to improve income levels and support recovery?
 - Government departments
 - Civil society, farmers associations, NGOs
 - Cotton associate Businesses
 - Financial institutions (bank, insurance companies)
 - Any other

BCI's Income & Resilience Study in Better Cotton Programme in Pakistan

Annex 2 (d): Key Informant Interview (KII) – Market/Ecosystems players

Introduction:

My name is [Your Name] from HIMMAT Consulting Private Limited (HCPL). We are conducting a study for the Better Cotton Initiative (BCI) to assess cotton farmers' income and explore ways to improve farming practices, reduce costs, and increase income opportunities.

The interview will take about 30 minutes, and your responses will remain confidential. You are free to skip any question or end the interview at any time. Your name or designation will not be mentioned in any study-related documents. While we may quote insights from this interview, we will not attribute them to you personally.

Consent

- Do you agree to participate in this discussion? Yes, No
- Do you consent to audio recording for accuracy? Yes, No
- May we take pictures during the session? Yes, No
- If participant agrees, proceed with the interview and follow her/his preferences regarding recording or photography. If the participant declines to participate in the discussion, thank the participant for her/his time and conclude the session.

I. General Information

1. **Name of Business/Trader:**
2. **Years of Operation:**
3. **Type of Business:** (e.g., Local trader, Aggregator, Ginning mills)
4. **Coverage Area:**
5. **Trading Season:**
6. **Products Traded:**
7. **Volume of cotton Traded Last Season (Bales/Quintals):**

II. Income Drivers

1. **Procurement Sources and Prices:**
 - How do you procure cotton from farmers?
 - What percentage of your cotton is sourced from smallholder, medium and large farmers?
 - How are the prices determined? What prices are typically offered?
2. **Quality and Assessment:**
 - What quality parameters do you prioritise, and how do you assess them?
3. **Cost of Procurement:**
 - What costs are involved in transportation, storage, and processing? Who is paying the transportation, and storage costs?
4. **Payment Practices:**
 - How do you pay farmers?
 - In cash, credit, or kind?
 - Lumpsum or instalment?
 - What are the terms of payment?

III. Sustainable Income and Resilience

1. **Support for Farmers:**

- Do you offer services (e.g., credit, inputs, training) to farmers?
 - How do these services impact farmer productivity and income?
2. **Sustainability Programmes:**
 - Are you aware of or involved in Better Cotton initiatives?
 - What are your views on the market for sustainably grown cotton?
 3. **Premiums for Sustainable Practices:**
 - Do farmers producing organic, sustainable, better cotton receive better prices?
 - What challenges exist in scaling sustainable cotton production?

IV. Exploring Alternative Livelihoods

1. **Diversification Efforts:**
 - Do you observe farmers engaging in alternative livelihoods (e.g., livestock, kitchen gardening, skill-based work, agri-business, other business, skill-based jobs, off-farm labour)?
 - Which alternative livelihoods seem most promising for cotton farmers to enhance their household income?
2. **Challenges and Opportunities:**
 - What barriers do smallholder farmers face in adopting alternative income sources?
 - What support would enhance their ability to diversify income?

V. Value Addition and Livelihood Models

1. **Value Addition:**
 - Do you or farmers undertake any value-addition initiatives?
 - What are the costs, benefits, and challenges of these initiatives?
2. **Livelihood Models:**
 - What role can market players like you play in supporting resilient livelihood models?
 - Are there successful models you've observed or been part of?
 - What opportunities do you see for improving income and resilience among cotton farmers?
 - What interventions or programmes would be most impactful?

BCI's Income & Resilience Study in Better Cotton Programme in Pakistan

Annex 2 (e): Key Informant Interview (KII) – Partner Staff

Introduction:

My name is [Your Name] from HIMMAT Consulting Private Limited (HCPL). We are conducting a study for the Better Cotton Initiative (BCI) to assess cotton farmers' income and explore ways to improve farming practices, reduce costs, and increase income opportunities.

The interview will take about 30 minutes, and your responses will remain confidential. You are free to skip any question or end the interview at any time. Your name or designation will not be mentioned in any study-related documents. While we may quote insights from this interview, we will not attribute them to you personally.

Consent

- Do you agree to participate in this discussion? Yes, No
- Do you consent to audio recording for accuracy? Yes, No
- May we take pictures during the session? Yes, No
- If participant agrees, proceed with the interview and follow her/his preferences regarding recording or photography. If the participant declines to participate in the discussion, thank the participant for her/his time and conclude the session.

SECTION 1: GENERAL INFORMATION

1. Name of the Implementing Organization: _____
2. Name of the Respondent: _____
3. Designation of the Respondent: _____
4. Years of Experience with the Organization: _____
5. Years of Experience Working with Cotton Farmers: _____

SECTION 2: ORGANISATION AND GEOGRAPHICAL SCOPE

6. **What are the main activities of your organisation?**
(Probe: focus on cotton farming, livelihoods, and sustainability initiatives)
7. **Which geographical areas (districts, villages) does your organisation cover?**
 - Key characteristics of these areas with respect to cotton farming:
(Probe: irrigation status, soil types, topography, climatic challenges)

SECTION 3: SUPPORT AND INCOME DRIVERS

8. **What specific support does your organisation provide to cotton farmers?**
(Probe: inputs, technical training, marketing, access to finance, capacity building, certification)
9. In your opinion, what are the main drivers of farmers' income?
 - How do factors like volume, price, and production costs affect farmers' income?
 - Are there any interventions aimed at optimizing these drivers?
10. **What steps has your organisation taken to help farmers improve income and economic resilience?**
(Probe: addressing market access, reducing production costs, improving yields)

SECTION 4: ALTERNATIVE LIVELIHOODS AND SUSTAINABLE MODELS

11. **Have you or your organisation explored or supported alternative livelihood opportunities for cotton farmers?**
 - What types of alternative livelihoods have been introduced or suggested?
 - How have farmers responded to these alternatives?
12. **What is your organisation's perspective on developing context-specific livelihood models for cotton farmers?**
 - What key factors should be considered in designing these models?
 - How could these models ensure economic sustainability?
13. Are there community-level institutions involved in supporting cotton farmers?
 - If yes, can you describe their structure, role, and activities?

SECTION 5: SUSTAINABILITY AND CHALLENGES

14. **What is your organisation's approach to promoting sustainable cotton farming practices?**
 - Are these practices widely accepted by farmers?
 - What factors influence their acceptance or resistance?
15. What challenges have you encountered while implementing sustainability-focused initiatives?
 - How has your organisation addressed these challenges?

Section 7: CROP INSURANCE

16. Do you think farmers would participate in a free crop insurance pilot programme?
 - If not, what might prevent them from participating?
17. What criteria should be used to select farmers for the pilot?
 - Should farm size or income be factors? Is it important to group farmers by location?
18. What could the best method for distributing insurance payouts to farmers?
 - Are mobile wallets a suitable option?
19. How can we make the insurance registration process easier for farmers, especially those in remote areas?

SECTION 6: RECOMMENDATIONS AND FINAL INSIGHTS

20. What steps, in your opinion, are crucial for achieving sustainable income and economic resilience for smallholder cotton farmers?
21. Is there anything else you would like to share that could help us better understand the livelihoods and challenges of small-holder cotton farmers?

Closing Remarks

Thank you for taking the time to share your valuable insights. Your input will contribute significantly to designing impactful strategies for improving the livelihoods and income resilience of smallholder cotton farmers.

BCI's Income & Resilience Study in Better Cotton Programme in Pakistan

Annex 2 (f): Village/Market Prices

Name of the village:

Name of the District:

Name of the Interviewer

Visit local market/shops in the survey village and fill in the prices for the following food items.

Food Item	Price Per KG (PKR)
Wheat	
Rice	
Lentils (Daal Mash)	
Lentils (Daal Mong)	
Lentils (Daal Masoor)	
Other commonly used lentils locally:	
[name]	
[name]	
[name]	
Milk (Cow/Buffalo)	
Milk Tetra Pack	
Yoghurt	
Chicken Egg	
Chicken	
Beef	
Mutton	
Cooking Oil	
White Sugar	
Tea	
Banana	
Apple	
Other commonly used fruits locally:	
[name]	
[name]	
[name]	
Potato	
Tomato	
Onion	
Cabbage	
Cauliflower	
Indian Squash (Tinda)	
Other commonly used vegetables locally:	
[name]	
[name]	
[name]	
[name]	

BCI's Income & Resilience Study in Better Cotton Programme in Pakistan

Annex 2 (g): Housing Costs

Name of contractor:

Name of village/city:

Name of district:

Take quotation from three contractors/builders in each sample district for house construction with the following requirement. The quotation should include cost of labour, and materials. The land cost is not included.

- Dwelling should have at least 60 sq. meters of covered area.⁹
- Walls must be permanent and can be made of bricks with cement, only cement, or only brick. Mud and stick walls are not acceptable.
- Roofs must be sturdy and made from reinforced cement concrete (RCC) or Tier-Girder to be of acceptable quality. Roof without steel or cement is not acceptable.
- Floors should be made of cement or bricks, but not mud/earth or wood (latter is not commonly used in Pakistan).
- Toilet facility can be pit with concrete slab or flush toilet connected to sewage or septic tank. One bathroom with toilet and bathing facility is acceptable.
- Potable water (boring is acceptable if ground water is not contaminated).
- Gas is the acceptable cooking fuel. Wood is fine if there is proper ventilation.
- Electricity is necessary.
- The house should have adequate ventilation and natural light, with at least one window per room.
- Three bedrooms with one for adults and two for the 4 children. No specific separate living room is required.
- One separate kitchen in addition to three bedrooms.
- Kitchen should have adequate ventilation and food storage area.
- Building should be in reasonable condition and made of permanent materials such that they are durable.
- Building site cannot have a site hazard such as poor drainage or being subject to flooding.

BCI's Income & Resilience Study in Better Cotton Programme in Pakistan

Annex 2 (h): Education and Health Costs

Name of village:

Name of district:

Name of interviewer:

Education

Talk to parents and schoolteachers in each sample village to calculate the education cost.

(a) Calculate the cost of a child at each level going to government education facilities.

	Class 1-5	Class 6-10	Class 11-12	College university	Remarks/explain
School registration fee					
School monthly tuition fee					
Annual stationery and books costs					
Annual uniform					
Accommodation/hostel (if applicable)					
Any other costs specify please					

(b) Calculate the cost of a child at each level going to private education facilities.

	Class 1-5	Class 6-10	Class 11-12	College university	Remarks/explain
School registration fee					
School monthly tuition fee					
Annual stationery and books costs					
Annual uniform					
Accommodation/hostel (if applicable)					
Any other costs specify please					

Health cost

Visit a hospital and patient in each sample village to calculate the health cost for one patient.

(a) Calculate the cost of a patient visiting government health facility.

	BHU	DHQ	Any specialised Hospital	Remarks/explain
Cost of Doctor consultation /hospital fee per visit				
Average lab test costs				
Average hospitalisation costs				
Any other costs specify please				
Average number of visits by a family				

(b) Calculate the cost of a patient visiting private health facility.

	Private clinic	Private Hospital	Any specialised Hospital	Remarks/explain
Cost of Doctor consultation /hospital fee per visit				
Average lab test costs				
Average hospitalisation costs				
Any other costs specify please				

Average number of visits by a family				
--------------------------------------	--	--	--	--