

Wiggins, Steve et al.

**Research Report**

## How cotton farmers escape poverty by diversification in India and Mali: Intersecting crises and supports

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Report

# How cotton farmers escape poverty by diversification in India and Mali. Intersecting crises and supports

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March 2026



ODI Global



bc<sup>i</sup>  
better cotton  
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# Contributions

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Study design: SW, LdC, Glocal team (led by DV), KC team (led by BB)

Collection of field data: Glocal team, KC team

Interpretation and coding of qualitative data: LdC, ME, Glocal team, KC team

Quantitative analysis: Glocal Team, DD for KC team, SW

Lead writers: SW, LdC

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In Mali, CMDT managers at central and regional level, and the BCI representative, helped the team from Kéné Conseils to plan and carry out field work.

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Views and interpretations, errors and omissions in this paper are solely the responsibility of the authors and do not necessarily reflect those of their host organisations, the funder or the Better Cotton Initiative.

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# Abbreviations

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|                |                                                                               |
|----------------|-------------------------------------------------------------------------------|
| <b>BCI</b>     | Better Cotton Initiative                                                      |
| <b>BNDA</b>    | Banque Nationale de Développement Agricole, Mali                              |
| <b>Bt</b>      | Bacillus thuringiensis: refers to cotton genetically modified to resist pests |
| <b>CFA</b>     | Franc CFA: Malian currency. In mid-2024 FCFA606 = US\$1                       |
| <b>CMDT</b>    | Compagnie malienne pour le développement des textiles, Malian parastatal      |
| <b>CMS</b>     | Centralized Monitoring System, of telecoms in India                           |
| <b>CPC</b>     | Cotton Producers' Cooperative                                                 |
| <b>FAOSTAT</b> | Data base of agricultural statistics, FAO                                     |
| <b>GDP</b>     | Gross domestic product                                                        |
| <b>GMR</b>     | Indian corporation which operates energy utilities, among other things        |
| <b>INR</b>     | Indian rupee. (₹) In mid-2024 INR83 = US\$1                                   |
| <b>MGNREGA</b> | Mahatma Gandhi National Rural Employment Guarantee Act                        |
| <b>MH</b>      | Maharashtra State                                                             |
| <b>MSP</b>     | Minimum Support Price                                                         |
| <b>PDS</b>     | Public Distribution System                                                    |
| <b>PMAY</b>    | Pradhan Mantri Awas Yojana, India: housing subsidy scheme                     |
| <b>PSPP</b>    | Statistical analysis software program                                         |
| <b>RCI</b>     | République du Côte d'Ivoire                                                   |
| <b>SHG</b>     | Self-help group                                                               |
| <b>TG</b>      | Telangana State                                                               |
| <b>YMD</b>     | Yellow mosaic disease                                                         |

# Summary

Diversification of household activities and incomes can benefit rural households by increasing and stabilising incomes. A diversified portfolio of household activities helps reduce exposure to hazards, makes use of agricultural labour in slack seasons, allows household members to specialise and facilitates investment as income from one activity may be invested in another.

Diversification can be particularly beneficial for farming households growing a cash crop which, while profitable over the medium term, may experience short-term swings in yields, market prices and returns to the crop. For such households, having other diversified activities can help even out the variations in returns to the cash crop. This is the case for many smallholders growing cotton – the subject of this study of cotton farmers in India and Mali.

## Context

India grows around one-fifth of the world's cotton after rapid increases in production in the 2000s and early 2010s. Subsequently, production has stagnated. Yield per hectare of the crop peaked in 2013–2014, falling thereafter. Costs of production – irrigation water, fertiliser, pesticide, fuel – have risen as Bt cotton, genetically modified to resist pest attacks, has become less effective. In the 2010s, the rural economy of India was reshaped by a combination of increasing public support to farmers, liberalised markets and urbanisation, which created new markets for high-value farm produce.

Cotton has been grown in Mali for centuries, but under French occupation farmers in areas suited to cotton were compelled to grow the crop. Seed, fertiliser and other inputs were provided on credit

by a parastatal – later named the *Compagnie malienne pour le développement des textiles* (CMDT) – which also bought the seed cotton, ginned it and exported the cotton. Compulsory growing ended with independence in 1960. Cotton was not grown widely until the 1990s, when prices improved and many farmers took up cotton growing across southern Mali. Since 2000, however, production has risen only slowly while yields per hectare have tended to fall. In the 2020s growers have increasingly faced pests leading to harvest losses and farmers becoming indebted to CMDT.

While cotton growing may not be thriving in the mid-2020s in Mali, farmers in the south of the country have been intensifying production of other crops, including maize.

## Study aims and methods

This research examines how cotton-growing households in India and Mali diversify their livelihoods beyond cotton, what enables diversification, what blocks it and how these processes affect household welfare.

The Indian study took place in Maharashtra (MH) and Telangana (TG) States, two of the principal cotton-growing states (ranked second and third respectively by quantity of cotton grown). Within each state, four villages were chosen for study, two rural, two peri-urban. For Mali, five villages across the cotton belt were chosen, in Sikasso, Bougouni, Koutiala, Dioila and Kita regions. They represent long-established communities growing cotton in the east to villages in the pioneer front of the cotton zone in the west.

To appreciate change, we relied on the memory of local people about what had changed in their lives and that of the village, and the factors that had driven or hindered change. We expected that changes and the factors influencing them would be diverse, and some unexpected (by the research team). Enquiry was thus first and foremost qualitative, allowing local people as far as possible to tell the stories of themselves as individuals, as members of households and as residents in a village. Methods included interviews with key informants, discussions with focus groups and the collection of individual life histories. Only after the qualitative insights had been appreciated did we survey households to estimate the incidence of changes, and the enabling and blocking factors mentioned in the qualitative accounts.

In India, between January and March 2024, in each of eight villages, four focus groups were convened to explore the history of the village, five focus groups with men and women apart were held to discuss wellbeing and drivers of change, and, from all the villages, 47 life histories were collected with sampling from among chronically poor, temporary and sustained escapers from poverty. In August 2024, 382 household surveys were administered to a sample of households stratified as rich, medium and poor.

In Mali, in January 2024, in each of five villages, interviews were held with local leaders and key informants on village history and characteristics, two focus groups were convened with men and women separately, and eight life histories were collected sampling from better-off and less well-off households. In April 2025, 60 households were surveyed in each village, making 300 households surveyed in all.

Qualitative data were analysed three ways: an initial interpretation of key insights from

the field teams, a formal coding using NVivo by Dr Eichsteller focusing on changes in the status of individuals and households, and a third interpretation drawing on the preceding analyses to highlight stories and narratives of change by Dr da Corta for India and Dr Wiggins for Mali.

Quantitative data were processed to produce descriptive statistics, followed by multivariate analyses (mainly regression). A first round of analyses was carried out by field teams, complemented by subsequent additional analysis by the lead author.

## Findings

Most of the households studied in Maharashtra and Telangana grew cotton, food and cash crops, but most had other activities as well. The median household carried out five activities: three agricultural, two non-farm; two subsistence (mainly for home consumption), and three value-added. More prosperous households tended to have more activities.

Changes to household welfare usually stemmed from the effects of several drivers, rather than one factor alone; change was usually sequenced and incremental, rather than resulting from a single (dramatic) event. In India, the differing and changing policies and programmes of the government played a role in change.

Households escaping from poverty had raised incomes and welfare variously through growing irrigated crops, keeping dairy and other livestock, and by starting (small) businesses or taking up jobs in the non-farm economy. Progress was enabled above all by better access to capital: in the previous 10 years or so, many households were able to obtain loans from self-help groups (64% of households), banks (43%) and cooperatives

(24%) at modest interest rates – where in the past they had to turn to moneylenders. Loans complemented grants and subsidies from a wide range of government programmes to support farmers. These funds, combined with savings, allowed households to invest in activities with better returns than before. Training from NGOs and BCI helped households realise good returns on investments.

Women played central roles in these changes – they often provided much of the labour – but were hindered by not having rights to land and other assets, which in turn meant they were not registered for government farmer support programmes that served only those with land titles.

Not all households prospered: some, perhaps many, were stymied by a combination of chronic lack of assets – land, irrigation water, capital, livestock, equipment – and a corresponding vulnerability to shocks, whether natural hazards, economic downturns or personal misfortune in sickness, accidents and social conflict. Landless labourers and tenant farmers were especially disadvantaged.

Youth faced different prospects to those of generations before. Obtaining land was harder and more costly. On the other hand, urbanisation had created new job opportunities.

In Mali, households were highly diversified, with an average of 14 different activities undertaken. Most activities were agricultural, and of the non-farm activities, several were concerned with gathering and processing local natural resources (such as collecting and processing shea nuts). Southern Mali, despite recent rapid population growth, remains relatively lightly populated, so that land has been available for households with the means to cultivate it. The key to agricultural success

in the five villages was mobilising labour – done by forming very large households averaging 23 persons – and accumulating capital in the form of oxen and ploughs.

Those households that had progressed had done so by incremental, small investments, funded either by surpluses from current enterprises or from off-farm earnings, to expand cultivation and to add new (mainly) agricultural activities. Lack of capital was a key obstacle, often overcome by young men and women migrating to cities, gold mines and the coastal countries of West Africa to earn and save enough to equip themselves with oxen and ploughs. Cotton was a popular crop because CMDT provided seed, fertiliser and other inputs on credit.

Public support for agriculture, other than for cotton, was limited: most households had to work with whatever resources they had.

Those households trapped in poverty owed their predicament to the misfortune of being born into deep poverty, by falling victim to hazards, above all livestock and human disease, and by a chronic lack of capital.

Despite the considerably different contexts of India and Mali, households shared similar experiences. In both cases, progress was down to marginal gains that often accumulated over time to make a real difference to households, rather than being caused by any single, major factor. In both areas, farming remained central to household livelihoods – not so surprising in Mali, but more so in India given rapid economic growth and urbanisation. In both areas, chronically poor households were trapped by social disadvantage (in India, above all, by not owning land; in Mali by being born poor), vulnerability to hazards of all kinds and lack of capital.

Differences between the two areas were equally clear. Indian households were typically nuclear, made up of five or so persons: those in Mali were multi-generational, averaging more than 23 persons. Social inequalities were starker and more visible in India than in Mali: differences between castes, between those owning land, those only able to lease land and those having no land at all.

Urbanisation was far more developed in India so that farmers had a ready market for high-value produce close to their villages, and non-farm opportunities were also close at hand.

Owing to the growth of India's economy in recent decades, government at Union and State levels has been able to spend increasingly large amounts in rural areas on public investments (roads, irrigation works, etc.), services, development programmes and social protection. The government of Mali, a low-income country with an economy growing less rapidly than India's, had far fewer resources to spend rurally.

## Discussion

Three common findings stand out from this study. One was encouraging signs of rural progress: life histories more often told of rising welfare, of increased earnings, of more diverse livelihoods and of higher living standards, than they told of people trapped in poverty. The balance was narrow: accounts of chronic poverty were frequent, just not quite as many as accounts of progress. Our findings run counter to research which stresses the many obstacles that rural people on low incomes face, from lack of land and capital, to neglect by state agencies, to discrimination, prejudice and exploitation by economically and politically more powerful actors. Instead, what we often observed was the considerable agency and resourcefulness of rural people in

overcoming their disadvantages and taking up new opportunities, albeit often through dint of hard work and limiting their own consumption.

The second repeated finding concerns the many and serious hazards to which most rural people are highly exposed; hazards from which there is little respite, and precious little social protection. Hazards affect individuals in the form of illness and accidents, social conflicts, crime and addiction (alcohol, drugs, gambling). The consequences include loss of capacity to work (and enjoy life), loss of assets and (heavy) costs of medical attention and addiction: consequences that are all too often life-changing, plunging people into poverty and destitution.

Hazards also affect entire communities (and often districts and regions): inclement climate including drought, floods, heatwaves and storms; pests and diseases affecting crops and livestock; wildfires, conflict and insecurity; and economic shocks – high inflation, collapsed prices for output, mass unemployment, etc. The consequences of these (covariate) hazards include loss of crops and livestock; damage to homes and other buildings, to roads, powerlines, water supplies and irrigation; and loss of jobs and incomes. Communities may be able to cope (albeit with hardship) with some of these shocks, so long as they are not too severe, do not recur frequently or do not arrive in combination.

For many rural people there is little relief from such hazards: while friends, family and neighbours may help with individual misfortune, resources are limited. For covariate shocks, the ability of public agencies to provide relief in low-income countries is similarly limited. It is no surprise that, when people and their households fall into poverty, it is often the misfortune of a hazard that has triggered their decline.

The third regularity concerns agriculture as a performance: as farmers know, growing crops and raising livestock requires continual adjustment to the weather and seasons, to threats from pests and diseases, and often to market conditions as well. At the start of the season or year, plans may be prepared, but farmers need to be prepared to undertake contingent actions in the light of emerging conditions, some of which they will have encountered in the past (and hence half-expect) but some of which may be novel and surprising. If that is the case for the season or the year, it applies all the more so over the medium term. In spans of five years or a decade, environmental conditions can change, resources available to farmers can rise or fall, costs of inputs and price of outputs in markets can move substantially, and public policies and programmes that affect farmers and agriculture can also change significantly.

Successful (and fortunate) farmers appreciate the changes and adapt accordingly, avoiding threats and taking up opportunities. If there is an ideal or optimum for which to plan, it is on the move: it is certainly not fixed. Life histories are rich in the detail of how many changes farming households have had to make over the medium term.

## Policy considerations

These three common features suggest a matching set of policy considerations, regarding rural development, social protection and agricultural policy.

### Rural development

These studies show that (a small majority) of rural households are able to progress – in circumstances that are less than ideal, drawing primarily on their own resources, supplemented

to a considerably lesser degree by contributions from friends and neighbours, and taking advantage of what public agencies (government and NGOs) may offer. Farm households take diverse pathways, tailored to their own circumstances. One implication is that public agencies can be reassured that at least some of the investments, programmes and policies they offer are likely to help some people some of the time – but that the details of what works best will vary by place, time and household in such diverse ways as to defy any attempt to plan comprehensively.

But among potential public actions, some clearly make a difference. In India and Mali households take advantage of access to markets and urban centres: roads and transport help. Those markets are most helpful to rural people when market conditions of availability and price vary within reason, without wild fluctuations: a stable macroeconomy – low or modest inflation, exchange rate stability – helps. Most parents want to see their children educated: schools help. Health is critical to wellbeing, even if this is only uppermost in people's minds during episodes of accidents and disease: health posts and services, water and sanitation matter.

## What more should public agencies consider?

One, capital is short for so many households studied: many people know what they might do, had they access to a few tens or hundreds of dollars to invest in their farm or business. More effective rural financial systems matter, systems that give people ways to save, to insure and to borrow – all securely, all at modest cost. Self-help financial groups at village level feature repeatedly as supporting Indian households; similar groupings exist in Mali. Supporting their development would be valuable. Support

might include: training in accountancy (for secretaries and treasurers) and financial literacy (for members); linking them to more formal financial entities – credit unions/savings and credit cooperatives, microfinance agencies and banks; and perhaps granting groups additional seed capital (but cautiously, to avoid overwhelming the capacity to manage funds and undermining the social fabric involved in collective saving).

Two, some households are excluded from public support for little good reason, and often those excluded are the neediest – as applies in India, where enrolling in farm programmes requires a land title, thereby excluding tenants and many women farmers. How difficult would it be to change the qualification for such programmes from landholder to farmer, and to provide certification of being a farmer for such purposes?

In other cases, needy people may be excluded with some reason. For example, self-help financial circles are usually reluctant to admit as new members persons seen as uncreditworthy. In some cases, people can be made creditworthy if they have a better grasp of financial literacy, if they have insurance against hazards (see next section), if they are literate and numerate, etc. All these conditions can potentially be remedied by public action among groups of people who are typically excluded.

## Social protection

More protection against hazards would help prevent people being driven into poverty. Reducing the incidence of hazards and their severity before they occur forms part of the agenda of rural development – with actions ranging from vaccinating infants to planting crops resistant to disease to building flood survival shelters.

That leaves actions to protect people after hazards strike; when they have lost assets such as livestock, become ill or disabled (temporarily or permanently), or run up debts to pay for medical bills, to buy in food, to repair damaged houses and so on. For idiosyncratic hazards, insurance – funeral expenses, medical, life, fire, theft (depending on what local people see as priorities) – can provide relief. Insurance can be provided commercially, including through mutual associations, but there are threshold costs to setting up such schemes – training operators in actuarial skills, informing potential customers about how the schemes work and ideally licensing and regulating operators to prevent fraud. All these are candidates for public action, being both essential to start such schemes and being relatively low cost.

Responses – effective, reliable and sustainable responses – to covariate hazards are less clear. For example, experience of crop insurance shows that transaction costs can be high (if schemes are not to become fraudulent), and few farmers are prepared to pay a market premium to insure crops (or livestock). Governments might instead institute disaster relief schemes, with payments indexed to measurable events such as droughts or floods: the schemes to be funded from general taxation. Such formalised schemes are not common: more common is ad hoc relief provided to the victims of more visible and shocking disasters.

## Agricultural development policy and programming

If farmers repeatedly need to reconfigure their farming to match changing conditions, they need two things – access to capital to invest in new activities, and access to knowledge and know-how. The former has been covered above; the latter implies public investment in research and extension. A large literature exists on how to do

this; economic analysis shows that few public investments can match the very high returns – internal rates of return of 20% a year or more – estimated to public agricultural research.

A wider consideration arises for public agencies engaged with agriculture: the need to monitor changes to farming conditions, to assess implications and to revise recommendations, activities and investments accordingly. Key changes to monitor include environmental – especially the emergence of threatening pests and diseases among crops and livestock; and changes to market prices of inputs and outputs that can rapidly alter the returns to farm enterprises. Above all, agencies need to avoid the trap of believing that farmers should be growing a particular crop – often justified by reference to some impressive overarching goal such as national food security, to earn foreign exchange, etc. – thereby overlooking the changing conditions that apply to the crop in question. Farmers are often far more aware than public agencies of which crops and enterprises reward their efforts and which no longer do so.

## Lessons for Better Cotton

One implication for BCI stands out from these studies. Growing cotton takes place against a shifting landscape of agronomic matters – above all the incidence of pests and disease, and the straightforward farm economics of cotton: costs of inputs, prices paid for outputs and the productivity ratio of inputs to outputs. Successful cotton farmers must adapt to this shifting landscape.

This has clear implications for the everyday work of BCI. If the landscape is shifting, then whatever advice and training BCI offers to cotton farmers should adapt to changing realities – with one significant qualification, to be dealt with in a moment. Technical, agronomic advice is clearly valuable: physical issues of growing cotton are uppermost to growers: they can see them in their fields through the season.

Less salient, but equally as important, are the economics of cotton production. Little guidance on this is available to farmers in either country to the best of our knowledge. In sharp contrast, Australian cotton farmers can readily find detailed economic (as well as agronomic) advice on the web. Providing something similar to cotton farmers in India and Mali might be a point where BCI can add value.

Finally, the qualification mentioned: that farming takes place in a shifting landscape is a commonplace leading to generic advice to farmers about the need to constantly adapt to change. That is all well and good, but which changes in the landscape are ephemeral and passing (and hence can be ignored or tolerated), and which are substantial and longer-lasting (and which demand changes by farmers)? To make that judgment requires not only monitoring the changing landscape, but also investigation and analysis to discern key trends from the considerable noisy, but relatively unimportant, variation that exists.

# 1 Introduction

## 1.1 Background and motivation

Diversification of household activities and incomes can benefit rural households by increasing and stabilising incomes. Specifically, diversification:

- Reduces exposure to (risks of) hazards that apply to a particular crop or enterprise, but not to others.
- Allows farmers to make full use of labour in agricultural slack seasons.
- Allows different members of the household to specialise, to develop their skills and abilities in particular activities, thereby increasing returns to their labour.
- Allows income from one activity to be invested as working or investment capital for another (Ellis, 1998; Musumba et al., 2022; Reardon et al., 2007; Waha et al., 2018).

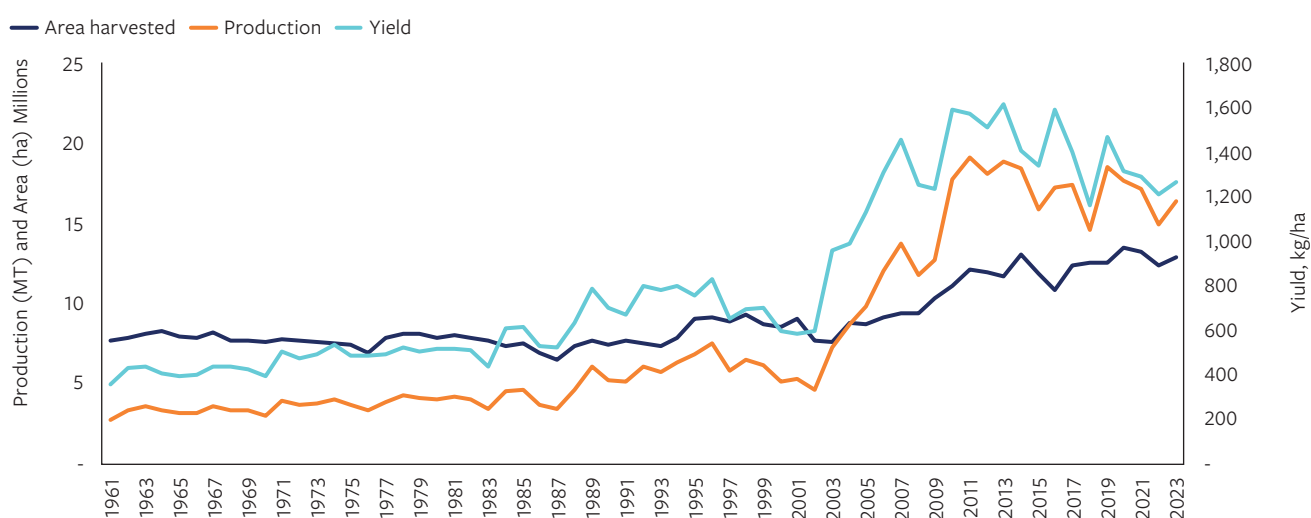
Diversification can be particularly beneficial for farming households growing a cash crop

which, while profitable over the medium term, may experience short-term swings in yields, market prices and returns to the crop. For such households, having other diversified activities can help even out the variations in returns to the cash crop. This is the case for many smallholders growing cotton – the subject of this study.

### 1.1.1 Cotton in India

India produces around one-fifth of the world's cotton and is consistently among the top two global producers, alongside China. Cotton production expanded rapidly in the early 2000s, with output rising sharply through the late 2000s and early 2010s (Figure 1.1). Since the early 2010s, however, production growth has slowed. While the area harvested has remained broadly stable, yields peaked around 2013–2014 and have since declined, contributing to a period of stagnation and increased volatility in national cotton output (Figure 1.1; FAOSTAT).

**Figure 1.1** Cotton production in India, 1961–2023



Source: Compiled from FAOSTAT

Since the early 2010s, stagnating cotton yields (Figure 1.1) have coincided with a growing cost-price squeeze facing cotton farmers in Maharashtra and Telangana. On farms, a convergence of ecological and agronomic pressures – declining soil fertility, increasingly erratic rainfall and heat stress, falling groundwater tables in irrigated areas from sustained pumping, rising pest pressure and more frequent incursions of wild animals linked in part to forest clearance – have made cotton cultivation more risky and more costly (Smith and Kumar, 2024; Sengupta and Thangavel, 2023; Flachs, 2019). These stresses help explain why yields peaked in the early 2010s and have since stagnated or declined, despite farmers’ efforts to raise yields.

At the same time, input costs have risen sharply. Bt cotton, once valued for pest resistance, now often requires frequent reseeding and heavier pesticide use, increasing cash outlays and production risk. Global spikes in fuel and fertiliser prices, alongside reductions, delays or uneven access to subsidies, have further inflated costs, particularly in rainfed systems (CICR, 2022). As a result, cultivation costs have frequently exceeded the Minimum Support Price (MSP) over much of the past two decades, meaning that even relatively good harvests often fail to cover total production costs (Kumar and Dey, 2024). Cotton cultivation has thus become a high-cost, high-risk activity with narrowing margins.

These pressures fall unevenly across farmers. Rainfed and poorer households, lacking irrigation, insurance or reliable access to formal credit, are the most vulnerable to yield shocks and cost inflation. The declining effectiveness of Bt cotton has further deepened their exposure, marking a period of heightened ecological and economic risk (Karamchedu, 2024; CICR, 2022). Beyond farm production itself, inequalities in access to

land, credit and public support exacerbate these threats, constraining opportunities in particular for women, landless tenants and smallholders attempting to escape poverty.

Cotton-growing households have faced not only squeezed margins from their cotton, but also rising living costs. Rural consumer price indices point to sustained inflation in health, education, transport and fuel through mid-2025. Increasing healthcare expenses – projected to rise by around 13% in 2025 – often require households to divert funds away from farm investment or to take on new borrowing (Reuters, 2025). Household spending on schooling can also be substantial: the NSO’s CMS: Education reports average annual per-student expenditure of ₹25,002 in non-government schools and ₹2,863 in government schools (NSO, 2025). At the same time, CPI releases indicate continued inflationary pressure in key household expenditure groups, including health, education, transport and communication and light and fuel (MoSPI, 2025). Rising land purchase and lease costs in irrigated pockets can further constrain access to productive land and limit the ability of poorer households to accumulate assets or invest in diversification, as will be seen in our key informant interviews and life histories. Higher living costs force households to make difficult trade-offs between consumption, investment and debt.

Since 2014, and especially after 2019, support for farmers by the state has intensified, driven not only by economic growth but also by a political strategy that combines ongoing market liberalisation with expanded welfare intervention (Anand et al., 2020). At the national level, this has manifested as targeted, digitally mediated transfers within a ‘techno-patrimonial’ welfare framework (Aiyar, 2023; Venkat, 2024). Welfare has shifted from rights-based entitlements

and claim-making – for example, the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and the Public Distribution System and National Food Security Act (PDS/NFSA) – towards direct transfers promoted as prime ministerial generosity – for example, the Prime Minister’s Farmer’s Tribute Fund (PM-KISAN) – with people positioned as *labharthis* (beneficiaries) rather than rights-bearing citizens, and credit accruing to President Modi rather than accountable institutions (Aiyar, 2023; Venkat, 2024). Nonetheless, welfarism has increased substantially, and this growth has been amplified through state-level ‘*competitive welfarism*’ (Arif, 2024). States such as Telangana and Maharashtra have increased the size of national grants and provided numerous additional grants, with Telangana also investing in infrastructure and irrigation works.

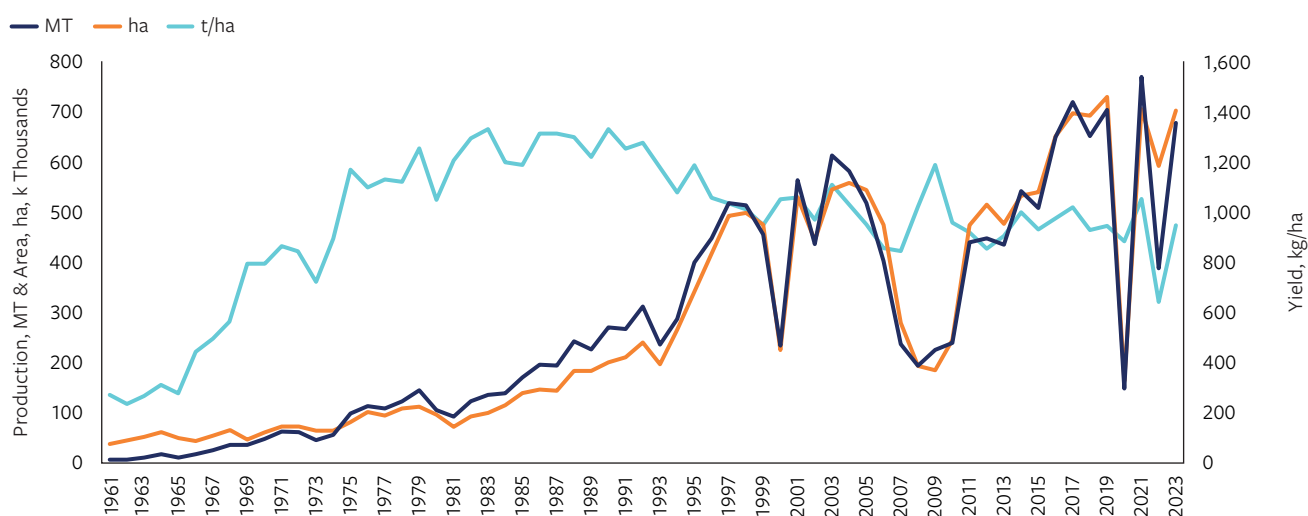
While much of this support has been fungible in practice and used as working capital for savings and investment, distribution remains uneven: land-linked schemes and farmer programmes disproportionately benefit landed cultivators and male household heads; programmes such as Better Cotton typically register male household heads, overlooking married women and tenants who perform much of the farm labour. As a result, the incidence of contemporary welfare is regressive: better-resourced small farmers, including those at the upper end of the moderately poor category, have been better able to convert grants and irrigation investments into working capital for diversification, while landless and small rainfed farmers remain largely excluded and highly exposed to Bt fatigue, climate volatility and market shocks (Thachil, 2014; Sircar, 2020; Jaffrelot, 2019; CICR, 2022).

### 1.1.2 Cotton in Mali

Cotton is a crop indigenous to Mali. Prior to colonisation in the late nineteenth century it was grown to produce fibre for domestic spinning. The French administration saw the crop as one for export back to France, for the spinning mills there. Colonial authorities intended cotton grown in Mali (and other parts of what was then French Sudan) to lessen dependence on fibre imported from the US. Smallholders in suitable parts of southern Mali were compelled to grow cotton – a policy that was resented (Benjaminsen et al., 2010).

The French left behind them a public company – the **Compagnie malienne pour le développement des textiles** (CMDT) – which registers growers, delivers seed and fertiliser to them on credit, offers technical assistance and buys up harvested seed cotton at a fixed price. CMDT gins the lint, to be sold in part to local mills but mostly for export on the world market.

For two decades after independence in 1960, cotton remained a minor crop, grown in the early 1990s by scarcely more than 11,000 farmers on just over 200,000 hectares. But the 1990s were to see a boom in cotton-growing: by 2004/05 the number of producers had risen to around 165,000 farmers in more than 6,000 villages planting more than 500,000 ha (IER, 2011). Mali became a leading exporter of cotton. More recently, however, production has risen only slowly while yields per hectare have tended to fall. The area sown to cotton has varied greatly, not least because relations between CMDT and registered growers have sometimes been fractious, on account of prices paid for seed cotton and prices charged for inputs, leading to growers’ strikes in 2000 and 2020 (Figure 1.2) (Hilhorst and Toulmin, 2000; Westerberg et al., 2020).

**Figure 1.2** Cotton production in Mali, 1961–2023

Source: Compiled from FAOSTAT statistics

Observers have understandably been concerned by the fall in yields – from around 1.3 tonnes per hectare (t/ha) in the 1990s to around 1 t/ha in the 2020s. This is part of a wider concern that growth of agricultural output in Mali has come very largely from expanding the area cultivated with slow, if any, growth of yields of crops – with particular concern about the yields of cereals grown without irrigation: millet, maize and sorghum (Keita et al., 2018; Ollenburger et al., 2016).

Adding to concern are disruptions to cotton production and income in the 2020s. Many producers we interviewed for this study are still indebted to their cotton farmers' cooperatives owing to harvest losses, including the 2022 invasion of jassids, insects capable of severely damaging plants.<sup>1</sup> The Malian government's promise to the sector – payment of over 9 billion CFA francs to compensate for losses and an increase in the purchase price of seed cotton – remains, at best, an announcement.

By 2024, cotton growers in the older basins of Fana, Koutiala and Sikasso faced infestations of swarming insects – jassids or leafhoppers – which required costly insecticides to control, plus mounting insecurity in parts of Koutiala and Sikasso. These problems have triggered large waves of migration towards the fertile lands of the newer cotton basins of Bougouni, Yanfolila and, especially, Kita.

Farming households in Mali have long diversified their activities, primarily in response to variable rains in sub-humid and semi-arid areas where there is just one rainy season a year. Indeed, the number and range of activities typically undertaken by Malian households are high, perhaps as high as anywhere in the world (Dissa et al., 2024; Toulmin, 2020).

While cotton growing may not be thriving in the mid-2020s in Mali, farmers have been intensifying production of other crops, including

<sup>1</sup> From Wikipedia: [Jassids =] 'Leafhopper is the common name for any species from the family *Cicadellidae* ... These minute insects, colloquially known as hoppers, are plant feeders that suck plant sap from grass, shrubs, or trees'.

maize (Laris et al., 2015). As we shall see, it seems some farmers (in the five villages studied) have increasingly been putting their labour, equipment and cash into a range of high-value crops: sesame, fruit and timber trees, vegetables and livestock fattening.

## 1.2 Study aims

This study aims to examine diversification of household activities among cotton-farming households and what drives or impedes successful diversification. Our initial set of questions comprised:

1. What activities, in addition to growing cotton, do cotton farmers typically undertake? What are the costs – above all in labour (amount and skills), investment and working capital – of doing so, and what are the returns to them?
2. How do costs and returns vary between different members of cotton households, above all between men and women, between youth and seniors?
3. Under what conditions do different cotton households undertake diversified activity? What features (access to resources, social relations, skills and experience) of the household allow this, and what elements of the context (physical environment, local economy, society) facilitate (or hinder) this?
4. Do diversified income sources result in more environmentally friendly cotton growing practices? Do they allow farmers to mitigate and adapt to climate change? To what extent are the diversified practices themselves environmentally sustainable and climate-smart?
5. What policies, investments, projects and programmes might allow cotton households more readily to take up opportunities and

expand the range of those opportunities?

What would most assist households that are disadvantaged in access to land, labour and capital – or which suffer from discrimination?

What would most assist those in the household least likely to benefit from diversification – such as women and girls, and perhaps also youth?

On reflection, and given the resources available, some of these objectives were over-ambitious – above all, any attempt to quantify returns to activities. As detailed planning of the field work proceeded, we focused on three key questions:

- What activities, in addition to growing cotton, do cotton farmers typically undertake?
- Under what conditions do different cotton households undertake diversified activity? What features (access to resources, social relations, skills and experiences) of the household allow this, what elements of context (physical environment, local economy, society) facilitate (or hinder) this?
- In light of the findings of these two questions, what policies, investments, projects and programmes would facilitate productive diversification of cotton-growing households? In particular, what would most assist households disadvantaged in access to land, labour and capital – or suffering from discrimination? What would most assist those in households who might benefit least from diversification – such as women and girls, and perhaps also youth?

The rest of this synthesis comprises the approach taken to the research, methods used, data collected and analysis (chapter 2), findings from the study (chapter 3), and conclusions including discussion and policy implications (chapter 4).

## 2 Approach and methods

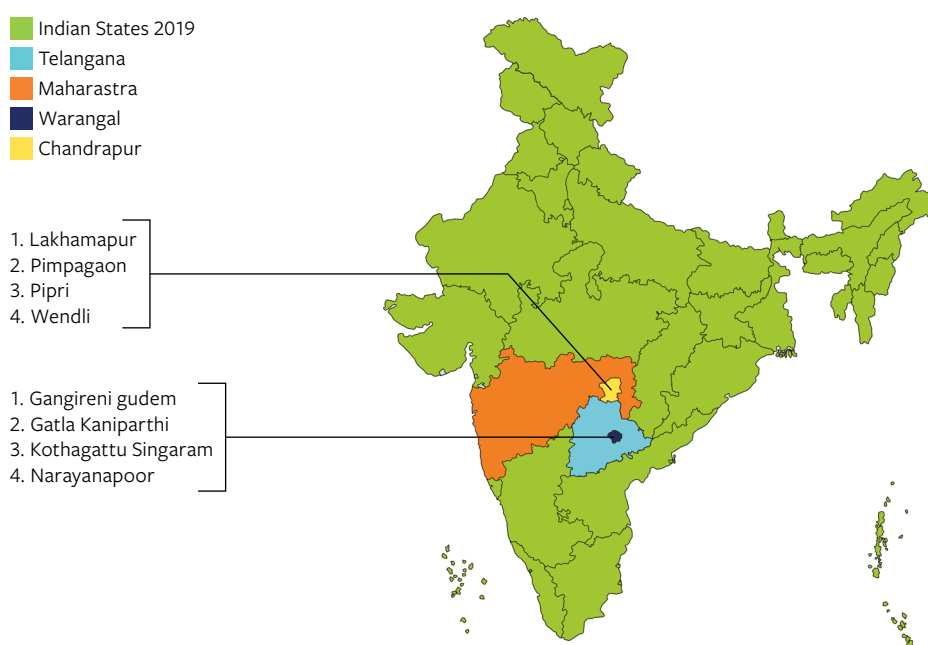
While the research objective was to understand change among households, it was not possible to observe change over the medium term (we did not have the luxury of being able to visit households over, say, a 10-year period). Hence we had to rely on the memory of local people about what had changed in their lives and that of the village, and the factors that had driven or hindered change. Given also that we expected that changes and the factors influencing them would be diverse, and some unexpected (by the research team), we adopted first and foremost qualitative enquiry, allowing local people as far as possible to tell the stories of themselves as individuals, members of households and as residents in a village. Only after the qualitative insights had been appreciated did we survey households to estimate the incidence of changes, and enabling and blocking factors we had learned about from the qualitative accounts. This sequential

approach meant that we did not have to create a long household survey that would have taxed the patience of respondents and no doubt generated far more data than we could analyse.

### 2.1 Study locations

The Indian study took place in Maharashtra (MH) and Telangana (TG) States, two of the principal cotton-growing states (ranked second and third respectively by quantity of cotton). Within each state, four villages were chosen for study, two rural, two peri-urban: Lakhamapur, Pimpalgaon, Pipri and Wendli in MH; Gangireddy gudem, Gatla kaniparthi, Kathagattu Singaram and Naranayapoor in TG (Figure 2.1). These villages were selected to represent peri-urban and remote cotton production villages and to capture variation in irrigation, infrastructure and urban proximity.

**Figure 2.1** Study locations in India



For Mali, five villages across the cotton belt were chosen, primarily in Sikasso, Bougouni, Koutiala, Dioila and Kita regions, under the auspices of CMDT. The villages selected represented, from the east, long-established communities growing cotton, to villages in the pioneer front of the cotton zone in the west (Figure 2.2).

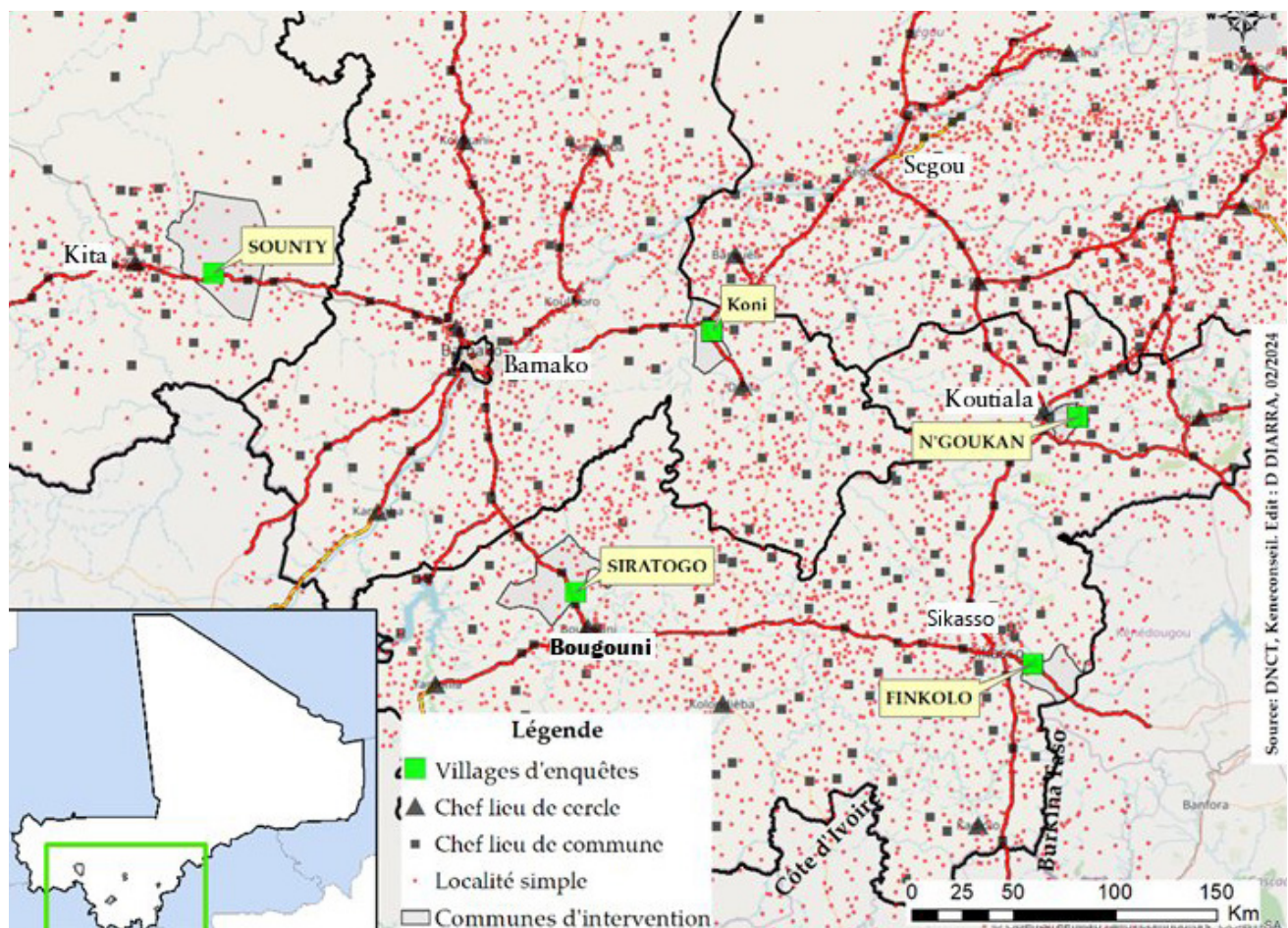
## 2.2 Qualitative enquiry

In both countries, and for each village, the field teams held focus group discussions with women and men separately; interviewed village leaders and key informants; and collected eight life histories from people identified as representative of better-off and less-well-off households by the

focus groups. Interviews were conducted in local languages – Maratha and Telegu in India, Bambara in Mali – with notes written up in local languages in India, subsequently translated into English, and into French in Mali.

Focus groups discussed local understandings of prosperity, livelihood activities and roles of women and men. Key informants were, in addition, asked about key events in the village and local area over the last 20 or more years. The interviews to document histories were largely unstructured, with the interviewer simply guiding the respondent through their life from childhood onwards, but with some questions asking people to assess their wellbeing at different stages of their lives.

**Figure 2.2** Study locations in Mali



## 2.3 Quantitative surveys

Surveys were intended to quantify the incidence of activities and factors affecting diversification among cotton-growing households – to complement the results of the qualitative enquiry. Surveys were designed to be brief and focused, to be short and undemanding of the time of the respondents interviewed, and to provide a data base that, being relatively small, could be readily analysed.

The structured questionnaires consisted of sections, to collect data on:

- Household composition, education, access to resources.
- Livelihood activities, both agricultural and non-agricultural.

- Factors enabling diversification (access to land, initial capital).
- Barriers to diversification (institutional constraints and shocks).

For India, 382 households from the eight villages were sampled randomly after stratifying the population by poverty categories – poor, middle and rich households; by gender; and by households enrolled, or not, in the Better Cotton Initiative.

For Mali, in each of the five villages, 60 households were randomly selected from lists provided by local authorities: four villages were investigated qualitatively, but for Finkolo it was not possible to conduct a survey so a neighbouring village, Kaboila, was surveyed instead.

**Table 2.1** Summary of data sources

| India                                                                                                                                                                                                                                                | Mali                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Qualitative January–March 2024                                                                                                                                                                                                                       | Qualitative January 2024                                                                                                                                          |
| Eight villages* from both peri-urban and remote cotton production villages in Maharashtra and Telangana States. Further selected to capture variation in irrigation, infrastructure and urban proximity                                              | In each of five selected villages, the following data were collected:                                                                                             |
| Four focus groups with long-term residents to understand village characteristics, to co-construct community histories, events and experiences of changes in climate, technology and national and state policies                                      | Interviews with leaders and other key informants to establish village characteristics, local appreciations of prosperity and poverty and a timeline of key events |
| Five focus groups, men and women separately, co-constructed wellbeing group characteristics, women's work and livelihoods, drivers of female upward and downward mobility                                                                            | Two focus groups, men and women separately, convened to discuss livelihoods, poverty and wellbeing                                                                |
| 47 life histories (23 women and 24 men) from individuals identified to represent different poverty trajectories (Chronic poor, Temporary escapers, Sustained escapers) from two states – 24 Telangana and 23 Maharashtra                             | Eight life histories collected by interviews with individuals identified to represent some well-off and some not-so-well-off. Four men, four women                |
| Quantitative August 2024                                                                                                                                                                                                                             | Quantitative April 2025                                                                                                                                           |
| 382 households selected from eight sample villages, four each from Telangana and Maharashtra states, covering peri-urban and remote villages, and chosen randomly from key informant village lists, disaggregated by rich, middle and poor wellbeing | Survey in each of five villages, 60 people randomly selected from village lists<br>(Unable to survey in one village, so neighbouring village surveyed)            |

\* Although there were only eight sample villages, to collect a full sample of households escaping poverty temporarily or sustainably, we needed to move into neighbouring villages, covering a total of 16 villages.

## 2.4 Data analysis

**Qualitative analysis:** The notes on focus groups, key informant interviews and life histories were extensive, running to around 170 pages: they proved to be a rich source of insight into villagers' lives.

These qualitative data were analysed in three ways: an initial interpretation of key insights from the field teams, a formal coding using NVivo by Dr Marta Eichsteller focusing on changes in the status of individuals and households, and a third interpretation drawing on the preceding analyses to highlight stories and narratives of change, by Dr da Corta for India and Dr Wiggins for Mali.

**Quantitative data.** Raw data were checked and validated, and exported to an Excel spreadsheet. The resulting databases were relatively small and manageable, consisting of 300 to 382 household rows and 90 to 140 data columns. Descriptive and multivariate analyses were carried out – mainly regression analysis – using Excel, SPSS and PSPP.<sup>2</sup> QGIS software was used for spatial and thematic analysis and map formatting. The first round of analyses was carried out by field teams, complemented by subsequent additional analysis by the lead author.

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2 PSPP is a free, open-access package for statistical analysis, similar in functions to commercial packages such as SPSS. See: <https://en.wikipedia.org/wiki/PSPP>

## 3 Findings

### 3.1 Summary of key findings from India and Mali

#### 3.1.1 India

##### Diversification among cotton households

Livelihood activities can be sorted along two axes: one divides activities by those which are agricultural (crops, livestock) or are unrelated to farming; the other axis by whether they mainly

contribute to the subsistence of the household, or whether they also add significant value (in effect, generate significantly higher returns for every day worked). Most households grew cotton, food and cash crops, but most had other activities as well (Table 3.1). The median household carried out five activities: three agricultural, two non-farm; and two subsistence, three value-added. The number carried out ranged from three to nine activities: more prosperous households tended to have more activities.

**Table 3.1** Diversification among cotton-growing households in Maharashtra and Telangana

| Subsistence            | Share households | Value-added                            | Share households |
|------------------------|------------------|----------------------------------------|------------------|
| <b>Agriculture</b>     |                  |                                        |                  |
| Food crops             | 64%              | Cotton                                 | 80%              |
| Agricultural labouring | 46%              | Vegetables (irrigated)                 | 35%              |
|                        |                  | Cash crop, including irrigated paddy   | 76%              |
|                        |                  | Horticultural crop                     | 8%               |
| Dairy cows 1 or 2      | 22%              | Dairy cows >2                          | 10%              |
| Sheep & goats <10      | 12%              | Sheep & goats >10                      | 6%               |
| <b>Non-farm</b>        |                  |                                        |                  |
| Labouring, unskilled   | 2%               | Labouring: factory, shop, hotel        | 10%              |
| NREGA labouring        | 32%              | Salaried job: public, private          | 31%              |
|                        |                  | Self-employment in trade or profession | 28%              |
|                        |                  | Business                               | 26%              |

Source: Household survey

##### Changes in cotton growing

Cotton-farming households in Telangana and Maharashtra navigate poverty, vulnerability and resilience in a context of intersecting ecological,

economic, political and social change. During the last 20 or so years, these households have had to contend with squeezed margins from the cotton crop and rises in the cost of living. On the other hand, since 2014 (and especially after 2019)

state support has intensified, driven not only by economic growth but also by a political strategy that combines market liberalism with expanded welfare intervention (Anand et al., 2020).

Nevertheless, some households in cotton-growing villages manage to escape poverty through diversification – and to sustain those gains – while others fall back or remain chronically poor. Pathways into poverty are shaped by intersecting shocks: climate stress; declining effectiveness of Bt cotton varieties; wildlife damage; inflation in health, ceremonial and education costs; and rollover debt that becomes harder to unwind. Pathways out of poverty reflect household agency, but agency only becomes actionable when enabling conditions are in place – including grants and subsidies; access to credit on better terms than before; social protection; investment in rural public goods; shifts in labour, tenancy, exchange and gender relations; improved access to urban markets; and, in some settings, programmes such as the BCI.

### **Key features of changes to cotton-growing households**

Key features seen in the India study are as follows.

#### **Mobility was multi-causal, sequenced and cumulative – not driven by single events**

Households did not move out of poverty because of one big push policy, nor fall into poverty because of a single bad year. Both upward and downward mobility emerged from intersecting shocks (climate, pests, health, education, ceremonies, debt) and overlapping supports (irrigation, welfare transfers, SHG credit, diversification opportunities) that accumulated

over time. What mattered was the evolving balance between these pressures and supports: whether households could convert small gains into stepwise progress, or whether repeated shocks and high-interest debt tipped them into long-term decline.

#### **Poverty trajectories were structured by shifting policy regimes, not just local events**

Cotton farmers in Telangana and Maharashtra have lived through distinct policy eras: Green-Revolution risk-pooling (minimum support prices (MSP) and public procurement, subsidies and concessional credit); liberalisation and agrarian crisis, with high-cost Bt packages, volatile prices and widespread indebtedness; the United Progressive Alliance government's (2004–2014) rights- and entitlement-based welfare (e.g. MGNREGA, food security); and, since 2014, Modi-era 'new welfarism' and competitive state welfare populism, characterised by large digital cash transfers. All have unfolded in parallel with deepening market liberalisation. Contemporary poverty trajectories can only be understood against this history of state support and withdrawal, rather than as the outcome of isolated local shocks or individual decisions.

#### **Agriculture remained central to many households**

Upward mobility was not a one-way shift from farming into urban living and non-farm work: many salaried workers remained in the village, did not exit farming and instead continued to diversify their crops and added new livestock activities (such as poultry) as demand for farm products changed. Some young, educated workers even left urban salaried jobs to return to farming

## How people escaped from poverty

Sustained escapers from poverty rarely followed a single route out. Instead, they climbed diversification ladders, gradually expanding their portfolios from food crops, cotton<sup>3</sup> and wage labour towards combinations of:

- **Irrigated and diversified crops**, especially vegetables, paddy, maize seed, soy and pulses. Cotton remained the backbone of cropping, but vegetables and other cash crops were key to higher and more regular farm income: crops heavily dependent on irrigation, proximity to towns and their markets, and the availability of female family labour.
- **Livestock and dairy**, including goats, sheep, poultry, fish ponds and beekeeping. Livestock provided regular cash and allowed savings. Keeping livestock relied on women's daily work in feeding, milking, processing and sales.
- **Non-farm activities** – wage labour, vocational trades, petty businesses, rental assets and remittances. Poorer households relied mainly on casual non-farm labour, low-paid but better paid than farm labouring; better-off and some middle households built non-agricultural businesses and obtained salaried jobs that could earn income to finance further investment in land, irrigation, livestock and rental assets.

These ladders were strongly shaped by place (Telangana vs. Maharashtra), wellbeing group (WB1–WB5), gender and age.

By place, Telangana's public irrigation, layered transfers and urban demand underpinned faster farm-led diversification than in Maharashtra,

where more limited irrigation and smaller transfers meant cotton and rainfed soy/pulses were more central to livelihoods.

By wellbeing, it was mainly WB3 upwards households, with more and better land, livestock, draught oxen or tractors, irrigation, credit or SHG loans, and women's labour who were able to climb these diversification ladders. Landless, tenant and ultra-poor households remained largely left behind with narrow portfolios and crisis-prone livelihoods dominated by wage work and small cotton plots, with only limited entry into vegetables, livestock or non-farm activities.

## Enablers of diversification

Households that moved out, and stayed out, of poverty typically availed themselves of multiple enabling factors at different stages of their trajectory, rather than relying on any single scheme, technology or crop. Three enablers stood out: credit, government support and training.

**Access to credit at modest interest rates** – from self-help groups (SHGs), banks and cooperatives. Not long ago, many farmers had to finance Bt cotton through input dealers and moneylenders. When crops failed, debt was often rolled over but at high interest, and some households slid into recycled borrowing. Risks to production remained – declining seed resistance to pests and disease (especially since around 2019), pink bollworm resurgence, erratic rainfall, yellow mosaic disease in soybean, wildlife damage and worsening soil and water stress – but the credit landscape changed dramatically. Credit use was widespread: 83.5% of households accessed some form of credit in

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3 A clear division between crops grown for home consumption ('food crops') and cash crops does not exist. Cotton, for example, may be grown intercropped with pulses for home eating and sale. Paddy rice and vegetables grown under irrigation and oilseeds may be grown primarily for sale.

the three years to 2024, and 56% said it helped them start or expand activities. Self-help groups become the main source (64% of households), followed by banks (43%) and cooperatives (24% – much stronger in Maharashtra than Telangana). Moneylenders and input dealers accounted for only 8.7% of loans, though they still mattered for the poorest households (19% of poor households versus 4.7% of middle households and none among richer households). Predictably, credit helped most once households had some assets: 83% of richer households reported a positive effect on mobility, compared with 45% of middle and 36% of poor households.

**Government grants, subsidies and welfare transfers that provide working capital, backed by public investment in irrigation, roads and local infrastructure.** Access to government support was exceptionally high. Overall, 86% of households reported receiving at least one form of grant, pension, crop loan waiver or asset from government departments in the past three years. Key support included subsidies on farm inputs (fertiliser, rural electricity, irrigation water from public schemes) and grants for farm investments; crop insurance, life and health insurance cover in some cases, loan waivers and NREGA guaranteed rural employment to protect against shocks; and transfers of food rations, pensions, school meals, housing and basic services to stabilise consumption. Although schemes were earmarked for particular uses, to households receiving support much of it was fungible and could be used for whatever priority the households had: critically, to reduce dependence on credit from moneylenders and input dealers.

Coverage was similar in Maharashtra (86%) and Telangana (85%), but the policy mix differed. Telangana's support combined large-scale irrigation investments; direct income and insurance

transfers; and expanded social protection for women and marginalised groups. Maharashtra's support was more partial and uneven, built around national cash transfers plus state top-ups, crop loan waivers, irrigation subsidies and grants disbursed to cooperatives (to the benefit of farmers belonging to the cooperatives).

Distribution of some support was regressive: while 100% of rich households reported receiving grants and subsidies, this fell to 92% of middle households and just 67% of poor households. The pattern was even more skewed when we look at impact on upward mobility (through diversification and taking on a new activity): only 28% of poor households reported a positive impact, compared with 54% of middle and 69% of rich households.

**Training and technical advice.** BCI support enabled diversification by promoting climate-smart practices, helping farmers mitigate the impact of pests and erratic rainfall – both of which reduce risks and input costs – and by linking farmers and SHGs to government schemes and supportive NGO partners.

The strongest predictors of household diversification were access to credit first, then government support, then BCI/NGO support (advice on agronomy, on public schemes and livelihood options plus agricultural training). BCI membership was particularly associated with taking up value-added farm and non-farm work. Other enablers had lesser effect: access to irrigation and peri-urban location. Education and salaried work, on their own, explained very little of diversification.

Progress often took time at the start. The life histories show a steep climb from extreme poverty – landless labourers – to moderately poor small rainfed land, but with heavy reliance on wage labour. Without even a small rainfed

plot, households often faced a long grind before the credit-grant-training trio of enablers could readily be used: land clearing over many years, or stepwise leasing in land combined with disciplined saving and family labour. Lacking land also made it harder to access production-oriented support, be recognised as a BCI farmer, or join an SHG – so a small land foothold often became the gateway to everything that follows.

Once households had some arable land, the pace tended to accelerate: they were more likely to be recognised as eligible for a trio of support: pro-farmer government schemes, low-interest credit possibilities (e.g. SHGs, cooperatives) and BC membership. Movement accelerated again at the vulnerable non-poor category (WB4) as households were in a position to save and invest savings from earlier surpluses – combined 2 or 3 of this trio – into higher-return activities, and faster still for those reaching resilient and rich levels of wellbeing (WB5).

### Women's central role

Women were central to diversification in the cotton villages: working in the fields, tending livestock, managing household finances and investing in diversified and enhanced activity.

Women contributed most farm labour – typically 60–70% overall. In cotton, they dominated sowing, weeding and harvesting (around 70% of the workforce in those tasks). In soybean, Bengal gram and wheat, their contribution was around 60% (concentrated in sowing, weeding and harvesting). In vegetables they again dominated key tasks (around 70%), including harvesting,

grading and marketing. Women did most to tend livestock (only in fish farming did men do most of the work). They ran petty trade and SHG-based enterprises, and often took day-to-day decisions on borrowing, repayment and reinvestment. Their earnings and agency were central to asset building, smoothing shocks and sustaining escapes.

Women built diversification – especially through vegetables, livestock and dairy, and petty trade. Urbanisation and local market growth opened spaces where women sold directly (vegetables, dairy, small processed goods).

SHGs were central to women's progress. Women's regular pay-ins and disciplined repayment provided one of the main sources of flexible, low-interest capital – not just to smooth consumption, but also to invest in household assets<sup>4</sup> – assets that typically were registered in the husband's name.

Most married women still lacked titles to land and major assets, were rarely registered as farmers for public schemes such as PM-Kisan and Rythu Bandhu, and only indirectly accessed formal credit and extension. Women remained under-recognised and under-served by public programmes. Women were more likely to be represented through their husbands – for example, with the husband registered as the BCI member.

Even where women did much of the productive work, the proceeds of harvests were still largely routed through men. Men usually handled the sale of field crops and decided how that income was spent.

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4 SHG pay-outs were often channelled into the family farm (around 50%), with 15–25% allocated to children's education and the remainder used for other household needs – again, typically without being recorded as women's income or assets.

For poorer households, women's agricultural wage work on others' farms was vital, yet wage work was segmented and underpaid: women's tasks (sowing, weeding, harvesting) were typically paid ₹250–₹300/day, while men's higher-status tasks (ploughing, pesticide application, irrigation) were paid ₹300–₹500/day. Male participants estimated that 75% of labour-intensive operations were done by women.

### **How people became trapped in poverty – or fell into poverty**

#### **Lack of assets combined with shocks**

Chronic poverty and downward mobility arose from constrained access to land, credit and other assets, from tied debt, and from shocks.

Many of the poorest households had few or no productive assets – no land or only a small rainfed plot, no bullocks, no machinery. Just to stay in farming meant paying out: high lease rents, hiring oxen or tractors, paying for transport and taking on input loans at the start of the season. Those costs came straight out of harvest sales, squeezing available cash before households even got to satisfying basic needs.

Credit relations could make this worse. Some loans were effectively tied to labour – borrowers had to work for employers who kept wages low and limited the ability of borrowers to search for better work. Other loans were tied to harvest procurement, with seasonal credit linked to low crop prices. And when loans were taken for non-productive needs – medical care, ceremonies – households often found themselves rolling the debt over year after year, with high interest compounding the problem. Over time, debt could become a legacy: an annual burden of interest outgoings that never really disappeared. When margins tightened, families sometimes dropped

plans for new crops or small non-farm businesses, because every spare rupee had to go on interest and repayments.

Shocks including ecological stress – declining Bt effectiveness, new pests and diseases, groundwater depletion, wildlife damage – eroded yields, often without farmers getting support to adapt and respond. These farm-level pressures frequently collided with life-cycle and household crises – some predictable, some sudden, but rarely avoidable: illness, alcoholism, school fees, dowries and other ceremonial expenses, medical costs, education fees; costs rose with inflation. These shocks imposed a double burden: they reduced labour income (if a breadwinner could not work, or if alcohol use undermined earnings) and they also drained savings through medical fees, alcohol expenditure and debt. Women frequently absorbed extra strain, stepping back from paid work to provide care.

Some households that had initially escaped poverty fell back when such costs overlaid existing farm debts, triggering recycled high-interest borrowing, distress land sales and a slide back into long-term poverty.

#### **Landless labourers and tenants were especially vulnerable**

For landless workers, tenants and poor youth, routes out of poverty were especially constrained and risky. Leasing in land was often the only entry into cultivation but entailed high rents, advance payments and dependence on informal dealer or landlord credit. Because most government schemes defined farmers as landowners, these groups were systematically excluded from pro-farmer cash transfers, subsidies, crop insurance and extension. They shouldered high production and price risk without equivalent buffers and were pushed into precarious wage work, short-

term tenancy and migration – even as welfare support expanded for titled farmers in the same villages. Without these protections, they relied on moneylenders and input dealers for seasonal finance, often on unfavourable terms, so a bad season could roll straight into the next through recycled debt.

Rising land costs tightened this trap. Lease rents rose in both states – very sharply in semi-urban Telangana and more gradually in rural Maharashtra; land purchase prices rose even faster, putting ownership beyond reach for most landless and near-landless households. Tenancy could still be catalytic, giving farming experience and a platform for diversification, but it was increasingly precarious: high rents, up-front payments, dependence on informal finance and climate and pest shocks meant early losses can push tenants into long-term debt. For those depending on wage labour, conditions improved: guaranteed employment through MGNREGA/NREGS provided a wage floor – although poorer households used it less than middle or richer households; expanded irrigation increased demand for labour (for example, extra work in paddy fields); wages for local off-farm work and urban construction rose; and women increasingly joined cotton-harvesting gangs that bargained for better piece rates. These shifts reduced semi-bonded labour, loosened employer control and modestly improved bargaining power in some villages.

But higher wages did not translate into secure upward mobility. Landless workers still lacked realistic routes to land ownership. Their incomes remained vulnerable to shocks: illness, ceremonies or a lull in labour demand could wipe out savings and trigger new borrowing. Women in landless labourers (WB2) and in small rainfed households who depend on wage labour (WB3)

were especially exposed: they did some of the most labour-intensive tasks – cotton picking, rice transplanting, vegetable work – yet received lower wages than men, and remained excluded from land-tied public schemes, formal credit and most extension. Limited participation in BCI and other support networks also meant later access to pest and climate adaptation know-how and fewer referrals to entitlements.

### **Prospects for young adults**

Young adults in cotton regions faced different prospects to those of their parents: they had more education, more exposure to towns and cities, and more non-farm options. But the older routes into farming and asset accumulation had become harder, costlier and more uncertain – above all because land prices had risen sharply in both states, especially in semi-urban belts. For many families, buying land for children became out of reach, even for households with long histories of cultivation.

Many young people had sought tenancy, an increasing option as landowning families migrated to towns for jobs or business, leasing out their land; and some larger farmers, facing labour shortages and rising cultivation costs, preferred to lease out land rather than cultivate themselves. Leasing offered a route to farming, but with rising rents and narrow margins in farming, misfortunes with bad weather, pests and disease could turn tenancy into a debt trap.

Non-farm and skill-based routes became more central to youth livelihoods. Many young adults aimed for regular jobs in services, education, healthcare, manufacturing or software, but competition was intense, local opportunities were limited and university degrees did not guarantee employment. Prolonged dependence on parents

after Class 12 (age 18) was common, and education costs weighed heavily on the destitute, extreme and moderately poor households (WB1–WB3).

Some young women and men built livelihoods through short courses, government skill initiatives and informal learning (including YouTube), translating these into small enterprises or trades – poultry rearing, goat farming, driving, repair work and operating machinery such as grinding machines. These activities avoided risky farming as a tenant, but still required timely information, some start-up capital and access to markets.

Young rural women were unlikely to give up agriculture altogether, instead widening their livelihood portfolio. Many combined heavy work on the household farm with agricultural wage labour, dairy and livestock care and non-farm work available in and around villages – in factories, services or local enterprises – often strengthening their contribution to household income and bargaining power. SHGs remained a key source of capital to invest in petty businesses (grocery shops, flour mills, stationery and book shops) and skilled work (tailoring, nurseries, beauty parlours, catering): activities that allowed women greater control over day-to-day decisions and cash.

### 3.1.2 Mali

The five villages were similar in that the livelihoods of the great majority of households were centred around cropping and livestock- raising, with some gathering from the commons.

Villages differed by ease of access to urban centres: Finkolo, for example, lies on a (tarmac) main road, while Sounty is situated some 12 kilometres of poor-quality access track from a main road. Villages differed also by settlement density, with villages to the east having more

people per square kilometre than those in the west. To set this in context, population density in the rural south of Mali remains low by international standards – varying between 91 persons per square kilometre in Bougouni region and 16 per square kilometre in Kita region. Settlement density determined the availability of natural resources of arable land, grazing, forest and water supplies. In Koni in the east, increasing population meant unused resources were becoming scarce, while in Sounty to the west, a third or more of the population had arrived within the last 20 years attracted by the availability of arable land.

Households in the five villages surveyed were typically large, extended and multi-generational, averaging more than 22 persons each. Households were almost always headed by a man: only 23 out of 300 households were headed by a woman. Adults had little formal education: 44% had no schooling at all; fewer than 20% had completed primary education.

Households undertook a very wide variety of activities, an average of 15 different activities in each household, ranging from six to 24 activities, but with a surprisingly small, standard deviation of 3.5.

Most activities (Table 3.2) were agricultural, and even among non-farm activities, several were linked to local natural resources – gathering (and often processing) wild produce from woods and other commons, excavating sand and stone, harvesting fuelwood, etc.

Activities can be further broadly grouped (Table 3.2) into those that primarily serve household consumption and those producing items to sell locally, or to sell in distant markets beyond the village and local rural economy – products such

as cotton, sesame, groundnut and tree fruit. Commercial activities tended to generate higher returns to labour. These commercial activities were often agricultural: non-farm activity, other than migrations to towns, mines and other countries, were uncommon.

Few reported activities represented opportunities to greatly raise returns livelihoods: perhaps the only common examples were the salaried jobs, in private and public employment, undertaken by individuals in around a quarter of the households, and migration that resulted in securing well-paid employment.

**Table 3.2** Mali: household activities by type

| Subsistence                                          | Share households | Value-added                                                                      | Share households |
|------------------------------------------------------|------------------|----------------------------------------------------------------------------------|------------------|
| <b>Agriculture</b>                                   |                  |                                                                                  |                  |
| Food crops                                           | 100%             | Cash crops: groundnuts, sesame                                                   | 96%              |
| Poultry                                              | 98%              | Cotton                                                                           | 86%              |
| Draft oxen                                           | 86%              | Commercial market gardening with irrigation: by hand 52%, by pump or gravity 32% | 84%              |
| Sheep and goats                                      | 81%              | Cattle keeping                                                                   | 67%              |
| Vegetables for home consumption                      | 78%              | Fruit trees                                                                      | 55%              |
| Casual labouring*                                    | 55%              | Rice in wetlands                                                                 | 46%              |
| Livestock herding for others                         | 25%              | Fattening livestock, often sheep, for sale at festivals.                         | 35%              |
|                                                      |                  | Timber and fuelwood trees                                                        | 17%              |
| <b>Non-farm</b>                                      |                  |                                                                                  |                  |
| Gathering of produce from the commons and processing | 98%              | Migration to goldfields by young men                                             | 55%              |
| Migration to towns for work, young men               | 64%              | International migration by young men                                             | 39%              |
| Casual labouring*                                    | 55%              | Small businesses                                                                 | 32%              |
| Migration to towns for domestic work, young women    | 26%              | Trading agricultural produce and inputs                                          | 23%              |
| Artisan work                                         | 24%              | Salaried employment: private sector                                              | 14%              |
| Sand and stone extraction                            | 12%              | Salaried employment: public sector                                               | 11%              |
|                                                      |                  | Migration to goldfields by young women                                           | 2%               |

Source: Household survey

Note: \* Casual labouring could be agricultural or non-farm: the question was not disaggregated by sector. It is likely, however, that agricultural labouring was more common than non-farm work.

Many activities were expected to be done either by women or men, according to social norms. Women were expected to do most household tasks – cooking, cleaning, caring, etc. – which left them with limited time for income-earning activities.

Life histories gave insights into processes of change: processes where trends through time are influenced by, and sometimes compete with, seasonal changes (wet and dry seasons); yearly variations in the weather and the incidence of pests and disease; and, perhaps as much or more than anything else, life cycles as individuals and households are born and formed, grow and eventually pass away, or the household breaks up.

Factors that allowed individuals and the households they lived in to prosper were, above all, access to land, oxen and ploughs to till arable fields, and a labour force. Land had for long been available in villages in a lightly settled countryside: more demanding conditions were those of labour and some capital. The extended households common in the villages were a means to mobilise labour, to gain economies of scale and scope.

Capital, however, was scarce: finance was needed to acquire oxen and ploughs; to buy seed, fertiliser, agrochemicals and veterinary medicines; and to buy pumps and pipes to irrigate where water was available (and sometimes to dig wells). Successful large households could accumulate savings from sales of crops and livestock sufficient to meet these needs, but not all households were sufficiently successful, and not all individuals belonged to such households.

The need for some capital was a major factor in life cycles: young men needed capital to marry and to equip their new family unit (often a unit within an extended household) with oxen and ploughs. Unless they were fortunate enough to

have a father heading a prosperous extended family with the means to provide for his sons, men often told of leaving the village when young to find work, to save as much as possible, to gain the capital for marriage and equipment. Accounts of migration to towns in Mali, gold mines in Mali and Guinea, and to the plantations of coastal neighbouring countries, above all Côte d'Ivoire, were common in men's life histories.

The exception to the need for households to accumulate capital applies to cotton, where CMDT has supplied registered growers with seed, fertiliser and chemicals on credit.

Villagers had some external support in access to capital and skills, but this was neither widespread nor deep. For example, in the previous three years, only 35% of surveyed households had been able to obtain formal credit (mainly from microfinance agencies), and less than half had made use of the loan to finance a new activity. Fewer than half (43%) of households had received a grant (mainly from government) to support production. Only 40% of those said it allowed them to start a new activity. Training (mainly by NGOs) had been given to just one-third of households, but only 38% of those trained reported starting a new activity.

Factors that trapped people in poverty fell into three sets. One set comprised the accidents of birth and childhood: in some life histories, subjects had been born into poverty, suffered deprivation (and even abuse) as children, and subsequently struggled to escape poverty – although some did, often by dint of extraordinary hard work, scrimping and saving to accumulate capital.

Another set of factors came with misfortune or shocks, either to individuals – accidents and serious illness (affecting 43% of households in the three years before the survey), social conflicts including

divorce and separation (13% of households surveyed) and, very occasionally, disputes over land (7% of households) – or shocks to communities as a whole. Village accounts include memorable shocks registered since 2000: across the five villages there were two instances of drought, two of flooding and one case of high winds. More common than adverse weather were outbreaks of pests and diseases affecting crops and livestock: nine outbreaks, six attacking crops, three affecting livestock. Livestock disease (and in one village, mass theft of livestock) was arguably the most serious shock, because it destroyed capital and reduced future production – loss of a crop harvest to pests, on the other hand, affected that year’s production, but not necessarily future output.

The third set of obstacles comprised the absence of factors of production. Lack of skills and capacity to undertake new activities was reported by 30% of surveyed households. But by far the most common limit to diversification experienced by households was lack of capital: 69% of households reported being stymied by funds to finance new activities.

## 3.2 Common findings and differences

### 3.2.1 Common findings from India and Mali

#### Similarities in poverty escapes

Similar characteristics apply to most of the households that prospered: incremental gains accumulated from diverse sources, and the persisting importance of agriculture.

**Most accounts were of relatively small, incremental gains**, rather than transformations (in the short run). Farmers would gain the means – usually capital in some form: accumulated savings, a loan (from self-help groups, a microfinance agency and occasionally a bank), a grant from government or NGO – to expand an existing enterprise or undertake an additional activity, although initially on a small scale. A farmer planting, for example, sesame might start with less than a hectare. If successful with the new crop, the gains would be small, commensurate with the initial small investment. But incremental gains were often stepping-stones to more substantial changes, as farmers continued to invest (Box 3A).

#### Box 3A Marginal gains build up

**In Maharashtra**, VKS (female, 50 years, widowed) had been born into a landless household dependent on wage labouring. In 1996, she married a man with six acres of rainfed land, but he died in 2013 with crippling medical expenses. Despite adversity, she kept her children in education and sought ways to rebuild. In 2017 she was able to excavate a well, owing to a grant from a state programme (Dhadak Yojana) allowing four acres to be irrigated in summer growing cotton with red gram, 2.5 acres in winter, growing wheat with Bengal gram. She also leased in another two acres.

In 2018, VKS joined the BCI. Training helped her reduce pesticide costs, conserve water and improve soil health.

### Box 3A Marginal gains build up (continued)

In 2019, she and her son diversified into vegetable cultivation on 0.5 acres, producing onions, garlic, tomatoes, brinjals, ladyfingers, cluster beans, etc.), earning INR50,000–60,000 (US\$670–805) a year. In 2020, she constructed a cement house at a cost of INR300,000 (US\$4,000), part-financed by life insurance from her deceased husband, but largely paid for by savings and the proceeds of vegetable sales.

During COVID-19, her son spent ten days on a livestock training course, online with in-person practical sessions, provided by an NGO, leading to him investing INR20,000 (US\$270) in a poultry shed for 100 birds, generating annual revenues of INR120,000 (US\$1,600). In 2022, he bought a pair of female goats. In 2023, VKS bought a power tiller for INR50,000 (US\$670). By then, the household grew crops, raised poultry, and worked for wages for three months (Mrs V INR200/day [US\$2.70]; her son INR400/day [US\$5.40]).

To finance cultivation, in 2023 VKS drew on a loan from a village savings group (INR50,000 (US\$670) and a bank crop loan of INR 90,000 (US\$1,200), both repaid annually.

They also received cereals (10kg monthly) through the PDS.

**In Finkolo village in Mali**, the household of DDM (46 years, male, married) had managed to triple the area cultivated, even if this was only going from one hectare to three hectares – an expansion made possible by using savings to buy a plough and two oxen. With that expansion, DDM's household had become self-sufficient in staples of maize and millet.

In the same **Finkolo village**, AT (36, male, married) who had endured a hard childhood of work, little education and no inheritance, started planting fruit trees of mango and orange: with sales of fruit starting at FCFA500,000 (US\$890) a year, that grew to FCFA1,000,000 (US\$1,780) a year – and with that the household bought in ploughs, carts and oxen and was able to plant increasing areas to cereals, reducing the number of months that cereals had to be bought in.

**In Koni village, Mali**, MT (54 years, male, married) began to grow cotton in 2010. With some help from his brother in France he was able to buy oxen, just one to begin with – which meant renting in a second ox to form a plough team. But by 2014 he was able to buy a second ox, and a third in 2016. The farm expanded with the ability to plough, and the household was able to grow its cereals needs.

**In Mali, Finkolo village**, NBF (52 years, male, married) got a caretaking job with CMDT in 1998 with a salary of FCFA30,000 (€46) a month; in 2002 he started teaching on FCFA60,000 (€92) a month. This allowed him and his household to invest in cashew trees and potatoes, crops giving net returns of around €760 a year. Migrant brothers and sisters send back funds worth €380 a year. NBF has been able to invest in sheep and goats and a pump for irrigation: the household has two motorbikes.

Not all gains were that small: there were accounts of farmers who had been able to invest in high-value crops for urban markets worth many times the revenue per hectare of crops already

grown. In other cases, household members had been able, often through education and training, to obtain salaried, comparatively well-paid employment (Box 3B).

### Box 3B More substantial gains

**In Pimpadgav, Maharashtra**, SK, born into a poor household dependent on some farming and wage labour, was able to complete his education in 2012, and go on to a computer course for two years, with fees costing ₹5,000 (US\$94) a year. That investment was to pay off handsomely: in 2019, he secured a job as a computer operator at the GMR thermal power plant in Warora, earning ₹15,000 (US\$201) per month, later rising to ₹18,000 (US\$241).

But getting a salaried job was not the sole or main driver of progress for the household. With the assured income from the job, the household (headed by his parents) looked to invest in the farm. SK, with some help from a government grant, invested some of his salary back in the farm, leasing in seven acres to plant cotton, soybean, paddy, jowar, Bengal gram and vegetables and farming fish – generating profits worth around US\$2,400 a year.

**Drivers of prosperity were diverse;** no single factor dominated, above all in India. In Maharashtra and Telangana, prospering households benefited directly from combinations of their own savings, loans (most frequently from self-help groups), public investment in roads and irrigation, grants from government, and in some cases from technical assistance (not least from BCI), which reduced production costs and risks. They also benefited from urbanisation and economic growth which created attractive urban markets for higher-value produce (fruit, vegetables, dairy, fish, etc.). The rapidly growing urban economy contributed to government revenues that allowed<sup>5</sup> expanded public spending – on roads, irrigation, power,

schools, health posts, drinking water; on producer supports – grants and subsidies (fertiliser, rural electricity); and on social protection.

In Mali, households moving upwards drew first and foremost on their ability to earn a surplus from household activities, to save these gains and to reinvest. When household farms were generating too little surplus to reinvest, or individuals had no farm, migration was often the route to capital, whereby both men and women undertook often arduous work, while saving as much as they could from their earnings to return home with a lump sum large enough to invest (almost always in the farm). All cotton-growing

<sup>5</sup> More public revenue made this possible, but the decisions to spend, and on what investments and programmes, were political choices.

households benefited from CMDT which provided the working capital for cotton – seed, fertiliser, chemicals on credit – and guaranteed to buy up the harvested seed cotton. CMDT's support was far from complete – households wanting to grow cotton had to provide their own investment capital in the form of oxen and plough team – but it was strategically astute, since it provided working capital and thereby overcame the market failure of very limited formal credit.

Some households in Mali, but only a minority, also benefited from credit (most often from microfinance agencies), from small government grants and from NGO training. As in India, although to a lesser extent, villagers benefited indirectly from Mali's urbanisation and rapid population growth that formed a ready market for agricultural surpluses, as well as from opportunities to migrate both within Mali and to the more prosperous (and labour-short) coastal neighbouring countries.

In both countries, **most of the additional activity undertaken by prospering households was in agriculture**. In Mali, still a low-income, agrarian country with a little-developed urban economy, this was not surprising. For India, it was: given its relatively rapidly growing economy, with urbanisation that has seen India rise from a low-income economy to become a (lower) middle-income economy,<sup>6</sup> agriculture was expected to

decline as a share of GDP, which would – going by the history of high-income countries – lead to rural people leaving the land for urban livelihoods. While Indian agriculture's contribution to GDP did fall from 22% in 2000 to 17% in 2022, agriculture continued to retain large numbers of workers; its share of employment fell, but only from 60% to 43% from 2000 to 2022<sup>7</sup> (OECD, 2024).

### Similarities in obstacles that trap people in poverty

In both countries, three sets of factors repeatedly trap individuals and their households in poverty: social disadvantage; shocks both idiosyncratic and covariate; and lack of capital and skills.

**Social disadvantage** comprises: (the accident of) being born into poverty (Box 3C); being ascribed to some group that suffers discrimination; and gendered roles that burden women with heavy workloads and restrictions on mobility and occupation, and invariably give women less access than men to land, credit, technical advice, marketing links, etc. In life histories there are accounts of people socially disadvantaged who have found ways, usually by very hard work, to overcome their disadvantage: but equally there are those who remain trapped in poverty, deprived of a decent life and opportunity – through no fault of their own.

6 India's (World Bank) classification was raised from low-income to lower-middle-income around 2006.

7 In 2000, the average agricultural worker in India was 37% as productive as the national average: by 2022, that had improved only marginally, reaching 40%.

### Box 3C Born into poverty, hard childhoods

Born in 1973 and raised in a family of seven, **Vanamala from Pemburthi village, Warangal, Telangana** worked as a child labourer to support her family of agricultural labourers financially. At the age of 11, in 1984, she was married. After her marriage, Vanamala continued to work as an agricultural wage labourer, mainly engaged in cotton-picking and paddy sowing. Despite their hard work, wages were insufficient, and the family struggled to eat.

‘My mother-in-law used to make me make jowar [sorghum] soup and that’s what we mostly had for food. Every time I made that, I cried, as we had nothing much to eat and everything was expensive, including rice.’

Her husband worked as an annual farm servant (a form of bonded labourer).

**In Mali, BTS (66 years, male, widower) in Siratogo** had a difficult childhood. His father lacked oxen and ploughs, and could cultivate only three hectares. Food was scarce: ‘Even before the onset of the rainy season, we were without food, and the mothers would go out looking for cereal bran to feed the family, or else we would go without food all day. We used tree leaves to treat ourselves, and as far as I remember, none of the family went to the health centres’. When he grew up he managed to save money by migrating twice, to Côte d’Ivoire and Mauritania, and to pay for a wedding. But like his father he has been unable to work more than three hectares, and his life has been one of poverty.

**Shocks** can affect individuals, above all ill-health and accidents, and social ruptures such as divorce. They can also affect everyone in the village (and often entire districts), including drought and floods, crop and livestock pests and diseases; and economic shocks when prices of inputs rise and those of produce fall. In Mali, insecurity is another hazard. Shocks cause loss of labour time, of social affiliations, of crops and livestock, and of returns to production. These may be compounded by additional effects, such as the costs of medical bills when people fall ill or suffer an accident. While many shocks entail one-off losses, disability from an accident has long-lasting effects, and loss of livestock means foregoing the expected offspring of the dead stock.

Life histories show that most people cope with minor shocks – using up savings, accepting hard times and belt-tightening, undertaking additional work (often poorly paid) to gain whatever extra income can be had. But major shocks – such as high medical bills, complete loss of a herd or flock, consecutive years of poor weather for crops – can outweigh any coping, and drive individuals and households into poverty or even destitution (Box 3D). Family, friends and neighbours often help those who have suffered misfortune, but there are limits to what they can do.

### Box 3D From shocks to expenses to debt and poverty

Mr R. (40), from a scheduled caste community in Chandrapur district, Maharashtra, supports his wife, three children and his ailing mother. He inherited two acres of poor-quality rainfed land on which he grew cotton with red gram, with low yields (around 10 quintals), so farm income has not covered household costs and the family relies on wage labour.

Following his father's death, medical expenses rose sharply (his mother's medicines cost at least INR2,000/month; his wife required eye treatment from 2019), alongside rising education costs for two daughters (7th and 4th standard). To cope, from 2020 he leased in three acres at INR10,000 per acre planting soybean on two acres and paddy on one acre, and financed copious chemical inputs through dealer credit, repaid after harvest – until he joined BCI in 2021.

Last season he borrowed INR50,000 from the bank for farm and household expenses, while his wife took INR15,000 from a savings group to pay for the children's schooling. In both 2022 and 2023 his soybean crops suffered yellow mosaic disease (YMD); in 2023 he lost the entire two acres of soybean. As he put it:

'The ailing old age of my mother and my wife's health issues, coupled with consecutive crop losses, have trapped me without any progress. We have been struggling to accrue some savings while constantly struggling with marginal landholding, infertile soil, and lack of irrigation facilities.'

After successive shocks, he now owes INR70,000 in accumulated debt plus a pending INR50,000 bank loan for crop expenses, and his wellbeing has fallen to WB2+. Top of Form

The third set of obstacles comprises **lack of capital and sometimes skills** that prevent people from taking advantage of opportunities. Life histories often tell of people making extraordinary efforts to accumulate savings so they can eventually invest, but this can take years, during which they have not been able to take up a clear opportunity. It is usually not that there are no sources of loans, but what credit is on offer often comes in small amounts loaned for short periods, may also come with

onerous interest rates and conditions, and may simply not be offered to persons who for whatever reason are not seen as creditworthy by lenders.

#### Youth: an ambiguous similarity

Livelihood histories in both countries are rich with life-cycle events and the phases through which people pass: youth<sup>8</sup> is, and probably always has been, a potentially difficult phase. Young women

8 The age of youth begins with ceasing to be a legal child, age 16 or so, and ends with the less-well-defined moment of entering into full adulthood. Often full adulthood involves being married, living separately from parents (even if the married couple form part of an extended household, as typically applies in Mali), and earning enough to live on, independent of any support from parents or older relatives. In rural societies where such independence depends on access to land and having the means to work the land, the transition to adulthood can be delayed until the 30s – above all for men, who are expected to be able to provide for wife and family.

and men have their dreams and ambitions and physical vigour, but lack resources – capital, land – and often depend heavily on their parents and older relatives. Eventually most of them will marry, establish their own household unit and find some occupation that will provide them and their households with a living. Socially, psychologically and economically, the transition from youth to adulthood is a challenging but pivotal moment in life cycles.

Almost all life histories tell of circumstances and choices in youth that have then played a major role in adult life. That raises the question whether the conditions facing youth today differ from those their parents faced. It is easy to list the differences in circumstances that apply to the youth of the 2020s compared to those faced by their parents a generation ago: less freely available land and other resources; fewer possible jobs in towns and the wider economy (more than before, but with increased competition for those jobs); more formal education; and, perhaps not least, the aspirations (and temptations) formed by ready information about the wider world beyond the village through radio, TV and the internet.

In life histories, older people reflect that they had to work harder than their sons and daughters, and that they had fewer consumer satisfactions: accounts told with pride but recognising that they would not wish the hardship they endured on their offspring.

Do the youth of the 2020s face harder challenges than their parents did? In Mali, youth still largely have the chances their parents had – that is, if

they wish, they can farm crops and raise livestock in ways similar to those of their parents and grandparents. That may no longer be quite so true in India, where agricultural opportunities may be fewer for aspiring farmers – because land and water is taken up by an older generation – but opportunities in the urban arena may be far greater than those on offer to their parents.

### 3.2.2 Differences between India and Mali

**Social formations differed:** in Maharashtra and Telangana, households were typically nuclear, an average of 4.26 persons: in Mali they are extended, multi-generational households with an average of 23.6 persons.<sup>9</sup> Large households are central to life and livelihoods in rural Mali: being part of a small household is often associated with poverty. The ability of large households to mobilise and deploy labour gives them an advantage over smaller units (large households also offer individuals more social protection). Labour has long been, and still is, critical in lightly settled (between 15 and 90 rural persons per square kilometre) southern Mali, where work teams of more than half a dozen persons with oxen and ploughs allow large areas to be cultivated – in a setting where land is readily available. The two states of India are more densely settled (200 to 220 rural persons per square kilometre): land is at a premium, and labour is relatively abundant.

Social inequalities were starker and more visible in India than in Mali: differences between castes, between those owning land, those only able to lease land, and those having no land at all. Such overt inequality was less evident in rural Mali,

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9 The difference in distribution of household sizes is equally striking: the Indian sample ranges from 1 to 10 persons, with a standard deviation of just 1.48 – tightly clustered around the mean. In Mali, households range in size from 2 to 200, with a standard deviation of 22.8 – so the distribution is wider, with a long right-hand tail of very large households indeed.

although within villages some households were clearly more prosperous than others – but that was more the outcome of hard work, and avoiding the worst shocks, than any social difference. Malian village society appeared more fluid, as could be seen in the villages in the pioneer zones of the cotton belt, where incomers from more densely populated areas to the east could settle, obtain land and thrive.

**Urban proximity** was another clear difference. Not only are Maharashtra and Telangana more densely settled than southern Mali, but urban centres are larger and closer to typical villages, with proximity enhanced by better roads. Given India's urbanisation and relatively rapidly growing economy, the market for higher-value produce was larger and deeper than in Mali, allowing farmers with the means to do so to invest in high-value cash crops and livestock enterprises.

**Government spending.** A third significant difference also stems from the success of the Indian economy in recent decades: government, at both Union and State level, has revenues and the means to spend on a wide variety of public investments, services, development programmes and social protection (Table 3.3). In the life histories from India, the impact of government programmes could clearly be seen in turning points for households when they were enrolled in one or other public programme that gave them grants, subsidies and so on. The government of Mali, a low-income country with an economy growing less rapidly than India's, had far fewer resources to spend. Public actions rarely marked turning points in Malian life histories: far more important were the initiatives of individuals and households and their links to private actors beyond the village, albeit with the significant exception of the operations of CMDT.

**Table 3.3** Public action in rural areas compared between India and Mali

|                                     | India                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Mali                                                                                                                              |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Public goods: infrastructure</b> | Roads (MH, TG), large-scale public irrigation (TG)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Roads                                                                                                                             |
| <b>Public services</b>              | Schools, health posts, water and sanitation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Schools, health posts – but not in every village                                                                                  |
| <b>Producer supports</b>            | <p><b>PM-Kisan (national)</b>: ₹6,000 per year to all eligible farming families.</p> <p><b>Rythu Bandhu (TG)</b>: ₹10,000 per acre per year for two crops, covering around 30% of production costs; widely used to purchase seeds and fertilisers directly.</p> <p><b>Namo Shetkari Maha Sanman Nidhi (MH)</b>: another ₹6,000 per year per farmer.</p> <p><b>Per Drop More Crop (MH)</b>: 45–55% subsidy for drip/sprinkler irrigation.</p> <p><b>Panjabrao Deshmukh Scheme (MH)</b>: subsidies for farm infrastructure and storage.</p> <p><b>Mission Kakatiya/ Kaleshwaram/Mission Bhagiratha (TG)</b>: large-scale irrigation and household tap-water schemes.</p> <p><b>BCI</b> promotes sustainable cultivation, reduced input costs and improved soil health, often linked to NGO–state partnerships such as <b>Jal Swaraj</b>.</p> <p><b>Crop loan waivers</b> (MH, TG) of accumulated debt.</p> <p><b>Input subsidies</b> (national) on fertiliser, rural electricity, irrigation water from public systems.</p> | <p>CMDT: cotton inputs on credit, guaranteed sale of cotton at fixed price</p> <p>Small grants to farmers</p> <p>NGO training</p> |
| <b>Social protection</b>            | <p><b>Rythu Bima</b> (TG): ₹5 lakh life insurance for farmers.</p> <p><b>Mahatma Gandhi National Rural Employment Guarantee Act</b> (MGNREGA) guarantees up to 100 days of paid employment for those seeking work.</p> <p><b>Pension schemes</b> (old age, widowed, disabled, weavers, beedi workers, single women) provide regular cash income.</p> <p><b>Public Distribution System (PDS)</b> supplies cereals at subsidised prices</p> <p><b>Mid-Day Meal Scheme</b> ensures school lunches.</p> <p><b>Housing schemes</b> such as Gharkul (MH) and PMAY provide grants for new or upgraded homes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                 | Occasional distribution of food parcels to households in need                                                                     |

## 4 Conclusion and discussion

### 4.1 Discussion

Three common findings stand out from this study: rural progress is common, albeit neither inevitable nor uniform, owing in large part to the considerable agency of rural people; many hazards threaten the lives and livelihoods of rural people; and, for farmers, farming has to adapt to repeated change.

**Rural progress.** Life histories more often tell of rising welfare, of increased earnings, of more diverse livelihoods and of higher living standards – than they tell of people trapped in poverty. The balance is narrow: accounts of chronic poverty are frequent, just not quite as frequent as accounts of progress.

Optimism may be tempered by the difficulty of separating out secular progress from life-cycle changes. People in their forties will tend to tell of how much their lives have improved since the early years of marriage, when they were struggling with few resources, above all lacking family labour, and the demands of childcare. Those same people interviewed 10 to 20 years later may tell a different story as they face life with lesser energy and niggling health problems that affect older people, as they cope with loss of partners, departure of their offspring, and so on.<sup>10</sup>

On the other hand, some important changes in rural lives are rarely mentioned in life histories: improved child health and survival, especially notable in Mali where, since the 1990s, rates of mortality among under-fives have fallen drastically. That this was hardly mentioned could indicate it is something that people do not see so readily as progress; or it may be that our enquiries were focused on economic matters of diversification and respondents thus did not think to report changes to health.

That we found more progress than stagnation runs counter to some social science research which stresses the many obstacles that rural people on low incomes face, from lack of land and capital to neglect by state agencies, to discrimination, prejudice and exploitation by economically and politically more powerful actors; obstacles typically described as ‘structural’, obstacles that defy any attempt by those so constrained to overcome them.<sup>11</sup> Instead, what we often observed was the considerable agency and resourcefulness of rural people in overcoming their disadvantages and taking up new opportunities that arose, albeit often through dint of hard work and limiting consumption.<sup>12</sup>

**Hazards.** It is impossible to read the life histories of rural people without being shocked by the many hazards that can befall them; hazards from which

10 In Kagera, north-west Tanzania, longitudinal studies of households in 1993 and 2004/2005 reported this: despite measurable gains in welfare, heads of household interviewed in 2005 often felt life had got worse over the preceding decade – but this was often because they had entered this later phase of life (de Weerd et al., 2006).

11 Social science in the global south has often taken on concepts from Marxian schema in which economies and societies are seen to be structured to exploit the labour of workers and peasants. In such framings, the prospects of the latter groups are slim short of drastic political change (revolution).

12 In Mali, this finding very much echoed the agency and resourcefulness of the inhabitants of the village of Dlonguebougou studied since 1980 by Camilla Toulmin (2020).

there is little respite, and precious little social protection. Hazards affect individuals in the form of illness and accidents, social conflicts, crime and violent crime and addiction (alcohol, drugs, gambling). The consequences include loss of capacity to work (and enjoy life), loss of assets and (heavy) costs of medical attention and addiction: consequences that are all too often life-changing, plunging people into poverty and destitution. Hazards can affect entire communities (and often districts and regions): inclement climate including drought, floods, heatwaves and storms; pests and diseases affecting crops and livestock; wildfires, landslides, earthquakes and volcanoes; conflict and insecurity; and economic shocks – high inflation, collapsed prices for output, mass unemployment, etc. Consequence of these covariate hazards include loss of crops and livestock; damage to homes and other buildings, to roads, powerlines, water supplies and irrigation; and loss of jobs and incomes. Communities may be able to cope (albeit with hardship) with some of these shocks, so long as they are not too severe, do not recur frequently or do not arrive in combinations.

For many rural people there is little relief from such hazards: while friends, families and neighbours may help with individual misfortune, resources are limited. For covariate shocks, the ability of public agencies to provide relief in low-income countries is similarly limited. It is no surprise that, when people and households fall into poverty, it is often the misfortune of a hazard that has triggered their decline.<sup>13</sup>

**Agriculture as performance.**<sup>14</sup> Farmers know that growing crops and raising livestock require continual adjustment to the weather and seasons, to threats from pests and diseases, and often to market conditions as well. At the start of the season or year, plans may be prepared, but farmers need to be ready to undertake contingent actions in the light of emerging conditions, some of which they will have encountered in the past (and hence half expect), but some of which may be novel and surprising.<sup>15</sup>

If that is the case for the season or the year, it is much more so over the medium term. In spans of five years or a decade, environmental conditions can change, the resources available to the farmer can rise or fall, costs of inputs and price of outputs in markets can move substantially, and public policies and programmes that affect farmers and agriculture can also change. Successful (and fortunate) farmers appreciate the changes and adapt accordingly, avoiding threats and taking up opportunities. If there is an optimum to plan for, it is on the move: it is certainly not fixed.

This clashes with the framing of some government planners who prefer to conceive of some ideal farming system when considering public interventions to help farmers reach this ideal. It also surprises some social scientists who seem to expect that crop varieties bred to thrive in one set of circumstances should be good for many years to come, if not forever. This study

13 This became clear in the pioneering work on poverty churning carried out in the 1990s by researchers such as Baulch (Baulch and Hoddinot 2000) and Hulme and Shepherd (Hulme and Shepherd, 2003).

14 Paul Richards came to appreciate this when studying rice farmers in Sierra Leone, documented in his landmark study, *Indigenous Agricultural Revolution* (Richards, 1985).

15 Incentives to be timely and flexible in farm operations explain why family-run farms can out-perform much larger farms: an argument that helps explain the poor performance of (very large-scale) Soviet collective and state farms (Laird and Laird, 1970).

shows farmers in both countries taking up new farm enterprises which either promise higher returns or which reduce risks.

## 4.2 Policy considerations

These three common features suggest a matching set of policy considerations, regarding rural development, social protection and agricultural policy.

### Rural development

These studies show that (a small majority) of rural households are able to progress – in circumstances that are less than ideal, drawing primarily on the resources of themselves and their households, supplemented to a considerably lesser degree by contributions from friends and neighbours, and taking advantage of what public agencies (government and NGOs) may offer. Farm households take diverse pathways, tailored to their own circumstances. One implication is that public agencies can be reassured that at least some of the investments, programmes and policies they offer are likely to help some people at some time – but that the details of what works best will vary by place, time and household in such diverse ways as to defy any attempt to plan comprehensively.

But among potential public actions, some clearly make a difference. In India and Mali households take advantage of access to markets and urban centres: roads and transport help. Those markets are most helpful to rural people when market conditions of availability and price vary within reason, without wild fluctuations: a stable macroeconomy – low or modest inflation, exchange rate stability – helps. Most parents want to see their children educated: schools help. Health is critical to wellbeing, even if this is only

uppermost in people's minds during episodes of accidents and disease: health posts and services, water and sanitation matter.

With these statements of the well-known criteria for public action made, and reaffirmed by our interpretation of findings, what more should public agencies consider?

One, capital is short for so many households studied: many people know what they might be able to do, had they access to a few hundred dollars to invest in their farm or business – we can see this because often, when savings accumulate sufficiently, when a loan is secured, when a grant is obtained, people put these funds to good use in an established or novel enterprise. More effective rural financial systems matter, systems that give people ways to save, to insure and to borrow – all securely, all at modest cost. Self-help financial groups at village level feature repeatedly as supporting Indian households; similar groupings exist in Mali. Supporting the development of such groups would be valuable. Support might include training in accountancy (for secretaries and treasurers) and financial literacy (for members); finding ways to link them to more formal financial entities – credit unions/savings and credit cooperatives, microfinance agencies and banks; and perhaps granting groups some additional seed capital (but cautiously, to avoid overwhelming the capacity to manage funds and undermining the social fabric involved in collective saving).

Two, although most households can get access to some public services and support, some are excluded for little good reason. Often those excluded are the neediest. A clear example comes from India where some agricultural support programmes are only available to people with registered landholdings, thereby excluding

tenant farmers and those with informal rights to land – who are often disproportionately likely to be women. How difficult would it be to change the qualification for such programmes from landholder to farmer, and to provide certification of being a farmer for such purposes?

In other cases, needy people may be excluded with some reason. For example, self-help financial circles are usually reluctant to admit as new members persons seen as uncreditworthy. In some cases, people can be made creditworthy if they have a better grasp of financial literacy, if they have insurance against hazards (see next section), if they are literate and numerate, etc. All these conditions can potentially be remedied by public action among groups of people who are typically excluded.

### **Social protection**

More protection against hazards would help prevent people being driven into poverty. Reducing the incidence of hazards and their severity before they occur forms part of the agenda of rural development – with actions ranging from vaccinating infants to planting crops resistant to disease to building flood survival shelters.

That leaves actions to protect people after hazards strike; when they have lost assets such as livestock, become ill or disabled (temporarily or permanently), or run up debts to pay for medical bills, to buy in food, to repair damaged houses and so on. For idiosyncratic hazards, insurance – funeral expenses, medical, life, fire, theft (depending on what local people see as priorities) – can provide relief. Insurance can be provided commercially, including through mutual associations, but there are threshold costs to setting up such schemes – training operators in actuarial skills, informing potential customers

about how the schemes work, and ideally licencing and regulating operators to prevent fraud. All these are candidates for public action, being both essential to start such schemes and being relatively low cost.

Responses – effective, reliable and sustainable responses – to covariate hazards are less clear. For example, experience of crop insurance shows that transaction costs can be high (if schemes are not to become fraudulent), and that few farmers are prepared to pay a market premium to insure crops (or livestock) (Cole and Xiong, 2017). Governments might instead institute disaster relief schemes, with payments indexed to measurable events such as droughts or floods, and the schemes funded from general taxation. Such formalised schemes are not common: more common is ad hoc relief provided to the victims of more visible and shocking disasters.

### **Agricultural development policy and programming**

If farmers repeatedly have to reconfigure their farming to match changing conditions, they need two things: access to capital to invest in new activities, and access to knowledge and know-how. The former has been covered above; the latter implies public investment in research and extension. A large literature exists on how to do this. Economic analysis shows that few public investments can match the very high returns – internal rates of return of 20% a year or more – estimated to public agricultural research (Alston et al., 2009; Alston et al., 2020).

A wider consideration arises for public agencies engaged with agriculture: the need to monitor changes to farming conditions, to assess the implications and to revise recommendations, activities and investments accordingly. Key

changes to monitor include environmental – especially the emergence of threatening pests and diseases among crops and livestock – and changes to market prices of inputs and outputs that can rapidly alter the returns to farm enterprises. Above all, agencies need to avoid the trap of believing that farmers should be growing a particular crop – often justified by reference to some impressive overarching goal such as national food security, to earn foreign exchange, etc. – and thereby overlooking the changing conditions that apply to the crop in question. Farmers are often far more aware than public agencies of which crops and enterprises reward their efforts and which no longer do so.

### 4.3 Lessons for Better Cotton

Two results from this study stand out for Better Cotton. One is that cotton farmers carry out many other activities in addition to growing cotton, and seemingly repeatedly look out for new opportunities. The other is that growing cotton takes place against a shifting landscape of agronomic matters – above all the incidence of pests and disease, and the straightforward farm economics of cotton: costs of inputs, prices paid for outputs, and the productivity ratio of inputs to outputs. Successful cotton farmers must adapt to this shifting landscape.

The first finding might imply that Better Cotton should engage with the issues that cotton farmers

encounter when diversifying: access to capital, know-how and so on. But that raises the question of whether this is where BCI's competence lies, and perhaps more pertinently, if BCI has the resources to finance any such supporting activity,

The second finding has clear implications for the everyday work of BCI. If the landscape is shifting, then whatever advice and training BCI offers to cotton farmers should adapt to changing realities – with one significant qualification, to be dealt with in a moment. Technical, agronomic advice is clearly valuable: physical issues of growing cotton are uppermost to growers; they can see them in their fields through the season.

Less salient, but equally as important, are the economics of cotton production. This study would have been improved had we been able to quantify the economics of cotton (and other diversified enterprises).<sup>16</sup> When drafting this report, we searched for information on the economics of cotton in both countries. Remarkably little information in the necessary detail is available. Several studies and reports for India present data on the costs and returns to cotton but give no detail of the underlying physical relations and the prices that have been used in calculations – which are what matters when considering economic advice to farmers.<sup>17</sup>

In sharp contrast, Australian cotton farmers can readily find detailed economic (as well

<sup>16</sup> We didn't do this because the additional work was beyond the time and resources we had, and would have tried the patience of the farmers we interviewed.

<sup>17</sup> For example, to discover that costs of production have risen is far less interesting and useful than to know which costs have risen – which then allows consideration of how rising costs for particular items might be countered by economising on their use. Particular problems with reports of overall cost of production concern how any costs of land and labour have been treated, given that many farmers are using mainly household labour and farmland they own.

as agronomic) advice on the web.<sup>18</sup> Providing something similar to cotton farmers in India and Mali might be a point for BCI to add value.

Finally, the qualification mentioned: that farming takes place in a shifting landscape is a commonplace leading to generic advice to farmers about the need to constantly adapt to change. That is all well and good, but which

changes in the landscape are ephemeral and passing (and hence can be ignored or tolerated), and which are substantial and longer-lasting (and which demand changes by farmers)? To make that judgment requires not only monitoring the changing landscape, but also investigation and analysis to discern key trends from the considerable noisy, but relatively unimportant, variation that exists.

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<sup>18</sup> Several public bodies serve cotton farmers in Australia, including Cotton Australia, Cotton Research and Development Corporation and CSIRO. Commercial companies also offer advice on agronomy and economics.

# References

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- Aiyar, Y.** (2023) Citizens vs Labharthi? The India Forum. <https://www.theindiaforum.in/public-policy/citizen-vs-labharthi>
- Alston, J.M., Pardey, P.G. and Rao, X.** (2020) The payoff to investing in CGIAR research. SOAR Foundation. <https://www.supportagresearch.org/the-payoff-to-investing-in-cgiar-research>
- Alston, J.M., Beddow, J.M. and Pardey, P.G.** (2009) 'Agricultural research, productivity, and food prices in the long run' *Science* 325(5945): 1209–1210.
- Aon** (2024) *Medical Rate Trends and Mitigation Strategies Across the Globe* (Aon's 2025 Global Medical Trend Rate Survey findings). Aon, 13 December.
- Arif, A.** (2024) Competitive Welfarism: India's New Political Agenda. New Delhi: Social Policy Research Foundation. <https://sprf.in/wp-content/uploads/2024/04/competitive-welfare.pdf>
- Baulch, B. and Hoddinott, J.** (2000) 'Economic mobility and poverty dynamics in developing countries'. *Journal of Development Studies* 36(6): 1–24. <https://doi.org/10.1080/00220380008422652>
- CICR** (2022) *Annual Report 2021–22*. Nagpur: ICAR–Central Institute for Cotton Research.
- Cole, S. and Xiong, W.** (2017) 'Agricultural insurance and economic development' *Annu. Rev. Econ.* 9, 235–262.
- Cotillon, S., Tappan, G. and Reij, C.** (2021) Land use change and climate-smart agriculture in the Sahel. In L.A. Villalón (ed.) *The Oxford handbook of the African Sahel*. Oxford: Oxford University Press.
- De Weerd, J.** (2006) Moving out of Poverty in Tanzania's Kagera Region. Report for The World Bank. EDI Ltd. [www.edi-africa.com/research.htm](http://www.edi-africa.com/research.htm)
- Dissa, A., Slingerland, M., Giller, K.E. and Descheemaeker, K.** (2024) 'Navigating seasonality in cotton-based farming systems in southern Mali' *Climate Risk Management* 46. <https://doi.org/10.1016/j.crm.2024.100649>
- Ellis, F.** (1998) 'Survey article: household strategies and rural livelihood diversification' *Journal of Development Studies* 35(1): 1–38.
- Flachs, A.** (2019) *Cultivating Knowledge: Biotechnology, Sustainability, and the Human Cost of Cotton Capitalism in India*. Tucson, AZ: University of Arizona Press.
- Hilhorst, T., Toulmin, C., Brock, K. and Coulibaly, N.** (2000) Sustainability amidst diversity: options for rural households in Mali. Drylands Programme.
- Hulme, D. and Shepherd, A.** (2003) 'Conceptualizing chronic poverty' *World Development* 31(3): 403–423.
- Institut d'Economie Rurale (IER)** (2011) *Cohérence dans les Politiques Agricoles et de Développement Rural. Etude de Cas: Processus de Réforme du Secteur Coton du Mali*. Rapport Final. March.
- Karamchedu, A.** (2024) 'Dried up Bt cotton narratives: Climate, debt and distressed livelihoods in semi-arid smallholder India' *Climate and Development* 16(4): 289–300. <https://doi.org/10.1080/17565529.2023.2211037>
- Keita, A. et al.** (2018) Diversification des pratiques agricoles et des revenus en zone cotonnière au Mali. Le cas de Bégouéné' *Systèmes alimentaires* 3: 115–137 DOI : 10.15122/isbn.978-2-406-08722-9.p.0115

- Kumar, M. and Dey, G.** (2024) 'Comparative study of cotton area/productivity: Telangana vs India' *International Journal of Research in Agronomy* 7(3S): 354–357.
- Laird, R.D. and Laird, B.A.** (1970) *Soviet communism and agrarian revolution*. Harmondsworth: Penguin Books.
- Magrath, J.** (2020) *Regreening the Sahel: a quiet agroecological evolution*. Oxford: Oxfam.
- Ministry of Statistics and Programme Implementation (MoSPI)**, National Statistical Office (NSO) (2025) *Consumer Price Index Numbers on Base 2012=100 for Rural, Urban and Combined for the Month of October 2025 (Provisional)*. Press Release, 12 November.
- Musumba, M. et al.** (2022) 'Household livelihood diversification in rural Africa' *Agricultural Economics* 53(2): 246–256. <https://doi.org/10.1111/agec.12694>
- National Statistical Office (NSO)** (2025) *Comprehensive Modular Survey: Education, 2025 (April–June 2025): Results/Report (NSS 80th Round)*. New Delhi: Ministry of Statistics and Programme Implementation, Government of India.
- OECD** (2024) *Agricultural Policy Monitoring and Evaluation 2024: Innovation for Sustainable Productivity Growth*. Paris: OECD Publishing. <https://doi.org/10.1787/74da57ed-en>.
- Ollenburger, M.H. et al.** (2016) 'Waking the Sleeping Giant: Agricultural intensification, extensification or stagnation in Mali's Guinea Savannah' *Agricultural Systems* 148: 58–70.
- Reardon, T. et al.** (2007) 'Household Income Diversification into Rural Nonfarm Activities'. In S. Haggblade, P.B.R. Hazell and T. Reardon (eds) *Transforming the Rural Nonfarm Economy. Opportunities and Threats in the Developing World*. Baltimore: MD: Johns Hopkins University Press for the International Food Policy Research Institute.
- République du Mali** (2025) *Enquête Démographique et de Santé du Mali 2023–2024*. Bamako: Institut National de la Statistique (INSTAT).
- Reuters** (2025) *India plans to tighten oversight of claims portal to curb rising healthcare costs, source says*. 10 July.
- Richards, P.** (1985) *Indigenous Agricultural Revolution. Ecology and Food Production in West Africa*. London: Routledge.
- Sengupta, A. and Thangavel, G.** (2023) 'Bt cotton and pest resistance in India' *Economic & Political Weekly* 58(22): 34–41.
- Sharma, R., Singh, V. and Kumar, D.** (2023) 'Non-beneficiary tenant farming under the Rythu Bandhu scheme' *Economic & Political Weekly* 58(33).
- Venkat, V.** (2024) *India's Democratic Revolution: Right to Information and the Anti-corruption Discourse* PhD thesis. SOAS University of London.
- Waha, K. et al.** (2018) 'Agricultural diversification as an important strategy for achieving food security in Africa'. *Global Change Biology* 24(8): 3390–3400. <https://doi.org/10.1111/gcb.14158>
- Westerberg, V. et al.** (2020) *The Economics of Cotton Production in Mali and the Challenges of Land Degradation. Case study in Koutiala and Bougouni. An Economics of Land Degradation study on Cotton Production in Mali carried out in the framework of the 'Reversing Land Degradation in Africa by Scaling up Evergreen Agriculture' project*. [www.eld-initiative.org](http://www.eld-initiative.org)

# Appendix

## Welfare classifications in Inia

| Category                               | Local description                                                                                             | Key features (livelihoods, risks, inclusion)                                                                                                                                                                                                                          |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>WB1 – Destitute/<br/>Ultra-poor</b> | Assetless or near-assetless; often elderly, disabled or socially marginalised; heavily dependent on others    | Highly insecure consumption; limited labour capacity; <b>often least able to access or navigate programmes</b> (documentation, mobility, information)                                                                                                                 |
| <b>WB2 – Extreme poor</b>              | Able-bodied but landless or very small plots (often <1 acre); wage labour is the main livelihood              | Heavy reliance on casual/piece-rate farm work and seasonal migration; food insecurity; <b>high-cost debt</b> and tied/advance labour; acute exposure to illness and price spikes – excluded from SHG and difficulty accessing farmer friendly support –public and NGO |
| <b>WB3 – Moderately poor</b>           | Smallholders (typically ~1–3 dry acres, mainly rainfed); farming + wage work                                  | Farming provides some base but remains low-return and risk-prone; wage labour remains important; <b>informal crop loans/high-interest</b> , weak buffers/savings; vulnerable to drought, pests, and output-price shocks                                               |
| <b>WB4 – Vulnerable non-poor</b>       | Small-to-middle farmers (often ~2–4 acres), with partial irrigation and modest savings/assets                 | More stable consumption, some credit access; investment possible but constrained by input costs; <b>downward mobility risk after consecutive shocks</b> (crop failure + illness + debt/ceremonial costs); may reduce consumption or sell assets in crisis             |
| <b>WB5 – Resilient non-poor</b>        | Larger and/or better-quality holdings (often 4+ acres with irrigation); diversified livelihood income sources | Diversification into higher-value crops/livestock and non-farm work; stronger assets and networks; generally resilient to single shocks but <b>still exposed to compound risks</b> (price crashes, major pests/disease, health emergencies)                           |
| <b>WB6 – Rich</b>                      | Large landholders (often 10+ irrigated acres); typically strong local influence                               | Multiple income streams (commercial farming, trading/commission, services, salaried/professional work); land leasing/rentals; better ability to self-finance, insure or use political connections; <b>largely insulated from routine shocks</b>                       |





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