



This highlight presents some observations and questions that emerge from a synthesis of case studies of small but prosperous farmers (SPFs) who earn much more from their small holdings than their peers. We find that these farmers have access to irrigation and enjoy water control and they grow prosperous by intensifying their land use and shifting from food crops to high value cash crops and allied commodities like milk, eggs, fish, or meat produced for market. SPFs tend to produce crops or commodities that offer multiple harvests (cotton, vegetables, milk, etc.) to ease liquidity and reduce price risks. They also seem to be engaged in a portfolio of activities, not only to spread risk, but also to tap new opportunities to increase profits. It will be interesting to understand factors and conditions that facilitate emulation of these outliers by other farmers. Most of the government and NGO projects, programs and policies are not designed to help a large number of small farmers make the switch to prosperity. A rethink of these policies and programs is needed. We hope that this highlight will promote a discussion leading to an action plan for small farmer prosperity.

## Water Policy Research

# HIGHLIGHT

### How Do Some Small Farmers Become Prosperous?

#### Some Observations And Questions

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## HOW DO SOME SMALL FARMERS BECOME PROSPEROUS OBSERVATIONS AND QUESTIONS?<sup>1</sup>

Research highlight based on Shah (2012); PRADAN (2012); Mondal (2012)<sup>2</sup>

Agriculture is still the main source of livelihood for a majority of India's working population. 80 percent of landowners in rural India own less than 2 hectares (ha) of land and more than half of them cultivate less than 1 hectare of land. Is there a way these smallholders could become prosperous from agriculture? The big picture disappoints. Farmers, on average, are poorer than people engaged in other activities — even in rural areas. Small and marginal farmers fare even worse. Yet, we see examples of positive deviance all around us — small and marginal farmers who are able to earn Rs.1-3 lakh<sup>3</sup>/year by leveraging their small holdings.

This highlight presents some observations gleaned from case studies of such exceptional smallholders from across India prepared by grassroots organizations and other development agencies working closely with them. Each observation is followed by some questions: What is it that they do different or differently? What individual qualities, strategies and practices make them more successful than their peers? What sorts of institutional arrangements and contextual factors facilitate their success? What would it take to make their success more mainstream?

We offer a few conjectures, but raise many more questions. Many readers may not agree with some or most of the points highlighted here. We request our readers to share their disagreements with us, cite examples contrary to lessons drawn here, and raise more pertinent questions that we may have missed in this synthesis. The purpose of this note is to stimulate a meaningful discussion that may offer useful leads for development action.

### **Land is replaced by knowledge, skills, and access to markets as source of value creation**

Our case studies suggest that small farmers become prosperous by practicing agriculture that is less dependent on land. Land is essential to any kind of farming, but its contribution to value creation shrinks in this land-leveraging farming. Other inputs (like knowledge of new practices and markets; access to capital; risk-bearing ability; enterprise or willingness to try new things and

delve into new markets; family labor, etc.) become more important. This is reflected in the trend in land-lease rates in North Gujarat where we did some fieldwork in June 2012. Land that sells for Rs.25 lakh/acre and regularly yields gross value of more than Rs.2 lakhs/acre/year, through cultivation of cotton seeds, cotton, and fodder, is leased out for only Rs.4000/year and lease rates have not kept pace with the rising value of land and its increasing productivity.

Machine rent exceeds land-rent in cereals systems too — even in land-scarce regions like Bihar where someone who owns a pump set and a thresher (total value = Rs.75000) earns more from renting the machines out than a land-owner who leases out an acre of land. In the high value farming systems documented in our case studies, land becomes still less important. Small prosperous farmers (SPF) make money not because they own land or machines; they make money because they have knowledge, they are enterprising, they have good factoring skills and market orientation, and they enjoy access to key inputs (irrigation, capital) and markets. They are more like knowledge workers, though still dependent heavily on physical labor and land.

*Questions: Most of our case studies cover farmers who own 1-2 ha of land. Average landholding in India was 0.7 ha in 2003 (NSS, 59<sup>th</sup> round) and only 0.14 ha in Kerala, 0.26 ha in West Bengal, 0.33 ha in Tamil Nadu, 0.36 ha in Bihar. Is this strategy of intensive, market oriented cash crop (and allied sectors like dairy, poultry, fisheries, and meat) cultivation viable for such small landholders who are a majority now in large parts of India? Or is there a minimum efficient scale of operation below which agriculture cannot sustain a decent livelihood no matter how intensive or high-value? What are the special challenges in making such stamp-size farms viable?*

### **Water-control is a pre-requisite to prosperity of small farmers**

Every single farmer in our sample of SPF case studies has access not just to irrigation, but superior water control

<sup>1</sup>This IWMI-Tata Highlight is based on research carried out under the IWMI-Tata Program (ITP). It is not externally peer-reviewed and the views expressed are of the authors alone and not of ITP or its funding partner Sir Ratan Tata Trust (SRTT), Mumbai.

<sup>2</sup>A selection of case studies by Sneha Lamba, Nidhi Tewari and others for the IWMI-Tata Program can be obtained from [p.reghu@cgiar.org](mailto:p.reghu@cgiar.org)

<sup>3</sup>One lakh = 0.1 million

either from wells or lift irrigation systems (we did not come across any instance of small farmer prosperity with only canal or tank irrigation). Small farmers can do well only by practicing intensive farming (two, three or more crops per year) that is sensitive to timeliness of water application. So, water control is essential.

*Questions: Less than a third of India's net sown area is irrigated, and water scarcity is already an increasing problem in large parts of country. How do we ensure access to water for millions of smallholders in areas where water is scarce and (or) expensive to access? What strategies will allow us to extend water control to millions of farmers who do not have it now? Are there scaleable non-water intensive strategies that can bring prosperity to small farmers?*

**Small farmers have to grow high-value crops to become prosperous, but they lack access to insurance against the high production and price risks involved.**

Growing cereals, even in areas like West Bengal or Punjab where cropping intensity and crop yields are relatively high, cannot make small farmers well-off. They need to grow high-value cash crops like fruits and vegetables, hybrid cotton seed or engage themselves in the production of allied products such as milk, meat, fish, or eggs. Perhaps because traditionally small farmers did not engage in high value agriculture, there is no minimum support price for these products and the market prices can be highly volatile. So, producers face both production as well as price risks<sup>4</sup>. Small farmers have less wealth and lower capability of bearing risk. A big production or price shock could have long-term welfare consequences for them and their families like discontinuing of kids' education and essential healthcare expenditure, long-term indebtedness, loss of land and other sources of livelihood, and, in extreme cases, even death (by suicide).

Most farmers in our sample did not have access to formal insurance. They rely on their wits to insure against risk. They use precautionary savings and buffer stock, diversify crops growing six-seven different things to hedge their bets, and continue to grow their own food to guarantee food security. Our sample consists of farmers who have managed risk successfully. There must be many more farmers in same areas who also experimented with high-value agriculture but gave up after burning their hands.

*Questions: How do we mitigate risks associated with high value farming and how do we equip small and marginal farmers to deal with a production or price shock and be resilient? There have been experiments with contract farming and weather insurance, but these experiments have not caught on yet for various reasons. Given the lack of formal insurance for farmers, how do we scale up high value agriculture for small farmers without creating problems we see among hybrid cotton growers in*

*Vidarbha or Andhra Pradesh? What can we learn from examples of Amul dairy or Suguna who cover or minimize several types of risks of their members – not through insurance, but by providing a fair price and an assured market?*

**Specialization vs. diversification of crops and activities as a strategy for small farmers**

SPFs in our case studies grow a large number of crops and manage a diverse portfolio of agricultural and allied activities. The diversification does spread risk as mentioned earlier, but often it is also an outcome of SPF's tendency to keep looking for new ways to increase their income.

On the other hand, areas where SPF agglomerations or cohorts have emerged, farmers seem to rely on specialization. We see few cohorts where farmers are growing a number of crops. This is not surprising or counterintuitive. Economic geography tells us that economies of scale and specialization sustain agglomerations.

One way to look at this could be that enterprising small farmers manage a diversified portfolio of products (and keep experimenting with new products and markets) till they reach a scale of operation / success in one of them; and then focus on specialization.

*Questions: Is activity diversification a key to small farmers becoming prosperous? Or is specialization essential to create a large number of prosperous small farmers? What is the qualitative difference between activity diversification for reducing risk and activity diversification that leads to higher income? Is there an inevitable tension between SPF's preference for a diversified portfolio and agribusiness's preference for mono-crops in large areas?*

**Access to credit is necessary, but not sufficient.**

Growing high value crops is cash intensive and requires a lot of working capital, but most farmers in our case studies do not have access to credit from formal institutions. High cost of working capital is a major constraint to smallholders' adoption of high-value farming. That said, provision of working capital from own savings or cheap loan by itself does not result in farmers shifting to intensive farming. There are examples galore where SHGs saved a significant amount of money, but members did not use their own savings for productive investments.

*Questions: NGOs, even micro-finance institutions, have long been trying credit-plus approach, but SHGs will probably not be enough and banking institutions may not find small farmers viable customers. What is the solution then?*

<sup>4</sup>This is not true for farmers who sell milk to dairy cooperatives. If anything, both production and price risk are lower than even cereal crops.

### **SPFs prefer crops with multiple harvests to ease liquidity and reduce price risk.**

SPFs often choose crops which have multiple harvests and relatively shorter operating cycles (cotton, vegetables, milk, poultry, etc.) rather than single harvest crops to maintain liquidity and stagger the returns over time in order to even out the effect of seasonal price fluctuations.

*Questions: Is multiple-harvests essential for a commodity to be suitable for SPFs? How critical is the length of the operating cycle?*

### **Small and marginal farmers face high transaction cost in accessing markets for their produce.**

According to Dr. Kurien, dairy industry could prosper in Anand because Bombay was nearby. This is true for other high-value agricultural commodities too; access to markets is essential. Small and marginal farmers, however, face a special challenge: they produce in small quantities and therefore they have low bargaining power and face high transaction costs in discovering the price, finding the right markets and selling their produce. We have many examples in our case studies where farmers sell directly to consumers — a labor and time intensive way. Dr. Kurien solved this problem by building dairy cooperatives. This strategy, however, has not worked for other commodities.

*Questions: Can forming farmers into producer companies or co-operatives by itself make small farmers prosperous? We do not think so. It can help only if a producer company is part of a larger design for wealth creation. What are the different ways in which price and market discovery could be made easier for millions of small farmers? For example, could large scale cell-phone penetration be used to this end?*

### **Cooperatives are difficult to build and sustain, but production clusters help in overcoming many disadvantages that small and marginal farmers face.**

We do not have many examples of clusters among the case studies that we have collected, but all of us have seen these clusters. When a group of farmers start growing something, a whole ecosystem emerges where markets come closer; inputs are more easily available; there is greater learning from each other and it is easier for new farmers to join the bandwagon. This can be seen with tomato growers in Himachal Pradesh who used to sell this highly perishable product to Chandigarh — a market not that close from remote villages of Himachal. We also find this in North Gujarat, where Pepsico and McCain are vying for producer loyalty among potato growers (Lamba 2012).

*Questions: How to seed new clusters? Clusters, in agriculture as in other sectors, almost always emerge spontaneously. Not only that, there is a long list of public and private failures in creating new clusters. How do we change that?*

### **Replication of success stories is frustratingly slow in some cases and incredibly fast in others.**

We have collected many cases of farmers who have been making a lot of money from farming with their enterprise and skills. Their success is widely recognized and admired in the community, but they have remained isolated stories of success for years. Many of them started from scratch, yet their success has not been followed even by their close neighbors. Similarly, many NGOs have been working with small farmer communities for years; even decades and they have created some success stories where poor women and men have become well-off farmers. Yet these examples do not inspire emulation by neighboring communities. As a result, the same level of effort and intensity of intervention is required in each new location constraining rapid scaling up.

At the same time, we have examples of crop choices (Bt cotton, Gobar, Soyabean), farming practices (dug well recharge) as well as farm technologies (*Pepsee* systems) that spread like wildfire without too much conscious effort or promotion by either the government or the NGOs.

*Questions: What can we learn from the examples where replication happened spontaneously on a large scale? Similarly, what can we learn from NGO or ICAR extension efforts that did create small pockets of success, but do not engender large-scale follow-up? A related question, which is also of academic interest, is: how and when do farmers learn from each other? What are the catalysts and barriers to learning from each other?*

### **Extensive or intensive efforts to create success stories?**

When it comes to promoting high-value agriculture, two models exist. 1) the promoter (government or the NGO) works intensively with a small group of farmers for months and years on several fronts (providing good seeds, introducing better practices, credit, connection with the market, and even covering downside risks). 2) In other cases, the agency just distributes new seeds to a large number of farmers over a whole district or even larger areas (for example, project sunshine in Gujarat) and like the Biblical parable, some seeds hit fertile ground while others are lost. The small fraction of farmers who succeed with the new seed are still a large enough group so that a cluster is formed and more are able to join in subsequent years, eventually leading to large-scale adoption of the new seed/crop. There are successful and failed examples of both models.

*Questions: Under what conditions (of farmers, local infrastructure, and crop) is one model better than the other? What kind of changes could make these models more successful in conditions we think they are better suited for?*

### **Small farmers who become prosperous are often exceptional entrepreneurs.**

Case studies of successful small farmers show them to be exceptional entrepreneurs. They are very hard working and ambitious; they have excellent factoring skills; they are always looking out for ways to increase their productivity and income; they experiment and take calculated risks, and they show perseverance in face of a few adverse shocks. There may be a few (or many) other common qualities not listed here. However, it might also be true that some of these qualities get attributed to or artificially imposed upon those small farmers that end up becoming prosperous. Simultaneously, other small farmers who experimented but did not succeed might have been equally enterprising to begin with.

These skills are just as important as contextual factors like good infrastructure and access to input and output markets, etc. and are especially visible in the pioneers. The threshold of special qualities needed to become a successful small farmer may be lower for those who follow their successful example.

*Questions: What individual qualities can be taught or encouraged (through exposure, training, right incentives)? A second question (as a reality check) is that qualities listed above with probably fetch higher returns in other sectors of economy. Is it so that most of the youngsters with such qualities choose to shift out of agriculture; and that agriculture itself has become the parking lot for those without much skill or drive? If so, how can we still make those who are left behind in agriculture learn some of the skills/qualities that make a successful entrepreneur? Our surmise is that a stable, attractive market within easy reach is the prime catalyst; the rest requires hand-holding and support system. Do governments and NGOs ignore markets? Why?*

### **12. Most livelihood programs run by NGOs are not geared to bring prosperity to small farmers**

A large number of NGOs have been working to promote livelihoods of small and marginal farmers for years with sincerity and innovativeness, but more often than not, these programs are designed to add marginally to household income: watershed development, SHGs, SRI, low cost micro-irrigation, treadle pumps, tank irrigation—if done well, these can raise gross output per hectare of land from Rs.10000 to 15000 but not to

Rs. 2 lakhs — which requires a very different programmatic design. Such programs may bring down the head count ratio, reduce desperation and secure subsistence, but they are unlikely to make farmers well-off. Likewise, institutions like IWMI claiming that access to irrigation, even water control, can remove poverty may be overstating their case. Like credit, water control is a necessary but not sufficient condition.

*Questions: Is it time for NGOs and donors to rethink their livelihood strategies and programs? What should be the design elements of a livelihood program that seeks to convert a large number of SFs into SPFs?*

### **Our case studies show limited contribution of government in creating success stories.**

Our case studies show limited (or no) contribution of government in facilitating the switch from subsistence to wealth creating agriculture for smallholders. Very few small farmers have access to credit from banks and access to insurance is even less common. There are many barriers in markets and movements of agricultural products. The government extension machinery is quite weak and ineffective too. In comparison, governments have done better in creating provision for irrigation through capital and energy subsidies.

At the macro-economic level, the quest for national food security might even be hurting SPFs. Without fertilizer and power subsidies and attractive minimum support prices that offer a comfort zone at a low-level equilibrium, states like Punjab, Haryana, and western UP would have many more SPFs.

*Questions: What can we learn from successful government schemes (spl. in irrigation sector) that reached a large number of small and marginal farmers, eg. Million Wells Scheme in eastern India? A number of state governments are spending huge resources on extension efforts. Large soil testing programs are examples. The result, however, is disappointing compared to the financial and political resources being devoted. How could we tinker with the design of these programs to make them serve smallholders better? Further, private agribusiness has a vested interest in small farmers getting rich. How do we leverage their profit motive to benefit millions of small farmers? At the macro-policy level, does the quest for national food security support SPFs?*

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## About the IWMI-Tata Program and Water Policy Highlights

The IWMI-Tata Water Policy Program (ITP) was launched in 2000 as a co-equal partnership between the International Water Management Institute (IWMI), Colombo and Sir Ratan Tata Trust (SRTT), Mumbai. The program presents new perspectives and practical solutions derived from the wealth of research done in India on water resource management. Its objective is to help policy makers at the central, state and local levels address their water challenges – in areas such as sustainable groundwater management, water scarcity, and rural poverty – by translating research findings into practical policy recommendations. Through this program, IWMI collaborates with a range of partners across India to identify, analyze and document relevant water-management approaches and current practices. These practices are assessed and synthesized for maximum policy impact in the series on Water Policy Highlights and IWMI-Tata Comments.

Water Policy Highlights are pre-publication discussion papers developed primarily as the basis for discussion during ITP's Annual Partners' Meet. The research underlying these Highlights was funded with support from IWMI, Colombo and SRTT, Mumbai. However, the Highlights are not externally peer-reviewed and the views expressed are of the author/s alone and not of ITP or either of its funding partners.

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