

# Product Differentiation to Tackle Farm Distress

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The political discourse on agriculture has focused on support to farmers, notwithstanding that what has most failed the Indian agriculture is markets for outputs. Without alternative marketing opportunities, no two tomatoes or potatoes are differentiated and any increase in supply lead to price collapse, which has been at the core of agrarian distresses in India.

The discourse on Indian agriculture has been dominated by farm distress leading to politics of competitive support offers. Several schemes have been pitched, such as the Pradhan Mantri Kisan Samman Nidhi, the Nyuntam Aay Yojana (NYAY), the Rythu Bandhu scheme of Telangana or the Krushak Assistance for Livelihood and Income Augmentation (KALIA) of Odisha. The unifying principle of these schemes is income or livelihood support for the farmers or poor households. Being formulated as income transfer, these schemes are in the spirit of a social safety net.

Social safety nets come in a variety of forms that function according to an objective (Hanlon et al 2010). Social protection programmes aim to address the underlying market failures that may have contributed to the persistent state of poverty. The belief is that addressing the market failures would help households move out of poverty. Looking at agriculture from the social safety net lens is perhaps the reason behind agriculture not being treated as an income generator, which, we argue, would itself have contributed to farm distress.

Targeting principle in economics dictates that there be instrument specificity for outcomes. Instruments for achieving agricultural productivity and income growth should be specific for that purpose and need not aim for being a safety net. Traditionally, social safety nets have been thought of as mechanisms for redistributing income and improving welfare of the poor and vulnerable through subsidies, transfers and capacity strengthening. When it comes to addressing farm distress, programmes must address not just income deficits but also structural vulnerabilities that make it persistent. The programmes targeting sustained reduction in farm distress should be driven by an assessment of vulnerability and an understanding of the economic

environment. The nature of crisis in agriculture has changed from being climate-driven per se, to being market-driven. There is a surplus production of several commodities, yet farm incomes have been low and volatile owing to the behaviour of prices.

## Potent and Persistent Distress

The attainment of self-sufficiency in cereals, however, could not preclude the onset of a dual “agrarian” and “agricultural development” crisis in India in the decades following the green revolution (GoI 2007). While the Indian economy accelerated since the 1980s, Indian agriculture stagnated. Farm incomes in 2011–12 had only multiplied threefold its real value in 1983–84 (Chand et al 2015).

Based on the National Sample Survey Office (NSSO) situation assessment survey, a staggering 70% of Indian farmers earn less than ₹15,000, and three-fourths of them are marginal landholders with about a hectare or even less land to operate on. Only 10% earn annual per capita income that exceeds ₹30,000 (Birthal et al 2017). An average Indian agricultural household’s per capita income is only about 48% higher than India’s rural poverty line (Birthal et al 2017; Planning Commission 2013).

Agriculture’s share in India’s gross domestic product (GDP) has fallen short of its share in the country’s workforce because of declining factor productivity in agriculture since the mid-1990s (Reddy and Mishra 2008), and widening productivity differential between the non-farm and farm sectors (Binswanger-Mkhize 2012). Consequently, disparity in incomes of cultivators and non-farm workers has remained widely divergent over the last three decades. Plummeting profitability, and escalating costs and risks have persistently characterised the agriculture sector since the mid-1990s. Progressively growing farmers’ woes have manifested in the disturbing phenomenon of farmer suicides—recorded incidence of which rose by 70% between 1995 and 2005 when income per farmer grew by a meagre 1.96% (Chand et al 2015).

Hence, the distress in agriculture in India is neither new nor sporadic. Indebtedness and inadequate access to formal credit is

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among the most widely attributed reasons for farm distress (Birthal et al 2017; Deshpande and Prabhu 2005; GoI 2007; Mishra 2007; Reddy and Mishra 2008). Other factors to which farm distress has been ascribed are: slow pace of irrigation expansion (Reddy and Mishra 2008), increasing market risks, rising costs of cultivation, non-remunerative producer prices (Suri 2006), declining public investment without compensating private investment, deteriorating agricultural research and innovations (Birthal et al 2017), crumbling agricultural extension systems and neglect of agriculture in design, and the implementation of government programmes and policies over several decades (Reddy and Mishra 2008).

Several other reasons have been put forward such as lag in real earnings from agriculture (Timmer 2009), non-viability of the bulk of landholdings and lack of non-farm opportunities (Nadkarni 2018), poor physical infrastructure and underdeveloped institutions (credit, extension, insurance), and a lack of complementarity among them (Birthal et al 2017). What is missing from this set of explanations—which we want to highlight—is the lack of product differentiation that has restricted value generation in agriculture.

### The Cobweb Imbroglia

One of the simplest models of agricultural markets—the cobweb theory—clarifies the possible forces behind farm distress. The model, in theory, implies that price fluctuations translate into fluctuations in supply which cause a cycle of rising and falling prices. Underlying this phenomenon is the idea of symmetric price transmission. In Indian agriculture though, the cobweb model works to the extent that farmers can expand acreage and undertake intensification. But, there is the issue of asymmetric price transmission with low prices affecting the farmers and high prices often not transmitting to them. A good example of this phenomenon is the case of pulses. During the high prices of pulses, farm-gate prices did not rise in tandem while farmers bore the brunt of the price collapse. Modifications of the cobweb model can clarify the issue related to price-based

distress when there has been sustained increase in agricultural production.

In the cobweb model, the following interrelated things hold:

(i) All actions take place on the supply-side, demand is passive or constant or in general assumed to be price inelastic (a fall in price only causes a small increase in demand).

(ii) A low price discourages farmers from growing that crop in the next cycle.

(iii) The commodity is homogeneous, that is, there is no product differentiation.

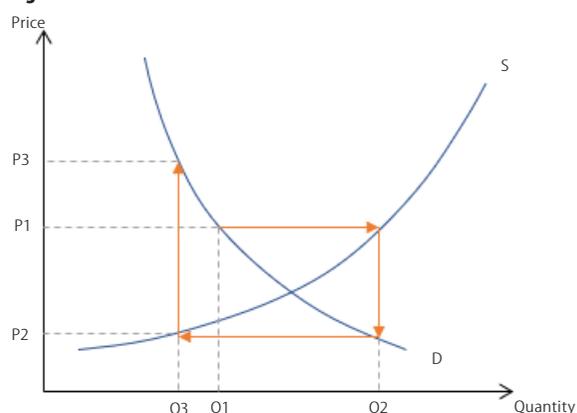
(iv) Price transmission to the producers is complete and it is symmetric, that is, both high and low prices transmit to the producers.

In a simple cobweb model, the assumption is that there is an agricultural market where supply can vary due to factors such as the weather, and producers base their decision for the next period based on the current period's price realisations (Figure 1). Whenever the supply curve is more elastic than the demand curve, prices will diverge from the equilibrium. Though the opposite is also possible when the slope of the supply curve is less than the demand curve, we are in a regime where supply is comparatively responsive. These dynamics are different with exports and imports, as well as government policies such as buffer stocking.

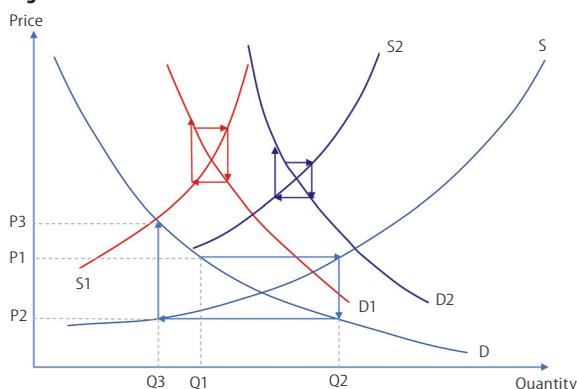
Figure 2 presents the changed cobweb dynamics with product differentiation. To fix ideas let us call a differentiated unit of a product a variety. With product differentiation, effectively there are variety-specific demand and supply curves ( $D_1$ ,  $D_2$ ,  $S_1$  and  $S_2$ ). With an aggregate demand and supply curve, the fall in prices can be larger for a given increase in supply. With product differentiation,

the elasticity of demand depends on the substitutability between varieties. Greater the product differentiation, that is, lower the substitutability, lower is the elasticity of demand. Price increases, then, do not reduce the demand by a large amount. Alternatively, this gives some market power to the producer of the specific variety where the prices are

**Figure 1: Cobweb Model with Undifferentiated Products**



**Figure 2: Cobweb Model with Product Differentiation**



where:

$D$  = demand for undifferentiated commodity

$S$  = supply of undifferentiated commodity

$D_1$  = demand for Variety 1 of the given commodity

$D_2$  = demand for Variety 2 of the given commodity

$S_1$  = supply of the differentiated commodity (Variety 1)

$S_2$  = supply of the differentiated commodity (Variety 2)

a function of the supply of specific variety (along with related varieties).

Product differentiation cushions against the collapse in prices as the primal role is played by the variety-specific supply. Also, demand does not switch away that easily. Asymmetric price information and inability to verify the quality of produce are important factors driving down producer prices (Goyal 2010). Access to market information that can bring in product differentiation can improve market outreach, empowering smallholders to bargain better price terms

in formal as well as informal market channels (Negi et al 2018).

### Product Differentiation

There are many ways of introducing product differentiation in food markets. These comprise of food safety, quality through a credible system of grading and certification, geographical indication, and other forms of branding.

**Food safety certification:** Demand for food safety or nutrition where producers are rewarded for delivering on food safety can be an important element of product differentiation and offers a significant opportunity for improving the plight of farmers. In India, food safety or any other non-price attribute such as nutrition that costs more in production, processing or delivery has traditionally been thought of as a factor in niche markets of comparatively rich consumers. The most commonly proposed reason for the lack of a premium for safer or nutritious food in India is low ability to pay (ATP). ATP, however, is only a necessary condition determining demand for safer and healthier food but is not enough. India has a sizeable and growing middle-income population with rising ATP. Yet, the demand for safety and nutrition remains low. This is reflected in the

growing consumption of organic food, which is not even properly certified. Without objective credible certification, the value is captured by agents who in the value chain create enough credible claim of safety or nutrition. These are usually traders with capital who exclude the farmers. It is subjective rather than objective indicators for nutrition and safety that have comparatively few entry barriers. Safe nutritious food does not carry a price premium for farmers when it is not possible to differentiate between safe and nutritious food and unsafe or unhealthy food at the point of purchase.

**Latent demand for non-price attributes:** Birol et al (2015)—based on a theoretical model and a market experiment in India's richest market in Mumbai and other cities like Pune and Mysuru—show that the phenomenon of low demand for food safety and nutrition can be explained by the lack of credible information and certification prevalent in India. When informed about food safety and presented with a credible third-party certification, consumers were choosing safer product and paying higher prices to the producers. The findings of this study are supported in other developing countries' context as well as in Alphonse and Alfnes (2012) and Lagerkvist et al

(2013), which find that developing country consumers are willing to pay for higher quality food, inspected and organic. The prescription is that the provision of information to the consumers creates demand for non-price attributes that is important for addressing the issue of low prices and incomes of the farmers. Prior beliefs based on credible information and the trust in the certification system can make agriculture an income generator.

**Mainstreaming the India Good Agricultural Practices certification:** India is a large agricultural producer but not a successful exporter—India exports too little of too few commodities. The export market potential of India can be realised by making its produce internationally competitive in quality and food safety. The India Good Agricultural Practices (INDGAP), is a voluntary standard need to be mainstreamed not only for the international but also the domestic market. This would not only cushion producers with the option of domestic market but also address the issue of reputation in international markets.

Food safety and quality-driven markets rely significantly on reputation, and therein domestic standards also become a stepping stone for higher end markets.

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India, for example, is the largest producer of pomegranate but a small exporter. Out of the total exports only 8% goes to high-end markets of the Netherlands. The rest is exported to lower end markets. Adoption of Good Agricultural Practices (GAP) can not only lead to long-term improvement in agriculture but also make it more sustainable. GAP should be promoted for several reasons—from environmental and social to that for improving the economic status of farmers and deal with farm stress. Similar standards need to be promoted for nutrition and health. The essence of the proposal is to make agriculture more differentiated and render bargaining power to the farmers.

### Inclusive Agriculture?

By setting the target of doubling farmers' income by 2022, the Government of India (GoI) signalled a significant change in its agri-food policy from the earlier focus on food production (GoI 2018). Towards this, several schemes have been in place to achieve the target of raising farm incomes, the promotion of Farmer Producer Organisation (FPO) being one of them. This is important considering small and fragmenting landholdings (85% farmers in India are small or marginal with operational holdings of less than two hectares, and 67% holdings are of less than a hectare [GoI 2015]). Small land size is associated with small marketable surplus and lower capacity to incur costs associated with delivering differentiated product, problems that farmer organisations are expected to resolve. Though few, examples do exist, where small farmers are able to group together and access demanding markets (Roy and Thorat 2008). This should extend to domestic markets as well.

The entry barrier to market for small and marginal farmers are also reduced because of enhanced bargaining power with farmer organisations (Kherallah et al 2002; Thorp et al 2005). Farmer organisations create opportunities for small and marginal farmers to participate more effectively in markets (Stockbridge et al 2003). Since the 1990s, with the advent of liberalisation, policymakers and cooperative sector leaders started to rethink about how to reorganise the

FPOs and infuse professionalism in the sector. With this objective, the GoI in November 1999 formed a "High Powered Committee" under Y K Alagh for the formation and conversion of cooperative business into companies.

However, an ongoing comparative study by the International Food Policy Research Institute (IFPRI) in Bihar and Maharashtra assesses the ability of these organisations to deliver on product differentiation. Except for few, most FPOs have not delivered on differentiated product. This is one of the reasons for FPOs not being able to offer a good value proposition to banks and have had limited improvement in access to credit even as a company. Consequently, the attrition rate is high and the usual cobweb effects are in place even with organisations.

### Conclusions

The political discourse on agriculture has focused on support to the farmers. What is missing is any suggestion to make agriculture more market-clued and to engender new markets through product differentiation. What has most failed the Indian agriculture is markets. Yet, except for cursory reference, no innovative mechanisms have been proposed or put forward for agricultural markets. All efforts should be made to introduce differentiation in agriculture. We look at the systems of grading and certification as a requirement for a system that can generate value. Until then no two tomatoes or potatoes will be different and increase in supply would lead to price collapse, which is at the core of the recent agrarian crisis. A system that is based on product differentiation is likely to protect farmers by shifting the market powers towards them.

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#### Requirements:

- A master's degree in social sciences or media management from a reputed institution
- Five years' experience in a digital news outlet, with previous roles reflecting experience in project management and coordination between editorial and business teams
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- At least three years' experience in a similar role in a media organisation
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- Background in global media and product management with an understanding of academic publications
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The Business Manager will look after *EPW*'s digital operations. The candidate is expected to design business models to address the wider digital publishing community. They will define key metrics to monitor and measure the effectiveness of features and functions of *EPW*'s digital publishing platform. They will also actively seek and identify new business opportunities and partnerships towards increasing digital revenues.

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All applications must be emailed to [appointments@epw.in](mailto:appointments@epw.in) with the subject line: **[EPW Digital 2019-Position you're applying for]**

The digital application dossier must include:

- A cover letter describing your interest in and specific plans for *EPW*'s web presence
- An updated CV, including the names of two academic/professional references. (Kindly do not send reference letters at this point. We will contact the referees, as necessary.)
- One writing sample (for the Digital Fellowship programme only)

**Please note that incomplete applications or applications that are not sent in the prescribed format will not be processed.**

Only shortlisted candidates will be contacted. The interview for the shortlisted candidates will be conducted either through Skype and/or in person in Mumbai. The selected candidates would be required to work out of our Mumbai office at the earliest. Work experience may influence remuneration.

*We give preference to candidates from marginalised backgrounds who meet our requirements.*