Generating Agrarian Dynamism
Saurashtra's Lessons for Vidarbha

TUSHAAR SHAH, YASHREE MEHTA, VIVEK KHER, ALKA PALRECHA

Agrarian stagnation was much the same in the Saurashtra region of Gujarat and the Vidarbha region of Maharashtra until 1990, and for similar reasons. Since then, Saurashtra's agriculture has been growing, especially after 2000, at an accelerated pace, while Vidarbha's farmers have continued to stagnate. This paper interrogates why, and suggests some measures to jump-start agricultural growth in Vidarbha.

Tushaar Shah (*tushaar.shah@gmail.com*) is a Senior Fellow and Yashree Mehta is a Pre-Doctoral Fellow at the International Water Management Institute, Colombo. Alka Palrecha is Director, People-in-Center Consulting Services, Ahmedabad.

1 Backdrop

Understanding the causes of agrarian stagnation in the Vidarbha region of Maharashtra has been a source of endless frustration for researchers and policymakers in India. An increasing number of suicides by farmers in Vidarbha have heightened the urgency of improving their conditions and farming in the region.[1] The 2006 rehabilitation package, which proved little more than a dole, failed to make a major impact on Vidarbha's agriculture (Kalamkar and Shroff 2011). This makes it important to reflect again on what ails Vidarbha's agriculture and how to jump-start its growth.

In a series of studies Phansalkar (2003) and others explored various theories – not mutually exclusive – that have been cited at different times to understand the reasons behind agrarian stagnation in Vidarbha. Much of the discussion rests on the political economy of development in the three sub-regions of Maharashtra – western Maharashtra and Konkan, Marathwada and Vidarbha. All together, a cluster of six factors has been invoked to explain the continuing agrarian impasse in Vidarbha.

Legacy: Although parts of Vidarbha, especially Berar, saw some agrarian prosperity during the boom in global cotton demand in the early 20th century, the story of the region's agrarian impasse goes back to colonial times when what is today western Maharashtra began forging ahead with public investment in agriculture. While western Maharashtra had a more progressive *ryotwari* system, much of Vidarbha had a regressive zamindari system that dampened investment and fostered a feudal culture, which has been widely blamed for agrarian stagnation in, for example, eastern India.

Institutional Depressants: Zamindari antecedents and the feudal production relations they created are one aspect of institutional underdevelopment that rural Vidarbha has had to contend with. In addition, it has little of the kind of economic institutions that have contributed to western Maharashtra's agrarian growth. Sugar cooperatives, which have strong roots in western Maharashtra and given a huge lift to the agricultural economy there, are almost absent in Vidarbha. Even dairy and credit cooperatives, which have done very well in western Maharashtra, have been somnolent and ineffective in Vidarbha. As a result, the Vidarbha farmer is at the mercy of traditional trade for input and output markets, and on Marwari moneylenders for credit.

Divisive Society: Many social researchers emphasise that the fractious nature of Vidarbha's rural society is a "growth depressant" (Mohanty 2009; Phansalkar 2003). They compare Vidarbha with western Maharashtra where the dominant Maratha Kunbi and brahmin communities have formed broad and progressive alliances to capture the lion's share of resources, build strong farmer organisations, and to encourage the adoption of new technologies and progressive farming practices. Vidarbha, which on the north-west is an extension of Hindi-speaking Madhya Pradesh and on the east, of India's tribal heartland, has been in a state of perpetual turmoil with dissensions among Maratha Kunbis, Marwaris, Rajputs, Telis, and scheduled caste (SC) and scheduled tribe (ST) farmers.

Partisan Politics: As if a conflict-ridden social structure were not enough, Vidarbha has suffered from state-level politics that has systematically entrenched the dominance of western Maharashtra. Since the creation of the state, Vidarbha has not produced a high-profile political leader with the clout to correct its disadvantageous position. This is a reason why despite the recommendations of numerous committees on accelerating Vidarbha's development, little by way of concrete action has followed.

Developmental Backlog: Under the so-called Nagpur Pact that ended the Maha-Vidarbha movement, Vidarbha was promised an equitable share of development as the price for giving up the demand for statehood and joining Maharashtra. Yet, Vidarbha continued to receive stepmotherly treatment from the state government. The pact had promised that development funding would be allocated in proportion to the population of western Maharashtra, Marathwada and Vidarbha. However, Vidarbha always got far less than its share under this formula. In 1969, Chief Minister V P Naik abolished the formula for the regional allocation of funds, thus jettisoning the Nagpur Pact (Kumar 2001).

The Dandekar Committee report (1984), which went into regional inequalities in development, brought out Vidarbha's huge developmental backlog when compared to western Maharashtra. The most widely considered indicator of the backlog was the development of irrigation. Between 1970-71 and 1998-99, irrigation intensity in western Maharashtra increased from 10.4% to 23.6%, and in Marathwada from 5% to 15%. But, in Vidarbha, it only increased from 6.8% to 14% (Mohanty 2009: 66). More than half of Maharashtra's irrigated area is concentrated in western Maharashtra. The area under sugar cane, which is mostly in western Maharashtra and constitutes 10% of the state's total farm lands, consumes 50% to 60% of its irrigation water (Mohanty 2009: 66).

Harsh Terrain: Vidarbha is not ideal for modern agriculture. Large swathes of the region have black cotton soil with poor drainage, offering little room for the infiltration and percolation of water to aquifers. Moreover, large parts of the region have consolidated hard rock aquifers with limestone, sandstone, basalt, and other rock formations 15 to 20 feet below ground level. This makes tapping groundwater more difficult than in the semi and unconsolidated formations that are mostly present in western Maharashtra. Vidarbha is endowed with a fair amount of surface water, but much of it remains undeveloped. Phansalkar (2003) also argues that relatively good rainfall with a low coefficient of variation has muted the demand for irrigation because rain-fed cotton provides low but assured returns to farmers, thanks to a monopoly cotton procurement policy that has eliminated market risks. In a survey of 6,990 farming households across Vidarbha in 2008-09, Parasuraman and Rajaretnam (2011) found that more than 80% of the sample had no source of irrigation, while only 20% of the area was cropped during rabi, suggesting the dominance of rain-fed kharif crops. The proportion was less than 15% for marginal and small farmers, who constitute two-thirds of Vidarbha's farming households, suggesting that the little irrigation that exists goes mainly to large farmer households.

2 Saurashtra: Gujarat's Vidarbha?

The Saurashtra region of Gujarat has marked similarities with Vidarbha, and for a long time, its indifferent agrarian growth performance was explained with much the same reasons as Vidarbha's stagnation is explained today. In 1990, Surendra Patel (1991: 1619) wrote about two Gujarats – the privileged, rich Gujarat, extending north-to-south from Gandhinagar down to the border with Maharashtra; and the deprived, poor Gujarat, consisting of Saurashtra, north Gujarat and Kachchh. In terms of historical legacy, Saurashtra, if anything, was worse off than Vidarbha at the time of the creation of the state. Until independence, Saurashtra was fragmented into 202 princely states ruled by local kings and overlords infamous for their extravagance and waywardness, though there were a few notable exceptions such as the princely state of Bhavnagar. While the rest of Gujarat benefited from the progressive outlook of the Gaikwad as well as British rule, Saurashtra had no progressive governance.

Property institutions in Saurashtra were regressive. The areas under Baroda state and the Bombay Presidency were subject to the ryotwari system. Much of Saurashtra, in contrast, suffered from the extremes of the zamindari system, with myriad intermediaries between the government and peasants (Mishra 1964; Joshi 2002: 378-79). Similarly, the rural social structure of Saurashtra was even more divisive than Vidarbha's. "Conflict" was a dominant value (Joshi 2002) and there were constant shifts in local power equations between Patidars, Kshatriyas, Kolis and SCs. This divisive social structure was often blamed for the lack of substantial economic institutions of farmers in Saurashtra. Unlike Vidarbha, Saurashtra had no adivasi population, but this did not help in making it a fertile ground for progressive institutions.

It was a matter of much interest to social scientists that while cooperatives of all sorts – for milk, sugar, cotton, and even tube well irrigation – took strong root in central, south, and even north Gujarat from the 1950s on, Saurashtra remained inhospitable to farmer cooperatives of any kind. The few exceptions included the Rajkot Cooperative Bank (Joshi 2002).

The infamous groundnut oil lobby, the so-called *telia rajas*, were a formidable economic force. They kept Gujarat's political machine well-oiled, but this did little to energise and modernise Saurashtra's agriculture. If anything, the telia rajas frustrated the National Dairy Development Board's (NDDB) attempts to introduce cooperatives to Saurashtra's oilseed economy. Like Vidarbha, Saurashtra remained a political lightweight in Gujarat politics since the formation of the state. While muted demand for a separate state was aired from time to time since the 1970s, it was not until Keshubhai Patel became the chief minister that a Saurashtra politician rose to the zenith of political power, for however short a period of time.

If unequal development of public irrigation is a major cause for Vidarbha's sense of victimhood, this was even more so in the case of Saurashtra. In terms of the concentration of public irrigation resources, the relationship between south-central Gujarat and Saurashtra was heavily biased against it. Tall promises made during the 1970s of irrigating Saurashtra's parched fields with Narmada waters remained empty promises.

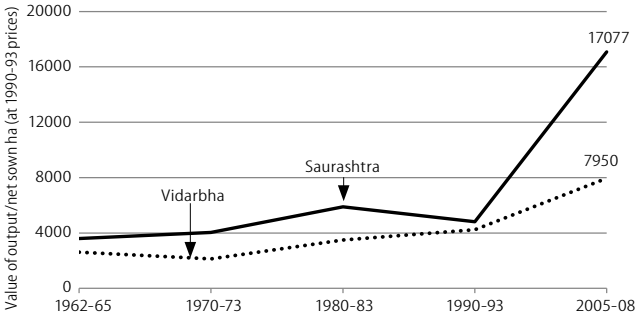
Finally, Saurashtra is even harsher than Vidarbha as an agrarian landscape. The 1985-87 droughts brought Saurashtra's dire water situation into bold relief, so much so that the title Zaverchand Meghani's famous work *Sorath Taran Vehta Pani* (Sorath, Your Flowing Waters) was twisted by a writer to *Sorath Taran Valta Pani* (Sorath, Your Fading Fortunes) (Patel 1991). Like Vidarbha, much of Saurashtra has hard rock aquifers with limited storage.[2] However, Vidarbha does not have to put up with the problem of salinity that the entire Saurashtra coast suffers from. The topography of Saurashtra resembles an inverted saucer. Flood waters of the monsoon run off at great speed into the Arabian sea, leaving the landscape dry, even parched, just a few weeks after the monsoon withdraws. Vidarbha at least has a long history of stable monsoons with a relatively low coefficient of variation, making rain-fed farming a reliable option. The early withdrawal of the monsoon in three out of every five years makes rain-fed farming highly risky in Saurashtra.

3 Accelerated Agricultural Growth in Saurashtra after 1990

Legacy factors, conflict-ridden societies, partisan politics, an institutional vacuum, developmental backlogs, and harsh terrains kept the agrarian economies of Saurashtra and Vidarbha on a trajectory of low performance. Yet, in the early 1990s, Saurashtra's agricultural growth accelerated. And since 2000, it has been accelerating at a more rapid pace. Finding reliable data on comparative agricultural performance at the district level is hard. But a variety of data sets suggest that when it comes to agricultural performance, the gulf between Saurashtra and Vidarbha, which was insignificant until the 1990s, has been growing wider.

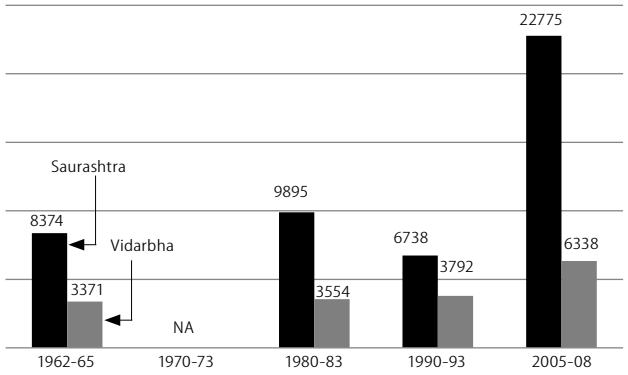
The first indicator of this is available in Bhalla and Singh's (2012) study of district-wise agricultural growth performance over five trienniums since 1962-65. Figure 1 summarises the trends in the growth of gross value of output of agriculture (GVOA at 1990-93 prices) per hectare (ha) of net sown area over this 40-year period.[3] During 1990-93, the GVOA per hectare of net sown area for Saurashtra and Vidarbha was nearly equal. But by 2005-08, Saurashtra's GVOA was more than three times that of Vidarbha's. Figure 2 plots Bhalla and Singh's data, showing changes in labour productivity in agriculture (GVOA/agricultural worker at 1990-93 prices), which provides a better indicator of the impact of agricultural growth on farm incomes and livelihoods.

Figure 1: Value of Agricultural Output in Saurashtra and Vidarbha (in Rs/hectare)



Source: Bhalla and Singh (2012).

Figure 2: Value of Crop Output/Agricultural Worker (in Rs)



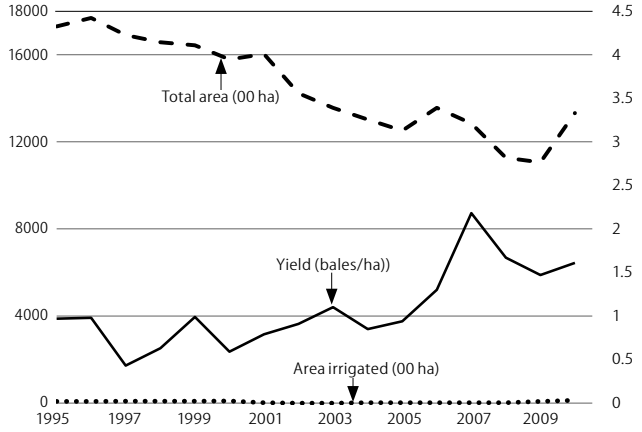
Source: Bhalla and Singh 2012 (Data not available for 1970-73).

Cotton, which had been Vidarbha's traditional strength, has become its nemesis. Phansalkar (2003) argues that even after the arrival of Bt cotton, the tradition of rain-fed cotton has lulled Vidarbha's farmers into a low-level equilibrium from which they have been unable to break out. Phansalkar also holds that rain-fed cotton producing a low but reliable yield has kept the demand for irrigation low in Vidarbha. The irrigated cotton area is less than 1% of Vidarbha's cotton area, and most Bt cotton in rain-fed conditions is intercropped with millets or pulses. Parasuraman and Rajaretnam (2011) found that 90% of the farmers they interviewed grew tur dal as an intercrop in soybean or cotton.

Based on fieldwork in Wardha district, Alka Palrecha (personal communication 2013) has contended that Bt cotton intercropped with pulse crops may diversify the production risk but offers little yield advantage over desi (local) cotton.[4] She also found that while cotton plants stand on Vidarbha's fields right up to April, farmers were able to pick only once around October, but not during winter and summer. Analysing 2002-03 data from a National Sample Survey (NSS), Gaurav and Mishra (2012) found that the average Gujarati Bt cotton farmer spent 30% more on inputs (mostly irrigation)

compared to a Vidarbha farmer, but harvested a yield that was 106% higher and earned 90% more in net income from Bt cotton.[5] No surprise then that in a period of global boom in cotton demand and India's emergence as a major cotton exporter, Vidarbha's cotton area has been shrinking (Figure 3). Although cotton yields have been rising due to the near universal adoption of Bt cotton, Vidarbha's area under cotton fell from 17 lakh ha in 1995 to around 11 lakh ha in 2009, with rain-fed cotton making way for rain-fed soybean.

Figure 3: Vidarbha – Area, Irrigated Area, and Yield/ha of Cotton

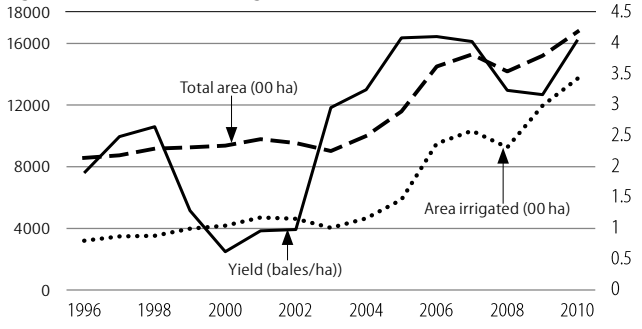


Yield calculations exclude Bhandara district.

Source: Season and Crop Reports, Commissioner of Agriculture, Maharashtra and Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.

In contrast, cotton has worked wonders for Saurashtra's agriculture. In 1996, Saurashtra's eighth lakh ha of cotton area was less than half of Vidarbha's. Moreover, like in Vidarbha, Saurashtra's cotton crop was largely rain-fed till the mid-1990s. By 2010, however, their positions were reversed. More significantly, the adoption of Bt cotton in Saurashtra was closely followed by the conversion of rain-fed cotton to irrigated cotton. The irrigated cotton area in Saurashtra increased from around 3.5 lakh ha in 1996 (about 40% of the total cotton area) to 14 lakh ha (more than 80% of the total cotton area) (Figure 4). This has had a dramatic impact on cotton yield, which has more than doubled in the past 15 years and is now among the highest in the world. Saurashtra cotton also fetches premium prices in international markets.

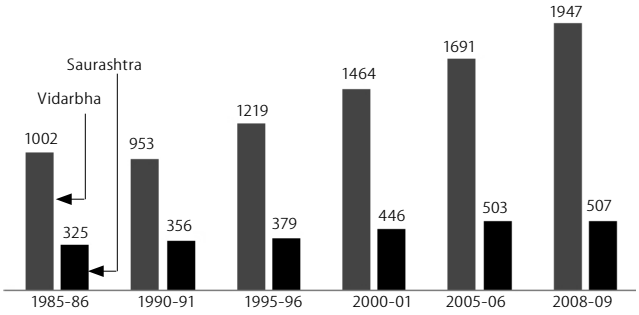
Figure 4: Saurashtra Area, Irrigated Area, and Yield/ha of Cotton



Source: Department of Agriculture, Krishi Bhavan, Government of Gujarat, Gandhinagar.

Besides crop productivity, another area in which Saurashtra has made rapid strides is dairying. Figure 5 shows that from early on Saurashtra was ahead of Vidarbha in dairy production – its milk production during the mid-1980s was nearly three times higher than that of Vidarbha. Since then, Saurashtra has increased its lead over Vidarbha in dairying. In 2008-09, its milk production was nearly four times more than Vidarbha's. In terms of farmers' cash income, this had great implications. At Rs 30/kg as the farm gate price of milk, Saurashtra's dairy production amounts to Rs 6,000 crore/year at 2011 prices (roughly Rs 15,000/ha of net sown area) against Vidarbha's Rs 1,500 crore (roughly Rs 3,120/ha of net sown area).[6]

Figure 5: Saurashtra and Vidarbha – Trends in Milk Production (000 mt)



Vidarbha estimates exclude Buldhana district; crossbred cows have been excluded to enable comparison.

Source: Integrated Sample Survey Reports, Department of Animal Husbandry, Government of Maharashtra; Director of Animal Husbandry, Government of Gujarat.

Saurashtra's dairying boom is the result of sustained intensification of its crop-milk mixed farming system. Milk production of a region can increase either through an increase in the average milk yield of bovines (by better feeding and management of milking animals), or by an increase in the ratio of bovines in milk to the population of adult female bovines (through better breeding and management of the bovine herd), or by increasing the bovine herd size, or by a combination of all three.

As Figure 6 shows, Saurashtra's higher milk production is explained not just by the higher average productivity of its milking animals, but also by improved herd efficiency (milk production per milch bovine) and higher bovine stocking rates (bovines/ha of net sown area). The total of all three are reflected in Saurashtra's higher milk production per ha of net sown area.

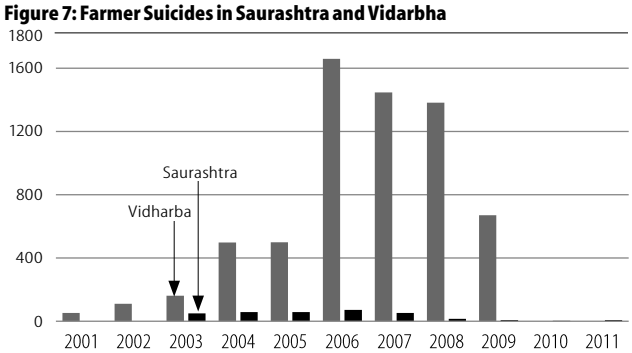
Figure 6: Dairy Productivity of Agriculture in Saurashtra and Vidarbha

Source: Compiled by authors from district-wise estimates of milk production by NDDB, Anand and Integrated Sample Survey Reports.

All in all, a general increase in crop productivity, a Bt cotton revolution, rapid expansion in rabi cultivation, and a boom in dairying have enabled Saurashtra's agricultural economy to forge ahead in the past two decades, while Vidarbha's agriculture has stagnated. Perhaps the best indicator of the impact

this has made on the two agrarian societies is in the vastly different numbers of farmer suicides in recent years, as evident in Figure 7. The literature suggests that the four key factors that have driven farmers to suicide are indebtedness; cotton crop failure; failure of wells in hard rock areas; and drought (Planning Commission 2006). Both Saurashtra and Vidarbha are similarly affected by all four. Saurashtra continues to report farmer suicides because of one or more of these, especially in drought years such as 2012-13. Yet, Vidarbha's rates of farmer suicides are much higher than Saurashtra's.

Figure 7: Farmer Suicides in Saurashtra and Vidarbha

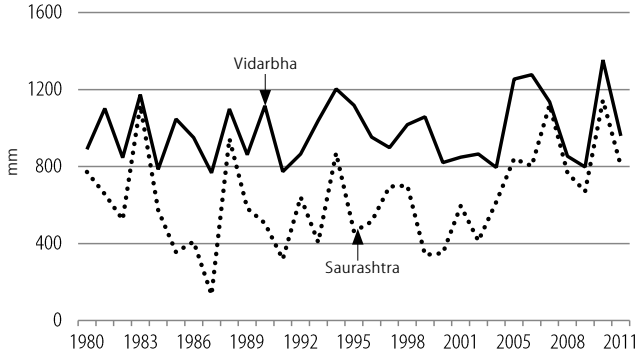


Source: http://shodhganga.inflibnet.ac.in/bitstream/10603/3415/10/10_chapter%205.pdf for Maharashtra; Department of Agriculture, Gandhinagar.

4 Drivers of Saurashtra's Agrarian Ascent

What explains this sudden spurt in crop and milk productivity per hectare in Saurashtra? Figure 8 plots the average annual rainfall precipitation in the two regions for 31 years since 1980. Both have had highly fluctuating rainfall. But Vidarbha in general has had higher rainfall than Saurashtra in most years. So it is unlikely that the difference in precipitation has had much to do with Saurashtra's agrarian ascent or Vidarbha's stagnation.

Figure 8: Rainfall Trends in Saurashtra and Vidarbha



Source: Department of Agriculture, Gandhinagar; India Water Portal.

Neither do other key factors that scholars and policymakers consider important drivers of agricultural growth. Much of the discussion on Vidarbha's agrarian stagnation blames the stepmotherly treatment it has received in the allocation and execution of major and medium irrigation projects. But if Vidarbha has only 9% of its net sown area under government canal irrigation, Saurashtra has only 3% (Table 1). If the density of agricultural produce marketing committee (APMC) yards is any indicator of agro-marketing infrastructure, Vidarbha has 2.1 APMCs per 1,00,000 ha of net sown hectares compared to Saurashtra's 1.4. A few years ago, Fan et al (2000) made a strong pitch for public investment in the road network to accelerate agricultural growth and reduce rural poverty. But in this respect too, Vidarbha has far less to complain of than Saurashtra – it has 1,231 km roads/1,00,000 ha of net sown area compared to the latter's 574 km. If Fan et al (2000) were correct, Vidarbha's agriculture should be on the mend, which is not the case.

Table 1: Drivers of Agricultural Growth – Saurashtra and Vidarbha

	Saurashtra	Vidarbha
Normal rainfall in mm[a]	643	1,076
% of net sown area irrigated by government canals[b]	3	9
Number of electric pumps/1000 ha of net sown area[c]	83	82
% of net sown area irrigated by private wells and tube wells[b]	47	1
Nature and type of aquifers[d]	Hard rock	Hard rock
APMCs/1,00,000 ha of net sown area[e]	1.4	2.1
Roads in (km)/1,00,000 ha of net sown area[f]	574	1,231

Sources: a: Agriculture Contingency Plan, Ministry of Agriculture; b: Season and Crop Report, Department of Agriculture, Gandhinagar; Government of Maharashtra Irrigation Report (2006); c: http://mahades.maharashtra.gov.in/publication.do?pubCatId = DSA (excludes Bhandara); Input Survey, Department of Agriculture and Cooperation, New Delhi; Saurashtra figure is for 2006; Vidarbha figure is for 2001; d: Himanshu Kulkarni (2012), personal communication; e: Government of Gujarat (2007), Gujarat State Agricultural Marketing Board; Government of Maharashtra (2005); Maharashtra State Agricultural Marketing Board; f: Statistical abstract of Maharashtra state, 2007; Directorate of Economics and Statistics, Gujarat, 2007.

The real reasons for Saurashtra's agriculture making good progress may be many. But the most important, in our view, is a slew of government actions that have played a strong catalytic role in the region's agricultural growth. The Gujarat government's annual *Krishi Mahotsav* (Agrarian Festival) has infused new life into a moribund system of agricultural extension (Shah et al 2012). Gujarat was also among the first states to liberalise the APMC Act, freeing farmers to sell their produce directly to processors. Then, on genetically-modified (GM) technologies, the Gujarat government has been more proactive than the central government or other state governments.

During the early years of the millennium, when scientists, non-governmental organisations (NGOs), and the central government were debating the pros and cons of GM crops, the Gujarat government turned a blind eye to the proliferation of illegal Bt cotton hybrid seeds that farmers found very profitable. It allowed private Bt cotton seed producers to flourish, even in violation of the central government's bio-safety regulations, using the excuse of farmer-to-farmer seed exchange (Ramaswamy et al 2012). When exorbitant hybrid seed prices worked against farmers, the state government prevailed over big Bt cotton seed companies to halve their prices by declaring it as an "essential commodity". Later, when Gujarat's farmers themselves emerged as major hybrid seed suppliers, the state government allowed Bt cotton seed prices to rise, showing clearly that its priorities lay with its farmers. In early 2012, no cotton-growing state opposed the central government's ban on cotton exports as vehemently as the Gujarat government. Now, to get Gujarat's cotton farmers an even better deal and to insulate them from the vagaries of a whimsical cotton export policy, the state government has announced a new textile policy (the so-called 5-F policy) of vertical integration in the cotton economy from farm-to-fibre-to-fabric-to-fashion-to-foreign

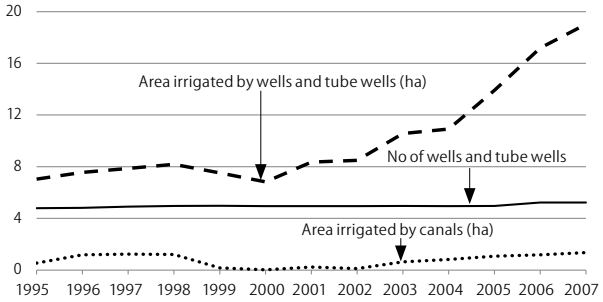
markets. Time will tell what this new policy does for Saurashtra's cotton farmers. The state administration has so far had its ear to the ground and been pursuing the interests of its own peasantry.

In Saurashtra's agricultural ascent relative to Vidarbha's, four specific developments played an important role – the decentralised groundwater recharge movement; *Jyotigram*; a boom in Bt cotton and wheat; and a belated dairy revolution. The state government played an active role in all these. Saurashtra has a booming groundwater irrigation economy, unlike Vidarbha. It is not as if Vidarbha is not adequately plumbed for intensive groundwater irrigation. As Table 1 shows, its density of electrified groundwater structures is nearly as high as Saurashtra's. Yet, just about 1% of Vidarbha's net sown area is irrigated by groundwater in contrast to Saurashtra's 43%. Our working hypothesis is that two things that happened in Saurashtra, but not in Vidarbha, may have played a big role.

First, there was a mass movement in Saurashtra for rainwater harvesting and decentralised groundwater recharge on a scale unparalleled elsewhere. Though it began as an autonomous movement driven by godmen, religious sects, diamond merchants of Surat and Brussels, and NGOs of various hues (Sangvai 1994; Shah 2000), the Bharatiya Janata Party (BJP) government of Keshubhai Patel actively supported it. After 2000, the Narendra Modi government strengthened government support for the recharge movement by formulating the Sardar Patel Sahbhagi Jal Sanchay Yojana. It liberally helps village communities in constructing hundreds of thousands of community-managed groundwater recharge structures. Some hydro-geologists have cast doubts about the efficacy and benefits of such an unplanned recharge movement when the storage offered by hard rock aquifers is small (Kumar et al 2008). However, farmers and social scientists who have worked with them claim massive benefits from the recharge movement (Gandhi and Sharma 2009; Shingi and Asopa 2002). The 2012-13 drought left Saurashtra's cities and towns with a severe drinking water crisis, but its effect on Saurashtra's agriculture was mild (Mahapatra and Chakravarti 2013) compared to what Vidarbha and Marathwada went through.

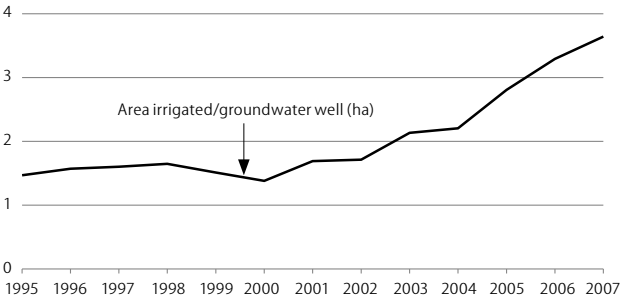
Second, in recent years, Saurashtra (and the rest of the state) have benefited from the state government's Jyotigram scheme, which separated agricultural feeders from other rural feeders. After the separation, farm connections obtain eight hours of uninterrupted power supply of full voltage every day. While the recharge movement has improved groundwater availability, reliable power supply has helped Saurashtra's farmers convert the groundwater into reliable irrigation. Figures 10 and 11 capture the impact of this. Between 2000-01 and 2007-08, canal irrigated areas improved only marginally in Saurashtra. Even the number of groundwater wells and tube wells in Saurashtra registered no major increase during this period. Yet, the gross area irrigated by groundwater wells increased nearly three times (Figure 9). The only way to explain the rise is through a sustained increase in gross area irrigated per groundwater well from 2000-01 to 2007-08 (Figure 10). The result is a substantial increase in winter and summer cultivation in Saurashtra relative to Vidarbha (Figures 11 and 12).

Figure 9: Saurashtra – Gross Area Irrigated by Canals and Groundwater (in lakh ha)



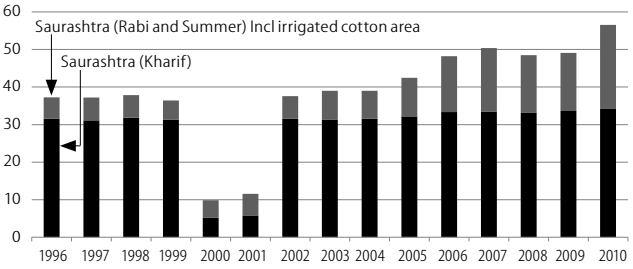
Source: Season and crop reports for various years.

Figure 10: Saurashtra – Growth in Average Area Irrigated/Well



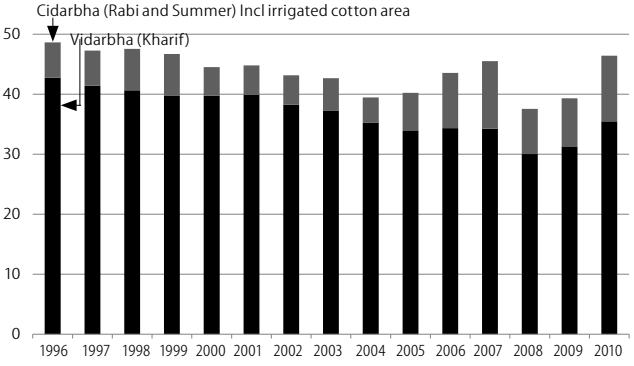
Source: Season and crop reports for various years.

Figure 11: Saurashtra – Land under Crops during Kharif and Combined Rabi and Summer Seasons (Lakh ha)



Source: APY data and Season and Crop Reports , Department of Agriculture, Krishi Bhavan, Government of Gujarat, Gandhinagar.

Figure 12: Vidarbha – Land under Crops during Kharif and Combined Rabi and Summer Seasons (Lakh ha)



Source: Department of Agriculture, Government of Maharashtra.

The availability of reliable groundwater irrigation has enabled Saurashtra to transform Bt cotton into a roaring success, and to increase its area under other irrigated food and cash crops such as wheat, castor, cumin, onion and chilli. The increase in the wheat crop increased the production of straw,

which made it possible to expand Saurashtra's dairy herd. It must be remembered that while milk yield per animal is determined in part by the amount of green fodder and concentrate milking animals consume and in part by their genetic potential, the size of the milch herd is determined by the availability of straw, which provides a maintenance ration to bovines in their unproductive months.

Deeper exploration of Saurashtra's dairy boom, however, suggests the role of reliable markets and better prices for milk at farmers' doorsteps. At the root of this is an ideological feud about how best to organise dairy producers. Until the late 1980s, cooperative dairies were largely neglected in Saurashtra. The Gujarat government had a Dairy Development Corporation with six dairy processing plants in Saurashtra, but little procurement. This went into liquidation in 1994. The Gujarat Cooperative Milk Marketing Federation (GCMMF) – the owners of the Amul brand – had been reluctant to admit Saurashtra's districts except Rajkot because it thought cooperatives would not thrive in Saurashtra's fractious social environment.

In the wake of economic liberalisation in 1990-91, the dairy policy was also liberalised and all restrictions on the entry of private sector domestic and multinational players were dismantled through a Milk and Milk Products Control Order (MMPO). This unleashed a debate about whether politics-ridden, Amul-type cooperatives that had thrived in a monopoly situation would be able to withstand cut-throat competition from private domestic and multinational players. The post-Verghese Kurien NDDB leadership perceived the need for a new-generation cooperative (NGC) – lean, mean, agile, professionally managed, and less vulnerable to farmers as well as party politics –to take on the competition (NDDB nd). Amul, however, remained faithful to its old pattern.

This ideological rivalry set the stage for a turf war (*The Times of India* 2009) between the Amul pattern and the NGCs that gave a powerful shot in the arm to dairy development in Saurashtra. In its search for districts to pilot the NGC idea, the NDDB (and Mother Dairy, Delhi, its subsidiary) sought entry to Saurashtra. The state government readily handed over all its six dairies to NDDB for setting up milk procurement, processing and marketing operations in Saurashtra, beginning with Junagadh (*Business Standard* 2005). Soon after, the GCMMF – which until then had thought cooperatives were hard to run in fractious rural Saurashtra –began a spree of organising cooperatives and created 1,600 village dairy co-ops in a short span of two years, collecting a million litres of milk daily (News Track India 2009).

This competitive drive to establish the superiority of alternative organisational models led to a rapid increase in milk procurement by the organised sector. In 2005, cooperatives were collecting less than 10,000 litres of milk a day from Saurashtra (*The Times of India* 2011). By 2011, NDDB's Mother Dairy and GCMMF together were collecting around 16 lakh litres of farmers' milk daily from more than 3,000 villages. The two were growing their milk procurement at 30% to 40% per year, adding dairy cooperatives or bulk milk coolers in 1,200 to 1,500 villages a year. During this period, the milk procurement price paid to farmers soared from Rs 14.35 to Rs 31.5 per kg of milk with 7% fat content. A reliable market and remunerative prices at their doorstep were powerful incentives for Saurashtra's farmers to intensify dairy production by increasing milk yield, improving genetic potential, and expanding the bovine herd size. The rising area under wheat, more reliable water availability, and improved drought resilience further boosted the belated white revolution in Saurashtra.

5 Development Depressants in Vidarbha

Vidarbha's situation is a complete contrast to Saurashtra's. Vidarbha has been promised canal irrigation projects that have guzzled funds but are years away from delivering water, if at all. Much could be done with the help of check dams, farm ponds, and well-recharge structures, which have energised Saurashtra's agriculture. However, as Dhanagare (1992: 1424) noted, in Vidarbha,

> Very little effort has been made so far to construct 'bundhs' across hundreds of small and medium rivers, rivulets and even 'nullahs' which carry abundant rain water ... Nor has there been any massive campaign for constructing percolation tanks ('pazar-talao') in villages to supply water to villages during the difficult post-monsoon months in the Vidarbha region. We find these tanks in large numbers all over in western Maharashtra, but very few in Vidarbha.

Even for farmers with access to groundwater, irrigation is difficult because of the lack of energy. The poor conditions of agricultural power supply in Vidarbha have been best captured by *Gabharicha Paus* (The Damned Rain), an award-winning Marathi feature film about the life of a gutsy Vidarbha small farmer who gets a borewell and electricity connection to save his cotton crop from drought. Erratic power supply means the pump does not work and the farmer loses his life while trying to hook a line on a high-voltage transmission cable to run his pump. The poor quality and quantity of agricultural power supply and the drying up of wells after December are the key reasons why cotton cultivation has become a millstone around the necks of Vidarbha's farmers. With assured supplemental irrigation, they would neither be under pressure to intercrop nor uproot cotton plants after October. Instead, they would be able to pick cotton during the monsoon and in winter, which would double their cotton yield and fetch them better prices (Barik 2010: 12).

Interventions to stimulate dairy development in Vidarbha have put the cart before the horse. Government schemes and the prime minister's relief package provided poor households with cross-bred cattle and buffaloes. However, the enduring lesson that Kurien, the father of India's white revolution, taught was that giving cross-bred cows to the poor without first providing a remunerative market for surplus milk is tantamount to burdening them. Rural Vidarbha has no organisational structure worth its name for marketing milk. In the 20 years up to 2000, Maharashtra's milk processing increased five to six times, but all the growth was concentrated in western Maharashtra, which today contributes 80% of the milk processed and marketed in the state while Vidarbha contributes just 8% (India Market 2000). A major milk demand centre in Vidarbha

such as Nagpur is even today not supplied by Vidarbha's farmers but those from Jalgaon, Aurangabad and Kolhapur.

It is not surprising that a Planning Commission fact-finding mission (2006) in 2005 found that Vidarbha farmers showed little interest in the dairy business. Why would they? Even Saurashtra's farmers had little interest in dairying until the mid-1990s. But no sooner had a reliable and remunerative market for milk emerged than farmer investment in increasing dairy production boomed. Around 2006, milk procured from farmers was just around 65,000 litres/day from six of the suicide-hit districts of Vidarbha, compared to one crore litres daily from the 10 western Maharashtra districts (India Together 2007). The solution is not to give away cows or promote artificial insemination in Vidarbha, but to establish a reliable milk procurement, processing, and marketing structure.

In 2006, the NDDB offered to establish such operations in Vidarbha (Rediff News 2006). Instead of grabbing the offer with both hands, as the Government of Gujarat did, the Maharashtra government is still procrastinating (*The Economic Times* 2012). Small-scale private dairies such as Halidram, Dinshaw and Samruddhi and a government-owned-cooperative, Mahananda, have pressured politicians to bar the entry of Amul and the NDDB to Vidarbha. Most of Vidarbha's districts have no dairy cooperatives, and private companies will not invest in building a procurement, processing, and marketing system unless there are viable milk sheds with a potential for a minimum density of milk production.

6 Conclusions

Vidarbha's agrarian stagnation and the resultant stress on its farmers, which shows up in high suicide rates, has been explained in terms of legacy, a fragmented society, partisan politics, inadequate agrarian institutions, a development backlog, and a harsh terrain. Many of these development depressants are hard to change quickly and the region's agriculture appears condemned to stagnation. The failure of all manner of "special packages" designed to jump-start Vidarbha's agriculture has lent credence to this tragic narrative.

However, the contrast between the agricultural growth trajectories of Saurashtra and Vidarbha raises new questions about this received wisdom. In the matter of "development depressants", Saurashtra was worse off than Vidarbha all along. However, since 1990, and especially after 2002, Saurashtra's agriculture has experienced unprecedented growth, unhindered by the development depressants.

The contrast between Saurashtra and Vidarbha also challenges the conventional notion that stepping up public investment in agriculture is the only way of accelerating agricultural growth. Saurashtra's agricultural boom is driven not so much by public investment but by smart, farmer-friendly government policies that have stimulated private capital formation in agriculture. Government actions that have played a strong catalytic role in Saurashtra include

(a) Explicit and sensible support to community-based water harvesting and the groundwater recharge movement;

(b) Jyotigram and a policy of supplying eight hours of quality power to agriculture;

(c) The annual organisation of Krishi Mahotsav;

(d) Allowing private Bt cotton seed producers to flourish even in violation of the central government's policy;

(e) Prevailing over big Bt cotton seed companies to regulate the prices of Bt cotton seed by declaring them an essential commodity;

(f) Later allowing Bt cotton seed prices to rise when Gujarat's farmers emerged as major seed suppliers to other states;

(g) Handing over government dairies to the NDDB to operate;

(h) Liberalising the APMC Act to allow farmers to sell their produce directly to processors.

All these opened up new economic opportunities in agriculture and Saurashtra's farmers have responded in full measure.

Vidarbha is a study in contrast. Large-scale Bt cotton cultivation in un-irrigated conditions has driven its farmers to suicide. Likewise, giving away cross-bred cattle without first creating a remunerative market for milk has proved counterproductive. An excessive focus on large canal irrigation projects has created a spoils system for contractors and politicians, leaving little energy and resources for decentralised water harvesting and recharge. Sporadic work by NGOs on decentralised groundwater recharge by constructing check dams, *bori bandhs*, farm ponds, and well-recharge structures show these are as effective in improving groundwater availability for irrigation in Vidarbha as they are in Saurashtra. A good example is the work done by the Bajaj Foundation in Wardha district (Livelihoods School and Bajaj Foundation 2011).

Vidarbha has been at the receiving end of doles, packages, and a lot of lip service. But what will impart it dynamism is proactive, vigorous, and farmer-friendly governance of its agricultural economy. For a start, Maharashtra could try three quick-acting initiatives to jump-start Vidarbha's agriculture. Investing in community-based recharge structures as a mass movement can vastly improve the dry-season availability of groundwater in Vidarbha's 3.8 lakh irrigation wells. Ensuring six to eight hours of full-voltage, uninterrupted power supply to agriculture can transform Bt cotton into a boon from the bane it is now. Finally, inviting, even incentivising, Amul and the NDDB to compete for milk procurement in rural Vidarbha can energise the region's dairy economy like it did in Saurashtra.

NOTES

1 Mishra (2006) has shown that the suicide mortality rate (SMR) of farmers in Maharashtra has increased rapidly in recent years. In 2004-05, it was three-times the overall SMR for males. He also shows that the SMR rate for male farmers in Amaravati (115.6) and Nagpur (55.5) divisions in Vidarbha were significantly higher than for Konkan (25.1), Pune (34.7) and Nashik (36.6) divisions.

2 "Vidarbha has a lot more heterogeneity... when compared to Saurashtra…There are similarities, on the other hand. Geomorphologically, these regions are quite similar – not too rugged terrain, plateau topography where basalts are exposed…recharge in both regions is 'significantly high', although Vidarbha is characterised by a much wider range of recharge inputs." Excerpts from a personal communication by Himanshu Kulkarni (18 October 2012).

3 The 35 crops included in the Bhalla and Singh study cover 89.9% of the gross cropped area in Saurashtra and 98.4% of it in Vidarbha.

4 Swaminathan and Rawal (2011) confirm this based on a large survey. "Bt cotton was a clear leader in terms of production and gross value of output when grown as a standalone crop. However, on the fields of small and marginal farmers, where cotton was usually intercropped with sorghum (or other cereals and pulses), the relative income advantage of Bt cotton declined."

5 However, a more recent survey in 2009-10, another drought year, of Bt and non-Bt hybrid cotton growers in Gujarat by the same authors suggested that non-Bt farmers harvested a lower yield but earned a higher net income because they incurred much lower costs compared to Bt cotton farmers.

6 Assuming Vidarbha's milk producers get the same price for milk as Saurashtra's, which is highly unlikely.

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