

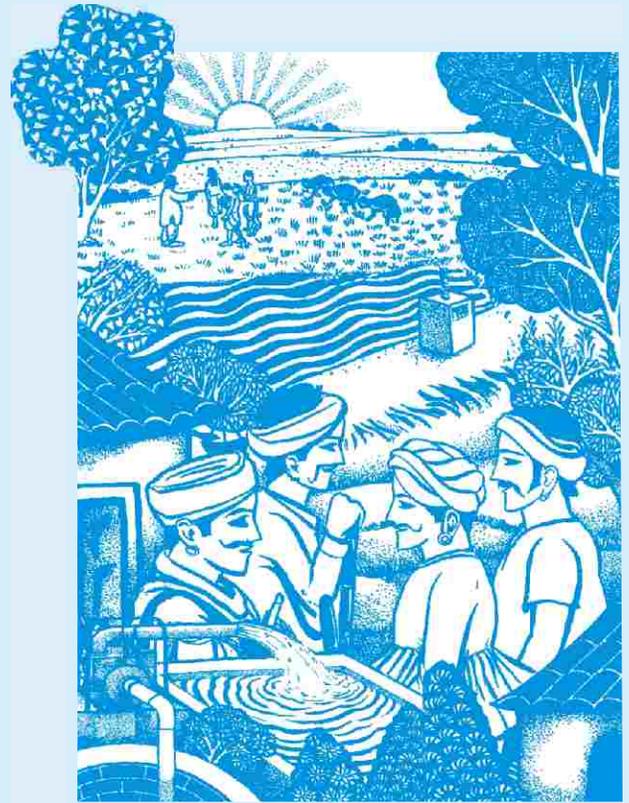
Water Policy Research

Highlight

Sharecropping, Migration and the New Face of Water Markets:

A Case of Sangpura Village
in North Gujarat

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In response to groundwater depletion and increased irrigation costs, sharecropping with inter-linked land, water and labor market transactions have evolved in groundwater dependent villages of north Gujarat. Farmers with large land holdings adjust to declining profit from agriculture through appropriation of surplus through elaborate share contracts on the one hand and long-distance international migration on the other. As the profit margin gets tighter, the exploitative class structure reasserts itself and the burden of resource depletion is transferred to those down in the socio-economic hierarchy. With the help of an illustrative case study, this paper captures this transition.

SHARECROPPING, MIGRATION AND THE NEW FACE OF WATER MARKETS: CASE OF SANGPURA VILLAGE IN NORTH GUJARAT¹

RESEARCH HIGHLIGHT BASED ON A PHD THESIS TITLED: THE DARK ZONE: GROUNDWATER IRRIGATION, POLITICS AND SOCIAL POWER IN NORTH GUJARAT

THE STUDY VILLAGE

Sangpura² is located in one of the 'over-exploited' talukas of Mehsana district in northern part of Gujarat. In 2001, Sangpura was inhabited by 628 households. Two major caste groups, Patel and Thakore made two-third of the village population. The other major caste groups were Prajapati (potter caste- 70 households), Parmar (cobble caste- 60 households), Vaghari (vegetable vander caste- 25 households) and Darbar (former feudal lords- 12 households). The village economy was dependent on agriculture and animal husbandry. All the water needs of Sangpura were met through groundwater, a resource that has shown increasing signs of over-development in recent years.

LAND OWNERSHIP

In 2002, Patels of Sangpura constituted around 32 percent of the total households but possessed 54 percent of the village's agricultural land. Thakores who constituted approximately 36 percent of the total households had only 21 percent of land while Prajapatis who comprised 12 percent of the village household controlled 14 percent of village land. Almost 50 percent of the households were landless out of which 11 percent were below poverty line. Thus land distribution was inequitable and it closely followed the caste lines with the Patels being the dominant land holding class in the village.

ACCESS TO IRRIGATION

Access to groundwater determines the productive capacity and the ability to generate surplus and as such is a crucial factor in the groundwater-dependant economy of Sangpura. The village has a history of well irrigation that dates prior to 1960. When dug wells started drying up, tubewells were installed for accessing water. However, the tubewell technology was expensive and hence made it difficult for people to own tubewells individually and thus a new institutional innovation in the form of shared tubewells emerged in the village. In Sangpura, there were 34 functioning private tubewells by end of 2002 and of these only four were individually owned. An examination of the percentage of tubewell shares owned by families showed that Patels had 65 percent of total tubewell share though they constituted around 32 percent of village population. Thakores who are around 36 percent of total village households, had only 15 percent of total tubewell share.

Access to land and irrigation is inequitable in Sangpura and this inequity closely follows caste lines, with the Patels enjoying a disproportionate share of both.

The majority of tubewells were in the 45-60 HP class (41 percent) while the others were almost equally divided into 30-45 HP and 60-75 HP class.

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²A pseudonym of a village in Mehsana District, Gujarat that was studied as a part of the research.

The ownership pattern of tubewell share closely followed the land holding and irrigation patterns where 66 percent of total land under irrigation (through tubewell shareholders) belonged to Patels followed by 15 percent to Prajapatis and only 10 percent to Thakores.

Water Buyers

Water buyers formed an important collective in the village and till late 1990s, they constituted a large group. From 2001, there has been a drastic reduction in the supply of electricity and therefore the number of water buyers has also reduced. This is mainly because the total water pumped from a particular tubewell has to first fulfil the need of the shareholders. Only then can the surplus be sold. Though selling water is a profitable business, it cannot be done at the cost of reduced water for the owners. Analysis of water buyers in the village reveals that the total numbers of buyers has decreased from 173 in 1999-2000 to 104 in 2001-2. The total area of land irrigated by 'buying water' also reduced from 124.5 hectares to a mere 48.76 hectares in 2001-02. Thakores, who are the largest water buyer group in the village, were the hardest hit as the total land irrigated through water bought from tubewell cooperative reduced from 45.41 hectares to 20.13 hectares in 2001-2. The process was detrimental to the buyers as they were mainly from the lower strata of the society who could not afford to invest in tubewells. These marginal farmers who formed the water buyers' group later converted into sharecroppers. Sharecropping started to pick up in late 1990s mainly because of two reasons- First, when the water market started shrinking, the buyers were slowly out of job as they could only take up a monsoon crop in their field (Table 1). The buyers did not have skills other than agriculture and so they started taking up sharecropping from medium and large farmers. On the other hand, the medium and large farmers owned land and water rights in the area. The sharecropping arrangement worked on the crop share each for land, labor and water. In this arrangement, while two third of crop production went to the owners, sharecroppers got only one-

third of the produce. This situation favored the land and water right owning upper class that appropriated surplus in this process. The large and medium farmers also received remittance money from relatives in the United States of America (USA) and hence were relatively economically independent of agriculture. Due to this, their bargaining power increased under sharecropping arrangement while the erstwhile 'water buyers' had no alternative but to fall back upon sharecropping arrangements.

LAND, LABOR AND WATER INTER-LINKAGE IN SHARECROPPING

As evident from Table 1, the incidence of sharecropping was closely related with the rise and fall of water markets. In periods with a sharp decline in water markets, the incidence of sharecropping increased strongly. The most popular form of sharecropping was one-third share each of gross production for land, labor and water. In most of the cases, water and land belonged to the landlord, while the tenant provided labor. In 2001-03, around 80 percent of the irrigated area in the village was under sharecropping. In actual sense, under sharecropping system, the water is sold to tenants in return for a one-third crop share bringing in a new interlinkage between land, labor and water markets. In order to understand this, the economics and the rationale of the tenants and the landlords behind this institutional arrangement are illustrated.

The Economics of Sharecropping

The incidence of sharecropping in the village has closely followed the rise and fall of water markets.

For understanding the economics of sharecropping³, information was collected from the farmers for five major crops cultivated under the one-third share system. The information showed that the net gain for the labor share is

³In order to understand the economics of sharecropping contracts, I interviewed 85 farmers engaged in a sharecropping contract selected through stratified random sampling. The input-output data of five major crops were taken in the year 2002-03. The time of interview ranged between July 2002 and April- May 2003 to cover the three seasons monsoon, winter and summer.

Table 1: The Evolution of Sharecropping in Sangpura

Period	Incidence of sharecropping (Coverage)	Incidence of water markets	Approximate irrigated area in Sangpura (in hectares)	Preferred mode of contracts	Reasons for the preferred system
Prior to 1960	Low (less than 20 percent of the total cultivated area)	Low	150-200	Gross output divided in three parts- one each for tenant, landlord and the owner of the draught animal	Limited land was under cultivation and winter crops were taken with minimum irrigation; external inputs such as fertilizers were used but not so significant to be calculated as costs; the groundwater level was high; water was lifted through <i>kos</i> using draught animals in winter and hence a third part of the produce went to the owner of the draught animals
1960-80	Medium-High (around 60 percent of the total cultivated area)	Low	300-350	One-third for tenant and two-thirds for the landlord	Groundwater level declined; need of irrigation was felt; water charges were included in sharecropping; one part of production was charged towards the cost of running the pump, cost of external inputs were very low and were rarely calculated
1980-90	Low (less than 20 percent of the total cultivated area)	High	500-540	One-third for tenant and two-thirds for landlord	Groundwater level further declined and tubewells were installed; water became 'costly'; external inputs were introduced; shares included one part each for land, water and labor with an institutionalised system of who will share how much; water markets expanded and income from sale of water exceeded that of sharecropping; sharecropping declined
1990-2003	High (80 percent of the total cultivated area)	Low	300-350	One-third for tenant and two-thirds for landlord	Groundwater level further declined and together with the decrease in electricity supply accessing water became expensive; command areas of tubewells decreased drastically and the water market was curtailed; sharecropping contracts increased to share the burden of increased costs of lifting water

Source: Field data

highest in castor, a cash crop, while it is lowest in pearl millet, which is a food crop and mostly used for household consumption. For a large part of the village population, especially the poor, pearl millet is the staple diet. Wheat supplements pearl millet for the medium and upper strata of people. The net gain for labor is second highest for wheat. From the landlord's perspective, the net gain for the land component is highest in castor followed by cotton and pearl millet. For the water component, the gains are highest in castor and is lowest in mustard. This is mainly because castor is an eight months crop spread between the monsoon and winter seasons and needs around eight irrigations. The winter crops of cotton and wheat need similar number of irrigations, and because of this reason the water charges are almost the same for castor and other crops while the cash value of castor is much higher.

How are these figures useful to understand the rationale behind sharecropping? The contract includes a two-thirds share for the landlord as the land and water right rests with them. Therefore, the profit for the landlord includes the net gain from land and water components put together. The tenant gets the return from the labor days invested into agriculture through sharecropping. The market rate of the irrigation price includes the cost of electricity, maintenance of the tubewell and a profit margin for the shareholders. In the present analysis, irrigation cost is calculated taking the prevailing market rate that includes the profit of the shareholders which is calculated separately. If that cost were to be calculated, the net profit would further move towards the landlord.

The Tenant's Rationale

There were three main motives for the tenants to take up sharecropping despite being aware of the terms, conditions and the situation that favors the landlord. First, the present tenants are smallholders (and former water buyers) who have been pushed out of water markets due to the significant reduction in hours of electricity supply and decline in tubewell yields. With a large-scale reduction in the functioning of water markets, the total irrigated area in the village reduced and the people associated with it needed work to survive.

Table 2: Wages for Tenants Under Sharecropping (per ha)

Crop	Average number of labor days	Average financial benefits of tenant (in Rs.)	Wages for tenant (in Rs.)
	a	b	b/a
Castor	82	13694	167
Cotton	98	6815	70
Mustard	38	4075	107
Wheat	63	6029	96
Pearl millet	72	5440	76

Source: Field data

These former water buyers were a ready work force for sharecropping. Second, taking up sharecropping also assures employment over the contract period, a situation that is in favor of tenants. Within the prevalent situation, it was the most convenient arrangement for the tenants to tie up with the landlord. Hence sharecropping was preferred. As table 2 shows, the wages received by tenants under sharecropping range from Rs. 70 to Rs. 167 per day averaging approximately Rs. 100 per day. This is double the wage for a casual agricultural worker in Sangpura in 2002 and provides a rationale.

The Landlord's Rationale

The rationale for the landlord to offer land for sharecropping is twofold. First, one-third sharecropping is the best option for the landlord as it combines land and water share components. Hence, he appropriates two-third of production. Further, the average cost share for labor, land and irrigation comes to 45, 17 and 38 percent respectively. Among all costs, the percentage of labor costs are the highest followed by cost of water. The tenant, who shares 45 percent of total costs, gets around 22 percent of the profit while the landlord who shares 55 percent of the total costs receives 78 percent of the net profit. This profit sharing makes the one-third sharecropping system a preferable mode of renting out land. Further, the landlord also saves the costs otherwise incurred in supervision and

management. The crops are virtually looked after by the tenants, including the day-to-day management⁴.

Second, from 1990 onwards, Sangpura and surrounding areas in Mehsana district experienced large-scale long-distance migration of the upper class farmers, mostly Patels. In Sangpura also, out of around 200 families of Patels, 100 families have close relatives such as a brother, father or first cousins in the USA. Most of them have migrated illegally, paying a huge amount of money to agents. The process started in the early 1990s and is still operational despite the stringent policies of the American government, especially after the 9/11 attack on the twin towers in 2001⁵. The elaborate social network of Patels easily inducts the new person into their community and the chain goes on. Of late, people from the Prajapati caste have joined their Patel counterparts. In the year 2003, two out of the 70 Prajapati families had migrated to the USA. This process made many families independent of agricultural operations in the village, as migration secures a considerable income from their kin in the USA in form of remittances.

Feminisation of Labor Force

Third is the issue of the feminisation of the agricultural work force in the village. Sangpura is located in the central part of the industrialised Mumbai-Mehsana highway that is also called the 'golden corridor' of Gujarat. It has a number of small and medium industries concentrated along a 500-kilometre stretch. The industries in the vicinity create a requirement for unskilled labor on a daily wage basis. The wage outside the village was around Rs.100 per day during 2001-03 while the agricultural wage laborer in Sangpura got only Rs. 50 per day. Due to lucrative options available outside agriculture for wage workers, it was convenient for male laborers of Sangpura to search for non-agricultural employment. Women

For most of the Patel families in the village, remittance from USA has become a major source of income and this to a large extent has made them less dependent on agriculture and strengthened their bargaining power over the erstwhile water buyers and present sharecroppers.

do not work outside the village due to their day-to-day household responsibilities such as childcare, cooking and looking after the needs of other family members. This situation has led to increased women's participation in agricultural operations inside the village. For example, earlier, transporting the grain to the thresher was the responsibility of men. This is now undertaken mostly by women. Other men's jobs include field preparation and making borders. This is now largely done by means of tractors through subcontracting the task to the owners of tractors. Out of all the manual work in agriculture, only irrigation is men's responsibility and the rest is slowly shifting towards women. The irrigation component includes the per day wage (done by men), which is largely based on number of irrigations rather than on daily wages. For convenience, it is estimated on hourly basis and hence it may overestimate the number of actual working days for men. In Sangpura, wage rates are the same for men and women. Table 3 provides the gender-segregated labor requirement for five major crops. Cotton is a highly women-intensive crop due to the need for labor to pluck cotton buds. It is followed by mustard, castor, pearl millet and wheat. Wheat and castor require threshing, which is largely men's responsibility. However, threshing is fully mechanised for these two crops and the only task for men now is to collect the grains and fill them in the bag. Harvesting of pearl millet and mustard is done manually and the responsibility rests largely with women. Therefore, even though the labor days for cultivating wheat

⁴As compared to the tenant, the landlord's time investment in the sharecropping arrangement is minimal. The only time investment is during harvesting of the crop and selling it in the market. However, it was observed that the landlord keeps a vigilant eye on the whole affair through an elaborate social network. For example, if any other person who has passed by the land of a particular person who has given it on sharecropping, and if something unusual is seen such as pest attack or any other eventuality, it would be instantly communicated to the one who owns the land. These information bases work mutually and save the time of the landlord from day to day supervision. The evening gossip groups, which are based on class and caste affiliations also discusses the behaviour patterns of tenants or other crucial issues. These platforms also help in the management of farms by landlords. Similarly, the same also works for other groups.

⁵During my fieldwork in 2001-2003, two people from the Patel and one from the Prajapati caste migrated to the USA.

are more for men, in physical terms, the work is heavier for women. An overall segregation of labor days shows that the responsibility of men and women are in the proportion of 40 to 60 respectively.

CHANGING INSTITUTIONAL ARRANGEMENTS AND THE NEW FACE OF WATER MARKETS

This paper dealt with some of the problems faced by marginal and near landless households who take up sharecropping for their livelihood in Sangpura. Sharecropping inter-linked land, water and labor markets in an attempt to share the risks and increase in irrigation costs. Large farmers adjusted to the situation of declining profit from agriculture through long-distance migration and appropriation of surplus through sharecropping contracts. The marginal and near-landless farmers were forced to take up land on a sharecropping basis to cope with their increasingly difficult situation. The new situation creates a divide between those who can afford to move out of agriculture partially and those who are forced to

Table 3: Gender Division of Labor (per season)

Crop	% of man days involved	% of woman days involved
Castor	42	58
Cotton	31	69
Mustard	35	65
Wheat	55	45
Pearl Millet	42	58

Source: Field data

bear the consequences of declining productivity in agriculture due to their inability to seek employment outside the village. The paper illustrated how sharecropping is part of the changing social fabric of village society due to changes in systems of production.

Sharecropping in Sangpura is a new face of exploitative water market that provides instrument for the dominant classes to transfer the burden of resource depletion to other people lower in the socio-economic hierarchy.

Under the boom period of high productivity and low risk for richer farmers, the multi-dimensionality of patron-client relations was reduced in favor of market driven prices and wages leading to the change in basis of class relations. However, when ecological and co-variant electrical supply conditions changed towards lower productivity and higher risk, a shift in labor contracts was observed. This shift is driven by water pricing and the difficulties of accessing groundwater as the water table is chased downwards. The shrinking water markets lead to a consequent expansion of risk via sharecropping contracts. Former water buyers who were excluded from purchasing of groundwater for irrigation were a ready labor force to absorb this risk for the upper classes. Thus, sharecropping in Sangpura is a new face of exploitative water market and not a mere *technical* arrangement for allocating productive resources. In fact, it is a product of varying social relationships that provides an instrument for the dominant classes to transfer the burden of resource depletion to other people lower in the socio-economic hierarchy.



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