
Changing patterns and dynamics of agricultural labour markets in India: Insights from Cotton Farming in Gujarat and Punjab

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Abstract: The issues of farm labour are generally side stepped while examining the issues in the farm sector, especially in agriculturally grown states like Gujarat or Punjab as dominant paradigm is that of landholder as stakeholders while most of the farm labour happens to be landless. Therefore, it is important to examine the state of agricultural sector so far as labour issues and interface of farm workers and landowning farmers is concerned. This paper examines this aspect with evidence from the cotton sector- a high value cash crop in two cotton growing states of Gujarat and Punjab with secondary and primary data including insights from focus groups with different sets of farm workers. It examines the systems of labour provision and inherent worker exploitation in such arrangements and the gender dimension of labour relations in the cotton context. The paper concludes by raising major research and policy issues from farm worker perspective.

Keywords: farm labour, cotton, gender, India, labour relations

Introduction

The usual features of agricultural labour markets in India are well known. One, that there are rural households who practice pure labour work, others who combine self-employment with hiring out labour and others who are self-employed workers on their own farms. Two, there is feminisation of farm work and three, there is gendering of farm work tasks e.g. poultry sales mostly by women and other livestock and crop sale mostly by men and gender gap in wages across all categories of work and workers to the extent of 30-60% as women have low bargaining power and low opportunity cost and no ownership /control on household assets compared with those of men. They don't even fully control their own wage income though they have good say in household maintenance expenditure (Garikipati, 2019). There is also plenty of state intervention in the farm sector wherein state prescribes minimum wages, provides alternative public employment to landless workers and supports farmers with price protection and input subsidies including recent moves at mechanisation of the farm operations including in harvesting which have implications for workers.

Cotton is a politically sensitive commodity in most growing countries because of the role of the state, and trade regulations besides its significance for the local livelihoods of small producers and farm workers, given high cotton production subsidies in 10 of the 11 largest cotton producing countries. India had the largest area under cotton (1/3rd of global) but only 1/5th of global production due to lower yields (30% lower than global average). 78% cotton produced in India is used domestically (Nelson and Smith, 2011). Cotton is grown on 5.3 million hectares; larger percentages lie in Maharashtra, Gujarat, Haryana, Punjab, Andhra Pradesh, Madhya Pradesh, Rajasthan and Karnataka. The average cotton area per household was 1.59 hacs (Joshi Rai, 2011). Two third of India's cotton area with is rainfed whereas globally, only 27% cotton acreage is rainfed. Major cotton producing states in India are: Gujarat (33% of total production), Maharashtra (26%) and Andhra Pradesh (17%), together accounting for 76% of total production in India (Konduru *et al.*, 2013).

Despite a history of constant cotton crop failures year after year in India during the 1990s, cotton remains a crucial crop for 4.9% of India's farmers across 10 states due to its high value commodity nature, procurement at minimum support price (MSP) by the state, and lower irrigation requirement compared with paddy. It is also an important crop for farm workers given its high labour intensity due to low mechanisation especially cotton picking which is a source of wages for men and more importantly women workers as it is more feminised activity. Given its significance in farmer and worker livelihoods in India, it is commonly called 'White Gold' due to its high value in terms of good price and also the profits for producers and traders. But, cotton farmers in India are not the poorest in their local communities though they may suffer from many market imperfections, and exploitation in value chains. Only 12% cotton farmers were BPL households as against 25% of all other farmers (ranging from 5% against 10% in north and 13-15% against 17-21% in central/west region) (Gill *et al.*, 2010). But, labour is a crucial input and wages an important cost in cotton production. Harvest costs often account for 50% of the total production costs of cotton crop (Vatta and Sidhu, 2015). Further, cotton workers are from the most marginalized communities in India economically and socially. When agrarian distress or crisis is discussed, the discussion does not go beyond farmers and small farmers and misses out the farm workers who are the most marginalised stakeholders in the agribusiness chain or sector. Therefore, it is important to understand dynamics of labour use and its implications for workers as stakeholders in cotton crop.

Decent work: concept and review of evidence

The issues of farm workers are now being seen in the perspective of decent work and work condition. The ILO defines decent work as being productive work for women and men in conditions of freedom, equity, security and human dignity. The definition rests on four pillars, namely employment creation and enterprise development; social protection; standards and rights at work; and governance and social dialogue though there are serious issues in decent work measurement in terms of variety of indicators (Oya, 2015).

The labour and work issues in cotton in India include: labour rights and standards, worker health and safety, equity and gender dimensions of cotton farm work and organization of farm workers. There are issues of not only decent wages and work conditions but also discrimination based on caste and tribe or other social differences locally like gender based gap in wages and exploitation of women and young children especially girls (FAO and ICAC, 2015). Even in cotton farming households, men control the proceeds from cotton even though much of the labour work is done by women whether in Africa (Gillson *et al.*, 2004) or in south Asia (Singh, 2017). In India, cotton is mostly planted and picked by female workers accounting for 65% of the workforce and 70% in planting and 90% in picking (ITC, 2011).

Besides, many Multi-Stakeholder Initiatives (MSI) like BCI¹ and other global sustainability standards like organic cotton, fair trade cotton and ethical trade have labour aspects of production and trade as one of the aspects of sustainability and fairness (Singh, 2019). These aspects of labour and work relate to minimum wages, living wages, decent working conditions, child labour, gender gap in wages and gender based exploitation. There have been studies on these issues in some contexts (Salisali, 2018).

The decent work aspect of BCI in India concerned mainly status of women, child labour, wages and incomes, health and safety, and forced or bonded labour. There was gendering of tasks (occupational

¹ The Better Cotton Initiative (BCI) is a multi-stakeholder initiative (MSI) which is run by global brands consortium and has membership across countries in Asia, Africa and Latin America since 2005. Importantly, it does not promise a price premium to farmers unlike other alternative trade movements like organic, fair or ethical trade (Sneyd, 2014).

segregation), wage discrimination, women's reproductive health risks associated with pesticide exposure, use of child labour, exposure of children to hazardous working conditions, low wages (even lower than legal minimum), and prevalence of forced and bonded labour. Many of the issues did not appear in the BCI system as the initiative relied on self-assessment for ensuring compliance and producers won't report it for fear of being excluded from the program, though BCI did address it through assurance program and external assessment themselves and by implementing partners, and independent verifiers. The global compliance on decent work was reported to be 42% in 2010, which jumped to 74% in 2012 (Usher *et al.*, 2013).

Hired workers received only Euro 1.8 per day in India which was only 41% of the living wage. Even family workers received on an average Euro 3.5 per day which was half of their living income. The average annual wage of workers was just above legal minimum wage whereas the annual living wage of Indian worker under true price should be at least double of that. In fact, 32% of the external costs were at the cultivation stage (Grosscurt *et al.*, 2016).

Further, hired labour and wage issues are not addressed in smallholder category when assessing decent work conditions. Most of the time, the focus of interventions is on child labour and health and safety which has led to higher awareness of these issues and other areas like non-discrimination and gender equality, forced/bonded labour, migrant workers and freedom of association are attended much less. In fact, very few implementing partners target workers as beneficiaries and there is very little evidence of any kind of gender focus or forced/bonded labour focus in implementing partner approaches to decent work. Therefore, there is need to refine the BCI production principle on decent work (Usher *et al.*, 2013).

However, many of these issues are not addressed by previous research on cotton sector in India and remain almost completely unexplored issue. In this context, this paper assesses the following major research questions in cotton sector in India from worker perspective: a) the state of farm labour in cotton crop and the arrangements under which they are engaged in this work; b) worker perceptions about their own condition as farm workers and role of cotton work in their livelihood; and c) the relations such workers have with the landowning cotton growers and the migrant workers.

The second section details out the methodology and third section explores the labour issues in cotton in general and their dynamics. Section four examines the issues within specific context of Gujarat and Punjab. Section five concludes the paper.

Methodology

The paper relies on both primary and secondary information where primary information includes a farm worker survey and four focus groups ((2 each in Surendranagar (Gujarat) and Bathinda (Punjab) with one with male workers and one with women workers in each of the states)) involving 8-12 workers in each group were conducted as part of a larger independent academic research project carried out in the states of Gujarat and Punjab in 2015 where 180 cotton workers across two study location in two states were also interviewed. But, this paper relies mostly on worker focus group details and insights to capture the dynamics of work and wages in cotton, including gender aspects. The Focus Groups explored significance of cotton farm work in worker livelihood and issues of gendering of tasks and gender gap in wages, besides the role of state interventions like Mahatma Gandhi National Rural Employment Scheme (MGNREGS) under which state provides work to atleast one member of a rural household at a minimum wage for 100 days in a year. Figure 1 shows the locations of study states

where one major cotton growing district in each state (Bathinda in Punjab and Surendranagar in Gujarat) was the study area.

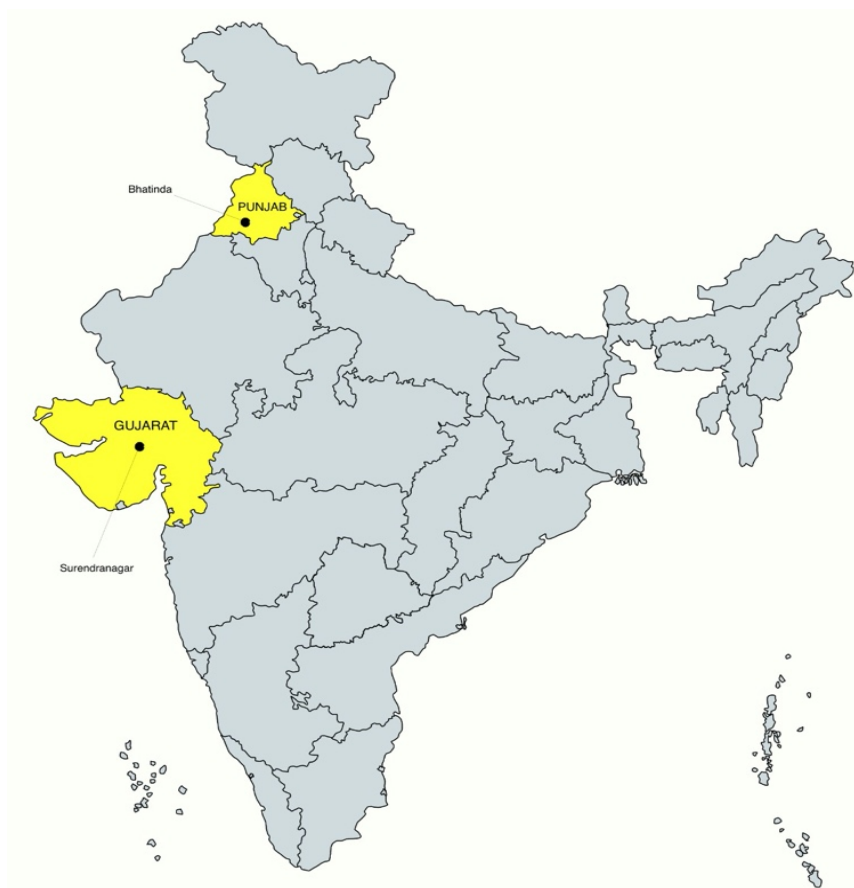


Figure 1. Location of study areas in India.

Dynamics of cotton work and wages

The use of hired labour across nine cotton growing states was 55 days per hectare during the last decade of 2001-2010 (Haque *et al.*, 2015). In cotton areas in Punjab in 2009-10, major use of labour in cotton was for picking and weeding accounting for 55% and 27% of all costs respectively with half of the picking (48%) being done by women (Vatta and Sidhu, 2015). Besides men and women, sometimes, even children work in cotton farms, and there is wide spread use of local and migrant hired labour for picking on piece rate wages most of the time, and on per day wages, some of the time. Piece rate system of wages for cotton picking not only has efficiency and disciplinary logic for employers as workers tend to exploit themselves in terms of effort to earn more, but they (employers) can also escape application of minimum wages law as it applies only to daily wages (Gidwani, 2001).

Social/community context of cotton farm labour

Interestingly, there is not only use of local labour for picking in most cotton growing areas but also of migrant labour from other areas. There is inter-regional movement of labour for this activity for a few

months during the season where families move across provincial borders travelling hundreds of kilometres and stay put on the farms for a few weeks or months. This is seen in the case of migrant labour households from states of Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan going to Punjab and Haryana and those from Haryana and Punjab going to Rajasthan and Gujarat during the picking season. This work is obtained directly by the labour group leader who is one of their clan or extended family. The group leader visits the place of work and farmers before the season or contacts cotton farmers on mobile phones to fix up wage rates and other arrangements like accommodation and food. These worker households have been doing this for years. Landless labourers from Punjab and Haryana move out as the manual work in major crops of these states (paddy and wheat) has disappeared due to mechanisation of operations, especially harvesting and sowing and transplanting. In Punjab, there was somewhat higher hired labour use on medium and large cotton farms compared with those on small farms with the average being 128 person days per hectare. Family labour accounted for less than a third of total labour used with 55% coming from local wage labour, 7% from migrant wage labour and 6% being permanent labour. The medium and large farmers used more of migrant wage labour to the extent of 6% and 10% respectively. Thus, 78% of the migrant wage labour, 67% of the local wage labour and 89% of the permanent labour use was in large farms *i.e.* farms >10 hectares (Vatta and Sidhu, 2015). Though migrant labour accounted for 37%-75% of workers in farm sector in Punjab depending on the season (lean or peak) in 2006-07 and numbered 4.2 lakh in lean period and 8.4 lakh in peak period. they were treated poorly, with lower wage payment compared with that for local permanent workers, despite being younger, less marginalised socially, and more literate. Further, local permanent workers enjoyed more holidays than that by migrants, and also more commonly served as supervisors of other farm labour (94%) than that in case of migrants (47%) (Sharma, 2016). In Gujarat cotton accounts for 27-51% of gross cropped area across Saurashtra and other regions. On an average, a farmer in Surendranagar District cultivated 8 hectares of which 5.73 hectares was cotton area on an average in 2.9 plots with 53% being irrigated. The cotton crop accounted for 85% of the total income of the farmers. This was similar in other districts of the state as well. The cotton farmers, especially medium and large ones used hired labour to the extent of 75-79% in terms of proportion of plots for spraying pesticides whereas majority of the small and marginal farmers used family labour for the same (Lalitha *et al.* 2009).

Labour tenancy in cotton

At the cotton farmer level in Gujarat, there is another way of ensuring labour needed for cotton crop under which landless or marginal or small landholding labour households are engaged to take care of the cotton crop as *bhagidars* (labour tenants) and they get a share of the produce which is around 25% in cotton. The land owner retains control over all the decisions regarding crop to be grown, inputs to be used and timing of operations. The owner farmer meets all the cash input costs and provides all mechanical and other equipment for the crop even an advance payment for hiring labour sometimes, but the *bhagidar* has to provide all the labour required for the duration of the crop whether family or hired. They live on the farms with family and take care of the crop the sale of which is in the hands of the land owner. This is pure labour tenancy as the *bhagidar* only contributes labour component and gets a share in produce which is 20-25% in cotton and varies from 15-30% across crops and regions of the state. This is an important strategy as land owners can manage labour issues by having permanent labour in the farm through this arrangement.

This system has been prevalent since the 1970s and Rutten (1986) called it 'putting out system' or 'contract type tenancy'. He also reported that this system was used by large and medium farmers only to manage a part of their farmland usually a few acres allotted for each *bhagidar* which required intensive labour and supervision (Singh, 2017). This system is prevalent since more than 40 years (Rutten, 1986), is expanding and is so popular that it accounts for more than 95% to the labour engagement practice in some crops and areas. It is also known from studies elsewhere in India that tenant/sharecropped farms are more productive than owner cultivated farms as was seen in the case of Punjab recently where input use as well as yields were higher than on owner operated farms (Shergill, 2016; Haque, n.d.).

This kind of sharecropping (*bhagidaari*) is very different from other systems prevalent in India like fixed cash rent leasing, fixed input and produce share, fixed produce or mortgage. This is close to permanent attached labour (*sanjhi* or *siri* in Punjab) system prevalent in some parts of India a few decades ago where the worker shared the cost of production and produce in some proportion depending on his relative contribution to the farm enterprise of the owner where his human labour contribution in total labour/energy use on the farm (human and animal energy) decided his share in produce as well as input cost.

Cotton worker livelihoods in Gujarat and Punjab

Gujarat

Our recent farmer survey in the largest cotton growing district of Gujarat (Surendranagar) where 80% of cropped area was under cotton alone, revealed that 35% of Better Cotton (BC) farmers had *bhagidars* on their farms which was much higher than those in case of non-BC cotton growers (only 13%). Better Cotton refers to cotton production which adheres to the following principles at farm level: minimum use of crop protection chemicals, conservation and efficient use of water, maintenance soil health, conservation of natural habitats, maintenance of fibre quality, and decent working conditions for farmers, including workers.

Further, BC farmers were much larger in both owned and operated land (10.3 and 11.7 acres respectively) than their non-BC counterparts (8.8 and 10.5 acres respectively). The *bhagidar* run farms were even larger at 16.2 and 19.6 acres respectively in case of BC farmers and 15.1 and 18.6 acres respectively in case of all farmers having *bhagidars* compared with only 7.1 and 7.4 acres in the case of owner run BC farms and 7.8 and 8.5 acres respectively in case of all non-*bhagidar* cotton farmers. Even the non-BC farmers with *bhagidars* were smaller i.e. owning 9.2 and operating 13.5 acres on an average (primary survey, 2015). But, those with *bhagidars* had 19% of their holding leased in compared with only 7% in case of those without *bhagidars*. Thus, the BC projects worked with relatively larger, medium cotton farmers, including those having *bhagidars* (Singh, 2017).

Cotton work and wages

In Gujarat, a female cotton farm workers' focus group discussion revealed that 20-25% of the cotton farm worker's income came from cotton farm work which included weeding, spraying pesticides, picking cotton and uprooting cotton sticks. Both, men and women worked in cotton farms. There was also the prevalence of *bhagidari* system, wherein the *bhagidar* (labour tenant) was paid 25% of the output without sharing any of the costs of production for his/her contribution of the entire labour input on the farm. There was gendering of tasks in cotton where the pesticides were sprayed only by men, whereas weeding and cotton picking were done by both men and women. The poor cotton yield also affects the workers, whether *bhagidar* or casual because lower yield means lower value of share in the crop for *bhagidar* and less quantity of picking for the worker from the same area during the same time. The workers were

not aware of MGNREGS in their village or surroundings. The cleaner picking of cotton affected worker incomes because they were able to pick lesser amount of cotton in the same time, and therefore, they earned less as the wages were piece rate based. However, the workers were not able to differentiate between a conventional and a BC farm. There were only two systems of wage in cotton i.e. per day wage and per kg of cotton picked payment. There was also half day work system, which had become prevalent for the last 10 years. The workers also thought of better price for cotton for farmers as that would benefit them as *bhagidars* would get higher value of their share and casual worker higher per day wage and higher piece rate due to better farmer affordability.

In another all men workers focus group, it was reported that 40% of the farm worker household income came from cotton work and that was perceived to be the activity where they could make their maximum amount of earnings. The reliance on cotton work based earnings has increased in recent years as cotton cultivation has expanded in the area due to advent of canal irrigation and good cotton prices. None of the workers reported migrating to another place in search of work as there was enough work available in the village itself. Rather, workers from outside came to work in this village every year. However, the workers didn't perceive migrants as taking away their work as there was shortage of workers. They reported that cotton picking wages has gone up by Rs 30 per day or Rs 1.5 per kg due to expansion of cotton cultivation. Here also, the workers were of the view that they could not identify the difference between conventional and better cotton farms.

The local farmers reported the presence of migrant workers who were paid lower than them and they had to work the whole day. The migrant workers were even paid lower piece rate for cotton picking as the farmers provided them with accommodation and food. It was reported that these migrant workers came from within Gujarat as well as Punjab and Haryana accompanied by their families. So far as cleaner cotton picking was concerned, it made sense for the workers only if they were paid daily wage, as otherwise, they will be able to pick lower quantity and, therefore, would earn less. No farmer paid extra for cleaner picking. They also reported that men and women get same wages but there was presence of children in cotton picking when they accompany their parents during holidays or vacations. On migrant workers, the women FG opined:

"Yes, they get paid lower wages and they have to work the whole day. Yeah but the workers who come from outside get paid Rs. 100 for 20kg and we get paid Rs. 120 for 20Kgs.- Farmers pay for the travel of these workers, they deduct that from their wages. Also, these farmers give them a place to stay and also food. That costs money as well, right? But, the farmer does not give them any food. They only get tea. - They only come for cotton picking work. They come from Nasvadi, they come from various places. No, not so much from Rajasthan. Yes they come from Punjab and Haryana. -A lot of them come with their families".

One women worker said:

"No, it (migrant labour) does not have any impact on our work. Farmers fall short of workers so they have to get them from outside the village. -- No it does not affect us. Everyone picks the same amount of cotton, so how will it make any difference?"

Also, in cotton picking, since it is piece rate based payment, it really does not affect their earnings much. The piece rate for cotton picking was reported to be Rs. 5-6 per kg and average picking of the order of 20-30 kgs. The piece rate was lower for first picking, and higher for second and third pickings as one could pick higher quantity in first picking. From the fourth picking, it becomes daily wage based work as piece rate system doesn't help earn enough because of low picking quantity/day.

In one women FGD, a worker said:

"Yes, first picking we earn Rs. 100, in second picking we earn Rs. 120 and third picking we earn Rs. 120 as well. --Yes, for the 4th picking we get Rs. 100/ day".

The daily wage rate was Rs. 100/day for picking and weeding and Rs. 200/day for spraying pesticides. Here also, workers reported half day work of 5-6 hours. In one FGD, a worker said:

"We work half a day. From 7 to 12".

The male labour workers in tenant (*bhaagidar*) focus group said:

"There are the only two systems, per day and per mand (20 kgs.). These are the only two systems that are prevalent in the village. --- Since past 10 years, we've been working for half a day. Depends on how much work is there as well."

In this group also, *bhaagidari* was reported and there were a few workers in the group who were managing 9 to 14 acres each.

Besides the wage payment, farmers also supplied water and tea (once a day) to the workers on the farm. There was no reporting of any caste based discrimination. The workers were of the view that since farmers and workers need each other, it was not possible to practice any discrimination based on caste or any other social norms.

In women FGD, one worker said:

"No! It used to happen earlier, but not anymore.---They would give us tea and water in a separate utensil. And give us everything separately. --This does not happen anymore.-- Yes, he gives it to us in his utensils and he takes it back with him.--No there is no discrimination anymore".

On asking whether poor cotton crop affects them, women workers in FGD said:

"Of course it affects us. If the farmers don't do well, we don't get much work."

Cotton picking dynamics and role of state

In cotton picking, the involvement of women was higher than that of men. There was no gender based discrimination reported against women. In this group also, workers were not aware of MGNREGS and no one had MGNREGS card and they were of the opinion that the village Sarpanch didn't inform them of the scheme because that would take workers away from farm work and, therefore, MGNREGS was not implemented in the village.

On MGNREGS a woman in FGD said:

"No, we haven't made (MGNREGS cards). It doesn't work here. What happens is that the Sarpanch (village council elected head) does not let the workers know about this kind of work, because they feel like all the workers will go to do that work and no one will be available to do farm work".

Another group of *bhaagidaars* (labour tenant) reported:

"No we don't know about it (MGNREGS), we're hearing about it for the first time"

The pesticide spraying work was irrespective of the efficiency of work as only fixed daily wage was paid for it. For example, in one women FGD, one worker said:

"No, we get paid on daily basis. --In some villages, it may work like that but that's not how it works here. We get Rs. 200 for a day. Generally, we spray 10 pumps".

The women FGD members also said (on the impact of BCI on their income):

"Our incomes has reduced.-- Because they say that you should spray less pesticides, and that you should use bio pesticides like neem oil etc. Also, the pesticides are sprayed less

often as compared to before so that of course has an impact on how much we get as workers". On the impact of clean picking under BCI on their incomes they said: "That depends on whether we get paid on daily basis or as per the weight of the cotton that is picked. If we pick clean, we pick less so we get less amount of money. However, if we get paid on a daily basis, it doesn't matter how much we pick. Clean picking takes time, so the amount we used to pick in 1 day takes 2 days. So we get paid one days extra wage".

On gender gap in wages, the women in FGD said:

"No it does not happen here. There is no difference in the wages at all. Men and women get paid the same amount." Another male workers FGD also reported: "No there is no discrimination. Yes, wages are the same too, Yes, for every activity. Women don't do that activity (spray)."

The farmer didn't mind the use of child labour. The presence and use of child labour was more common among migrant families as they came with families and stayed on farms. The workers agreed that migrant worker's method of keeping the picking bag on their back was better than dragging it on the ground as the former leads to cleaner picking. The workers desired that they should be paid higher for cleaner picking and also informed about schemes like MGNREGS.

The farmers reported that they treat the workers well and with respect. They agreed that except cotton picking activity, all other works were carried out on daily wages basis and they had a negative perception of MGNREGS. In another group, they felt that the cost of labour was very high in cotton picking and it went up in the second and third pickings. The farmers reported providing accommodation in the farms to the workers and facilitating the education of children by their admission in local schools. The farmers reported problems in finding workers and their reliance on migrant workers as their major concerns as the farmers themselves don't work on their farms anymore.

Punjab

Punjab known for extensive land leasing in and leasing out had 80% of the leased area rented on cash basis compared with less than 10% in Gujarat in 2003. In Punjab by 2010-11, 55% of the operated area was with the owner cum tenants with leased in area accounting for 48% of the operated area and the average size of the operated holding of a owner-tenant was double that of an owner operated although the own land did not differ across type of farmers. Further, 83% of tenant farmers owned tractors compared with 55% of owner farmers and 78% had power operated tube wells compared with 61% of owner farmers. A majority of them also employed permanent farm workers compared with only 25% of owner farmers. The semi-medium and large farmers accounted for 48% and 34% of the leased in area in 2010-11 (Shergill, 2016).

Reverse tenancy in Punjab and labour

Marginal and small holders being 32% of the total land operators in Punjab cultivated only 8% area and reverse tenancy being the norm now with more than 50% area being leased out (Shergill, 2018). Besides, small and marginal land holders, there are completely landless households in rural Punjab who are almost 1/3rd of the total households. Of them, a large proportion are *Dalits* (Scheduled Castes, SCs) and Punjab has the highest proportion of SCs (32%) in India. Further, 73% of the *dalits* lived in rural areas of the state in 2011. A majority of them work in the agricultural sector as manual workers. The work opportunities have seriously declined due to mechanisation of two major crops of the state (Sharma, 2018) and most of them now work as manual and semiskilled labour in urban areas of the

state where they wait for work as casual daily labour at labour *chowks* (cross roads or circles within cities) with some of the them even migrating to other states as far away as Gujarat for seasonal cotton picking work (Singh, 2017). As per 2010-11 agricultural census, *Dalits* owned only 6% of all land holdings and only 3.5% of the cultivated area.

Unlike cotton growing farmers, labour employed in cotton farms is from the poorest landless communities and generally from socially marginalized communities who are also, many times, migrants, mostly women and may include children in some situations. The *Ode* caste which migrates from Punjab to Gujarat for cotton picking every year accounted for 0.3% of male farm labour SC population of the state (Punjab) and the *baazigars* (another SC community) another 1.22% (Sharma, 2016).

In Punjab, most of the agricultural labour household are SC, and both in terms of income based and consumption based poverty under various criteria. 95-100% of them were poor or below poverty line (BPL) and this was mostly accounted for by family size expenditure on education, total household income and number of earners. They were much worse than non-agricultural labour or other category household with exceptions of only artisans being equally poverty stricken as of 2012-13 (Jain *et al.*, 2018).

Cotton picking and its dynamics

In the women cotton worker focus group discussions (FGDs), cotton picking was reported to be the major activity by women cotton pickers in terms of its share in their household income. The cotton picking work lasted 2-2.5 months, wherein each family earned Rs. 15000-20000 during cotton season with each women worker earning Rs. 150/ day. About 1/3rd of the annual earnings of a worker family (Rs.40000-50000) was reported to be from cotton. A woman could earn Rs. 10,000-15,000 from cotton picking during the season. All workers were paid in cash and there was no bondage of any kind for the workers in terms of working for a particular farmer, even if they had borrowed money. They reported migrant workers coming for cotton picking in nearby areas in previous years. There was no reporting of any discrimination based on caste. There was higher involvement of women than men in cotton picking and women picked more cotton than men in the same time. Cotton crop failure had affected worker families along with farmers where their earning was 1/9th of their usual earning of the season. They also appreciated the farmers demand for good prices for cotton as it increases the affordability of farmers to pay higher wages. But, lower yield makes a bigger difference to their earnings than the price of cotton. The women FGD reported:

"If farmers don't get good prices, they give us lower wages. But largely, it makes difference to farmers only. Yes, yield makes a difference to us but not the price farmers get".

Male workers group reported that BC farmers provided first aid in case of any accident in the work place, provided training in cleaner cotton picking, spraying, and they used safety equipment like hand gloves, masks, mustard oil on body, and mostly sprayed in the morning hours according to instructions by the BC farmers.

The workers reported availing of MGNREGS work for about 12 weeks in a year at the rate of Rs. 210 a day, but there were frequent delays in payment of wages and it had not affected cotton picking wage rate. The women FGD reported that MGNREGS has not made any impact on their wages when they said:

"No, it doesn't. --But there is not enough MGNREGS work. It is less than a week in a month."

But, on their preferences between MGNREGS and cotton work, they said:

"We go to cotton work but keep thinking about MGNREGS. We prefer cotton work as we get some advance from farmers. Thus, we prefer cotton work to MGNREGS. Farm work is more available as MGNREGS work is 2-3 times in a year."

Male workers had similar perspective on MGNREGS in that not all were registered in MGNREGS (11%), and this scheme did not have much effect, as there were low work in village under this scheme and sarpanch was also partial in distribution of work.

On various systems of wage work, it was reported by women's FG:

"It is wage system now. Some work is on theka (annual contract basis). Farm work with farmers (by a share cropping labour) on one/fifth share of inputs and output is still there. Only 5-7 families used to do that but now there is no one. Theka system is more into fashion. Per kg system is good."

The women FGD this to say on credit linkage of their work:

"That is possible. If we get money (as advance) from farmers, we have to work for them. We are dependent on farmers. But we can go to others' farms, there is no such restriction".

On caste based discrimination by farmers, a woman said:

"We carry our own utensils. Sometime, they provide. Even they ask us to make tea and they drink with us. There is no discrimination at all. Now, they even ask us to cook their food."

On gender gap in wages, a woman in the focus group said:

"Men smoke and talk but women work all day. But she gets lower wages. It is wrong. We must get equal wage rates".

But, the male workers groups has another take on it in that there were wages for female workers in cotton work like weeding, because women were physically weaker than men, but in picking they earned equal as they picked more cotton than man and as wages were on piece rate basis.

On use of child labour by worker families in cotton picking, the women group said: Some families get their children along when going for cotton picking. A child picks 10-15 kg. On holidays (Sundays) they go. In good cotton crop, they pick up to 20 kg. All families engage children in cotton picking."

The male workers reported that BC farms provided good work place, good treatment, on time tea, clean water. But, they also felt that quality (cleaner) picking is time consuming and they could pick up lower quantity, and therefore, earned lower.

Conclusions and research directions

The above discussion of work and wage conditions shows that cotton work is central to landless farm worker households in both the study areas (Punjab and Gujarat) and working conditions have improved over time as farmers face labour shortage and therefore treat farm labour better without any discrimination and provide them various types of work opportunities including labour tenancy in Gujarat which has been a long established labour provision system in the state. However, the state run program has not been very effective at all in improving the wage levels as it had its own effectiveness issues like delayed payments or lower wages. There is gender gap in wages in Punjab but not in Gujarat. There was also no conflict seen between local and migrant labour as the latter only filled the gap in labour supply in peak season of cotton picking.

The state and its agencies, in collaboration with Multi-national Corporations (MNCs) in farm input and machinery sector, and even global initiatives like BCI are concerned more about cotton growers and take farmers concerns about labour shortage or high labour costs as real problems. They conceive solutions like the High Density Planting System (HDPS)² in cotton to not enhance yields but facilitate

² HDPS refers to a system of cotton sowing in which a minimum number of plants are grown per unit area 170000 as against only 25000 thousand per hac at present, and in a manner of spacing which makes it amenable to single or just two mechanical harvests of the crop. This is done in order to compensate for loss of yield due to absence of multiple pickings done manually at present.

mechanical picking of cotton, completely unaware or unmindful of the consequences of mechanical harvesting for worker livelihoods, local or migrant. The mechanical picking is also supposed to eliminate the need for labour and reduce cost of picking though the harvesting machines are highly capital intensive for individual small holders to own.

The HDPS is being advocated in order to compensate the loss of yield which would happen with mechanical picking as it would be only two pickings over five months under HDPS instead of 4-5 pickings manually over 6-7 months. It is also forgotten that the mechanically picked cotton would have more trash content than hand-picked cotton and would require pre-cleaning. This, when seen in the face of evidence of inter-state migration of landless workers from states like Punjab and Haryana to as far as Gujarat for just cotton picking, exposes the so called 'shortage of labour' argument made by cotton farmers and government and private agencies and therefore, need for mechanisation.

The migrant labour households explain their long distance migration for this seasonal work in terms of lack of adequate employment opportunities back home and caste based discrimination and mistreatment by farmer employers besides lower earnings from the activity due to lower yields in their home states, in general (personal interviews with Punjabi migrant cotton workers in Gujarat). Even state agencies do not think of proactively involving workers in high value crops, instead of throwing them out of work. This is also partly explained by the only farmer focused thinking of the agencies as well as lack of institutional variety and diversity in the state (Punjab) unlike other states (like Gujarat) where there are vibrant NGOs which work with farmers and workers. In this situation, any sustainability initiative in cotton or any other crop falls back on existing institutions which are rooted in conventional Green Revolution technologies and belief systems whether it is about yields or markets or social issues like labour wages or work conditions and their social and economic upgrading.

There is a need to carefully examine the various issues of worker livelihoods in the presence of growing sustainability initiatives both local and global. These issues include: worker participation in agricultural policy making and standard setting and extent and nature of their implementation to create and sustain a worker agency and to create structural and associational power for workers as stakeholders which can attend to issues of economic and social upgrading and gender issue in the context of globalised crop and commodity chains and networks.

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