



Improving the safety and quality of cotton production in Pakistan

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Summary

Since 2014, CABI has been working in partnership with the Better Cotton Initiative (BCI) in two districts of Sindh Province of Pakistan to train cotton farmers and farm workers in improved cultivation and harvesting practices. The aim is not only to improve cotton quality but also to promote practices that are safer in terms of both workers' health and environmental protection. Since the programme started, CABI has trained 11,360 farmers, 22,252 male farm workers and 16,000 female farm workers. In 2017 CABI commissioned a study to evaluate the effectiveness of this capacity building programme. It explored changes in behaviour and the financial, social and environmental benefits of the improved practices, as well as changes in awareness, opinions and attitudes resulting from the training. The study found that as a result of the training, cotton production practices including improved safety had improved. However the direct financial impact of improving cotton quality was disappointing. Although some ginners now pay a 1% premium for cotton produced according to BCI standards, this does not translate into higher pay for the farm workers. The main benefits for workers relate rather to improved health through safer practices, particularly reduced and safer pesticide use, which as well as improved quality of life translates into financial benefits through reduced healthcare costs and the ability to pick more cotton per day.

Key highlights

- As a result of the training, farmers are much more likely to use registered and properly labelled pesticides, to reduce the frequency of pesticide application, and to adopt a range of safety measure for themselves and their workers. However workers have to pay for safety equipment such as gloves and masks.
- Women workers perceive that their own and their families' health has improved as a result of safer pesticide use, and that this enables them to pick larger volumes of cotton and so increase their income.

- The lack of a strong financial incentive system is a constraint to wider adoption of safer and more sustainable methods. There are currently 50 BCI-registered ginners who pay a premium of about 1% for cotton produced in accordance with Better Cotton practices. However, there was no difference in the rates paid to women pickers if the quality was higher. It is essential that pickers get sufficient financial benefit for higher quality cotton to justify the extra care taken during harvesting.
- Selling seed cotton to ginners rather than through middlemen is potentially more profitable, and the proportion of farmers doing this increased as a result of the training.
- The training has made the women workers aware of the benefits of forming groups for collective action and greater bargaining power.
- Although the training has definitely raised awareness of the concept of the right to decent and equitable working conditions, this will only translate into real impact on the farm if farmers actually implement real improvements for their employees such as fair pay, appropriate hours and adequate breaks, toilet facilities, and protection from bullying.

Context

Agriculture is central to Pakistan's economy, and cotton, along with wheat, rice and sugarcane, is one of the most important crops: it occupies the second largest cropping area in Pakistan after wheat, and generates the largest export revenue of any crop. Sindh Province is second only to Punjab in cotton production, and within Sindh Sanghar and Mirpurkhas, where CABI is implementing the BCI project, are two of the most important cotton-producing districts. Together they account for 31% of the cotton produced in Sindh, and 8% of national production. Cotton is therefore an important cash crop in these two districts and has major implications for employment, income and livelihoods, including active participation of women. However there is also a range of potential negative social and environmental effects of intensive cotton production. These include unsafe and/or excessive use of pesticides, over-use of water, and issues relating to decent working conditions and child safety. Unsafe practices have negative consequences for the health and livelihoods of farmers, and particularly for female workers, who are exposed to pesticides during cotton picking, weeding and through storing pesticides at home.

Literacy rates in rural Sindh are low and this, combined with very strong cultural and social norms and traditions, means that farmers and farm workers are unlikely to change their behavior and attitudes without active outside intervention. Recognising this, the BCI programme has worked to provide small- and medium-scale farmers and farm workers with new knowledge and skills, in the expectation that these will then spread through communities from farmer to farmer. However new practices will only be adopted if there is a clear benefit in doing so, so the project has also looked at how the structure of the cotton value chain influences farmers' and workers' behaviour. Farmers can sell their cotton either directly to ginners, or through middlemen who also supply inputs and credit to farmers, but in return take a share of the profit. Ginners usually only buy direct from farmers with holdings of at least 25 acres.

What we did

The training programme implemented by CABI on behalf of BCI in Sanghar and Mirpurkhas covered social, environmental and economic aspects of seed cotton production in relation to the seven key principles which underpin BCI's Better Cotton Standard System (see box). The topics covered included crop protection and safe use of pesticides; water management and optimization of water use; soil management to enhance soil fertility; habitat and biodiversity conservation; management of fibre during harvesting and storage to minimize contamination and damage ('clean cotton picking'); safe working practices and good working conditions ('decent work'); group formation and freedom of association; and collective bargaining. In this context 'decent work' includes appropriate working hours, fair wages, no bullying, toilet facilities, and proper breaks during work. The ability to form functioning groups empowers workers, through the development of social capital and the benefits of networking.

The seven BCI Key Principles

- BCI Farmers minimise the harmful impact of crop protection practices
- BCI Farmers promote water stewardship
- BCI Farmers care for the health of the soil
- BCI Farmers enhance biodiversity and use land responsibly
- BCI Farmers care for and preserve fibre quality
- BCI Farmers promote decent work
- BCI Farmers operate an effective management system

During the period from 2014 to 2017, CABI trained 11,360 largely small-scale male farmers, 22,252 male farm workers, and 16,000 female farm workers. In addition, BCI registered 50 ginnerers who were willing to buy quality seed cotton from the trained producers, and to pay a premium equivalent to around 1% of the base price. However, this small premium did not translate into higher rates of pay for hired workers.

In this context, 'farmers' are defined as farm owner operators. Other male members of small-farm families are also included in this category. These farmers are generally in a supervisory role, and are the decision makers with regard to farming practices, so their training focused on aspects such as choice of pesticides and alternative practices.

'Male farm workers' include sharecroppers, tenants and hired daily wage laborers (mainly engaged in sowing and picking at times of high labour demand). On medium and large farms the labour force is a mixture of local people and migrants. Small-scale farmers mainly use family members as the workforce, except during very busy times when they may hire additional migrant workers. Their training therefore included more on the detail of how to apply pesticide safely.

'Female farm workers' include women from farm families as well as paid workers (both local and seasonal migrant workers engaged in cotton picking). Their training therefore emphasized safety and quality during the cotton harvest.

Because these three categories had somewhat different training needs, they were trained in separate 'learning groups' for farmers, male workers and female workers, each with 30-35 participants. These were established in around 300 villages across the two districts. Although to some extent the training content was tailored to each category's specific needs, there were also many common elements. For example, farmers and male workers are both involved in pesticide application so they were trained in safe and rational pesticide use, while for women workers the focus was on better picking practices, with regard to both quality and safety, and on keeping children safe in the fields during the cotton harvest.

The effectiveness of the capacity-building programme was assessed through an impact study commissioned by CABI in 2017. This used a mixture of quantitative and qualitative methods to explore changes not only in behaviour and practices, but also in knowledge and attitudes, among small- and medium-scale farmers and male and female workers in the project area. A small farm is defined as less than 50 acres, and a medium farm as 50 to 500 acres.

In the quantitative part of the study, data was collected through a structured questionnaire, tailored to address key areas for each of the three categories of respondent (farmers, male workers, female workers). The survey included 80 respondents who had received the training (treatment group), and 80 who had not (control group), in each of the three categories, giving a total of 480 respondents. In addition to quantitative data, qualitative information was collected through focus group discussions and key informant interviews.

What impact was achieved?

Pesticide use and safety measures

Pesticides have serious implications for the safety of workers and their families if they are not properly handled. Before the BCI training, none of the respondent groups were using pesticides safely, and women cotton pickers were generally unaware of the safety issues around pesticide use. As a result, they reported that they and their families suffered from skin and stomach problems.

The study showed that the BCI training effectively promoted the use of branded pesticides and less frequent spraying. Farmers and workers have adopted a range of safety measures including use of gloves, glasses, masks, cap and shoes; washing and changing clothes after spraying; and proper labelling, storage and disposal of pesticide bottles. Farmers and workers are well aware of health benefits of adopting safe practices, as well as the associated financial benefit of reduced healthcare costs. There is also a clear environmental benefit in reducing careless and indiscriminate use of pesticides, as well as the benefit of improved cotton quality.

The BCI training on safety for women focused on safe practices during cotton picking to minimize pesticide contamination. It has also shown the female workers how to keep their children safe, for instance by keeping them away from water and pesticide bottles. After being trained, female workers were found to be much more likely to adopt safety measures, including use of gloves and mask and not picking when pregnant, because they now understand the dangers associated with these practices. However the focus group discussions revealed that although the farmers now provide gloves and masks, the workers have to pay for them. About half the women workers interviewed (mainly the poor migrant workers) could not afford to buy the protective equipment and now use cloths to cover their faces when picking.

Cotton quality

Ensuring cotton quality is one of the key principles of BCI (see box). Quality is often compromised by poor harvesting and post-harvest practices, resulting in excess moisture content and wastage. Cotton picking in the early morning results in higher moisture content, adversely affecting quality; late morning is a better time for cotton picking. The direction of picking also affects quality, with cleaner cotton produced by bottom-to-top picking. Spraying of water after picking to artificially increase the weight is another practice which compromises quality.

The study found that BCI training has significantly improved the practices and behaviour of both farmers and female pickers to improve cotton quality, including picking at suitable times; picking in the right direction; and better handling after picking (keeping the cotton on a cloth, not spraying water on picked cotton).

The improvement in the behaviour and practices for better cotton quality can provide financial benefits to farmers. In addition to the 1% premium paid by the BCI-registered ginners, they can potentially receive a higher price for the cotton crop if the quality is visibly higher. Higher prices should be reflected in higher rates for workers, but the study found that at present this is not happening, which removes the motivation for pickers to take care to maximize the quality of the harvest.

Marketing strategies

Effective functioning of the cotton value chain is key to the welfare of farmers and workers. The current structure of the value chain in the project area is inefficient, with many farmers locked into buying inputs from the middlemen and selling the harvested cotton back to them. A minority of farmers also sell direct to the ginners, but these are generally the farmers with larger holdings.

The BCI training encouraged farmers to sell to ginners rather than to middlemen, which benefits them financially by cutting out the middleman and increasing the farmers' share of the profits; and the study confirmed that after the training they were more likely to do so. However, many of the ginning factories are located far from the farms, and the 1% premium now paid by BCI-registered ginners is not attractive enough to farmers to act as an incentive to travel further to sell their cotton, when balanced against higher transportation costs and inconvenience. Farmers therefore still tend not to sell to ginners unless there is a BCI-registered factory nearby.

Group formation

Group formation empowers workers by giving them stronger collective bargaining power, and the chance to share skills and learning and to benefit from networking. Farmers who had received BCI training were more willing to allow their tenants and sharecroppers to participate in groups; and after training over 90% of female workers believed that women benefited from participation in groups, compared to only 20% of the control group. By making both male and female workers aware of the advantages of group formation, the BCI training has increased their potential for collective action.

Decent work

Decent workplace conditions are a fundamental workers' right. The study explored farmers' awareness and understanding about decent work and wages in terms of five indicators: appropriate timing, good wages, no bullying, proper breaks, and toilet facilities. It found that the vast majority (85-100%) of BCI trained farmers are aware of each of these, compared to only 26-36% of untrained farmers. Furthermore, all BCI trained farmers believed that men and women should be treated equally and should get equal wages. Similarly, BCI-trained male workers were more aware of decent work issues, and of wage and gender equality, than untrained workers.

The way forward

The impact study has clearly shown that the training has been effective in giving both farmers and workers a much better knowledge and understanding of how to produce better quality cotton more safely. However this will only translate into long-term sustainable change in their behaviour and attitudes if they perceive real benefits in changing their practices. At present the lack of effective incentive mechanisms militates against positive change: for example, farmers reported that only Rs. 15-25 premium, on a base price of Rs. 2500, is being paid for 40 kg cotton by BCI-registered ginners. This is an insignificant financial incentive (only around 1%), especially when distributed among farmers, workers and women cotton pickers, and is unlikely to be enough to sustain better cotton production. At present pickers are not receiving higher rates for better quality, so there is no incentive for them to adopt the practices they have learnt, especially where these are more time-consuming.

Key value chain stakeholders are generally not spontaneously changing their own behavior to provide incentives for cotton farmers and male and female workers to meet Better Cotton production standards. This will need to be addressed through better engagement with high end value chain actors such as ginners, to create a more favourable market environment which provides real incentives for better and safer cotton production.

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