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Big Push for the Rural Economy

About the project

Funded by: International Growth Center (IGC),

Key counterpart: Center for Economic Research in Pakistan (CERP) and Punjab Skills Development Fund (PSDF)

Impact

The Big Push for Rural Economy (BPPE) was developed as a result of Punjab Skills Development Fund (PSDF) engaging with Center for Economic Research in Pakistan (CERP) to develop a baseline survey report of PSDF's existing course offerings in agriculture and livestock sector. The survey report showed that the courses were under-serving the needs of the people engaged in these sectors. PSDF will be internalising the findings of the BPPE study when designing future programs and roll outs.

This policy brief has been written by Sheheryar Khan (CDPR) and is based directly on the final impact evaluation report on the Big Push for The Rural Economy authored by Ali Cheema (Senior Research Fellow IDEAS), Asim I. Khwaja (Professor Harvard Kennedy School), M. Farooq Naseer (Assistant Professor LUMS), Jacob Shapiro (Professor Princeton University), and Joshua Gill (CERP).

In brief

- BPPE program was a study funded by IGC and implemented by CERP in collaboration with PSDF to bring about consensus on best practices in agriculture and livestock.
- Skills training designed & implemented to increase productivity in agriculture and livestock by investing in human capital in Punjab's four high poverty districts.
- The aim was to improve core skills along the value chain.

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What is the BPRE Program?

The Big Push for the Rural Economy (BPRE) program is premised on the “big push” theories of economic growth, posited by P.N. Rosenstein-Rodan which state that there exist obstacles to development and that the development process is not smooth. A “big push” is needed here to counteract the initial inertia of a stagnant economy. Sustainable growth can be achieved in underdeveloped economies through coordinated complementary investments addressing multiple constraints or a “big push”. Testing of this approach was initiated in 2016 in collaboration with PSDF, a not-for-profit skills development organization that provides skills training to individuals so they can find income-generating opportunities.

The BPRE program aimed to introduce the consensus best practices in rural economy, particularly agriculture and livestock farming. A baseline survey carried out in 2012 by Center for Economic Research in Pakistan (CERP) on the existing courses offered by PSDF pointed out that they were not meeting the demand for those frontier skills such as; seed selection, fertilizer usage, milking livestock, and that skills were not being diffused adequately in the farmers. The average skills of the farmers were not close to

those frontier skills which is why the skills training program focused specifically on the frontier skills. For the purposes of this study, the exclusive focus of the program was on Punjab's four high poverty districts in the South: Bahawalpur, Bahwalnagar, Lodhran and Muzaffargarh.

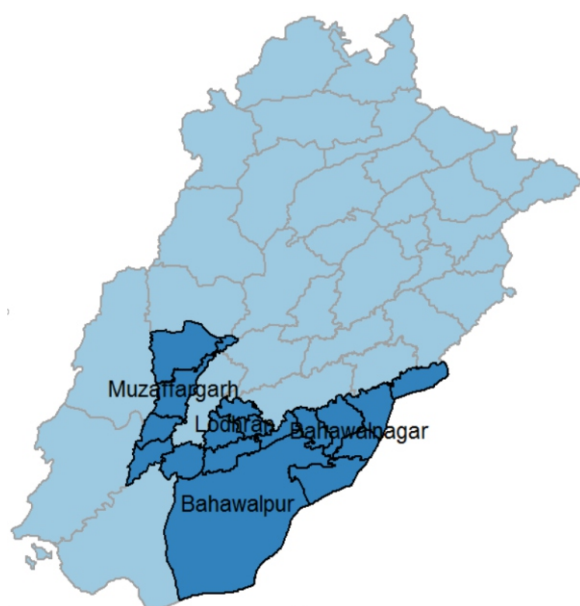


Fig. 1: Program Districts.

Course in Agriculture	Courses in Livestock
<ol style="list-style-type: none"> 1. Wheat 2. Cotton 3. Kitchen Gardening 	<ol style="list-style-type: none"> 1. Basic Livestock Trainings
Specialized Agriculture Training	Specialized Agriculture Training
<ol style="list-style-type: none"> 1. Farm Machinery Mechanic 2. Electrician 	<ol style="list-style-type: none"> 1. Village Milk Collection 2. Animal Health Workers 3. Artificial Insemination 4. Farm Supervisory
Training Service Providers	
Star Farms	ENGRO Foods

Fig. 2: Trainings and Courses as per the BPRE.

Evaluation Objectives

Through the BPRE program, best practices were to be introduced at multiple points in the village level agriculture and livestock value chains. The aim of the evaluation study was to measure the causal impact of “big push” style training on household productivity. It tested the claim that training is particularly effective at improving productivity when implemented across the entire value chain in multiple sectors at once. To compliment this training of farmers and villagers, the evaluation study also sought to measure the incremental impact of complementing these trainings with a linkage component where all farmers were invited to a central location in the village and introduced to each other with the aim that the downstream and upstream agents within those value chains were combined with the farmers and local service providers. By establishing linkages between trained farmers and other individuals belonging to the agriculture and livestock value chain, the idea was to have a self-sustaining model of change in the rural economy. This essentially served as a networking component within the study.

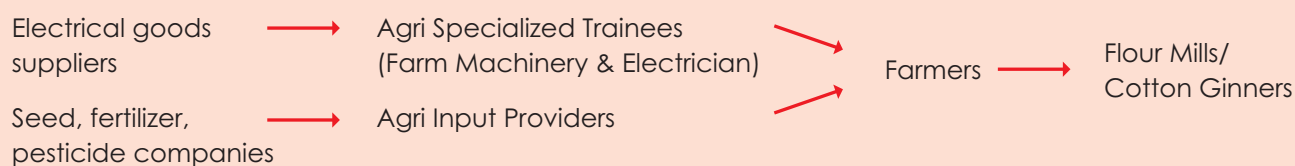


Fig. 3: Impact on Agriculture Value Chain

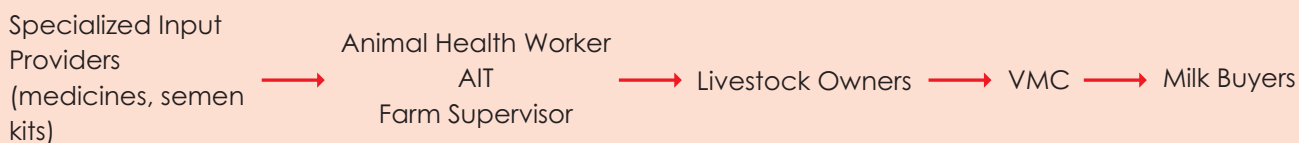


Fig. 4: Impact on Livestock Value Chain

Evaluation Design & Methodology

To assess the efficacy of the BPRE program, CERP in conjunction with PSDF carried out a randomized control trial (RCT). Its aim was to compare the average outcomes of households in villages where the program was randomly offered with those where the program was not. The aim was to measure the scheme's average effects and assess its returns at the community level.

The study involved a representative sample of 90 randomly selected villages in the four districts. Of the 90 villages, 30 were randomly assigned as control villages ("C" – these villages were not offered any program). The remaining 60 villages were then subdivided into two treatment groups: 30 villages were randomly assigned to just receive the menu of training ("T1" villages) and the remaining 30 were assigned to receive both training and trainee linkages in the form of two village melas (fairs) ("T2" villages).

For the treatment group villages, courses were offered on agricultural training with emphasis on wheat and cotton – most common crops grown in the region – while livestock training focused on large dairy animals. Additionally, specialized trainings on agriculture and livestock were given to farm electricians and machinery mechanics, Artificial Insemination Technicians (AITs), farm supervisors, health workers, and Village Milk Collectors (VMCs), to complement each professional's general training.

A comparison of average outcomes for households in T and C villages provides an impact of the training program, while comparison of T1 and T2 villages allowed us to measure the incremental impact of linkages between trainees.

Additionally, two baseline surveys, a post-treatment tracker, and an end-line survey were also conducted between 2013 and 2019.

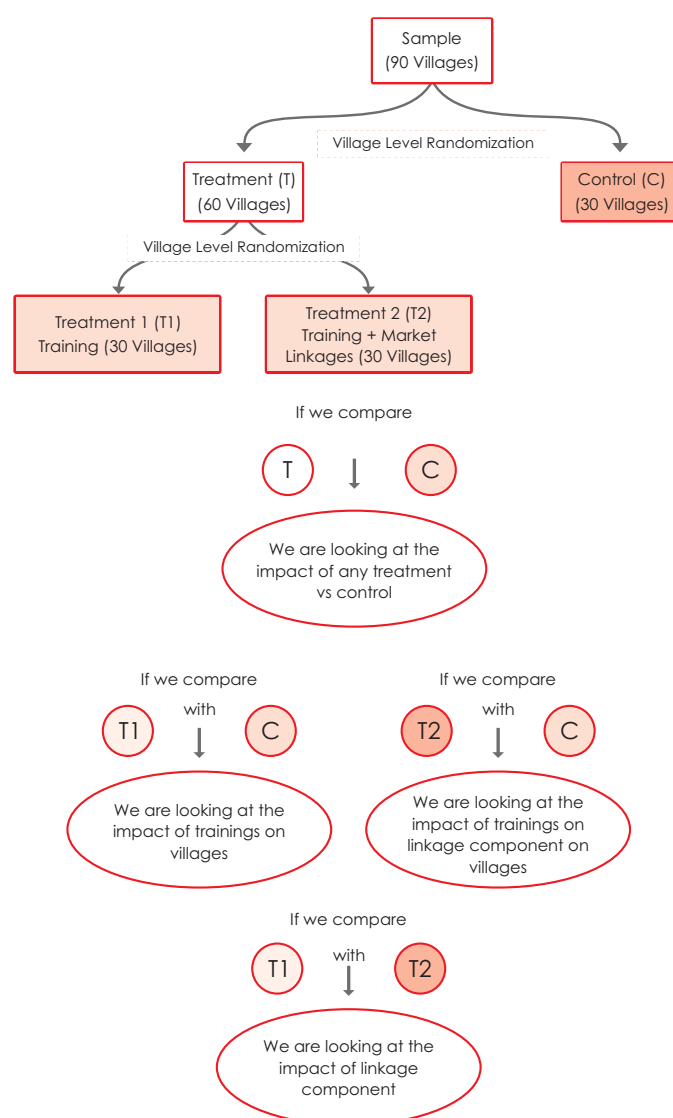


Fig. 5: BPRE Evaluation Design.

Impact of BPRE

Two outcomes were examined immediately after BPRE ended in 2018 and a year later in 2019:

1. Productivity:

Does intensive human capital infusion in agriculture and livestock sectors through training in skills have a positive impact on total crop/milk production, yields, and the proportion of households engaging in crop/milk production.

2. Effectiveness of training:

Does the impact of this training persist over time. Evidence showed that a coordinated intervention across the value chain increased the quantity, yields and value of crop and milk production. The quantity of wheat, cotton, and milk produced increased by 41 percent, 43 percent, and 17 percent respectively from 2016 to 2018. Additionally, crop yields increased by 6 percent for wheat and 13 percent for cotton during the same time. Milk yields also increase by 4.8 percent. Land was not independently examined but the findings suggest that new land was brought into production, leading to the large increase in total production.

There was also an increase in the number of households that produced crops and milk. Although the number of households producing was already high at 70%, yet in these small villages of several hundred households, 8 new householders started producing wheat, 11 cotton and 6 milk immediately after the end of the program in 2018. It was also noted that offering training in treatment villages led to an increase of 100.6% in the total value of agri-livestock output for the average household.

However, a post project survey carried out in 2019 pointed out that not all of the impact was favorable. The survey in 2019, a year after the trainings, showed that the size of the impact decayed for most outcomes, with the exception of milk yields. Although there was considerable improvement in knowledge immediately after training, it decayed within a year. This suggests that the knowledge gained through training and increased connections within the treatment villages worked by increasing the returns to existing practices, not by shifting how people worked.

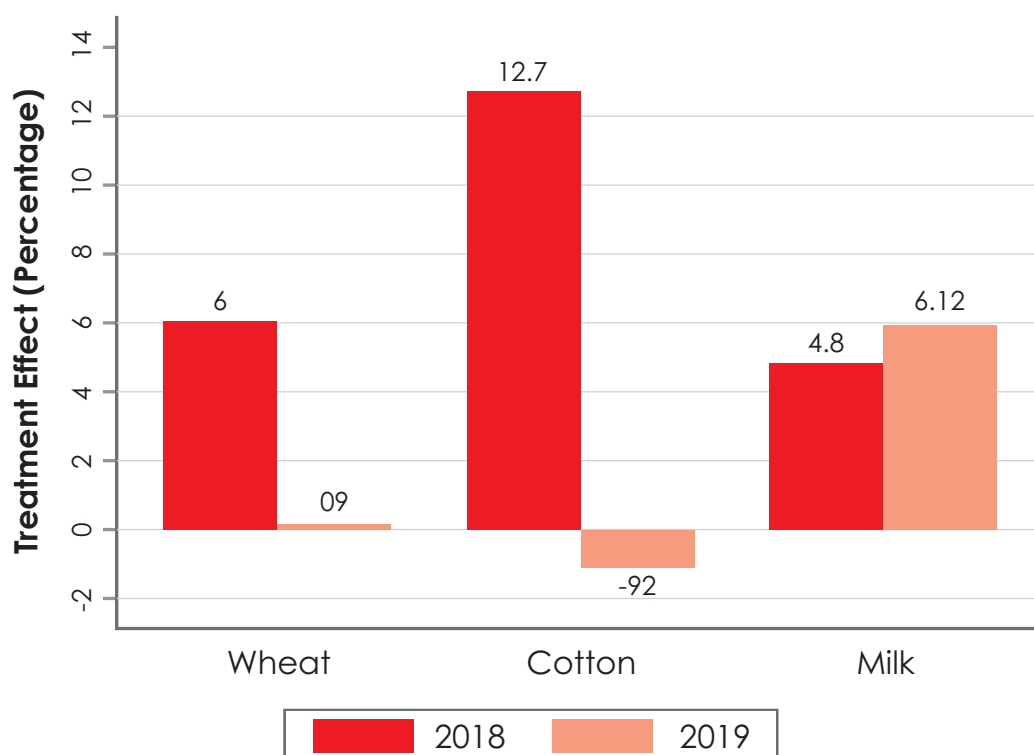


Fig. 6: Change in Yields after Treatment.

This prompted the question of why trainees retained livestock knowledge and not agriculture knowledge. The findings show that this may have to do with the frequency with which knowledge is applied. Hence, after one year trainees remembered livestock training knowledge as livestock farming continues all year round but forgot their training on seasonal farming for the likes of wheat and cotton.

Another important question to be assessed as part of the project was whether there was any difference between T1 and T2 villages. In T2

villages an additional project component was delivered in the form village melas (fairs) that aimed to connect the farmers with service providers and potential buyers. It was intended that these linkages would allow the farmers to establish sustainable connections and present greater opportunities at generating income. However, there was no additional impact of this component and there was no significant statistical difference between the two villages.

Way Forward

The aim of the project was to assess how coordinated interventions at multiple levels of the value chains could be impacted and the findings do indeed show that there are clear benefits on production and yields.

The evaluation findings indicate that large-scale agri-livestock trainings can indeed have substantial impact at the national level. This bodes well for scaling such programs up to a national level. The gains in production observed could have a first-order impact on an economy like Pakistan's given the importance of agriculture and livestock. The gains would not only alleviate food security concern, but the resulting reduction in imports could help improve the current account balance, visavis Pakistan's rising cotton imports.

While there was a lag in knowledge retention in agricultural practices after the training, it is recommended that low-cost refresher courses be administered as well as large scale agri-livestock training be introduced for seasonal crops like wheat and cotton.

