



Benefits of Cotton Value Chain to Farmers - A Case Study by CIRCOT



Importance of Cotton Value Chain

Cotton being a commercial crop of great economic importance, there exist a value chain in the sense that the seed cotton is converted into lint and through the yarn and fabric route into garments and made ups for both internal consumption and export. However, in this conventional value chain there are several weak as well as missing links. The crucial unit operation involved in the value chain is ginning, i.e. conversion of seed cotton into lint, is still considered to be one of the weakest links characterized by excessive use of energy, low productivity, absence of cleaning and lack of facilities for quality assessment of the lint that this sector produces. Although, the spinning industry in India is considered one of the most modern sectors with standards that are comparable to rest of the progressive countries, the same cannot be said about the weaving/knitting sector as far as quality of the end product is concerned. Further, in the downstream processing such as preparatory chemical treatments like scouring and bleaching of yarns or fabrics, eco-friendliness, energy use efficiency, effluent generation and its treatment are factors that need immediate attention.

Integrated Cultivation

It was felt that an “Integrated Cultivation” approach by bringing together small holding farmers and ensuring quality inputs at competitive price would not only bring down the cost of cultivation but also result in cotton with low levels of contaminants. Such technologies were demonstrated at the farmers' fields to convince growers for further large scale adoption. CICR with its expertise on production technologies executed this job in the project and CIRCOT did the post harvest on-farm and off-farm management to produce clean seed cotton. For this, certified cotton seeds, fertilizers, pesticides, etc., were given to farmers of the adopted villages viz. Nagpur, Coimbatore and Sirsa by CICR. Sowing and related activities were taken up along with crop growth monitoring in the farmer's fields under supervision of CICR scientists.



Low cost poly-tubes drip system

In low cost poly-tubes drip system, instead of LLDPE lateral, polytubes 150 micron was used. Poly-tubes were punctured at single side at regular intervals (60 cm) and placed within the pair (60 cm) of paired rows planted cotton. Polytube drip system (150 micron) was cheaper by 57.8 % in comparison to existing drip system. Poly tube drip systems were demonstrated at adopted village and water saving to the tune of 36.0 per cent and yield increase of 25.4 per cent were recorded. The economics of adoption of low cost system found that higher gross return (Rs. 66,855/ acre) and net return (Rs 41,118 /acre) realized as compared to

conventional method of irrigation, which calculated gross return of Rs.51,383/acre and net re-turn of Rs 26,536/acre.

Clean Cotton Picking

Proper on-farm storage of seed cotton, avoidance of mixing any other fibre material, etc. were demonstrated which reduced amount of contaminants during storage. Also grading of kapas in terms of moisture and fibre attributes were issues that were paid deserved special attention. In this project, Cotton picking was carried out under the supervision of CIRCOT. Farmers were trained in the use of simple practices such as,



- Use of head gear (scarf),
- Use of cotton cloth bags for collecting kapas in the field,
- Emptying these bags only on the thick plastic sheets away from the edges,
- Filling kapas in big cotton cloth bags, etc.

With these improved methods of picking and storage, it was observed that there was almost no contamination (3.5g in 1200kg lint) and even trash levels in ginned cotton dropped to about 2% from 5% which was the average level of trash in cotton ginned from non project farmers.

Utilisation of Cotton Plant Stalks

About 25 million tonnes of dry cotton stalk (10% moisture) is available every year in our country, of this; about 15 to 20% is used by the farmers as fuel, and rest is burnt in the field or ploughed back. CIRCOT in its earlier work has shown that this stalk can be used as raw material for particle board making. In the present project attempt was made to enthuse NGOs and individual entrepreneurs to take up this job through various awareness workshops in different parts of the country Through project two tractor driven chippers were offered to farmers for carrying out the chipping operations. During the project approximately 400 tonnes of clean chipped stalk were collected by the farmers. This resulted into an additional income for the farmers.



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