

“Sustainability of Small Scale Industries during Economic Downturn” A Special Reference Study on Indian Small Scale Cotton Industry

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Abstract—Cotton is an important agricultural commodity, traded all over the world. India has progressed substantially in improving both production and productivity of cotton over the last five years, transforming from a net importer of cotton, to becoming one of the largest exporters, shipping 5.8 million bales in 2011-12, second only to the USA

Cotton cultivation is a very important part of the Indian agrarian landscape and provides sustainable livelihood to a sizeable population in India. Cotton is cultivated in about 10.38 million hectares in the country, which accounts for 32% of the global cotton area and contributes to 24% of the global cotton produce

It is estimated that more than 5.9 million farmers cultivate cotton in India and about 40-50 million people are employed directly or indirectly by the cotton industry. Government initiatives like the Technology Mission on Cotton and Technology Upgradation Fund Scheme have improved the marketability of the farm produce and helped in modernizing and upgrading the ginning and pressing factories. These initiatives have led to appreciable improvement in the quality of cotton bales, which in turn have proven beneficial for the textile industry

Agriculture accounts for over 83 % of total water usage and cotton is a water intensive crop that has implications on the hydrological balance of some areas. About 47 % of pesticides in India are used for cotton alone. In order to achieve sustainable growth, there is a need to balance both the economic and ecological factors influencing cotton cultivation

Cotton has around 61% share in the raw material consumption basket of the Indian textile industry. It plays a major role in sustaining the livelihood of an estimated 5.8 million cotton farmers and about 40-50 million people engaged in related activities, such as cotton processing and trade

India has the largest cotton cultivated area which constitutes about 32% of the global cotton area. The planting period in India takes place from March to September, while harvesting takes place from October to February. Cotton is produced in 3 zones, the Northern zone, comprising the states of Punjab, Haryana and Rajasthan, the Central zone, comprising Maharashtra, Madhya Pradesh and

Gujarat and the Southern zone, comprising Andhra Pradesh, Karnataka and Tamil Nadu

1. CHALLENGES FACING BY COTTON SMALL SCALE INDUSTRIES IN INDIA

Lack of irrigation facilities

Predominance of rain-fed area has been one of the major hindrances to cotton cultivation in India. Almost 67% of the area under cotton cultivation is rain-fed and only 38% of it is irrigated, thus, exposing the cotton productivity to the vagaries of monsoon

Increase cotton yield

Although yields of cotton have increased over a decade Joint efforts and collaborative research involving private as well as public sector research institutes would help in finding a quick solution for yield development

Cotton contamination

Contamination in Indian cotton has reduced significantly as a result of upgradation of ginning and pressing factories under the Technology Mission on Cotton. However, this area still requires continued focus and measures for reduction of contamination at farm level, under the Policy. In the latest (2007) survey by the International Federation of Textile Manufacturers, the six most contaminated cottons tested were from India. Likely sources of contamination are handpicking, where foreign matter (such as polypropylene strands from picking bags) may be accidentally introduced, and ginning, where seed coats may not be adequately removed, and wire or

metal can break off machinery and remain embedded within the fibres

Lack of infrastructure

The transport infrastructure is poor in India and the cost of transporting cotton fibre from one state to another is substantial

Problem of admixtures

There are inconsistencies in the strength, length, micronaire, colour and reflectance of cotton as different varieties of cotton fibre with different physical properties are mixed together. Admixture also makes the grading and testing of cotton difficult. Quality-conscious mills, particularly the export-oriented ones, are compelled to engage themselves in expensive bale management exercises to maintain yarn quality

Government Cotton Policy Interventions

Restrictions on exports and frequent changes in the policy have hurt cotton trade and resulted in the country being sidelined in the international market because of risks associated with vacillating policies and unsteady supplies

Competition from other fibres

Cotton fibre is increasingly facing competition from artificial fibres, notably polyester. This is attributed mainly due to rising price volatility in cotton trade and variations in fibre characteristics, because of genetic, environmental, harvesting and ginning factors

Branding initiatives

The proposal to implement measures envisaged under the draft policy for improving the marketing and branding of cotton are extremely beneficial. Such measures should also include boosting the production and promoting the consumption of cotton in the country

Need for stronger Indian arbitration for imported cotton

The Indian textile mills importing cotton have to encounter huge problems, because foreign buyers invariably stipulate arbitration by International Cotton Association (ICA), Liverpool, in the sale contracts. India has been a regular importer of cotton and imports will continue in future

2. COTTON SUSTAINABILITY

Accelerated demand for cotton, around the world, has led to more than threefold increase in its production since 1950s. This increase in production has been (accomplished or gained with effort) through intense input application, use of which has most often environmental effects

Some of these impossible to do impossible to keep going production practices include careless use of bug-killing chemicals and fertilisers, long/big use of watered water, with

no regard to water amount and quality, use of applications that add/give to soil wearing away, and an unbalanced (amount, time of use) use of useful things/valuable supplies in some areas of the health of the Earth/the surrounding conditions)al hits/effects connected with cotton production, such as soil and water pollution, are more and more coming into focus and repeating the need for (able to last/helping the planet) production systems

The United Nations defines 'Sustainable development' as development that meets the needs of the present, without reducing or interfering with the ability of (people who will live in the future) to meet their own needs⁶. The basic (reasons for doing or saying something) of this definition are supported by three (tall supporting posts/important parts) of (able to last/helping the planet) development - money-based (the ability to keep something around, or keep something going), Earth-health protection, and social security

Environmental Impact Of Agricultural Practices

Between 1950/51 and 2010/11 the area under crop-watering/rinsing with water has increased by almost 6.7 times⁷ and the working well and getting a lot done improvement⁸ has only been five times. The increase in production is attributed to a range of factors, including use of high-cooperating with/producing/giving up varieties of seeds, intensive input application, increased area under cotton (producing crops/helping something grow), and better (basic equipment needed for a business or society to operate)

Cotton production clearly adds/gives to money-based growth, however, until externalities born out of social and environmental hits/effects are not reflected in the money-based value of cotton, the value will continue to be inflated in real terms and not lead to (able to last/helping the planet) growth. Some such social and (effects on the surrounding conditions or on the health of the Earth) that are very important to be (made a part of you) in the real money-based value of cotton, include the cost of water treatment that has been (dirty/containing unwanted things) due to the use of bug-killing chemicals, the decrease in net available water due to water pollution, and the health dangers/risks and cost of treatment that affect the farmers and others due to the use of bug-killing chemicals

Better Management Practices—A Precursor For Sustainability

It has been established that careless use of inputs, such as water and chemicals in cotton production, is the cause for some of the key (related to surrounding conditions or the health of the Earth) issues connected with cotton production

Cotton (producing crops/helping something grow), therefore, needs/demands a combined (with other things) approach at the crop management level, with improved practices. Better crop management practices, such as Non-Bug-killing chemical Management (NPM), IPM, Combined (with other things) Nutrient Management (INM), Combined (with other things)

Water Management (IWM), are (almost completely) meant to lessen the heavy load of inputs, while increasing productivity to reduce (effects on the surrounding conditions or on the health of the Earth). WWF-India has helped develop **Better Management Practices (BMP)** based on the above limits/guidelines that balance crop working well and getting a lot done with agri-inputs

Better Management Practices (BMP) can be broadly categorised into the following five areas

Soil Fertility Management

BMPs on soil life-creating ability management include Soil Test Based fertiliser application. Based on the nutrient status of the soil, fertilisers are recommended for application in soil. Apart from this, BMPs also includes Combined (with other things) Nutrient Management that needs/demands the use of organic inputs (like tank silt application, crop residues, vermicompost, farm yard poop/fertilizer, etc.) practices along with (not related to living things) fertilisers. The particular management practices restrict the overuse of mineral fertilisers and so prevent loss of (vitamins, minerals, protein, etc.)

Pest and Disease Management

BMPs on pest and disease management fighter (for something) proper pest watching/supervising through sticky, (smell that communicates information) and yellow trap, encouraging cultural, mechanical and wise chemical practices to control pest and sicknesses in cotton. These can effectively reduce the dangers/risks of using excess of chemical bug-killing chemicals and insecticides

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Clean Picking

BMPs encourage safe use of bug-killing chemicals with proper disposal of containers by the users. Importance and focus is also given to clean cotton picking practices that reduce the likelihood of contamination. The BMPs encourage the use of cloth bags, which are used to collect cotton during picking and for cotton storage. Separate, (related to making people comfortable) designed; aprons are given to the women workers for reducing the contamination of hair and threads from polypropylene bags

Global initiatives towards sustainability in cotton production		
Initiatives	Standards	Highlights
Better Cotton Initiative (BCI)	Environmental and Decent Work Conditions	Formation of learning groups, self assessment, creation of chain of custody in supply chain, no premium for the produce
Fair Trade (FT)	Labour, Development, and Environmental	Product certification system, social premium for doing social/community development activity
Organic	Environmental	Product certification system, premium for the produce exists however not guaranteed
Cotton Made in Africa (CmiA)	Social and environmental	Work on principle of social business; small holder cotton farmers of Africa are grouped into companies; verification done for the companies; no premium for the produce

Roadmap For Sustainable Cotton Development

Government policies and attempts (to begin something new) have been providing the necessary boost to domestic cotton production, processing as well as consumption. The National Fabric Policy (2000) is aimed at building a strong and full of life fabric industry, capable of producing quality cloth at an acceptable price, more and more adding/giving to employment provision and money-based growth, and competing for an increased share of worldwide market. The policy tried to increase cotton working well and getting a lot done and upgrade its quality to international standards through effective implementation of the Technology Mission on Cotton

Cotton production mostly depends on the area under cotton production and working well and getting a lot done. Issues such as food security and land pressures have led to the area under cotton production to remain mostly constant. So, future production is expected to be driven by improvement in cotton yield. Yield is assumed to grow at alternate rates of 4.0% and 4.7%. Also, the Directorate of Cotton Development, Mumbai, has also made projections for cotton fibre production. The guesses (of a number) made by the directorate are based on an idea (you think is true) of 4.7% increase in yield, per hectare, till the terminal year, 2020

The projections for eating/drinking of cotton fibre have been arrived at through projections for cotton fabric consumption and through use of (changing from one form, state, or state of mind to another) ratios. The final picture/situation for 2020 is combined all the features of in the table on the right

To meet the current demand as well as address the demand growth in the future, the value chain of cotton has to be improved. This is possible through appropriate input management, improved supply chain management, backward

linkages, and (making things all follow the same rules or be copies of the same models) of trade practices and (accomplishing or gaining with effort) (making a lot of an item so each item costs less) by including/combining (able to last/helping the planet) farming-based practices.

In order to (accomplish or gain with effort) (able to last/helping the planet) growth, there is a need to balance both the money-based and (related to surrounding conditions or the health of the Earth) factors influencing cotton production

In Singapore 2010 International Cotton Conference, a professional group of speakers talked to/looked at hard problems facing the industry, ranging from the marketing and packaging of get along with/agree with risk management, and to the effects quickly growing Asian (processes of people making, selling, and buying things) will have on worldwide consumption

Lighting/educational presentations were made available to buys in China, India, Indonesia and Bangladesh. China and India represent two of the largest producers and people (who use a product or service) of cotton around the world, while Indonesia and Bangladesh represent two of largest (related to a large area) people (who use a product or service) of cotton. All four countries brag the largest and most competitive fabric complexes around the world, but in China and India cotton production takes on more importance as major contributors to both (processes of people making, selling, and buying things)

As a result, in the opinion of some speakers, China's fabric industry will more and more focus more on domestic consumption of its products instead of simply exporting the majority of its output, but by doing so allowing exporters in other countries, such as India, to more and more step in to meet worldwide demand

Truly, over the past two years, fabric exports from China to the world have declined, while domestic consumption has risen Yet (even though there is the existence of) the seen/obvious opening created by moves/changes in demand for Chinese fabrics, some speakers were critical of the Indian fabric industry's ability to take advantage of the changing market referring to an over-reliance on government support programs that has interfered with rather than helped India's fabric industry to reach its potential -- placing the industry at least ten years behind their Chinese partners

One thing is certain, how these countries successfully deal with the supply and demand issues affecting cotton will likely tell the story for fabric mills and people (who use a product or service) around the world for at least 20 years to come. Because of the growing importance of the Asian fabric industry and its consumption of cotton, risk management will take on an especially important role in the coming years. Already around the world most cotton merchandisers hedge their cost of cotton, some growers do also, and many fabric mills, but traditional risk management's ways of doing things

have proven to be not enough as was witness in the dramatic run up and crash of cotton prices in March 2008

Although all of the topics discussed at the (meeting to discuss things/meeting together) were interesting and quite information-giving, I was especially interested in a discussion of (able to last/helping the planet) cotton production. Because of worldwide debate over organic cotton, (the ability to keep something around, or keep something going) is a practical method of producing cotton not only more efficiently, but also with far less (effect on the surrounding conditions or on the health of the Earth) than showed by traditional growing ways of doing things

In support of (able to last/helping the planet) production, Brazil-based Mr. Antonio Esteve, Cotton CEO of Ecom Agroindustrial Group, a leading worldwide merchandiser of cotton, made a most interesting presentation. During his presentation, Mr. Esteve discussed a (compared to other things) new program called the "Better Cotton Effort to begin (doing something)," a program that began in 2006 at the request of some major retail brands, including IKEA, Levi's and Marks & Spencer

I believe that most growers and people (who use a product or service) of cotton would like their get along with/agree with be made with as little harm to (the health of the Earth/the surrounding conditions) as possible. The Better Cotton Effort to begin (doing something) is not a certification program -- you may not necessarily see a hang tag on your clothing labeled "**Made of 100% Better Cotton**," but rather this program is a set of procedures providing the guidance necessary for growers to produce cotton needing/ordering less water and bug-killing chemicals than in the past. But unlike organic cotton, which at least on one level tries to be what it isn't, the Better Cotton Effort to begin (doing something) is what it is: a good faith effort to incorporate the best attributes of an organic program along with the realities of growing get along with/agree withday

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