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COTTON
SUMMIT
BANGLADESH-2015



BANGLADESH COTTON ASSOCIATION



BANGLADESH TEXTILE MILLS ASSOCIATION

COTTON PRODUCTION IN BANGLADESH CHALLENGES & OPPORTUNITIES

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Introduction

Along with food and shelter, clothing is one of the primary requirements of human beings. Cotton, unique among agricultural crops, provides food and fibre. Cotton is major natural fibre crop, and also provides edible oil and seed by-products for livestock food.

Bangladesh has remarkable contribution in agricultural sectors especially in rice, vegetable fruit and fish production during last three decades. Bangladesh is highly populated country, so our attention was to produce food production to feed the people. Presently Bangladesh has reached in a sustainable level of food production. Now the Government is going to crop diversification which is more profitable for the farmers-it is called high value crop. Cotton is now one of the high value crops. By introducing hybrid and Bt hybrid, production per unit area could be possible 1.5 times even double from the present production. Cotton is drought, saline and very low water consuming crop. Cotton is successfully grown in non-traditional areas of Bangladesh like Barind, Saline, Hill and Char areas where rice and other food crops are not so profitable for the farmers. By using this non-traditional area as well as by replacing tobacco, ten lac bale cotton could be produced in vision 2021 target of Bangladesh but it needs special effort from the Government and other stakeholders like farmers, Seed Company, Ginners and spinners.

BANGLADESH COTTON: CURRENT SCENARIO

- 2nd largest apparel producer of the world
- Bangladesh is 5th largest Raw cotton consumer in the world
- 2nd Raw cotton importer of the world
- Raw cotton import from- Uzbekistan, India, USA, other CIS and some African countries
- Quality of domestic cotton is equivalent to CIS and Indian cotton
- Hybrid cotton has introduced and Bt cotton introduction are under process

TEXTILE SECTOR OF BANGLADESH

• Spinning mills	:	393 Nos. (aprox.)
• Annual production of yarn	:	1,800 million kg
• Weaving Mills	:	1,343 Nos.
• Annual production of Woven Fabric	:	1,000 million meters
• Knit Industries	:	446 Nos.
• Annual production of Knit Fabric	:	5,200 million meters
• Ready Made Garment (RMG) Units	:	5,000 Nos.
• Hand Looms	:	3 lakhs nos.
• Annual production Capacity of Hand Looms	:	92 million meters
• Employment of Laborers in Textile Sector	:	5 million
• Annual requirement of Raw Cotton	:	4.20 - 4.50 million bales
• Total Yearly expenses for import of cotton	:	Tk. 12,000 crores

Requirement and Source of Cotton

Annual requirement of raw cotton for textile industry of Bangladesh is 40-42 lac bale (1bale= 182 kg or 400 pounds). Around 3-5% of the national requirement is fulfilled through the local production (0.1 million bales), remaining 95-96% requirement is fulfilled by importing raw cotton from Uzbekistan (33%) India (33%), USA (13%), African countries (11%), Turkmenistan (6%), Australia (5%) and Pakistan (4%).

Cotton Development Board (CDB)

The Cotton Development Board (CDB) is a public sector organization under ministry of Agriculture having two major wings- Research and Extension. CDB was established in 1972 after the independence through a resolution to fulfill the demand of raw cotton of local textile mills. This is only the Government institution where both Research and extension activities has taken under

the same umbrella. The main responsibilities of the CDB area: Research b. Extension, c. Seed production and distribution, c. Marketing and Ginning.CDB also provides small scale credit to the farmers. It has three regional Research, Training and Seed Multiplication farm and two research stations.

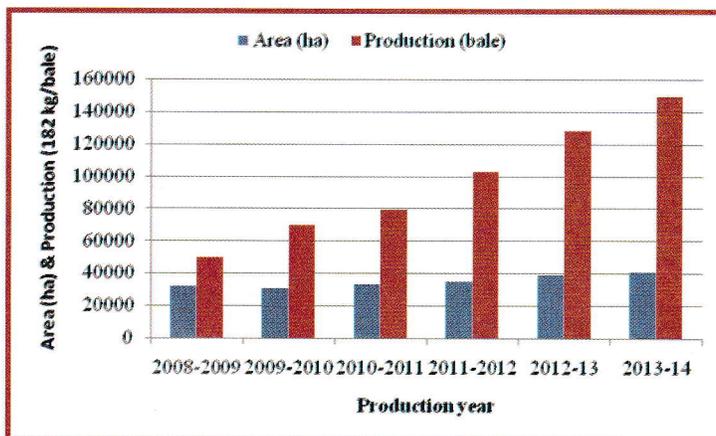


Fig. Area and production of cotton in Bangladesh for last six years

Vision of Cotton Development Board (CDB)

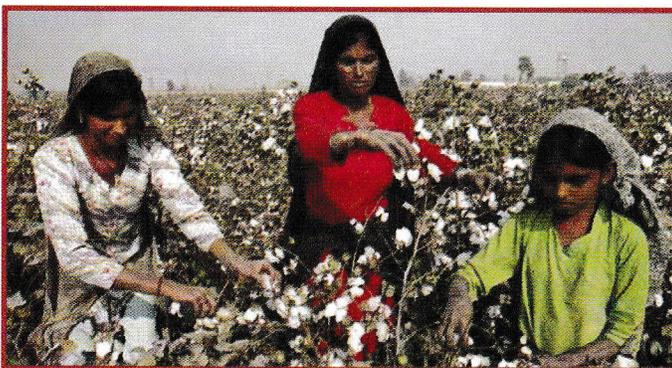
The vision of the CDB is to increase the cotton production as well as its byproducts to reduce the import dependency of cotton in Bangladesh.

Mission of CDB

To develop high yielding varieties for quality fibers and generate sustainable climate smart technologies through enhanced and need-based research, extension and provision of support services to ensure food security through socio-economic development of cotton farmers.

Cotton cultivation in Bangladesh

Cotton is growing mainly in south eastern zone, middle zone and northern part of Bangladesh. It covers



32 districts of Bangladesh mainly Kushtia, Chuadanga, Jhenaidah, Mehepur, Magura, Jessore, Rangpur and Thakurgaon. After introduction of Chinese hybrid, cotton is the most economic crop in those areas. Now the total production is 150,000 bales per year.

Cotton (*Gossypium sp.*) is the second important cash crop in Bangladesh after Jute. It is the main raw materials of Textile industry. Annual requirement of raw cotton for textile industry of Bangladesh is

estimated at 4.2 million bales. Around 3-5% of the national requirement is fulfilled through the local production (nearly 0.15 million bales) from 42 thousand hectares of land, remaining 97% requirement is fulfilled by importing raw cotton from Uzbekistan, India, Pakistan, Turkmenistan and from African countries. Without hampering the food crop production in main area we could grow cotton in non-conventional area like tobacco replacement, drought, hilly, saline, char and agroforestry area. By using one lac ha of non-conventional area, we could easily produce 8-10 lac bale of fibre in vision 2020-21

Marketing and Ginning:



Fig. marketing of cotton



Fig. Roller gin

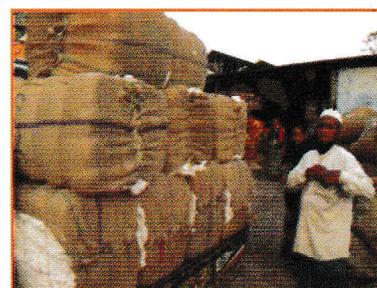
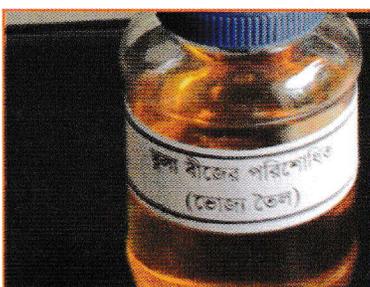


Fig. Local baling

There are around 20 private ginning industries in Bangladesh those are mainly in Kushtia, Jhenaidah and Jessore area. Private ginners procure seed cotton from the farmers in a competitive price and send fibre to spinning mill after ginning and baling. Recently they have established roller ginning in their industry and trying to improve modern ginning facilities but it still need to improve ginning facilities to make cotton sustainable.

Important value from cotton by products: (Cotton oil, oil cake)



Cotton oil is one of the important edible used in many countries of the world which is lower in cholesterol than Soybean. Bangladeshi private ginners established expeller and refinery in Kushtia and Jhenaidah and have started marketing of cotton seed oil, Very shortly they are going to Branding of cotton seed oil.

Cotton oil cake is a byproduct of cotton seed and it is produced during oil extraction. The oil cake is generally used for livestock feeding and fish feed. Cotton oil cake has high demand in the market for multiple uses with high percentage of protein. Cotton oil cake is also used as organic fertilizer like mustard oil cakes even it is better than mustard oil cake.

Fibre quality of Bangladeshi cotton:

Lot No.	SCI	MIC Value	Mat urity	Fibre Length (mm)	SFI	Strength (gm/tex)	Elongatio n (%)	Moisture (%)	Rd
1	2	3	4	5	6	7	8	9	10
Domestic cotton									
CB-12	140	4.02	0.86	28.79	8.6	30.53	4.43	6.11	72.67
CB-13	129.00	3.87	0.90	29.05	10.8	29.00	4.50	6.9	70.00
CB-14	130.67	3.98	0.87	30.40	9.46	30.33	4.06	7.46	72.13
Hybrid(HSC-4)	140	4.2	0.88	29.00	9.60	29.50	4.45	7.25	73.00
CIS cotton									
A	139	4.81	0.91	28.68	8.8	30.6	6.6	7.1	83.7
L	132	5.15	0.91	27.64	8.9	27.1	6.4	7.8	82.4
N	122	5.02	0.90	27.64	8.8	27.7	5.9	8.2	82.6

Table: Quality parameters of domestic cotton and imported CIS cotton

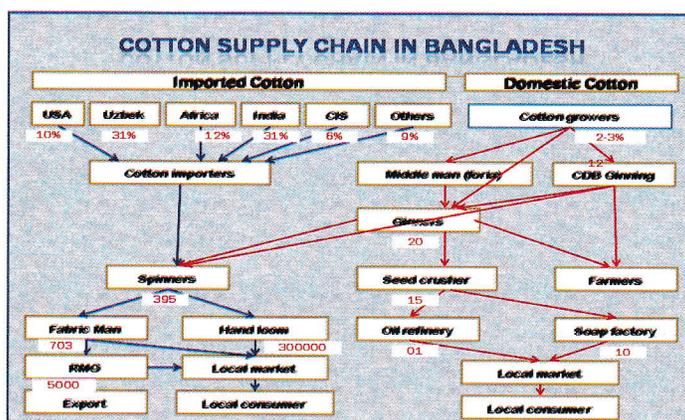
Public-private partnership

CDB has been working with Seed Company, private ginners under public private partnership and following activities have done:

- » Introduction of Hybrid seed through private seed company
- » Established 20 private Ginneries with oil Expeller
- » Newly established Oil refinery by the private sector
- » Some time contribution in providing credit to the farmers

International Linkage

- » Membership renewal of ICAC is under process through Textile Ministry
- » Bilateral programme with Hubei seed company of China for Bt seed through MTA
- » Bangladesh selected as Chairman of Asian Cotton Research & Development Network



Challenges for cotton production

- Long duration
- Competitive with other high value crops
- High input cost
- Climate change specially erratic rainfall
- Price volatility
- Marketing depends on limited private ginner
- Modern ginning facilities
- Cotton quality-lack of grading system
- Over all capacity of private ginners

Expansion of Cotton in non-traditional areas of Bangladesh

Bangladesh is a highly populated country and Government is very attentive to grow food in a limited land to feed the people. So the land which is suitable for rice and other food crops will not be allowed for cotton production. But the land which is not providing good yield of food crop and less economic benefit could be under cotton cultivation are given below:

Cotton in Drought area:



Fig. Cotton in drought area

Cotton is considered as drought tolerant crop as the plant requires very minimum water as well as it has vertical tap root which provides resilience against drought and it has Compensatory growth ability due to that cotton responds to loss of fruiting parts (buds, flowers, bolls). Based on those characters cotton could be successfully grown in drought area. As we know rice is considered as highly water consuming

crop and it requires 3000 litre of water to produce 1 kg rice. Under high barind area there is one lac ha of land which is suitable for growing cotton. From that area we at least 50000 ha land we want to take under cotton production.

Cotton in Hill area:

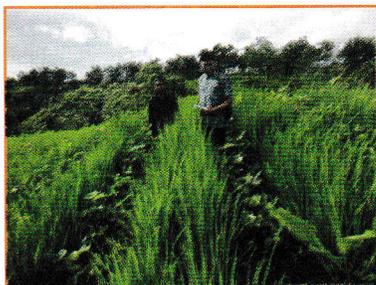


Fig. Cotton in the Hill valley

Cotton has been growing in three hill districts since time immemorial with jhum cultivation in the hill slope. As it is grown in jhum with many crops, it gives very low yield and less economic benefit. With the introduction American upland cotton as rice-cotton intercropping an alternative option has developed which provide more yield and income for the hill farmers. There 40-50 thousand ha land for growing cotton.

Replacement of Tobacco:

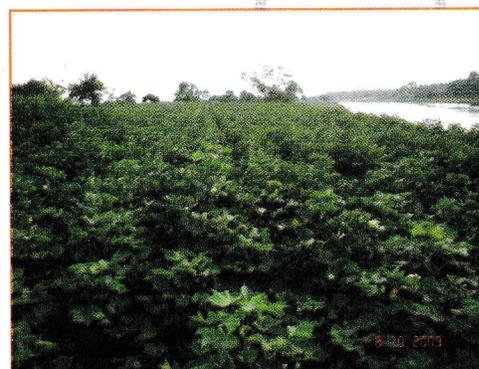
Tobacco cultivation has negative impact on soil health which kills the soil micro organism and it is also create health hazard for the farmers but farmers grow tobacco as they get some special incentives from the tobacco company but they want to replace tobacco if they get the suitable crop which is profitable for them. Cotton is one of the important alternative options for tobacco replacement. There are 70 thousand ha of land in different area like Kushtia, Meherpur, Rangpur ect. Could be under tobacco cultivation and gradually we can replace this tobacco area under cotton cultivation.

Cotton grown in Saline area:

Cotton is also considered as 2nd saline tolerant crop after barley among all crops. Many countries of the world cotton are cultivated cotton in saline area where other crops are not grown. Only seedling stage of cotton plant is sensitive to salinity but other stage of the crop is not sensitive to salinity. The salinity level of up to 11 ds /me has no effect on yield and after that yield will be affected. So in the saline area of Bangladesh easily we could take under cotton cultivation. In Bangladesh there are 5000 ha of land under saline area from that area we want to take 2000 ha under cotton cultivation

Cotton in Char area

Cotton is a deep rooted crop and uptake nutrients from subsoil and adds biomass to the top soil by their big leaves and improves the soil fertility. The char area where the land is from inundation in the month of July-December easily that char could be taken under cotton cultivation. Last couple of years we have been conducting research and development in the char area and successfully cotton has grown with reasonable yield. In Bangladesh there are 10,000 ha of land under char area from where we could take 2000 ha of land for cotton cultivation



Opportunities of cotton cultivation:

- » Huge domestic consumption
- » Production per unit area is higher than the world average
- » Good quality fibre could be produced from the present variety/hybrid
- » Profitable than other crops
- » Cash crop
- » Other value addition –Cotton seed oil and oil cake
- » Contribute in employment generation and income generation
- » Climate change adaptation crop: Saline and drought toleran

New opportunities:

Introduction of hybrid

With the introduction of Chinese hybrid (HSC-4) named as Rupali-1, the production of seed cotton is 3.5 to 4 tons per ha or 1200 kg lint production ha-1 and through this farmers' have earned Tk. 100,000.00-Tk.120, 000.00 per ha as net profit. Cotton is growing mainly in south eastern zone, middle zone and northern part of Bangladesh. It covers 32 districts of Bangladesh mainly Kushtia, Chuadanga, Jhenaidah, Mehepur, Magura, Jessore, Rangpur and Thakurgaon.

Introduction of Bt Cotton

Cotton is vulnerable to number of insects and huge losses may occur if the plant is not sprayed with the protective chemicals. Insecticide cost cotton is higher especially for bollworm control in comparison to other crops Bt cotton reduces the use of pesticides resulting in reducing the cost of cultivation and also improves profit margin to the farmers. Bt cotton can create a positive impact on the cotton production in our country also. Bt genes will be inserted in Chinese hybrid HSC-4 which will protect cotton from bollworms and also production will be increased.



Contract Farming:

Cotton is an industrial crop which is used for spinning to make yarn. Bangladesh has a good number of spinning mill and it requires big quantity of cotton which is importing mainly from Uzbekistan, India and Africa by expending foreign currency. After opening the LC it requires minimum 2-3 months as lead time to get the raw cotton. But the spinning mill owner of our country can go for contract farming for cotton production which will be benefitted for both farmers as well as spinning mill owners.

