

Since early 1980, the average cotton yield has increased at the rate of 3.3% or 11.7 kg/ha per year (Cotton Supply & Distribution, USDA, 2009)

Among the various reasons, new technological developments (hybrid and Bt cotton) could be one of the main reasons.

It seems that the available technology developed by researchers has been utilized in most countries. In cotton growing countries, the adoption of technology highly depends on the type of farms and farmers.

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Iran Agricultural sector at a glance

TSA=1,648,000 Km², Total Arable land=20 Mha

The 2nd and 3th largest reserves of the world gas and oil

The 1st producer of: Saffron (90%), pistachio (53%), caviar, dry fruits (44%) and mulberry (35.9%)

The 2nd producer of apricots and dates

The 3rd producer of watermelon, cherries, apples and cucumber

The 4th producer of wool, almonds and walnuts

The 5th producer of vegetable production, fennel, peas and nuts

The 6th producer of milk, beef, tomato and grape

The 7th producer of onions, cherries, kiwi and sheep

The 8th producer of spices, peach, tangerine, oranges and pork

The 10th producer of persimmon, tea and honey.



Potential of the cotton production in Iran

- Low pest and disease population
- Different suitable agro-ecological zones for cotton production in the country
- Improved varieties (high yielding, good quality, early mature and compact genotypes)
- Well number of dependent industries (3800 spinning and textile industry, 113 ginning factories, 35 oil refining factory and ...)
- Relatively high consumption and demand for cotton in domestic market.

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Economic characteristics of textile industry

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- 1- The share of employment is about 16 percent
- 2- The share of export is about 21 percent
- 3- Management and ownership of private industry
- 4- According to the official figures, the annual consumption of the cotton fiber is about 150000 tons but over the next 10 to 15 years will be up to 250 tons (2kg/person)

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Comparison the income and expense in some agricultural products in Iran

Crop	Benefit to cost ratio (%)
Wheat	35
Cotton	13
Rapeseed	30
Rice	30
Corn	21
Soybean	33
Wheat + Soybean	34
Wheat+ Corn	33
Sun flower	47

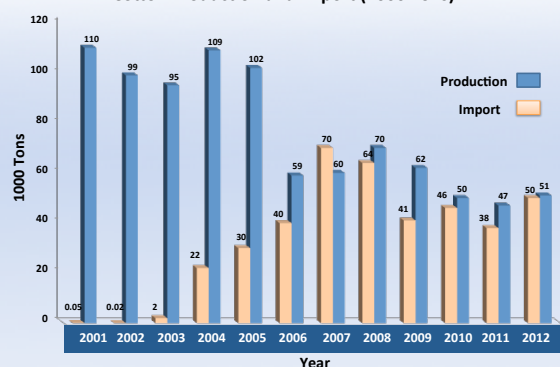
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Iran's cotton production, consumption and import during last six years (1000 Tons)

	2007	2008	2009	2010	2011	2012
Consumption	130	134	103	96	85	101
Import	70	64	41	46	38	50
Production	60	70	62	50	47	51

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Cotton Production and Import (1000 Tons)



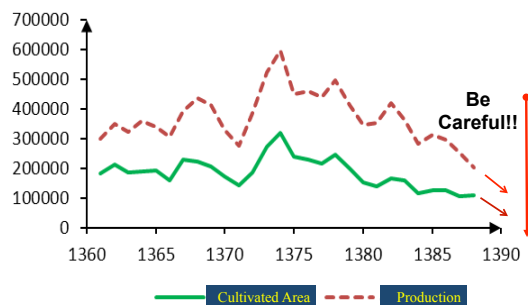
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Steps to make the Cotton Road Map

- 1-Analyze the current situation of the cotton production, its related industries and its commercial section.
- 2- The objectives of the activity
- 3- Strategies to achieve the desired state

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Production status and the cultivation of cotton crop in the country over the past 30 years



**** The main Reasons: having the sectional planning and overall neglecting**

The most important economic developments of the past 4 decades:

- Period 1971 - 1974: changes in macroeconomic variables and increase the level of cotton exports by increased of cultivation area from 307000 to 369000 hectares. Government did not intervene in the market and the price of cottonseed and lint was mainly determined by the exporters and the world price.
- After the victory of the Islamic Revolution (1979-1981) due to land disputes and lack of cultivation by feudal related to the previous regime, particularly in the provinces of Mazandaran and Golestan cotton cultivation area has been felt down to 145000 ha. With a severe shortage of cotton for the textile industries the government intervene by creating the state central committee of supply and distribution of cotton to control the situation.
- In 1982 for the first time a guaranteed price has been announced.

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- During 1984-85 some non-cash prizes such as fertilizers and pesticides has been given to the farmers.

In 1986 with the approval of the Supreme Council of Economy, Open Joint Stock Company Commercial Service was buying cotton by guaranteed price and Convention on the cotton exchange being canceled by government.

In 1993 for the first time, the foreign trade of cotton (import or export) was released.

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- In 1997, cotton exports reached to 45000 tones. Free cotton trading being approved and equilibrium price was considered as the base price.
- During the period of 2004 to 2007, most notably, the Department of Agriculture aimed at self-sufficiency in wheat and cotton sustainable design practice stopped.
- From 2007 till 2012 the cotton cultivation area became less than 100000 ha. Staff meetings of cotton and its sustainable plan were stopped.

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The main challenges and requirements in the production of cotton in Iran

- 1- General Challenges
- 2- Technical Challenges
- 3- Non- Technical Challenges

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1- General Challenges in Cotton Production

Reducing the size of the farms and the lack of the economic and technical feasibility of using the machine for harvesting cotton

Rising oil and gas prices and the lack of need for governments to earning foreign exchange from export of the crops such as cotton.

Unfavorable macroeconomic variables such as inflation and high bank interest

Financial support and service from competing products and reduce competitive advantages of cotton

Failure to use new technologies in agriculture, particularly for cotton harvest

Hidden subsidizing by cotton-producing countries in order to use the value-added products from cotton

Shift of cotton fields to saline soils and low yield areas

Low efficiency and relatively old cotton processing industry resulting in higher post-harvest costs.

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2- Technical Challenges in Cotton Production

Need for new commercial cultivars superior in yield and quality

Necessity to achieve resistant cotton to the Biotic stresses (diseases and pest)

Necessity to achieve resistant cotton to the Abiotic stresses (Salinity, drought)

Necessity to produce the hybrid seed and its distribution

Necessity to produce the transgenic cotton resistant to boll worm

Lack of suitable varieties for mechanical harvesting

Inadequate supplies of new biological resources controlling pests and diseases

Need for integrated management of pests, diseases and weeds in cotton

Lack of formal germplasm exchange program

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3- Non-technical Challenges in Cotton Production

Lack of appropriate pricing system
 High prices for competing crops and profitability of these products
 Inappropriateness of high production costs and the price of the product
 Lack of appropriate banking facilities for cotton cultivation
 Inappropriate policies and programs to support all aspects of the product
 Dissatisfaction of the farmers for insurance
 Lack of National strategy with the cotton industry
 Weak support policies for textile and cotton related industries
 lack of continuous training of human resources

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Major core programs with regard to challenges, policies and tasks

Introducing early mature varieties of cotton with the high yield and quality
 Developing suitable varieties for machine harvest with high quality
 Introducing and developing suitable varieties tolerant to drought and salinity
 Introducing and developing suitable varieties tolerant to pest and disease
 Developing some high quality hybrid varieties
 Developing transgenic cultivars resistant to major pest and disease
 Introducing and developing roundup free transgenic cultivars
 Recognizing the need for natural enemies of pests
 Providing the sources of resistance to pests and diseases

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Optimization and design suitable tools and equipment needed for cotton
 Making suitable strategy for textile and its related industries
 Design and construction of cotton harvesters in accordance with the Iran farms
 Maintenance, reproduction and exchange of cotton germplasm

- In order to encourage the farmers to grow cotton a set of incentives were approved by the government which are:
- Guaranteed purchasing price by government
- Financial assistance for land preparation
- Intensive extension program
- Providing technical assistance, high quality seeds, new irrigation system to reduce water consumption (85/15).
- Mechanized harvesting has been started as a major step to reduce production costs.

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Consequences of continuing the status

- Recession of the past years investments, Iran's refining capacity of 700 thousand tons to one million tons of seed cotton
- Imports of textiles and cotton
- Dependence on Linter imports for military industries
- Decrease in the sustainability of yields for the crops in rotation with cotton, especially cereals
- Dependence and unemployment in rural community

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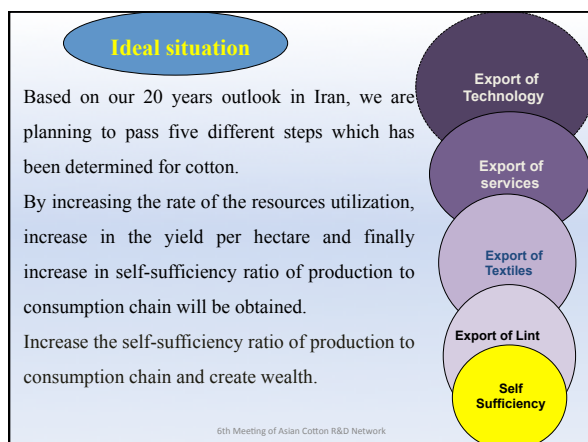
Ideal situation
 based on macro-policies

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The amounts and its index should be determined and planed by experts. Any program should be expanded to include two main purposes:

- 1 - Reaching to the next place/step
- 2 - Getting into the field and into position for the next

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Recommendation:

Trying our level of bes to form an **International / Continental** level of an independent research and training organization (like IRRI) to develop new Cotton varieties and its management techniques with finding sustainable ways to improve the well-being of poor cotton growers and consumers as well as the environment.

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