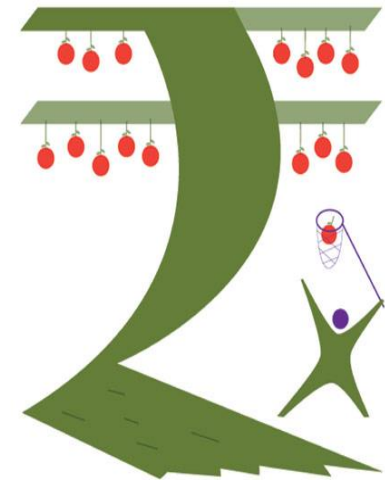


Best Farmer Friendly Transfer of Technology Practices Proposed to Double the Cotton Farmers' Income in India



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Best Farmer Friendly Transfer of Technology Practices Proposed to Double the Cotton Farmers' Income in India



- Introduction
- Why we need Best farmer friendly TOT practices for Cotton?
- How to integrate the available / popular practices ?
- Methodology adopted
- Integrated Package of Best TOT Practices for Cotton
 - Explained one by one
- Way forward
- Conclusion

Introduction



- India is either first or second in the world in terms of overall production of many agricultural commodities and cotton is not an exception for that fact.
- The research and Transfer of Technology (TOT) efforts taken by both the public and private cotton entities in India fostered the country to become the largest producer of cotton in the world.
- Proposing best practices for achieving the coveted position in productivity of this commodity and doubling the

- Indian cotton researchers have developed the best technologies to improve the yield and income of the crop and there is a pressing need for best TOT practices to translate the technologies for the benefit of cotton growers.
- As like package of technical practices in cotton,
this paper proposes an integrated package of best TOT practices
to be adopted step by step
chronologically during various stages of cotton cultivation
either by the change agents or by the farmers to deliver or get extension support for doubling the yield and income from cotton cultivation.

Best farmer friendly TOT packages????



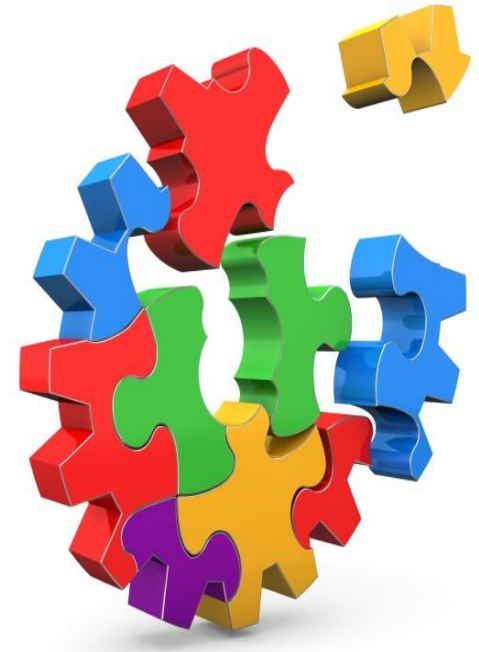
Why we need an Integrated Best farmer friendly TOT practices for Cotton?



- Cotton yields are stagnated for the past few years due to various factors.
- Cotton research system has released many technologies to improve the yield under various conditions.
- But there is always a gap between the potential yield of the technologies claimed by the technology inventors and the actual yield realized by the farmers in the fields.
- Studies say that the yield gap between potential and realized yield on farmers field is more than 30%.
- There are possibilities of bridging the gap in cotton yield by properly identifying the causes of gap, appropriate management options to close the gap, fitting TOT innovations to disseminate the gap reducing technologies and implementing the package in the poor small and marginal farmers' fields.

Why we need an Integrated Best TOT practices for Cotton?

- Analysis on yield enhancement due to FLD (one of the oldest TOT practice in India) revealed that an average of 18.70 per cent increase over the normal farmers' practices was obtained in various locations.
- All the TOT practices are not successful and farmers friendly
- There are few TOT practices which are best and farmer friendly
- But they are all scattered and attempted independently
- An idea was thought of integrating all the best farmers friendly TOT practices in a package as like the best package of practices to facilitate the farmer to double his yield & thereby income



Methodology adopted

- Documentation of TOT practices available in cotton
- Study of the impact of popular TOT practices in cotton
- Selection of Best farmer friendly TOT Practices available for Convergence
- Study on the need of farmers and the TOT practice suitable for that need from seed to seed cotton
- Chronological arrangement of the selected best TOT practices from seed to fibre in seed cotton
- Pilot study on this Integrated Management of Extension Services in a typical cotton grown area
- Validation
- Development of an integrated package of Best TOT practices for Cotton crop

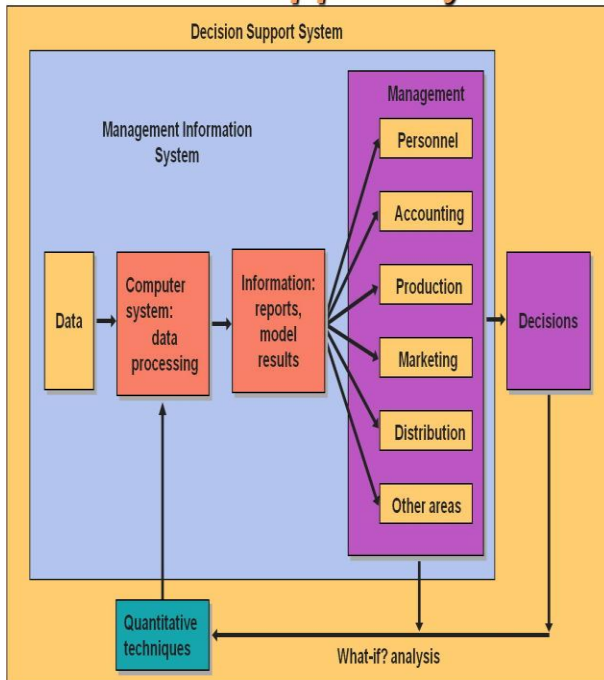


Integrated Package of Best TOT Practices for Cotton consists of

- Decision Support System for selecting a suitable variety / hybrid
- Front Line Demonstration for cultivating a new variety / hybrid
- Soil sampling and soil health card before land preparation
- A booklet with entire package of practices for ready reference during cultivation
- Weekly voice SMS during the entire crop season, weekly advisory through website for knowing the do's and don'ts in cotton cultivation
- Short duration video films to accurately understand a particular technology
- Using Whatsapp group for clarifying the suddenly occurring pests / diseases / disorders
- Mobile apps to know the strategies to manage the pests and diseases
- Method demonstration to disseminate the best harvesting and post harvesting practices
- Market intelligence to sell the seed cotton for the best price
- Personal field visits by the Scientists and exposure visits by the farmers to see and believe the advantages of technologies
- Specialized training programs to improve the skill
- Radio broadcast and video telecast for spreading the success of this package to mass farmers

Decision Support System for selecting a suitable cotton variety / hybrid

Decision Support System



CICR Scientist had developed a DSS for selecting a suitable cotton variety / hybrid suited to their locations

Front Line Demonstration for cultivating a new cotton variety / hybrid

Seeing is believing is the principle

The field demonstration conducted under the close supervision of scientists of the National Agriculture Research System is called Front Line Demonstration (FLD).

It is result demonstration.

The main purpose of a result demonstration is to show local farmers that a particular new recommendation is practicable under local conditions.

Comparison is the important element in a result demonstration.



Yield enhancement is the motive



Soil sampling and soil health card



- Soil Health Card Scheme is a scheme launched by the GOI in February 2015
- Under the scheme, the government plans to issue soil cards to farmers which will carry crop-wise recommendations of nutrients and fertilizers required for the individual farms to help farmers to improve productivity through judicious use of inputs.
- All soil samples are to be tested in various soil testing labs across the country.
- Thereafter the experts will analyze the strength and weaknesses (micro-nutrients deficiency) of the soil and suggest measures to deal with it.
- The result and suggestion will be displayed in the cards.
- The government plans to issue the cards to 14 crore farmers.

सॉल हेल्थ कार्ड		परिणाम	का नाम
किसान का विवरण		सॉल परीक्षण परिणाम	
नाम		कमाल	पराग
पता		कमाल	पराग
संपर्क क्रमांक		कमाल	पराग
कृषि विभाग/कृषि		कमाल	पराग
किसान का नाम		कमाल	पराग
किसान का पता		कमाल	पराग
किसान का संपर्क क्रमांक		कमाल	पराग
किसान का जिला		कमाल	पराग
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किसान का पिन कोड		कमाल	पराग
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**A booklet with modules of entire package of practices for ready
reference during cultivation**

**Cotton varieties / hybrids
Land preparation
Spacing and sowing
Fertilizer Management
Weed management
Pest Management
Disease Management
Harvest and post harvest**



Weekly voice SMS during the entire crop season,
weekly advisory through website for knowing the do's
and don'ts in cotton cultivation



e-Kapas

Around 0.5 million farmers

> 1.40 crore voice sms

www.cicr.org.in

Weekly Advisory for
Cotton Cultivation



We can't change Nature, we will have to change ourselves to adapt to the changing Nature.

Short duration video films to accurately understand a particular technology



- Each package of Practice
- Chronologically
- Need based
- Short duration 3 min – 8 min
- You tube friendly
- Can be sent through whatsApp

Using Whatsapp group for clarifying the suddenly occurring pests / diseases / disorders

- Exclusive WhatsApp group for farmers having smart phones
- Cotton advisory through the group
- Connected with cotton scientists
- Sending the symptoms as pictures
- Immediate solutions
- Sharing among group members



Method demonstration to disseminate the best harvesting and post harvesting practices to improve the fibre quality and thereby fetch good price

- Method demonstrations basically show farmers how to do something.
- In the method demonstration, the farmer is shown step by step how to do
- The best harvesting and post harvesting practices can be method demonstrated



Market intelligence to sell the seed cotton for the best price

The available market intelligence
can be utilized

Eg. TNAU – DEMIC

Education to farmers – how to
use

Market advisory services
through mobile phones



Personal field visits by the Scientists and exposure visits by the farmers to see and believe the advantages of technologies



Systematic or need based visit by the Scientists to give advisory and get feedback

Exposure visits by the farmers to see and believe the advantages of technologies



Specialized training programs to improve the skill

Few specialized training
program for imparting
skills

Eg. HDPS



How to achieve this?

- Is it possible to implement the IES / Integrated Best TOT practices to individual farmer?
- Is it cost worthy?
- How to monitor?
- Who will fund?



Farmers' Organization / Commodity Group Approach – Mass Coverage



**Farmers' Organizations /
Commodity Interest Groups
Can be the best groups to
implement the IES**

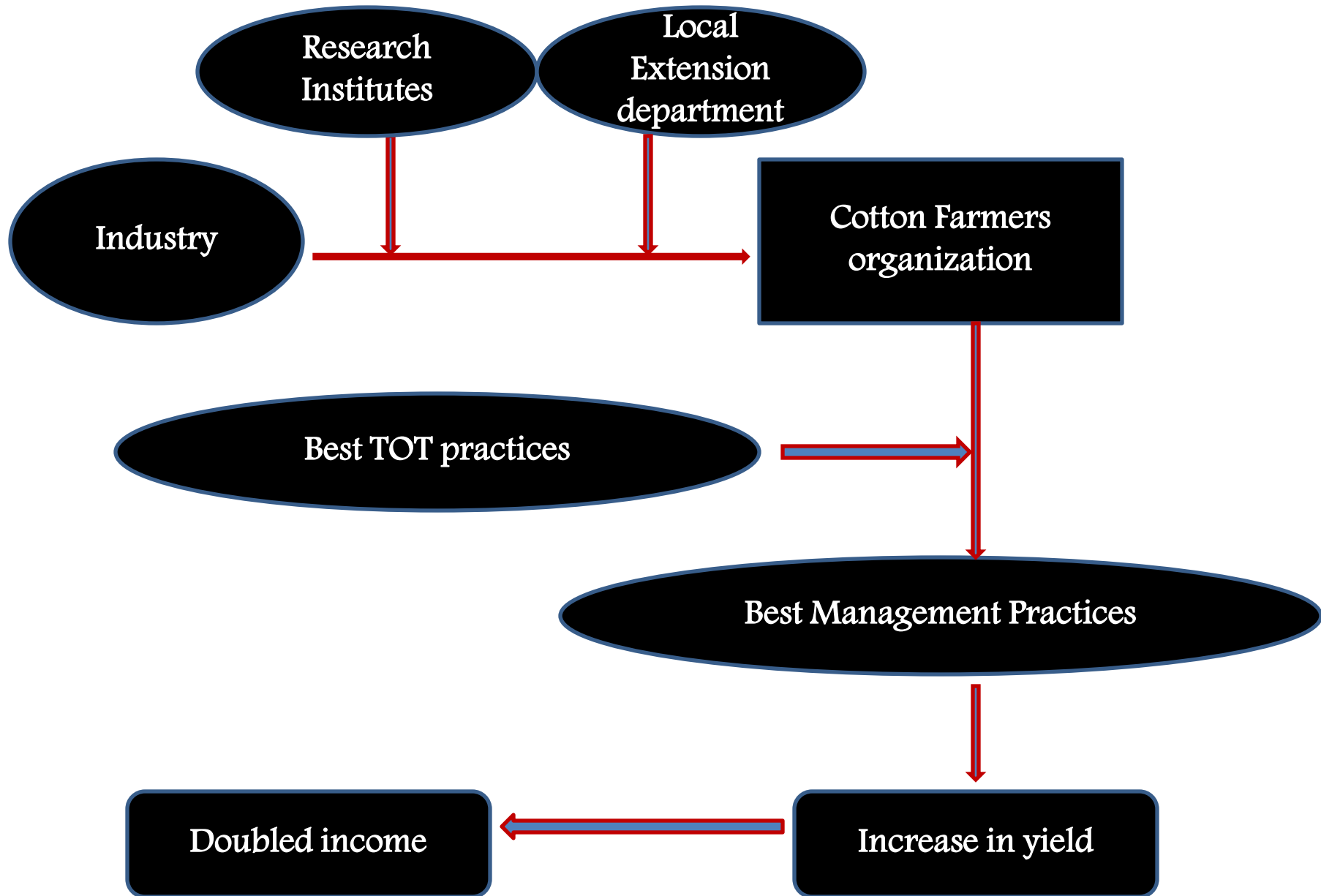
Contract Farming – for Price Bargaining and PPP mode



Contract farming involving the nearby or popular Private Industry will be the best way to implement this best TOT practices



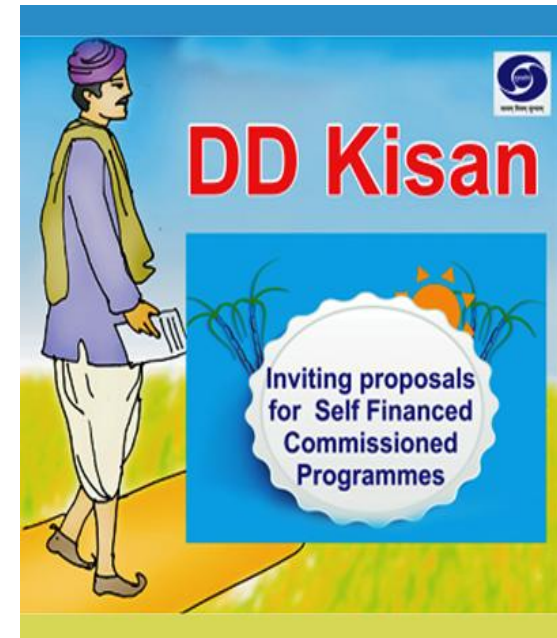
Best Cotton Farm with doubled yield and income



Radio broadcast and video telecast for spreading the success of this package to mass farmers



The success of best package of practices combined with best TOT package can be spread through AIR / DDK for further replication



Way Forward ????



- This integrated package should be a convergence of all customary and contemporary extension methods **tailored for cultivation of cotton crop in India.**
- The package should be **field tested** and **refined** through research programs at ICAR – CICR and **a final package of best farmer friendly transfer of technology practices to improve yield and income of the cotton growers** should be developed.

Conclusion



- Indian cotton yield has to be doubled
- best production and protection technologies that improve the yield and income of the crop are available
- there is a pressing need for best TOT practices to translate the technologies
- this paper proposes an integrated package of best TOT practices
 - to be adopted step by step
 - chronologically during various stages of cotton cultivation
 - either by the change agents or by the farmers to deliver or get extension support for doubling the yield and income
- Implementation of these best technology and TOT practices through groups of cotton farmers with procurement guarantee will double the cotton farmers' income in India

Acknowledgement



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5. My co-authors

Thank You

