

# The History, Development and Future of Cotton Extension in India

**Usha Rani JOSHUA**

Central Institute for Cotton Research  
(Indian Council of Agricultural Research)

Regional Station,  
Coimbatore, Tamil Nadu, India

[ushajoshua@rediffmail.com](mailto:ushajoshua@rediffmail.com)

+ 91 98432 98422

# Content



- ☀ Introduction
- ☀ History of Extension Efforts for Cotton in India
- ☀ Development of Extension Efforts for cotton in India
- ☀ Future Prospects
- ☀ Conclusion

**Influence of Extension / outreach programs / Transfer of Technology (TOT) programs in Indian cotton sector is time immemorial, influential and imperative**

**5.88 M ha  
(1950-51)**



**12.0 M ha  
(2014-15)**

**3.04 M bales  
(170 kg lint/bale)  
1950-51**



**39.0 M bales  
(170 Kg lint /bale)  
2014-15**

**Technologies  
Price**

**..... so  
many factors**

**Cotton Extension Programs**



# History of Cotton Extension in India

## – During American Civil War

Extension in Indian Cotton started during the American Civil War, when British Government turned to Indian Cotton.

Literature say that

the Extension efforts taken by the British Government in India helped them in filling up the gap during war time making up only 31% of British cotton imports in 1861, but 90% in 1862 and 67% in 1864

(Logan, 1958)



# History of Cotton Extension in India – During 18<sup>th</sup> and 19<sup>th</sup> Centuries

Spread of American and Egyptian cotton in Indian soil is the evidence for the existence of cotton extension in the country in 18<sup>th</sup> and 19<sup>th</sup> centuries.

- ✓ Introduction of American cotton variety Bourbon in 1790
- ✓ Var. New Orleans in Gujarat, Deccan and Konkan in 1840
- ✓ Var. Cambodia in Madras during 1905
- ✓ Var. Cawnpore in 1909 at Uttar Pradesh



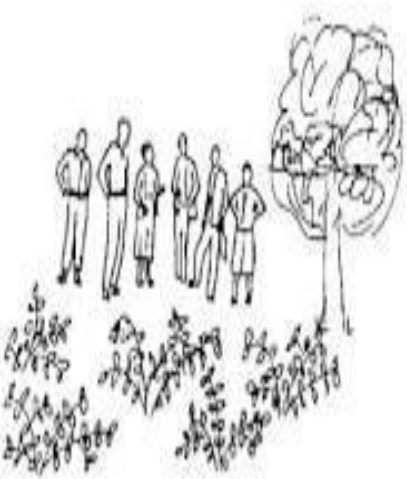
# History of Cotton Extension in India – Institutional Development

- The establishment of various institutions expedited the extension work of cotton in India in 20<sup>th</sup> Century.
- Establishment of Agricultural Departments in various provinces of India in 1905
- Indian Cotton Committee in 1917
- Indian Central Cotton Committee in 1921
- Cotton Technological Lab in 1924
- All India Coordinated Cotton Improvement Project in 1967
- Central Institute for Cotton Research in 1976
- Other Institute viz., Directorate of Cotton Development, Cotton Corporation of India etc.,



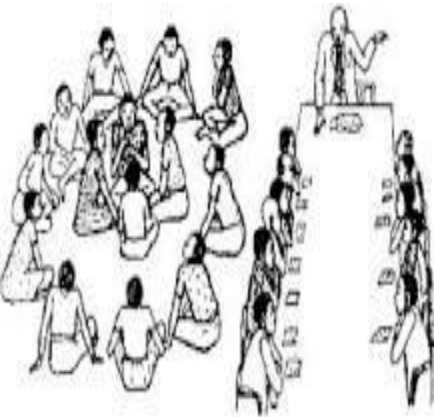


# History of Cotton Extension in India – in 20<sup>th</sup> and 21<sup>st</sup> Century



## ICAR's Front Line Extension Programs

- ✓ Lab to Land Programme (LLP)
- ✓ Operational Research Project (ORP)
- ✓ Front Line Demonstrations (FLD)

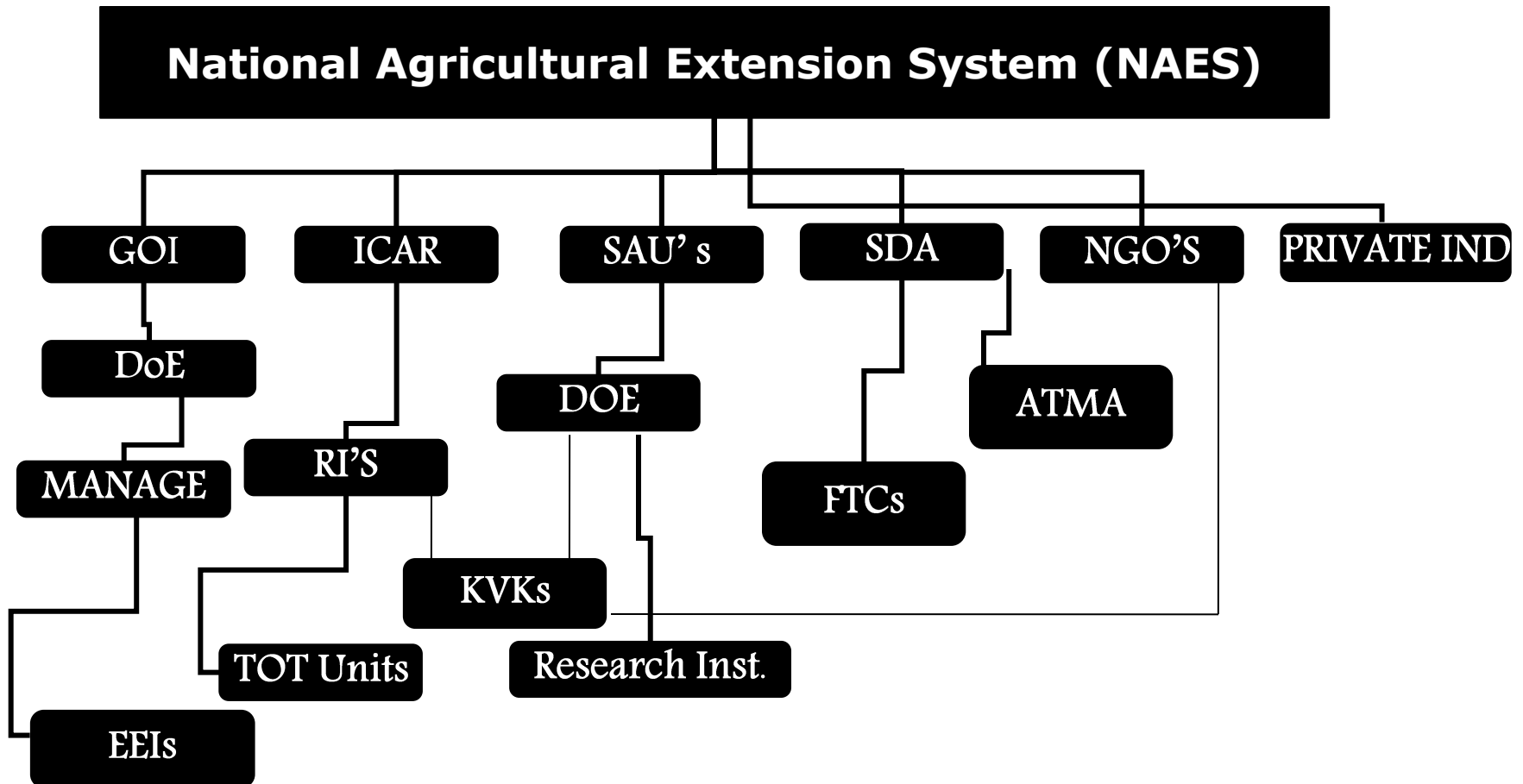


## Other Programs

- ✓ Institute Village Linkage Programme (IVLP)
- ✓ Intensive Cotton Development Programme (ICDP)
- ✓ Technology Mission on Cotton
- ✓ Farmers Field Schools
- ✓ Contract farming approaches

# Existing Extension System in India

---





# Information support for Indian cotton growers

- Conventional type of Information and Communication Support
- Information Spread through Extension Personnel
- Reaching more than One million hectare farms, spread over ten states is an uphill task
- Diversity of agro-ecological situations in all these ten states adds to this challenge further
- Needs of cotton farmers are much more diversified –conventional, biotech and organic
- Knowledge required to address them is beyond the capacity of the grass root level extension functionaries

For speeding up the diffusion of technologies from the research system to the end users developing a novel extension mechanism for effective knowledge transfer and researchable feed back in cotton is inevitable.

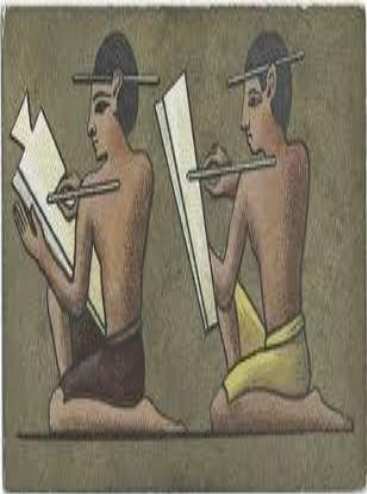
# Changes in Indian Extension System due to ICT



- Recent advances in ICT have changed the way knowledge is produced, processed, stored, retrieved and disseminated to different stakeholders in agriculture.
- Major ICT tools used for disseminating the agricultural information.....
- Major ICT initiatives in Indian agricultural extension system.....
- Challenges faced in implementing ICT based advisories. ....

# Current Developments in Cotton Extension

Presently in the Information Era, to speed up the diffusion of technologies from the research system to the end users, ICAR – Central Institute for Cotton Research has been executing a novel extension project called “e-Kapas Network” for effective knowledge transfer.



“e” meant for electronic and “Kapas” in Hindi (one of the major Indian languages) means cotton. ‘e – Kapas’ essentially refers to the utilization of electronic devices – mobile phones for delivering cotton technologies to farmers, extension workers and other development workers engaged in cotton sector.

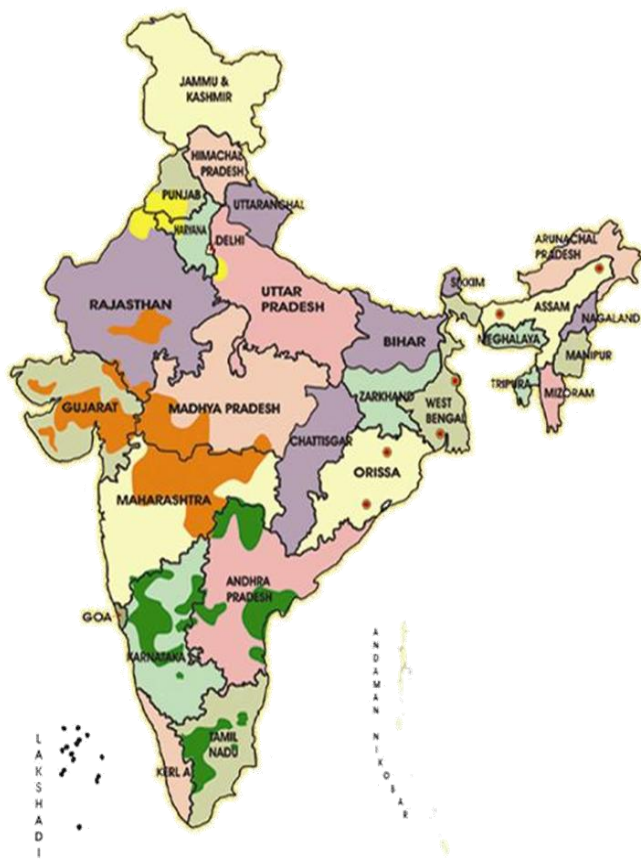
## Mobile phone – An advantageous ICT tool for TOT in India

- India's telecommunication network is the second largest in the world based on the total number of telephone users (both fixed and mobile phone)
- It has one of the lowest call tariffs in the world enabled by the mega telephone networks.
- The mobile subscriber base has grown from 5 million subscribers in 2001 to over > 100 million subscribers as of now
- Mobile phones have the advantages of having many additional services in addition to the standard voice function
- The farmers in the rural areas are now interconnected to other areas due to cellular communication technologies.
- The voice SMS option in the mobile phones facilitates the illiterate farmers to get the information without any difficulties.



The project is functioning under Technology Mission on Cotton-Mini Mission I, a novel approach of the Government of India, to increase the productivity of cotton in the country.

The project has been functioning in 17 centres across the ten cotton growing states of the country under the leadership of Central Institute for Cotton Research, Nagpur.



Farmers interested in e-Kapas network register with their local state centres by registering their mobile numbers. Centres send regular Voice SMS about cotton genotypes, production and protection technologies along with weather and market reports in their local languages to the registered growers.

## e- Kapas Network at Tamil Nadu – Case study



- As a cooperating centre for e-Kapas network in Tamil Nadu state, the Central Institute for Cotton Research, Regional Station, Coimbatore has been actively participating in the project.
- At the initial stage, the centre identified the cotton growers in the state and registered them as beneficiaries in e-Kapas network, Tamil Nadu.
- The centre also collected the data of cotton growers and developed a data base of e-Kapas network beneficiaries with some essential details about the farmers using one page questionnaire.



## e- Kapas Network at Tamil Nadu – Case study



### Simultaneously

- Collected and documented the Frequently Asked Questions (FAQs) in Cotton
- The collected questions were documented with answers as bulletin entitled “FAQs in Cotton” in local language (Tamil).
- “Kapas Panchang (Cotton Calendar)” was developed for each cotton growing district in Tamil Nadu for sending the voice SMS at the proper time of field operations.
- Keeping the FAQs and Kapas Panchang as basis, content was developed for 50 – 100 voice SMS of 30 seconds each for the entire cotton season.
- The content was recorded in Tamil Language and pushed to all registered growers at regular interval.

>20,000  
farmers  
> 3,00,000  
SMS alerts



# Outcome (both +ve and -ve)

Very Good Response  
Timely Technological Information  
Reach the Unreached



The major challenge faced in sending voice SMS was the DND (Do Not Disturb) registration done by majority of the farmers with their mobile service providers.

Few of them have given invalid numbers unknowingly. At many occasions, “ring timeout & congestion” were the major constraints experienced in sending e-Kapas alerts to the registered cotton farmers.

Creating awareness about the service among farmers was also seemed to be a challenge.

# Other Initiatives

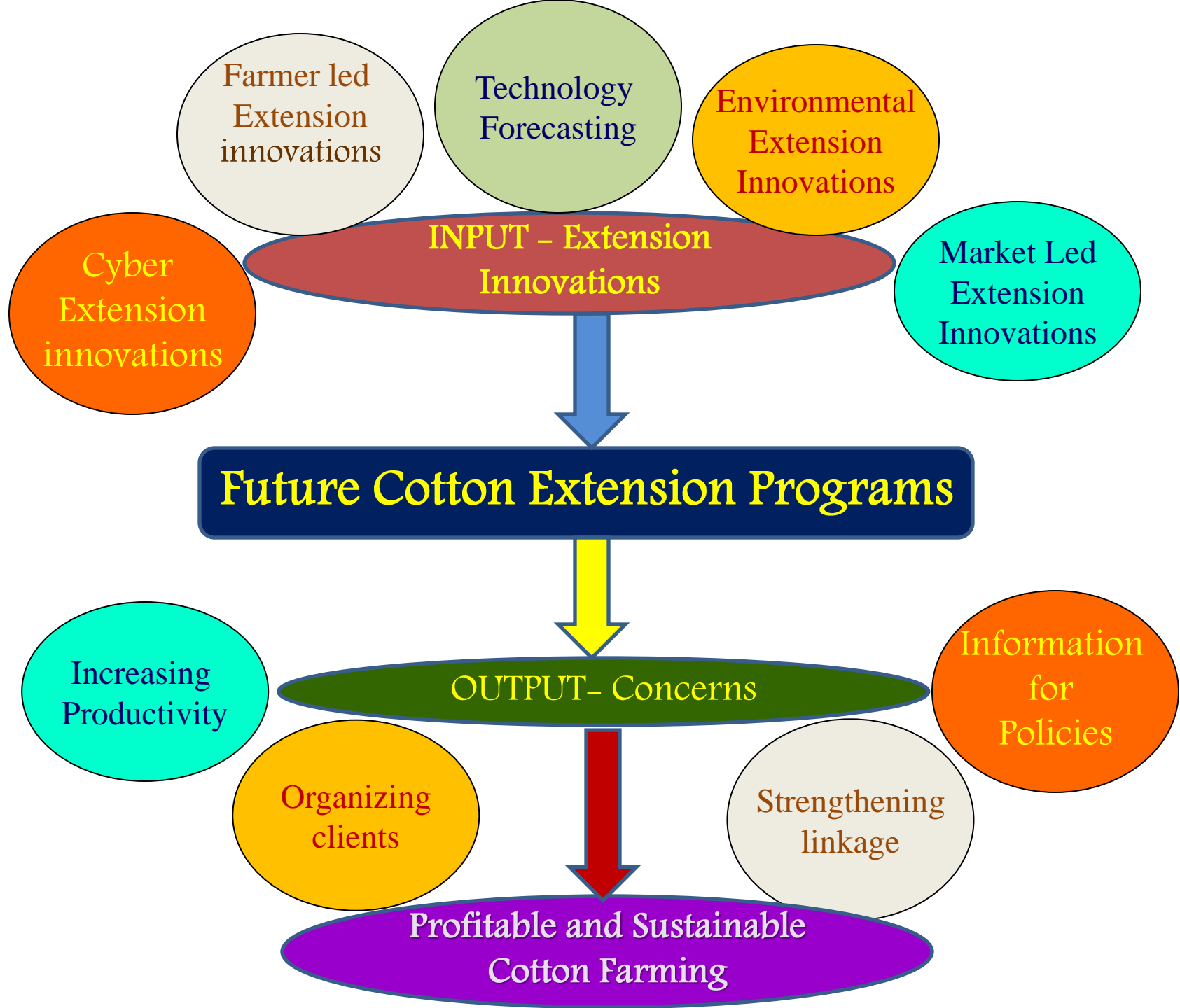
- Web based weekly Advisory Services in vernacular languages
- “Kapas Panchang” in vernacular languages
- “Kapas Pedia” in local languages
- Technical bulletins in the form of FAQs on various topics uploaded in the web
- Cotton Farmers’ Forum
- Video Documentaries uploaded in the website

# Future Prospects

- Even though the impact of these developments in cotton extension nullifies the criticism that technologies and advisories of cotton research did not reach the farmers in time, still there are gaps
- Need to include Extension innovations, Technology forecasting and inclusive development with the current program

# Future Prospects

Proposing a synergetic cotton extension model for profitable and sustainable cotton farming with due consideration of the changes occurring in cotton scenario, sector and among stakeholders is the need of hour in India



# Concluding Suggestion

Replicating the success of this novel mobile phone based cotton extension model in other crops and in other cotton growing countries of the world will pave way for profitable and sustainable cotton farming in the coming years.

# Acknowledgment

Authors is highly grateful to



- Dr. K. R. Kranthi, Director, CICR, Nagpur for providing technical guidance and necessary facilities to carry out the project under Technology Mission on Cotton – Mini Mission – I, Ministry of Agriculture, Government of India
- Dr. Negm and Dr. Rafiq & the Organizing committee for providing an opportunity to present the paper
- The Indian Council of Agricultural Research for approval
- The cooperative cotton growers, Our End Users



# THANK YOU



*You may never know what results  
Come of your actions,  
But if you do nothing,  
There will be no results.*

*- Mahatma Gandhiji*