

# NATIONAL STUDY ON INTEGRATED STRAW MANAGEMENT IN PAKISTAN

By

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Crop Residue Management in South Asia:  
Advancing Sub-regional Cooperation for Sustainable, Climate-smart and Integrated  
Management of Crop Residues  
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# Crop residue burning in Pakistan

- **Total residue produced of 5 major crops (wheat, rice, maize, sugarcane and cotton) is above 55 million tons every year.**
  - **Above 80% of rice straw and sugarcane debris are burnt in the field**
  - **Less than 5% of wheat straw burnt** in the field and rest is consumed for animal feeding, paper production, export purposes, mushroom growing and other local uses.
  - **Less than 5% of maize straw is burnt;** remaining straw used for **animal feeding** and **mixed in the soil** using rotavator and disk harrow
  - Cotton stalk: about **50% used for firewood** in rural areas and remaining **50% mixed with soil** using rotavator and disk harrow.

# Crop residue burning in Pakistan (Continue)

- **Rice straw and sugarcane debris burnt due to;**
  - **No commercial value**
  - **Time window between Basmati rice variety harvesting and wheat sowing is less than 10 days**
  - **High cost of residue collection from field**
  - **Other uses are very limited**

# Examples of best practices in Pakistan

- **Rice straw** used to;
  - **cover ornamental plants** during winter at public parks,
  - **temporary animal shades** during winter
  - **covering seeds** of spring floricultural plants,
  - **heating fuel** in rural areas,
  - fruit and industrial product **packaging**.
- **Cotton stalk:** about **50% used as a fuel** in rural areas, the remaining **50% mulched in the soil** using shredders and rotavators.
- Recently **big cotton growers** have started **making pellets and briquettes as fuel** from cotton stalks.

# Examples of best practices in Pakistan (Continue)

- In July 2020, the Government of Punjab, Pakistan, launched a 2 years programme to **distribute 500 Pak/Happy seeders and tractor-operated rice straw choppers on 80:20 subsidy** to the rice growers in specified districts
- The Government of Punjab, Pakistan has also implemented a law to **impose penalties on burning of crop residue** to control burning.

# Recommendations/National Policy for integrated straw management

## *National level*

- **Pakistan Agricultural Research Council (PARC)** has to **organise a national workshop on "Crop straw management"** every year inviting all stakeholders to advise federal and provincial governments about crop residue management strategies
- Allow **duty free import of crop head feeding combines**
- Formulate and implement appropriate **laws and legislative/policy measures** to control burning of crop straw

# Recommendations/National Policy for integrated straw management (Continue)

## *Provincial level*

- **Expand the subsidy of Pak/Happy Seeder and Rice straw chopper scheme** for five years or increase the number of machines up to 5000 each to cover whole rice area @ 80:20 ratio.
- Encourage all stakeholders in **increasing awareness and arrange travelling seminars** to progressive farmers who have fully adapted Pak/Happy seeder technology.
- **Provide incentives to farmers** who use track type head feeding combine harvesters that leave straw intact for easier collection and use for animal feed
- Enforce the attachment of **straw spreading kit to combine harvesters** used for rice harvesting.

# Recommendations/National Policy for integrated straw management (Continue)

- Promote diversified uses of crop residues (rice straw & sugarcane trash) for **power generation, bio-ethanol production, packing material for fruits & vegetables and glassware, paper/board/panel industry, biogas, composting, and mushroom cultivation** etc.
- **Expand subsidy scheme** to include more machines i.e., **straw spreading kit, tractor PTO driven Disk plow**
- **Organise trainings of farmers** for creating awareness about effects of crop residue burning and adaption of conservation agricultural practices and resource conservation technology



## Recommendations at the subregional level

- **Expand an ESCAP-led pilot project** on integrated straw management to Pakistan, implemented by the Agricultural Engineering Institute at PARC, Islamabad and the Punjab Government's Directorate General Agricultural (Field).
- **Initiate new pilot projects at sub-regional level** on other uses of straw such as development/promotion of straw matt, mesh and rope making machinery.

# THANK YOU

