NATIONAL STUDY ON INTEGRATED STRAW MANAGEMENT IN PAKISTAN

By

SHABBIR AHMED KALWAR
Agricultural Engineer
Former Director/Chief Scientific Officer
Pakistan Agricultural Research Council
Islamabad, Pakistan

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