Integrated straw management in Bangladesh

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Crop Residue Management in South Asia:
Advancing Subregional Cooperation for Sustainable, Climate-smart and Integrated Management of Crop Residues
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Crop residue burning in Bangladesh

- Traditionally, the farmers know that incorporating crop residue is good for the soil.
- Open-field burning of rice straw is not widely practiced as a major part of the plant is cut manually and carried to the home yard or nearby plot for threshing.
- A few farmers are considering the option of straw burning with the increased use of combine harvesters.
- Farmers choose to burn long type of straw, such as creeper vegetables and bad quality rice, wheat straw, dry maize residue which cannot be used as animal feed or domestic fuel.
- Aman rice residue in low lying area is prone to residue burning. In 2020-21, total grain production 47.22 million tons and 73.36 million tons of crop residue produced; and 0.22 million tons burned.
- Agriculture labour decreased from 51.7% (2002) to 40.6% (2017)
Examples of the best practices in Bangladesh

- Rice straw is a preferable feed for cows and buffaloes but wheat straw is not fed to cows and buffaloes in Bangladesh. Chopped green corn stalk is also a good feed for animals.

- Remaining straw after harvesting is directly incorporated into the soil by ploughing.

- Unused straw from cow shed is dumped in a place and used as fertilizer.

- Small holder farmers and low-income families use straws for outdoor water heating. Maize straw is used as domestic fuel in rural areas.

- Cow dung with wet rice straw is used in biogas plant.

- Rice and wheat straw are used as mulch for fruits and vegetables production.
Recommendations to address crop residue burning in Bangladesh

• Facilitate purchase of straw balers, straw and corn stalk choppers through subsidies provided in current farm mechanization project and updating of Agriculture Mechanization Policy 2020

• Provide agricultural inputs support to farmers who follow sustainable straw management practices (e.g. CA practices, straw composting, biogas production, etc.)

• Place restrictions (limit loan facility, limit grain supply for govt. purchase, higher rate for irrigation, lower govt. seed support incentive) on farmers who violate straw burning rules.

• Support entrepreneurs to make "Biochar" from straw, straw base materials for mushroom production, and fancy straw crafts.

• Launch a promotional campaign on harmful effects of straw burning and social benefits of alternate uses of straw.
Recommended follow-up actions at national level

• Existing govt. agricultural advisory panel to identify different straw management interventions, form a work plan and follow up implementation with an efficient inter-ministerial national task force committee

• **National task force committee**
  • Regularly monitor crop straw management practices
  • Conduct regular meetings to discuss on status of crop straw management, gaps in work plan, identify corrective measures
  • Prepare and distribute factsheets, leaflets to concerned agriculture departments

• Support BARC to organize annual multistakeholder crop straw management workshops and broadcast key messages with agriculture community
Recommendations relevant for other countries or at subregional level

- **Promote appropriate conservation agriculture machinery** such as strip-till planter and zero-till planter, which can work through moderate levels of crop residue. Introduce straw baler, straw chopper for straw management.

- **Strategy for installing more number of biogas plants in the rural areas** using the surplus amount of crop straw.

- Chopping rice and wheat straw and mixing in proper ratio for base material of mushroom cultivation.

- **Promote custom hire service model of machinery** for supporting farmers
Thank you