Cotton Stems Open New Income Streams for Farmers

Emile Adimou, a carpenter based in Parakou, Benin was very proud to display his new furniture items from his shop. Adimou is one of the pioneers using particle boards to make furniture.

“Currently, we have already made stools, pedestal and night tables, as well as doors,” said Mr. Adimou, who explains that he has “plans to make cabinets, and desks.”

Adimou is also the President of the Innovation Platform of the VATICOPP project (Valorization of cotton stems into particle boards), a regional project managed by the National Institute of Agricultural Research of Benin (INRAB) and financed by the West Africa Economic and Monetary Union through CORAF.

The transformation of cotton stems into particleboard is a technology already used elsewhere, particularly in the United States and India.

Since 2018, this technology has been tested in Benin, Togo, and Mali with positive results, thanks to the VATICOPP project.

The pilot unit’s experimental centers in the three countries were able to produce different types of 9 mm, 12 mm, and 18 mm panels that made it possible to produce furniture.

“From cotton stems, we can do anything: doors, chairs, furniture. Everything we use in our homes can be made from particleboard derived from cotton stems. So we can give another value to cotton stems,” says Dr. Bassarou Ayeva, Coordinator of the VATICOPP project in Togo and also the Head of the Cotton Programme of the Togolese Institute of Agronomic Research.

“You can earn even more by selling cotton stems. There is, therefore, additional income from the cotton production activity. Cotton farmers will now be able to sell both grain cotton and also stems” says Ayeva, who points out that in the event of low yields, cotton stalks are generally larger, and therefore have a more attractive market value for the farmers.

Cotton stems, which constitute important biomass and are available after the seed cotton harvest, are poorly valued, and most of them are burned during fieldwork or used as energy in the preparation of meals.

“In Mali, for example, the project’s baseline study showed that 49% of the stems produced...
are burned,” says Dr. Amadou Ali Yattara, National Coordinator of the Project. Their valorization, therefore, makes it possible to generate additional income for producers and to fight against poverty.

“It was a great concern for producers not to know what to do with cotton stalks,” said Tamou Gani Badou, President of the National Federation of Cotton Producers of Benin.

For the actors of the VATICOPP project, the development of the value chain of particleboard based on cotton stems is a solution to improve the economic, technical and environmental performance of cotton-based cropping systems in West Africa.

It should be recalled that this technology could also contribute to reducing deforestation by using annual biomass (cotton stems in particular) to replace forest wood in the manufacture of certain furniture.

Many people are calling for a transition to an industrial production phase combining efficient management and chain operation of the various production segments to reap the benefits of this innovation.

Various actors ready to support the scaling up

The Permanent Secretary of the Interprofessional Cotton Association (AIC) of Benin, Dr. Alexis Hougni, said he was ready to support this scaling up.

“AIC has a dual role to play, namely to work towards cotton farmers to show them the opportunity they now have to process their cotton stems and also to show ginners and industrialists in the sector that apart from fiber processing, textiles, seed crushing, they can also work in the stems processing sector for the manufacture of particle board.”

The massive diffusion of this technology is, therefore, essential to strengthen the impact of this innovation in West African cotton communities. Actions are already underway, says Dr. Emmanuel Sekloka, Regional Coordinator of the VATICOPP project and Director of the INRAB Cotton-Fibre Agricultural Research Centre: “The next step is to work so that potential carriers of this technology can be reached.”

“Open days were organized to make this technology known to all stakeholders. We are now calling all donors who can help us to scale up this technology whose technical feasibility and economic profitability have been demonstrated.”