



Technologies for African
Agricultural Transformation

TAAT INVESTORS FORUM

Showcasing TAAT Technologies
15 February 2022: 1000 -1600 (WAT)



Mechanized Raised Bed Technology



TAAT aimed to bring wheat production into new frontiers in irrigated Sahelian lowlands

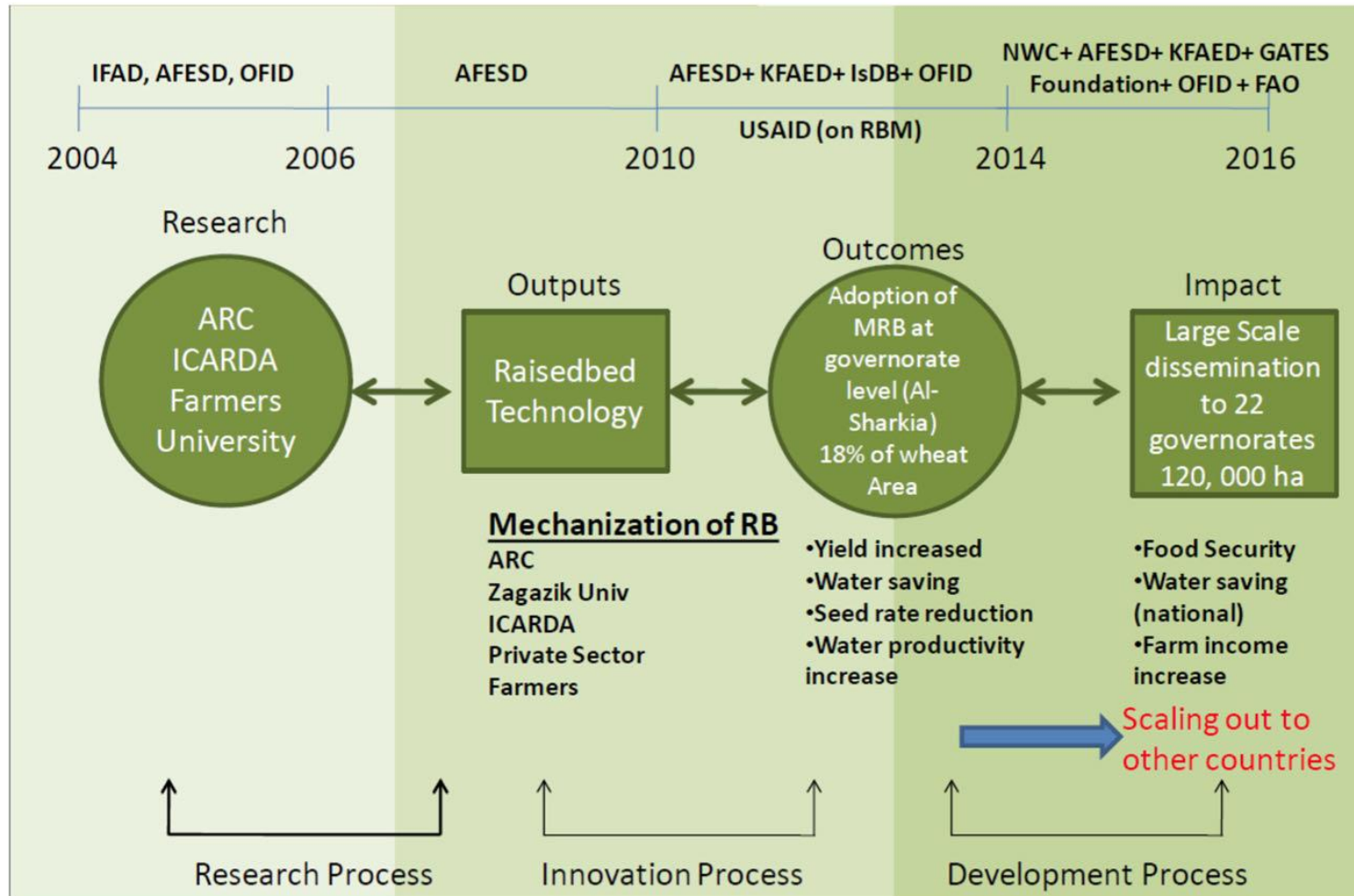
In irrigated wheat production water is a major limiting resource which will be exacerbated with climate change

Current flood irrigation system is wasteful, not economic and could not be sustainable

Affordable water use efficient innovations are critical for expansion of wheat in irrigated areas- Low cost mechanized raised bed technology become one of the solutions



Partnership for MRT Technology Development



A wide range of partners were involved in the research and development (design, testing, validation and scaling) of mechanized raised-bed technology

It involved

- International and national agricultural research institutes: ICARDA and ARC
- Academic institutions (Zagazig University)
- Private sector fabrication of units (Tanta Motors)

Partnership for Scaling MRT Technology Scaling

Name of partner	Category	Name of technology	Scaling agreement, no income	License agreement	Country	Remarks
EIAR	Public	MRT	Yes, scaling	No	Ethiopia	Ag Mechanization Department of EIAR to develop prototype for scaling in Ethiopia
LCRI	Public	MRT	Yes, scaling	No	Nigeria	Demonstration of technology and to enter local fabrication with private sector
ARC	Public	MRT	Yes, scaling	No	Sudan	Demonstration of technology and to enter local fabrication with private sector
Tanta Motors	Private sector	MRT	Yes, scaling	No	Egypt	Local fabrication and sale nationally and regionally



MRT is developed in partnership with private sector but an IPG from ICARDA with opportunities for local fabrication and distribution by private sector

Mechanized Raised-bed Technology

TAAT Technology: Raised-bed Planting for Wheat

Benefits:

- Increased grain yield by 937 kg/ha (12.79%)
- Increased gross margins by US\$77.60/ha (9.47%)
- Decreased irrigation water application by 824.63 m³/ha (15.05%) and increase water productivity by 5.56%
- Reduced seeding rate by 16.7%
- Massive scaling by GoE covering thousands of hectares

Implementation:

The implementation of mechanized raised-bed technology for wheat at farmer fields involves several stages: Germination Stage, Establishment Stage, Maturity Stage, and Mechanical Harvesting of MRB.



Currently the MRT is costing around \$10,000 and local fabrication and sale is possible by private sector

Adoption of MRT has multiple benefits in increasing profits, reducing costs and environmental benefits and demanded by farmers,

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Tanta Motors
ABOU FREIKHA 1950



Eng. Mohamed Hany
Sales Engineer

9 Elriadah St., Nasr City,
Cairo, Egypt
Mob.:+201100525222
Tel. : +202 24040116
Fax : +202 24029060
www.tantamotors.com