



Food and Agriculture
Organization of the
United Nations



Webinar 15

First Webinar to prepare for the Africa Conference on SAM (ACSAM):

**Exploring the Africa Centre for Sustainable Agricultural
Mechanization: Your Role in Africa's Mechanization Journey**

Perspective Setting: Learning from the
History of SAM Networks in Africa

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africa|mechanize
ALL ABOUT SUSTAINABLE AGRICULTURAL MECHANIZATION IN AFRICA

Past Regional Centres & Networks

- Goma conference of Imperial Colonial Powers then ruling Africa held in 1948 established a number of regional centers for cooperation such as SARCCUS – operative 1952 to 1994
- AUC then known as OAU established a number of regional centers for technology development and transfer such as :
 - *ARCT - Africa Regional Centre for Technology* on Dakar, Senegal
 - *ARCEDEM - Africa Regional Center for Engineering, Design and Manufacturing* in Ibadan Nigeria

Both had heavy dose of Agricultural Mechanization Technologies but were unsustainable when donor support ended.

- There were also Divisions/Sections in RECs which dealt with AM issues e.g. EAC had an active agricultural engineering section during 1950-70.
- NIAE of Silsoe in the UK provided high level technical support to many countries in Africa - high level technical support

Mechanization in 1960's & 70's

- Both public and private sector operated Tractor Hire Schemes [THS] then common in SSA with free cross-border movement under the RECs/Customs Union –leading to high utilization rates
- Agric Machinery franchises were regional to achieve economies of scale and scope.
- Led to the comparatively rapid expansion of mechanization hire business – sustainability questions emerged.
- Prof Rene Dumont's 1966 book – *False Start in Africa* showing broken tractors in the bush quite influential
- Led to the emergence of *the Intermediate Technology [IT] movement*, which significantly influenced policies on SAM in SSA.
- Small Tractors – Tinkabi (Swaziland), Kabanyolo (Uganda) became popular for some time but of limited use for field cultivation.

Tractor-Hire schemes (THS's)

- Report of NIAE 1984 study for the World Bank entitled *Public Tractor and Equipment Hire Schemes Research Unit Report, ARU30, Washington D.C. edited by Seager & Fieldsor (1984) – advised against public sector THS which was followed by PBB1987 publication.*
- Pingali et al 1987 published an Agricultural mechanization and Evaluation of Farming systems which contributed failure of THS in SSA to leapfrogging the DAT slope in Boserup evolution theory in India.
- Led to reduction of support for THS.
- SSA reaction through COMSEC meeting in Ahamadu Bello University in Zaria Nigeria.

Draft Animal Technology (DAT's)

- Waves of DAT Networks 1980/90 followed throughout SSA and conference and centres and DAT were established/held all over SSA.
- Universities in Europe established centre of excellence in DAT in Africa.
- The Ehui & Polson 1992 review paper an economic and ecological constraint of DAT in SSA changed the paradigm and most donors stopped their support.
- Graveyards of DAT equipment then appeared in many areas SSA.

CGIAR Center and SAM

- IITA closure of AM work in 1996 IITA which had another big division of agriculture mechanization Ibadan decided in 1996 to close in wards in this area in 1996.
- Small tractor wave CGIAR, Other countries initiated work on small tractors for Africa – Power Tiller- CIMMYT, IRRI – at the turn of the century, limited impact.
- IARCs were mostly opportunistic depending on funding.

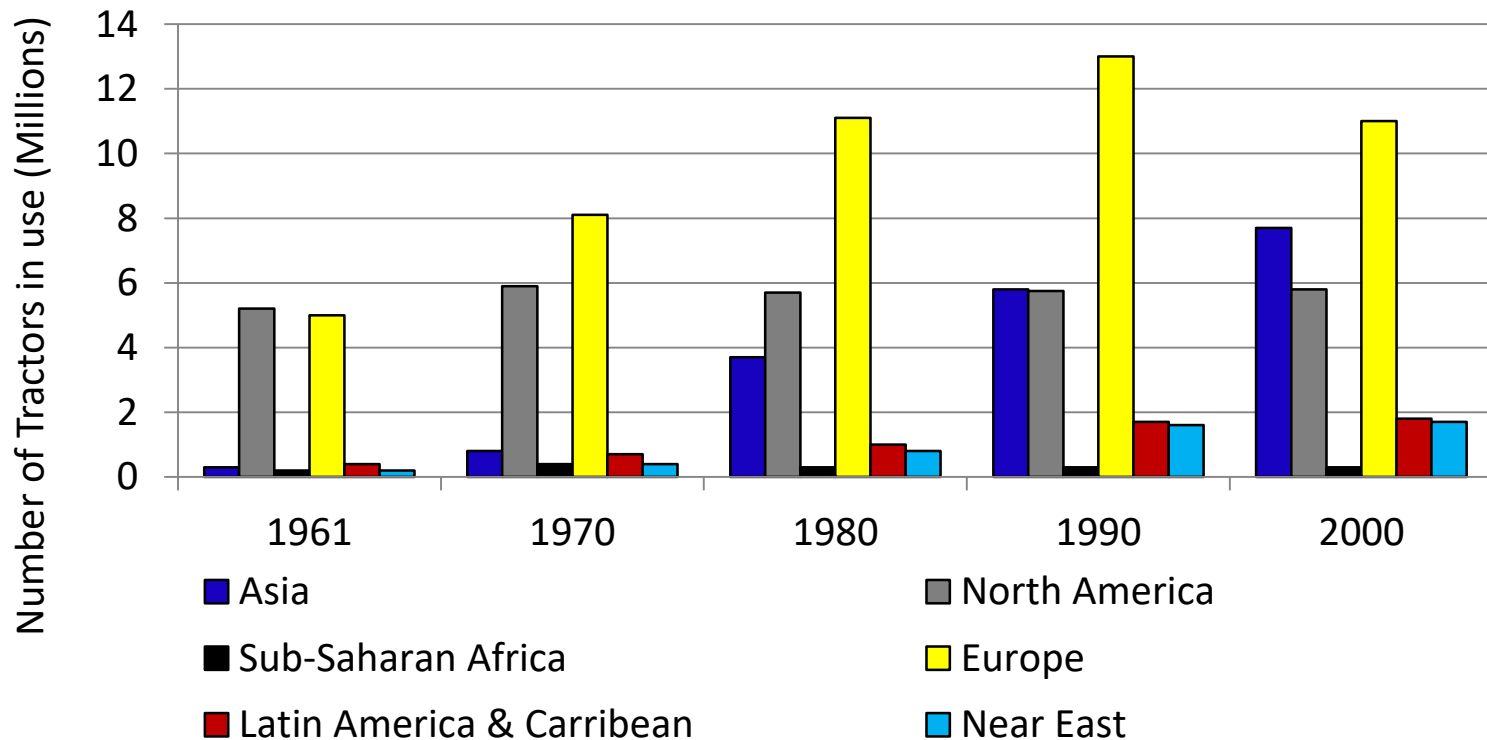
SAM in Africa

- By 2010 SSA still following AMS as enunciated in FAO guidelines AGSAS 45 published in 1981 Agriculture mechanization in Development.
- This AGS45 has been used for over 45 years not and prescribed in all countries of SSA.
- New editions of AGS 45 have basically repeated the messages in the original document as edited by Rijk & Giffrod 1980.
- Need to evaluate impact of where is AGS 45 on SAM in SSA.

Tractor-Hire schemes (THS's)

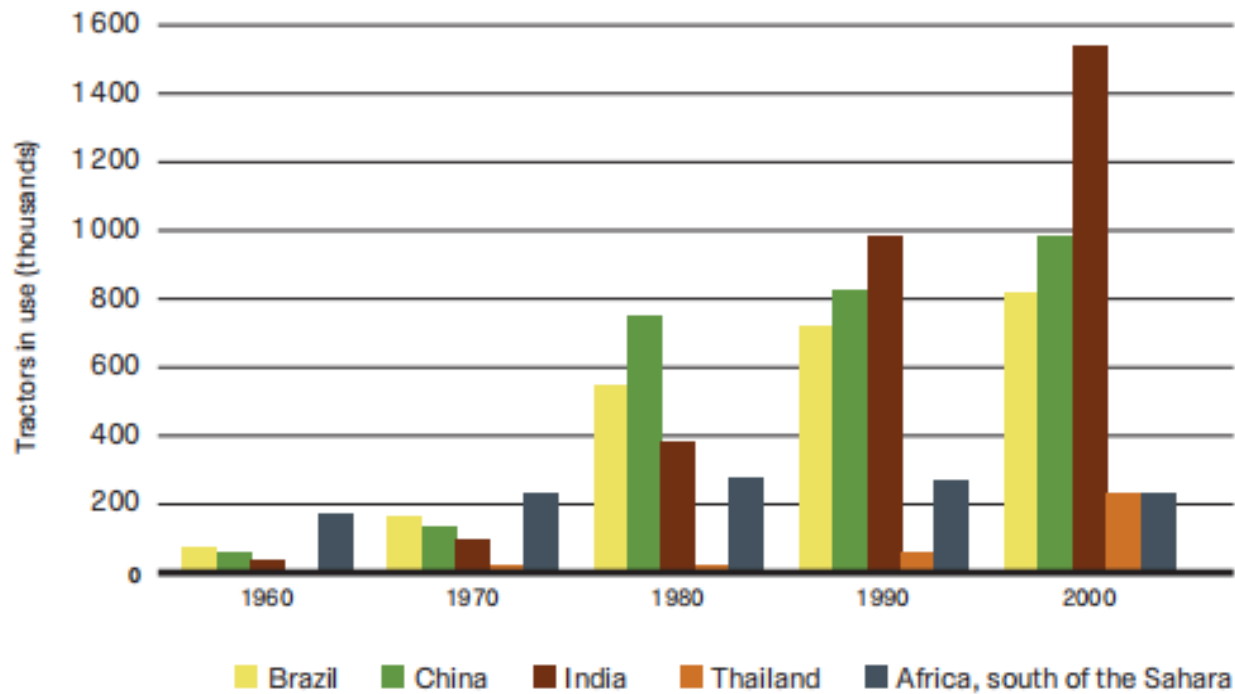
- Lessons from Asia – which resisted prescriptions from external agencies and stuck to a tractorization strategy to replace animate power with mechanical technologies from the 1960s to the present.
- Impact of RNAM and CSAM critical – mostly in coordination of supply and demand for machinery, hire services at national and regional wards.
- Lessons from other sectors, e.g., Research, Fertilizer, Livestock, etc.
Fertilizer use- Increase from less than 5kg/ha to about 50kg/ha
Agricultural Research – Contribute to regional and sub-regional levels.
Livestock – AU –IBAR notable impact.

Impact of SAM over 1960 - 2000



Impact of SAM over 1960 - 2000

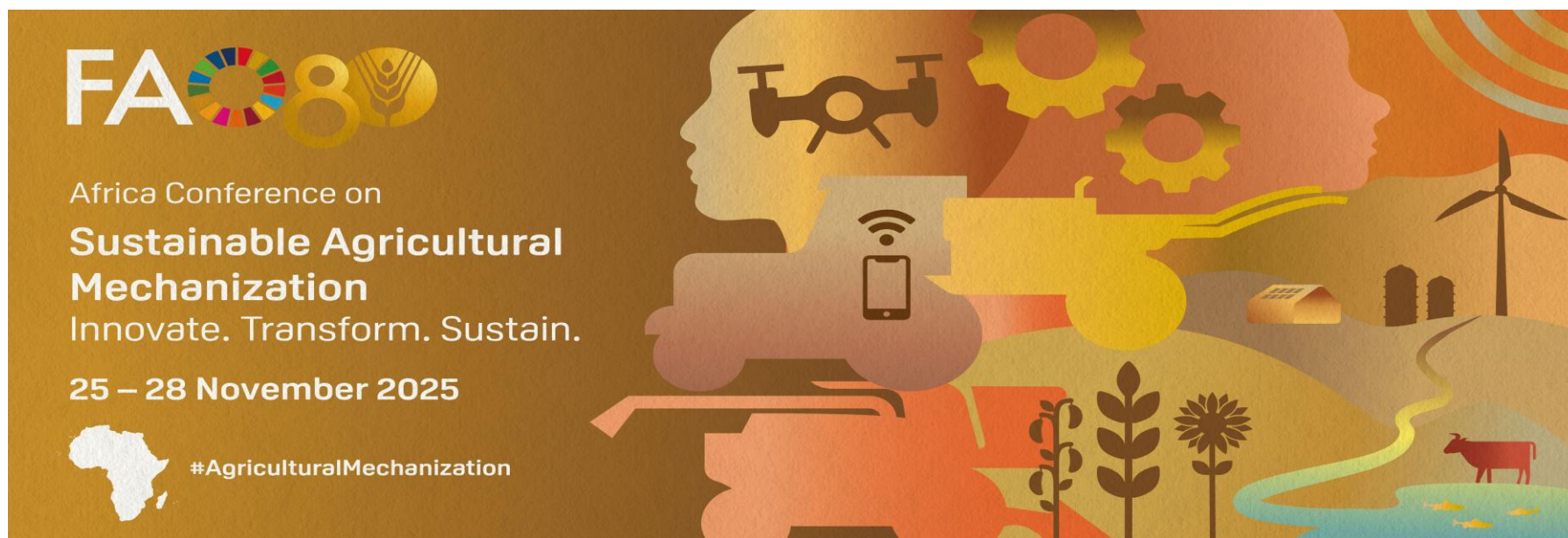
Source: FAOSTAT-AGS, 2004; FAO, 2008.




Thank you for your attention

Welcome to the Conference


25-28 November 2025, Dar es Salaam, Tanzania



FAO 

Africa Conference on
**Sustainable Agricultural
Mechanization**
Innovate. Transform. Sustain.

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 #AgriculturalMechanization

The banner features a stylized illustration on the right side with a brown and orange color palette. It depicts two human profiles facing each other, with a drone flying between them. Below the drone is a smartphone with a Wi-Fi signal icon. The background includes gears, a wind turbine, a house, a cow, and various plants, symbolizing the integration of technology and sustainable agriculture.