Background

• Agricultural mechanization is playing an increasingly important role in agro-food systems development across Asia and the Pacific region.

• Agricultural mechanization is still at a very basic stage of development in most countries of the region.

• There is a growing need for farm mechanization to address productivity enhancement in a sustainable manner so as not to jeopardize production systems now and in the future.
Sustainable Agricultural Mechanization Strategy (SAMS)

- SAMS is a planning strategy that contributes to agricultural sustainability, while meeting food self sufficiency, generating economic development and inclusive growth as well as social benefit.

- SAMS is part of the enabling environment for the development of sustainable production systems and for the effective use of SAM.

- SAMS is a joint initiative of FAO and CSAM, initiated in 2011.
Benefits and Impacts to Be Delivered by SAMS

Socially Beneficial
- Worker health and safety
- Food Security
- Improved living standards

Economically Viable
- Food Production

Environmentally Sustainable
- Climate smart
- Eco-friendly
- Energy efficiency
- Emissions

Economically Viable
- Income
- Marketing
- Trade

Socially Beneficial

Environmentally Sustainable
Other Dimensions to Be Addressed (HLMSC, Bangkok, June 2014)

- The use of mechanization in post-production systems - harvesting, post-harvest handling and in processing operations - to assure improvements in efficiency and profitability across agri-food value chains, while integrating consideration for gender and youth.
Dimensions of the SAMS Strategy

Cross Cutting Issues

- Policy, Advocacy
- Research and Development
- Knowledge sharing
- Capacity development
- Tech Transfer and support
- Innovation
- Extension

Large Farms

Small holder

Outcomes

Thematic Areas & Options

- Technical
- Socio-economic & Institutional
- Environmental

Food Security
Poverty Alleviation
Environmental Sustainability

Dimensions of the SAMS Strategy

- Geography
- Developmental Status
- Gender and youth
SMAACNET

- A **web-based platform** with a neutral identity, that:
  - Will be linked and closely associated with existing networks.
  - Will be established at no cost to member countries.
  - Template is currently under development.
Overarching Goal

• To assure that the sustainable use of mechanization contributes to food security, economic development and ecological balance in Asia and the Pacific Region.
Objectives

- **To exchange knowledge, share experience and promote collaboration** and concerted efforts on the use of climate friendly, sustainable mechanization across agri-food value chains.

- **To advocate for the economic, social and environmental values and benefits of using sustainable mechanization** across agri-food value chains.

- **To promote effective linkages among public and private stakeholders associated with the use of sustainable mechanization** in countries of Asia and the Pacific Region.

- **To facilitate the implementation of SAMS at the regional, sub-regional and national levels as well as the implementation of policies and institutional mechanisms associated with SAMS**.
Inaugural Members

• Member countries in the Region
• Private sector (including associations).
• Civil Society Organizations – including farmers associations
• Technical Training Centers, academic and research institutions
• Development partners
Target Users

- Policy makers, researchers, academic institutions, civil society organizations - including farmer organizations and private sector associations engaged in machinery manufacture.
Application of data development Good Practices Being Applied to improving the FAOSTAT Agricultural Machinery data

Identify or Validate Stakeholders/Users and Uses
- Stakeholders/Uses: Member countries, policy makers/analysts, farmers, researchers, producers associations, extension workers
- Uses: development and monitoring of investment and food security policy, productivity, market share and trade analysis

Map & prioritize uses to detailed data needs
- Machinery production and trade, by type (tractors, seeders, tillers, harvesters, etc.);
- Machine life cycles, stock of machines in use, horsepower, etc.
- Investment in machines (Gross Fixed Capital Formation) and machinery capital stock

Identify and use existing data, before starting new data collection
- COMTRADE trade data from World Customs Organization; PRODCOM production data from Eurostat; Producers Associations, National Statistics Offices, Ministries of Agriculture, etc.

Implement good practices/strategies to collect, compile, analyze & publish data
- Exploit existing international classification systems to ensure harmonization and efficiency
- Develop partnerships among stakeholders to avoid duplications and maximize relevance and data quality
The Harmonized Commodity Description and Coding System, generally called the Harmonised System (HS)

- The HS, developed by the World Customs Organization (WCO), is a multipurpose international product nomenclature used by over 200 countries as the basis for Customs tariffs and collection of international trade statistics. Over 98% of international merchandise trade is classified using the HS.

- Its 5000 commodity groups, each identified by a six-digit code, are supported by a legal and logical structure with well-defined rules to achieve the uniform classification required to harmonize Customs and trade procedures.

- HS is also used extensively by governments and the private sector for internal taxes, trade policies, monitoring of controlled goods, rules of origin, freight tariffs, transport statistics, price monitoring, quota controls, compilation of national accounts, and economic research and analysis.
The Harmonized Commodity Description and Coding System, generally called the Harmonised System (HS)

- Maintaining and updating the HS is a WCO priority, under *The International Convention on the Harmonized Commodity Description and Coding System*.

- FAO’s Statistics Division (ESS) and Agriculture and Consumer Protection Division (AGP) led proposals for the most recent amendments related to agricultural machinery, which in 2017 will result in an expansion of details in machinery traded.
No-Till Seeders
Increased detail on no-till and other direct seeders, planters and transplanters (two new subheadings created).

<table>
<thead>
<tr>
<th>- Seeders, planters and transplanters</th>
</tr>
</thead>
<tbody>
<tr>
<td>8432.31 – No-till direct seeders, planters and transplanters</td>
</tr>
<tr>
<td>8432.39 – Other</td>
</tr>
</tbody>
</table>

OLD HS 2012

8432.30 - Seeders, planters and transplanters
Sprayers:
Increased detail on sprayers for agricultural statistics, including additional breakdown on portable and other sprayers.

<table>
<thead>
<tr>
<th>NEW HS 2017</th>
<th>OLD HS 2012</th>
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</thead>
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<tr>
<td>- Agricultural or</td>
<td>8424.81 - Agricultural or horticultural (Other</td>
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<tr>
<td>horticultural sprayers:</td>
<td>appliances)</td>
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<tr>
<td>8424.41 -- Portable</td>
<td></td>
</tr>
<tr>
<td>sprayers</td>
<td></td>
</tr>
<tr>
<td>8424.49 -- Other</td>
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<tr>
<td>Requirement</td>
<td>Billion USD</td>
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<tr>
<td>-----------------------------------</td>
<td>-------------</td>
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<tr>
<td>Primary crop production</td>
<td>1,684</td>
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<tr>
<td>Downstream support services</td>
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<tr>
<td>• Cold and dry storage</td>
<td>1266</td>
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<tr>
<td>• Rural and wholesale markets</td>
<td>305</td>
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<tr>
<td>• First stage processing</td>
<td>280</td>
</tr>
<tr>
<td></td>
<td>682</td>
</tr>
</tbody>
</table>

Cumulative Investment Requirements for East Asia - 2005/07 to 2050

Source: Capital Requirements for Agriculture in Developing Countries to 2050. FAO Rome (2009)

(All numbers are in 2009 US$ values)

Thank you