Sustainable Agricultural Mechanization Strategies (SAMS) in the Asia-Pacific Region

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Overview

• Regional context, need for a focus on sustainable agricultural mechanization (SAM) and role of SAM

• Desired benefits and impacts of SAM

• Sustainable agriculture mechanization strategy (SAMS) - definition, goal, enabling factors

• SAMS strategic pillars

• Where we are today

• The future
Challenges to the Food Supply and Environment in Asia and the Pacific Region

- Population growth coupled with rising living standards.
- Increasing urbanization, a declining rural labour force and increasing feminization of agriculture.
- Ageing farming population.
- Growing scarcity of fresh water resources.
- Resource degradation and loss of biodiversity.
- Increasing energy costs and declining farm incomes.
- Climate change.
- High levels of post-harvest losses.
What this means

• There is a need to:
  ▫ Meet growing food demands
  ▫ Respond to impacts of demographic change in rural areas
  ▫ Use natural resources in a more sustainable way
  ▫ Increase energy efficiency
  ▫ Innovate to enhance resilience
  ▫ Implement post-harvest loss reduction strategies

Sustainable agricultural mechanization (SAM) can play a role in addressing all of the above
What the challenges also highlight

• The need to focus on the development of sustainable agricultural production systems
  • Systems that maintain optimal production without jeopardizing production factors

SAM can contribute to sustainable agricultural production
How SAM contributes to environmental sustainability

- By increasing energy efficiency
- Reducing carbon and gas emissions
- Through application with practices that avoid accelerating erosion and soil degradation
  - Conservation and low tillage agriculture
- Through including measures to conserve soil fertility
  - Efficient and appropriate use of pesticides and fertilizers
Sustainable Benefits of SAM

- Can enhance financial performance of farms/producers
  - Increase trade and market opportunities

- Contribution to social benefit
  - Improving food security,
  - Reducing the drudgery associated with agricultural work
  - Worker health and safety
Desired Benefits and Impacts of SAM

Socially Beneficial

Worker health and safety
Food Security
Improved living standards

Food Production

Economically Viable

Income
Marketing
Trade

Environmentally Sustainable

Water
Soils
Climate
Emissions
Energy use
Biodiversity

Desired Benefits and Impacts of SAM

Regional Forum 2013 (un-csam.org)       Page 8 of 17
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.
  ▫ It can serve as a foundation to create a policy, institutional and market environment, that gives farmers the choice of farm power suited to their needs, while creating linkages among stakeholders.

SAMS is a joint initiative of CSAM and FAO, launched in December 2011
SAMS Constitutes an Element of the Enabling Environment to Promote Sustainability

Source – Adapted from Donor Committee on Enterprise Development, 2012
Goal of SAMS for Asia and the Pacific Region

To address food security, poverty alleviation and environmental sustainability through sustainable intensification of agriculture, by creating an enabling environment.

CSAM-FAO Workshop, Bangkok 2011
Enablers for SAMS Formulation

- Relative importance of agriculture in the national economy.
- Access to/availability of communication infrastructure.
- Sufficient political commitment and will.
- Adequate financial and human resources.
- Recognition of the need for change by stakeholders – farmers, public and private sector, NGOs, financial institutions

*Source: CSAM-FAO Workshop 2011*
Other Enablers for SAMS Formulation

- Competitive marketing and agricultural support services.
- Systems and/or infrastructure for soil and water conservation.
- Efficient agricultural, energy and environmental policies
- Information networks and training systems
- Public and/or private sector applied research systems adapted to local conditions
SAMS Strategic Pillars for Asia and the Pacific

- Pillar 1 - Surveys, assessments and analyses of the current status of agricultural mechanization
- Pillar 2 - Enabling policies and institutions for SAMS development
- Pillar 3 - Human capacity development
- Pillar 4 - Financial support to enhance investment in SAMS.
- Pillar 5 – Advocacy (and awareness raising) on SAMS
- South-South and North-South Collaboration
Table 1 Priorities of Countries with regard to SAMS

<table>
<thead>
<tr>
<th>Countries</th>
<th>Priorities</th>
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<tbody>
<tr>
<td>Philippines</td>
<td>Comprehensive National Program for SAMS</td>
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<tr>
<td>Sri Lanka</td>
<td>Standardization of Agricultural machinery standards for SAMS</td>
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<tr>
<td>Malaysia</td>
<td>Providing access to appropriate equipment to farmers</td>
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<tr>
<td>India</td>
<td>Optimize capitalization of agricultural machinery use; Develop and promote agricultural machinery that is resource and energy efficient and conserve natural resources.</td>
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<tr>
<td>Indonesia</td>
<td>Increasing the availability of agricultural mechanization technology to farmer / stakeholders</td>
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<tr>
<td>Bangladesh</td>
<td>Strengthened capacity of agricultural mechanization technology on the supply side of AMT</td>
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<tr>
<td>Nepal</td>
<td>SAMS</td>
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<tr>
<td>Vietnam</td>
<td>Applying appropriate machinery and equipment for agricultural production</td>
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<tr>
<td>Mongolia</td>
<td>Improve planning and implementation coordination of Government agricultural mechanization (SAMS)</td>
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<tr>
<td>Thailand</td>
<td>Promote standardization of local agricultural mechanization</td>
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<tr>
<td>Myanmar</td>
<td>Training and education for farmers Select suitable farm machinery for different types of soil</td>
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CSAM-FAO Workshop 2011
Where are we now?

Country level surveys and assessments documented 2012

Framework for Policy and Strategy Formulation

Options and recommendations for government input and support discussed

Next Steps

Under Preparation

Policy Level Workshop
FAO-CSAM Quarter 1, 2014
Thank you