

**Second Policy Dialogue on Trade Facilitation through International Standards and Mutual Recognition of Agricultural Machinery Testing**

**STUDY ON THE FEASIBILITY OF ESTABLISHING A REGIONAL AGREEMENT FOR THE MUTUAL RECOGNITION OF AGRICULTURAL MACHINERY TESTING TO ENHANCE TRADE OF SAFE AND EFFICIENT MACHINERY- DRAFT FINDINGS**

1-3 April 2024, Samarkand, Uzbekistan



**CSAM**

Centre for Sustainable  
Agricultural Mechanization

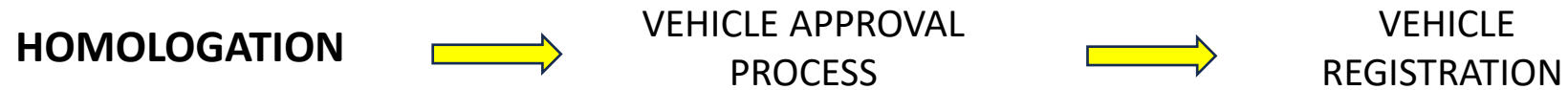


**CSAM**  
Centre for Sustainable  
Agricultural Mechanization

# Study's Content

1. Status of Regional Trade of Agricultural Machinery – ANTAM Members
2. Relevance of harmonized agricultural machinery testing and mutual recognition
3. Exploring Practices in Machinery Testing and International Standards\*
4. Proposed contents and features of a regional arrangement\*
5. Conclusions

# Study Outcomes – Clarifications



**Homologation** is commonly performed by public bodies (*Ministry of Transport, Ministry of Agriculture ...*) while **Certification** by private and/or public companies.

Both must refer to specific requirements as **ROAD HOMOLOGATION** (national/international law) and **CERTIFICATION SPECIFICATIONS** (national/international standards) requirements



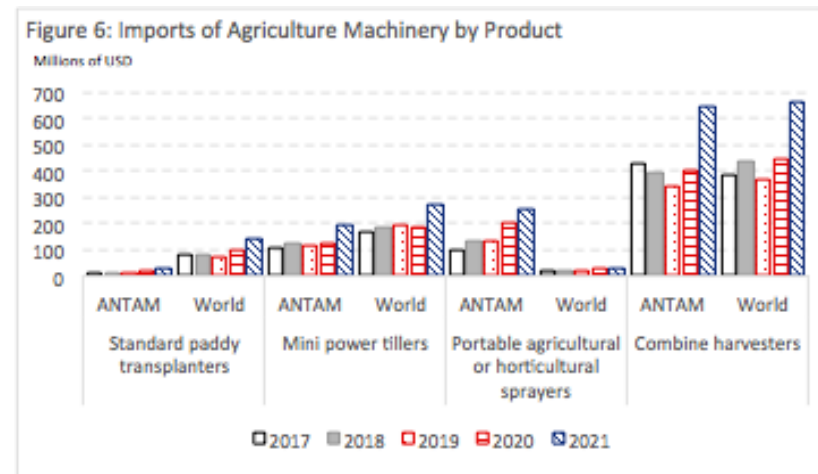
# Study Outcomes – Benefits



Network to provide quality agricultural machinery at benefit of national agriculture



Benefits to all country's agriculture not depending on the level of mechanization or testing activities.



# Study Outcomes – Benefits



Network to provide quality agricultural machinery and benefit of national agriculture

Country with no Testing Station  
(Member)

- **Participation** at ANTAM TWGs to set up requirements according to national agriculture needs
- Will **produce/import** only agricultural machinery with ANTAM requirements
- Will **accept** tested machines from other ANTAM countries inside the Network
- **No investment** in testing station.

# Study Outcomes – Benefits



## Network to provide quality agricultural machinery and benefit of national agriculture

Country with limited Testing Station  
(Testing Member)

- **Participation** at ANTAM TWGs to set up requirements according to national agriculture needs
- Will **produce/import** only agricultural machinery with ANTAM requirements
- Will **accept** tested machines from other ANTAM countries inside the Network
- Will perform test on some specific agricultural machines according to expertise and **national priorities**
- **Investment** in testing facilities according to the machines being tested (national priorities).

# Study Outcomes – Benefits



## Network to provide quality agricultural machinery and benefit of national agriculture

### Country with complete Testing Station (Full Testing Member)

- **Participation** at ANTAM TWGs to set up requirements according to national agriculture needs
- Will **produce/import** only agricultural machinery with ANTAM requirements
- Will **accept** tested machines from other ANTAM countries inside the Network
- Will **perform** tests on most agricultural machines
- Investment in testing facilities according to the wide range of machines being tested.

# Study Outcomes – Benefits



Network to provide quality agricultural machinery and benefit of national agriculture		
Country with no Testing Station (Member)	Country with limited Testing Station (Testing Member)	Country with complete Testing Station (Full Testing Member)
<ul style="list-style-type: none"> <li>- Participation at ANTAM TWGs to set up requirements according to national agriculture needs</li> <li>- Will produce/import only agricultural machinery with ANTAM requirements</li> <li>- Will accept tested machines from other ANTAM countries inside the Network</li> <li>- No investment in testing station.</li> </ul>	<ul style="list-style-type: none"> <li>- All basic level benefits</li> <li>- Will perform test on some specific agricultural machines according to expertise and national priorities</li> <li>- Investment in testing facilities according to the machines being tested.</li> </ul>	<ul style="list-style-type: none"> <li>- All intermediate level benefits</li> <li>- Will perform tests on most agricultural machines</li> <li>- Investment in testing facilities according to the wide range of machines being tested.</li> </ul>



# Study Outcomes – Benefits



## Network to provide quality agricultural machinery at benefit of national agriculture

Will improve the trade setting minimum requirements for safety of the operator, the environment protection and for food security improving productivity at the same time.

### PROPOSAL FOR TRADE AMONG ANTAM COUNTRIES

- Machines with minimum requirements being produced and traded for **better quality** of overall agriculture.
- **Subsidy policies focused on tested machines** according to the ANTAM or other equivalent networks (providing for the same technical requirements).



- **Assessment** by third party of new technologies
- Human safety: less injuries and **less social cost**
- Environmental safety: less pollution (pesticides, fertilizers) and **savings for farmers**
- **Quality of food** production: better quality
- **Security of food** production: less residuals of chemicals
- **Quantity of production**: better mechanization reduces losses
- **Optimization of investment** by Governments and private sector.

## Study Outcomes – Benefits



**Standard = technical information (no third party)**

**Standard + Testing Methodology + Certification =  
system with third party assessment**

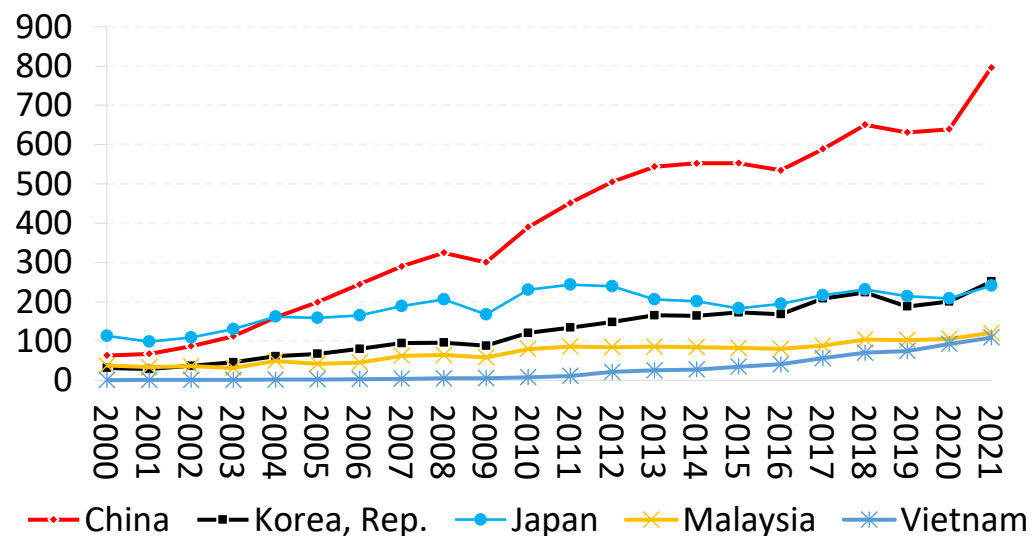


# 1. Status of Regional Trade of Agricultural Machinery – ANTAM Members

## Key players and their characteristics

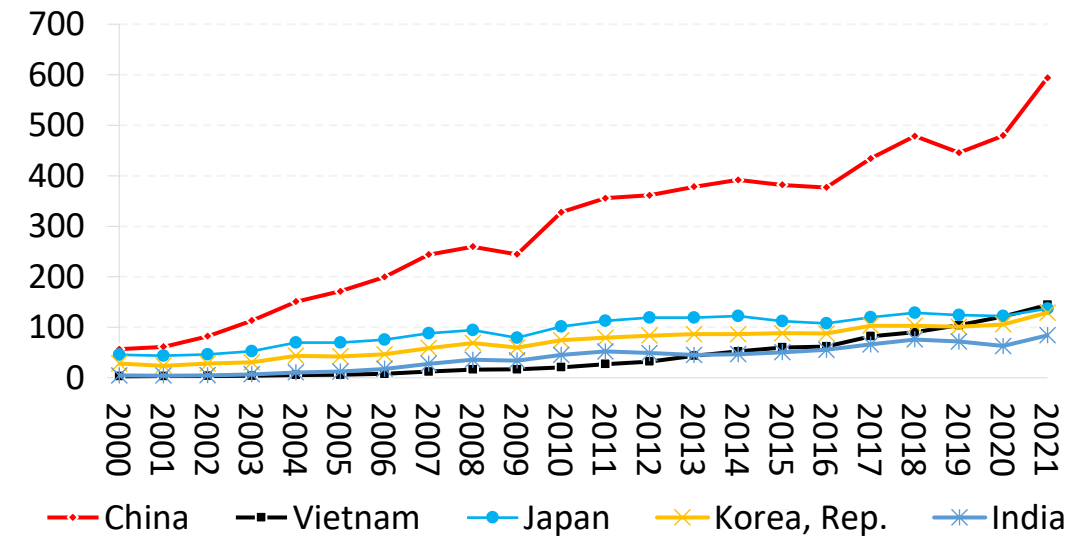
### Imports of Machinery and Transport Equipment by Selected ANTAM-participating Countries

Billions of USD



### Exports of Machinery and Transport Equipment by Selected ANTAM-participating Countries

Billions of USD



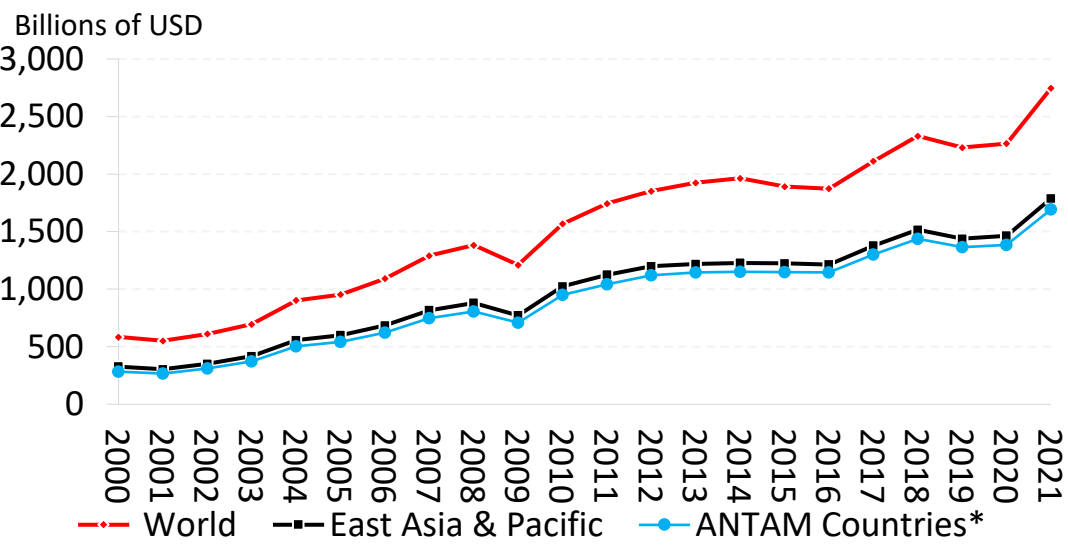
Source: World Integrated Trade Solution (WITS) Data base.

**Note:** Here the definition of “Machinery and Transport Equipment” is based on the definition provided in the latest version of the Standard International Trade Classification (SITC), which includes wide variety of machinery, including machinery used for non-agricultural purposes.

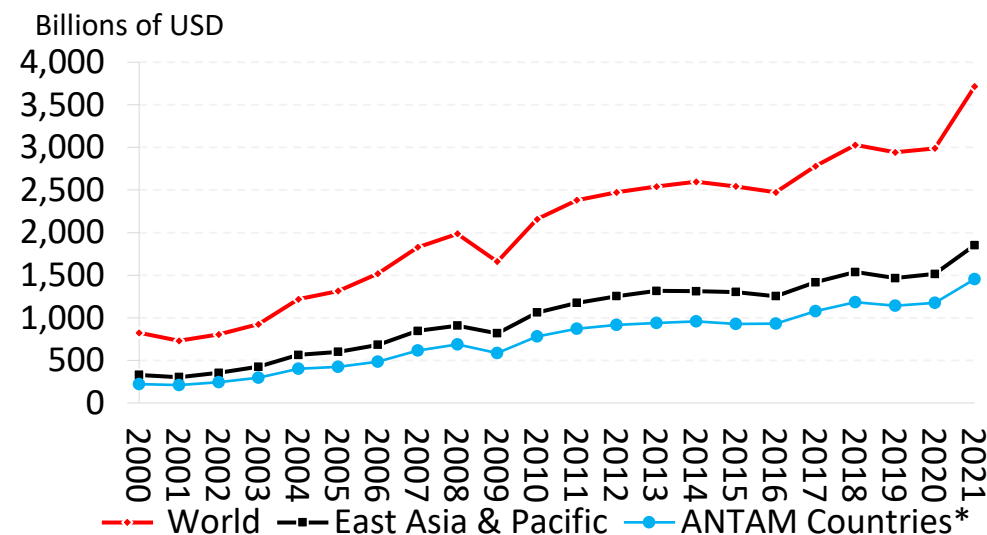
# 1. Status of Regional Trade of Agricultural Machinery – ANTAM Members

## Resilience of the sector

### Imports of Machinery and Transport Equipment



### Exports of Machinery and Transport Equipment



Source: World Integrated Trade Solution (WITS) Data base.

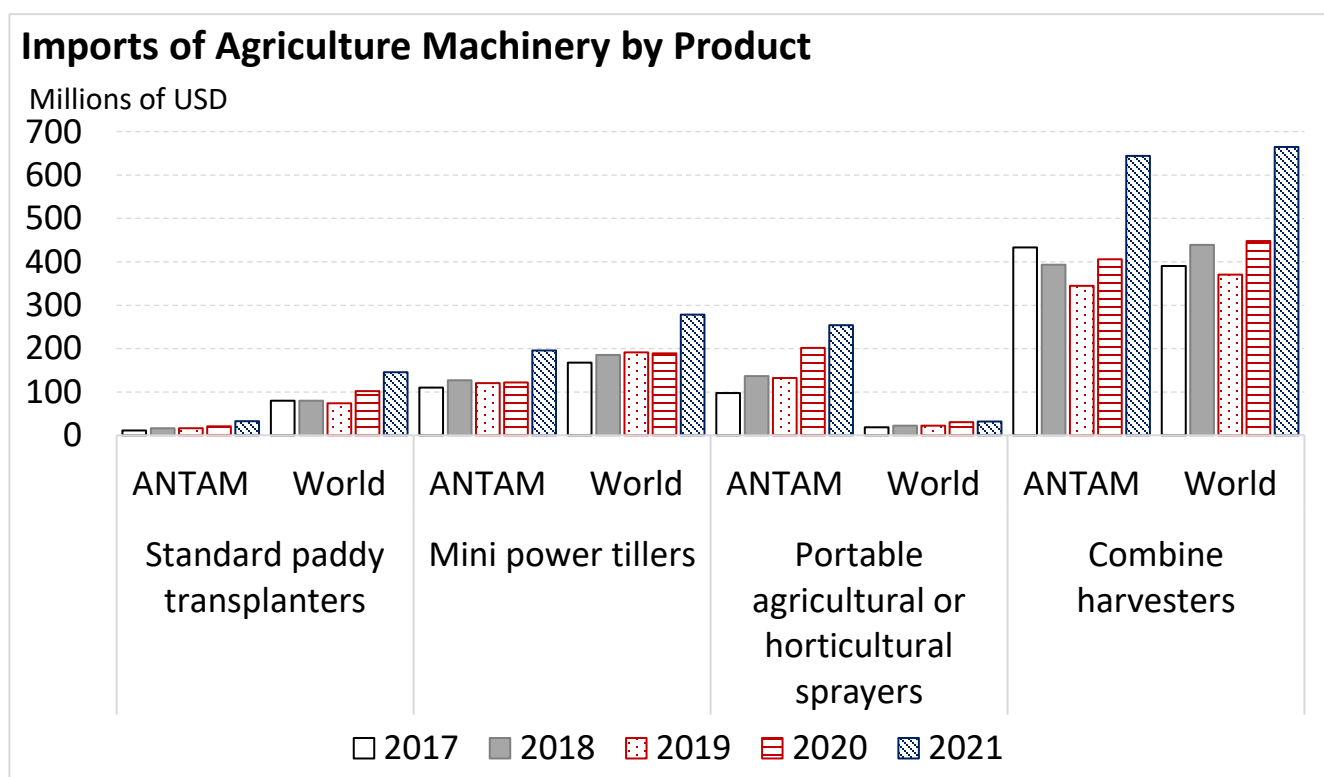
Note 1: ANTAM Countries is composed by: Armenia, Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Japan, Malaysia, Nepal, Pakistan, Philippines, Republic of Korea, Russia, Sri Lanka, Thailand, Türkiye, Uzbekistan, Vietnam. France is not considered in this data.

Note 2: East Asia & Pacific: American Samoa, Australia, Brunei, Cambodia, China, East Timor, Fiji, French Polynesia, Guam, Hong Kong, China, Indonesia, Japan, Kiribati, Korea, Dem. Rep., Korea, Rep., Lao PDR, Macao, Malaysia, Marshall Islands, Micronesia, Fed. Sts., Mongolia, Myanmar, New Caledonia, New Zealand, Northern Mariana Islands, Palau, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, Thailand, Tonga, Tuvalu, Vanuatu, Vietnam.

Note 3: Here the definition of "Machinery and Transport Equipment" is based on the definition provided in the latest version of the Standard International Trade Classification (SITC), which includes wide variety of machinery, including machinery used for non-agricultural purposes.

# 1. Status of Regional Trade of Agricultural Machinery – ANTAM Members

Trade in products for which Standard Codes have already been developed or being developed



Source: International trade center, UN COMTRADE, EUROSTATS.

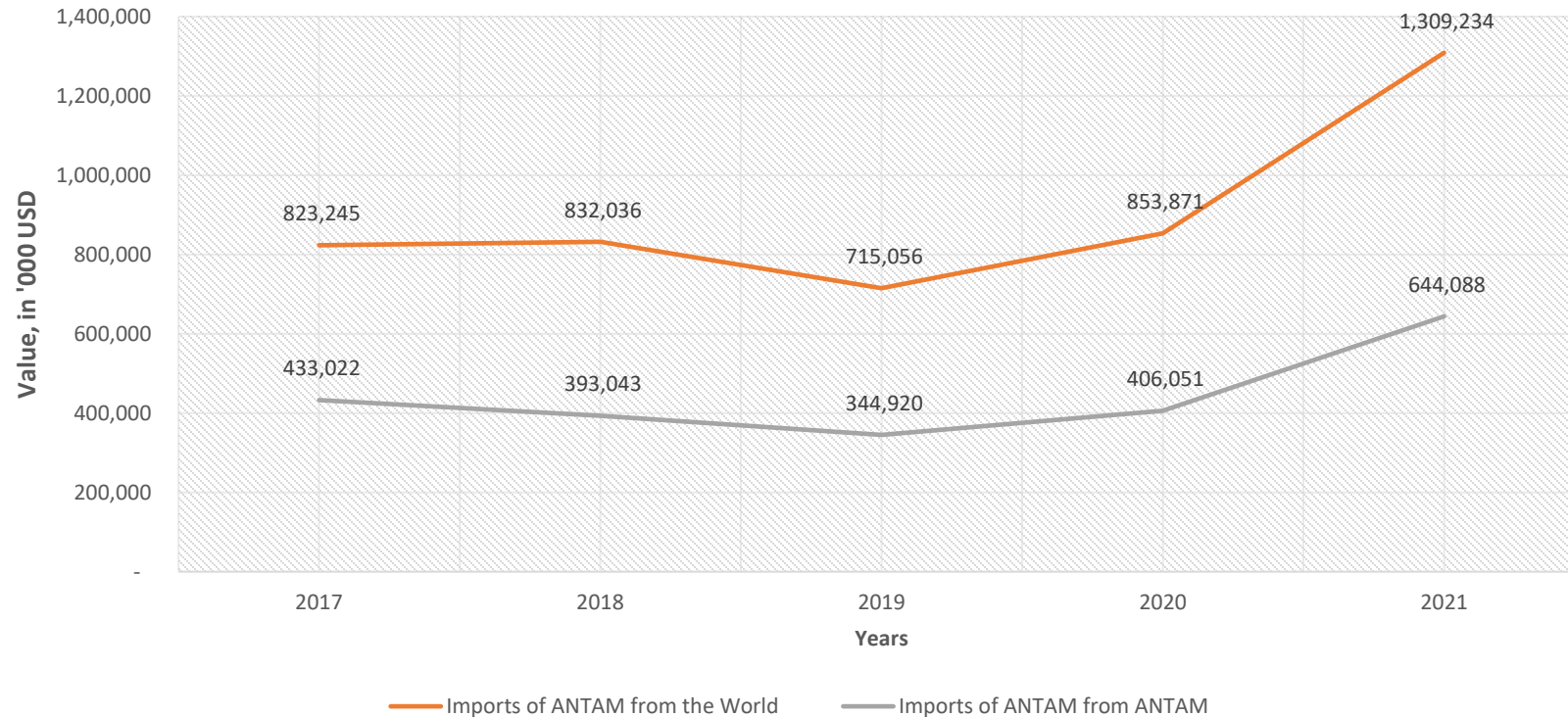
Note 1: “ANTAM” referred to the 19 countries that had appointed a focal point to ANTAM; “World” excluded ANTAM countries to avoid double counting.

# 1. Status of Regional Trade of Agricultural Machinery – ANTAM Members

- Next slides provide information about ANTAM's trade with products for which testing codes developed
  - Products considered are combine harvesters, paddy transplanters, mini power tillers and sprayers.
  - Source of data is the UNCOMTRADE.
  - The latest, 2017 version of the Harmonized System (HS2017) and the latest data available used (2021).
  - "ANTAM countries" means 19 countries which have appointed a focal point to the ANTAM.
  - "The World" include ANTAM countries and other ESCAP members.
  - Some data are mirrored.

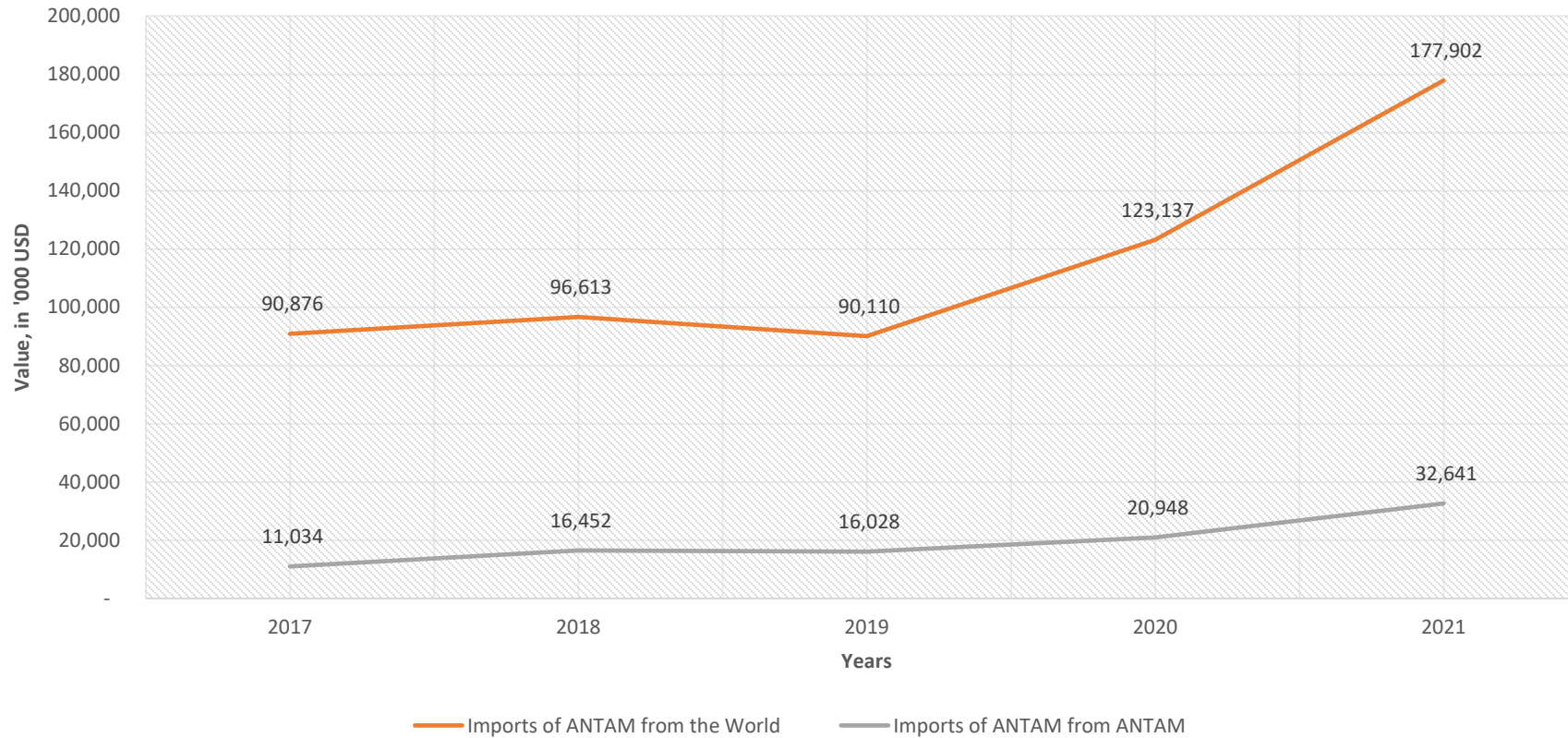
Mirrored trade data means applying established methods to correct discrepancies and/or inaccuracies in trade data by comparing the trade statistics reported by each country

## Product: Combine harvesters (HS Code 843351)



- In 2021, CSAM-20 countries imported 1 bln 309 mln 234 thsd USD worth of combine harvesters from the World
- Only 49% (644 million 88 thousand USD worth) of ANTAM imports for this product originated from the CSAM-20 countries
- Huge potential to import from the region countries, if standards harmonized
- ANTAM imports from ANTAM countries and from the World in 2021 exceed the pre-COVID levels (compare with 2017-18 data)

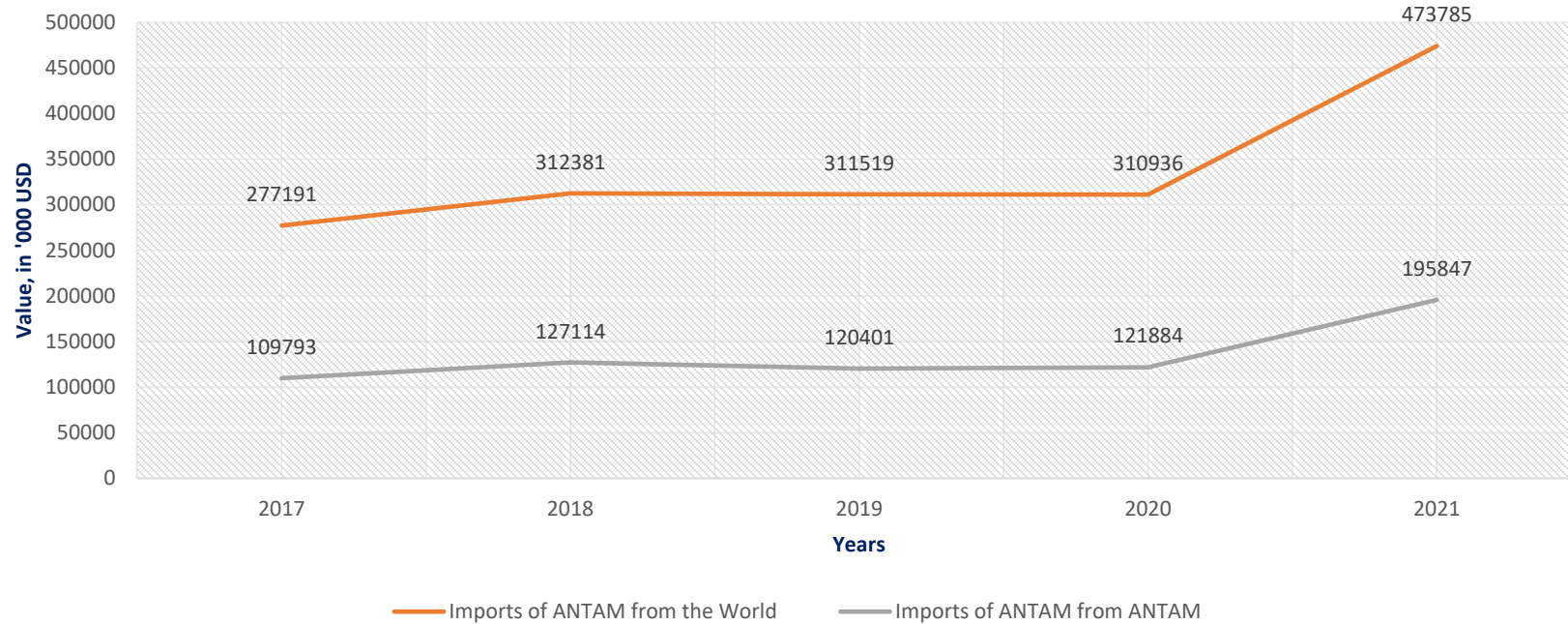
**Product: No-till direct seeders, planters and transplanter.**  
**HS Code 843231**



- Standard paddy transplanters are included in the product group "No-till seeders, planters and transplanter"
- In 2021, ANTAM countries imported 177 mln 902 thsd USD worth off this product from the World.
- Only 18% (32 million 641 thousand USD worth) of ANTAM imports for this product originated from the ANTAM countries
- Huge potential to import from the region countries, if standards harmonized.
- ANTAM imports from ANTAM countries and from the World in 2021 exceed the pre-COVID levels (compare with 2017-18 data)

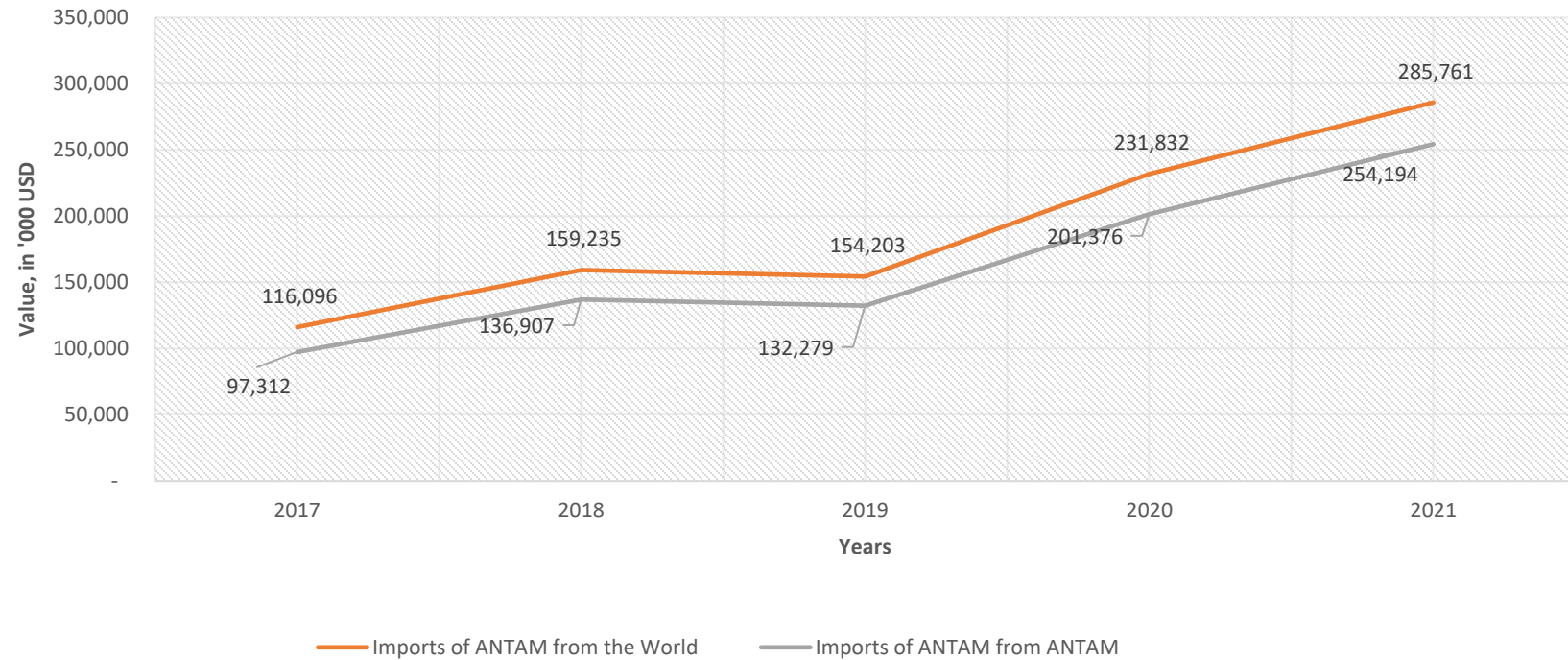


**Product: Harrows, scarifiers, cultivators, weeders and hoes for use in agriculture, horticulture.  
HS Code 843229**



- Standard mini power tillers are included in the product group harrows, scarifiers, cultivators, weeders and hoes for use in agriculture, horticulture
- In 2021, ANTAM countries imported 473 mln 785 thsd USD worth off these products from the World.
- Only 41% (195 million 847 thousand USD worth) of ANTAM imports for this product originated from the ANTAM countries
- Huge potential to import from the region countries, if standards harmonized.
- ANTAM imports from ANTAM countries and from the World in 2021 exceed the pre-COVID levels (compare with 2017-18 data)

## Product: Portable agricultural or horticultural sprayers HS Code 842441



- Sprayers are included in the product group "Portable agricultural or horticultural sprayers".
- In 2021, ANTAM countries imported 285 mln 761 thsd USD worth off this product from the World.
- Large portion - 89% (254 million 194 thousand USD worth) of ANTAM imports for this product originated from the ANTAM countries
- Market potential in the region have been virtually utilized. Only 11% of the sprayers are imported from outside the ANTAM countries.
- ANTAM imports from ANTAM countries and from the World in 2021 exceed the pre-COVID levels (compare with 2017-18 data).

# 1. Status of Regional Trade of Agricultural Machinery – ANTAM Members

- Overall, the statistics indicates that:
  - Import of all of the products for which standards developed is increasing
  - For 3 out of the 4 products, ANTAM countries import 50-80% more products (value-wise) from the rest of the World
  - There is a huge market potential for all products except sprayers in the region. Harmonization of the standards may potentially boost trade, for example, for combine harvesters by up-to \$600 mln.
  - COVID did not have a lasting negative effect on these products and import of these products (both from ANTAM countries and from the World) significantly exceed pre-COVID levels. This also means there is an increasing demand for these products.

Given this results, it can be said that adoption of a MRA among the ANTAM countries can contribute in boosting trade.

## 2. Relevance of harmonized agricultural machinery testing and mutual recognition

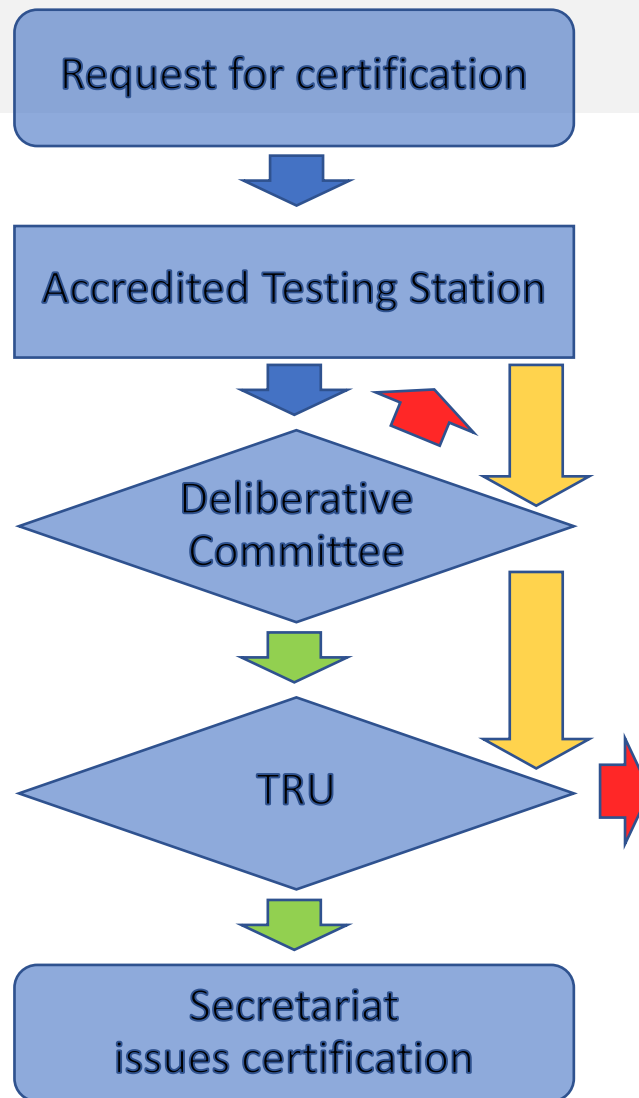
Testing agricultural machinery	Standardization	Certification
<ul style="list-style-type: none"> <li>- Testing ensures safety, performance, and regulatory compliance.</li> <li>- Examples include pesticide sprayers and farm vehicles.</li> <li>- Suggested system: accredited certification system for harmonized standards and testing procedures in Asia-Pacific.</li> </ul>	<ul style="list-style-type: none"> <li>- Ensures compatibility, quality, efficiency, and market access.</li> <li>- Benefits include safety, operational efficiency, trade facilitation, and innovation.</li> <li>- Mutual recognition of standards reduces barriers and encourages competition.</li> </ul>	<ul style="list-style-type: none"> <li>- Formal recognition of quality, safety, and performance standards.</li> <li>- Provides assurance to stakeholders and promotes trade.</li> <li>- Examples like OECD tractor codes demonstrate benefits in promoting trade and economic growth.</li> </ul>

## Proposed Certification System for ANTAM countries

Manufacturer or its legal representative submits a request to a testing station, with copy to the secretariat.

The Deliberative Committee receives the test report from the testing station and evaluates it.

The TRU carries a third party verification of the test reports and validates compliance with ANTAM certification scheme.



If the test report is rejected by the Deliberative Committee, it will be returned to the testing station for any adjustment.

In case of disagreement between Deliberative Committee and testing station, the TRU will take the final decision, as independent body.

## 2. Relevance of harmonized agricultural machinery testing and mutual recognition

List of the most important international organisations providing agricultural machinery standards



Organisation for  
Economic Co-operation  
and Development



Asia Pacific Economic  
Cooperation



International Standard  
Organisation



South Asian Regional  
Standards  
Organisation



Eurasian Economic  
Union



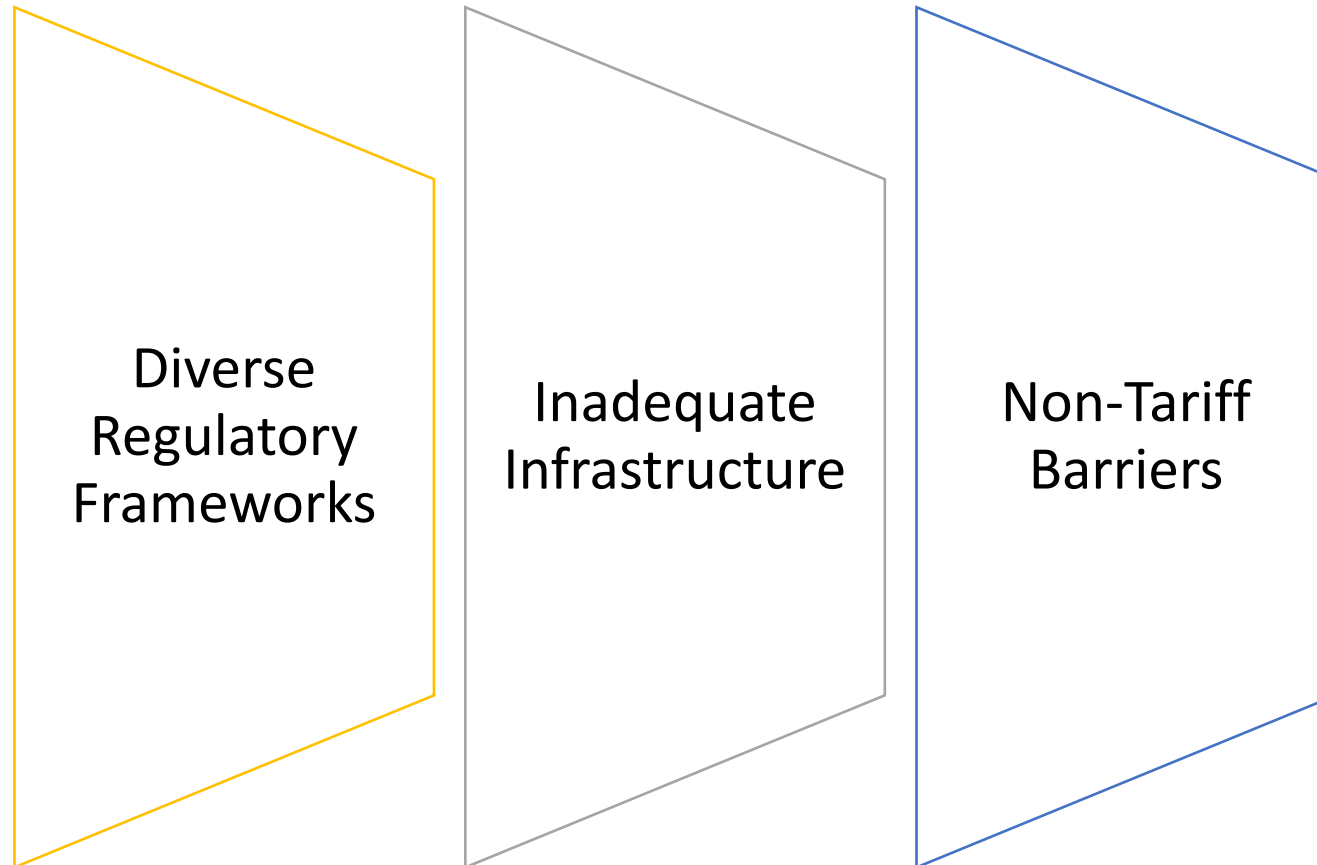
Association of  
Southeast Asian  
Nations



European Committee  
for Standardisation

## 2. Relevance of harmonized agricultural machinery testing and mutual recognition

### Challenges in Regional Trade



## 2. Relevance of harmonized agricultural machinery testing and mutual recognition

### Developed of Standards in ANTAM countries












#### **Process of the adoption stages of Standards**

- Initiation of the new standard by the standard organization
- Necessity of the standard discussed at the required set-up
- If the standard is deemed necessary, the subject matter experts draft standards
- The drafted standard submitted for review by relevant government agencies
- Relevant reviews considered and adaptation made
- Final draft prepared and submitted for approval to government agencies
- Standard is published and implemented
- Standard is reviewed (usually after 5 years)
- Standard either continues to be implemented as it was, or it's updated, or it's withdrawn



## 2. Relevance of harmonized agricultural machinery testing and mutual recognition

### Developed of Standards in ANTAM countries

	Armenian Institute of Standards – SARM		Nepal Bureau of Standards & Metrology – NBSM
	Bangladesh Standards and testing Institution – BSTI		Pakistan Standard and Quality Control Authority – PSQCA
	Bhutan Standards Bureau – BSB		Bureau of Philippine Standards – BPS
	Institute of Standards of Cambodia – ISC		Korean Agency for Technology and Standards – KATS
	Standardisation Administration of the P.R.C. – SAC		Federal Agency on Technical Regulating and Metrology -GOST R
	Bureau of Indian Standards – BIS		Sri Lanka Standards Institution – SLSI
	National Standardisation Agency – BSN		Thai Industrial Standard Institute – TSI
	Japanese Standards Association – JIS		Turkish Standards Institution – TSI
	Department of Standards Malaysia – DSM		Directorate for Standards, Metrology and Quality - STAMEQ

### 3. Exploring Practices in Machinery Testing and International Standards

- Review of national processes for the development and adoption of standards (national and international) in ANTAM countries – **Initial findings**
  - According to information received from the ANTAM participating countries, processes for the adoption of standards are very similar and follow common practices. **This implies that standard adoption processes among the members have already been harmonized.**
  - International standards, such as standards developed by the ISO and IEC can be adopted in ANTAM countries. These standards can either be adopted in their original form or with authentic translation. Given this, standards developed by ANTAM can also be adopted in the participating countries.

### 3. Exploring Practices in Machinery Testing and International Standards

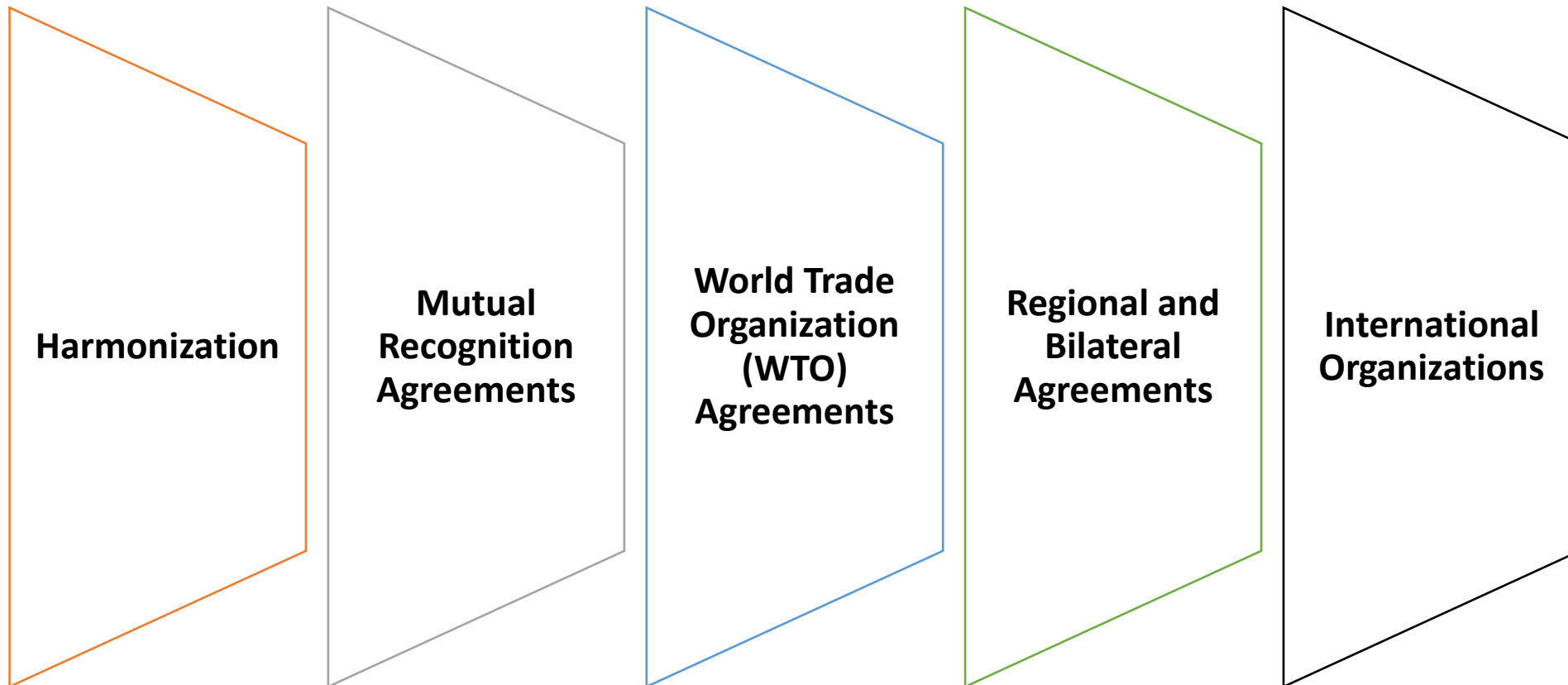


Review of national processes for the development and adoption of standards (national and international) in ANAM countries

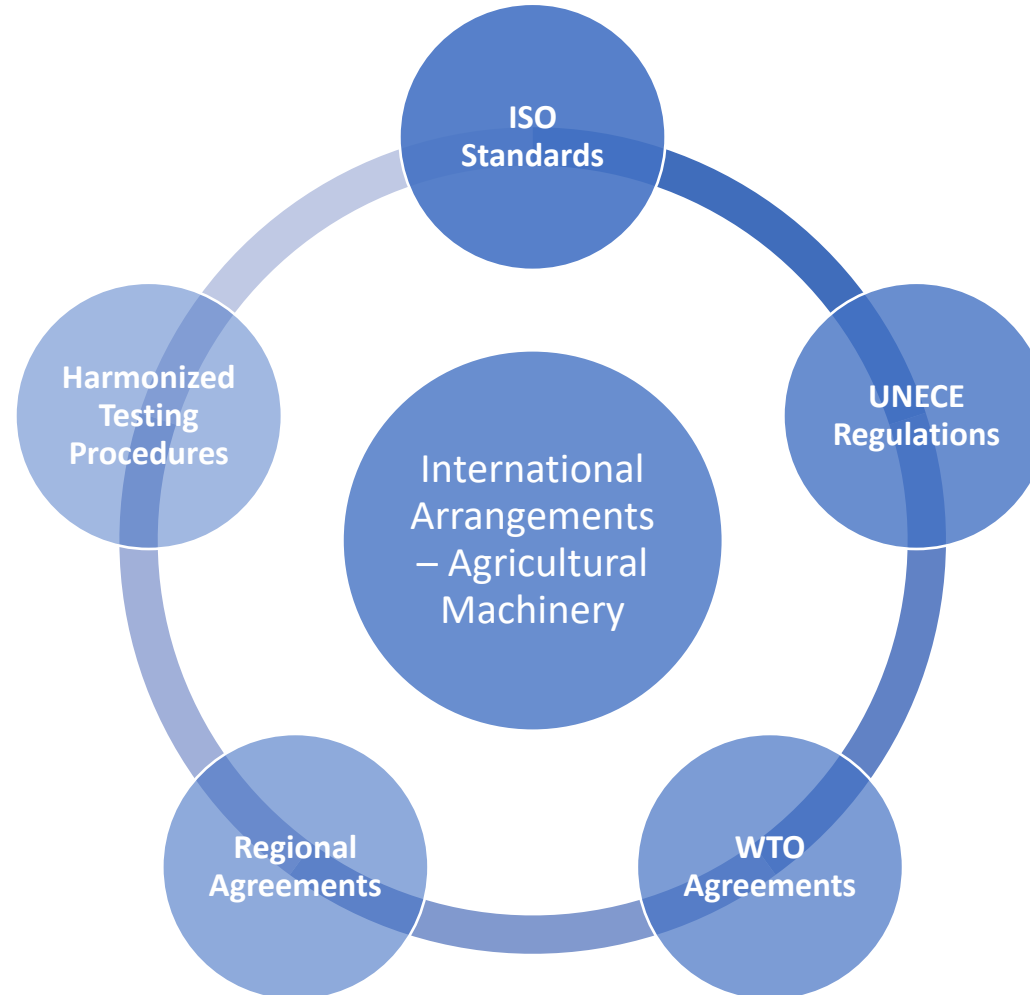
\*\*Inputs from countries are required

### 3. Exploring Practices in Machinery Testing and International Standards

International arrangements related to standards at large

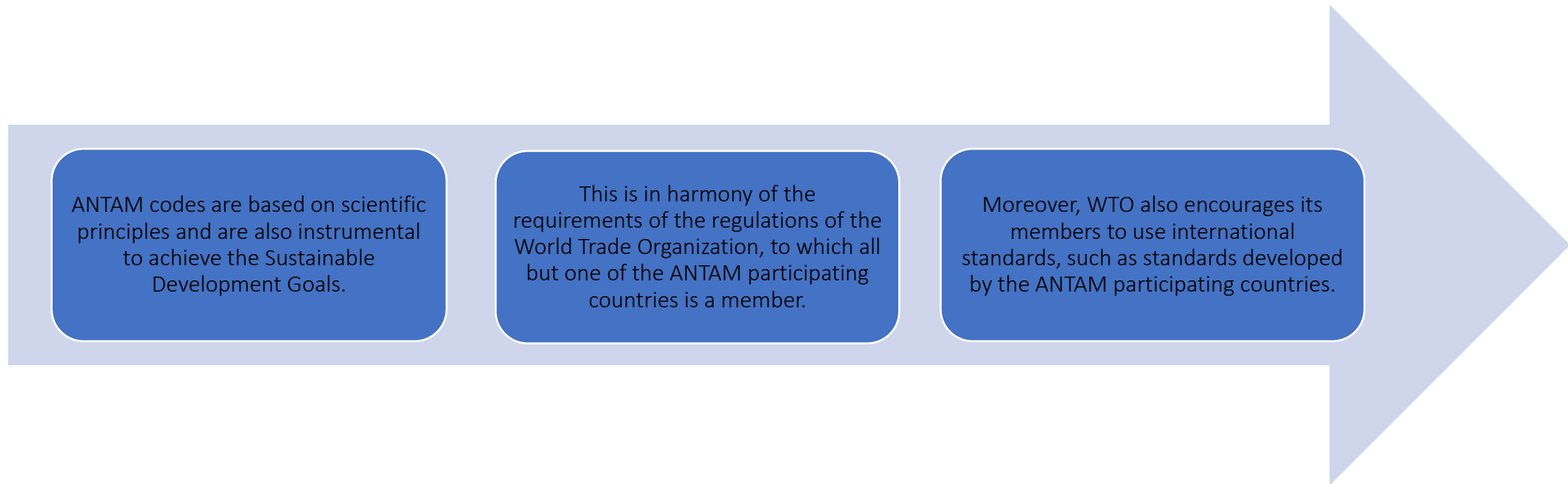


### 3. Exploring Practices in Machinery Testing and International Standards



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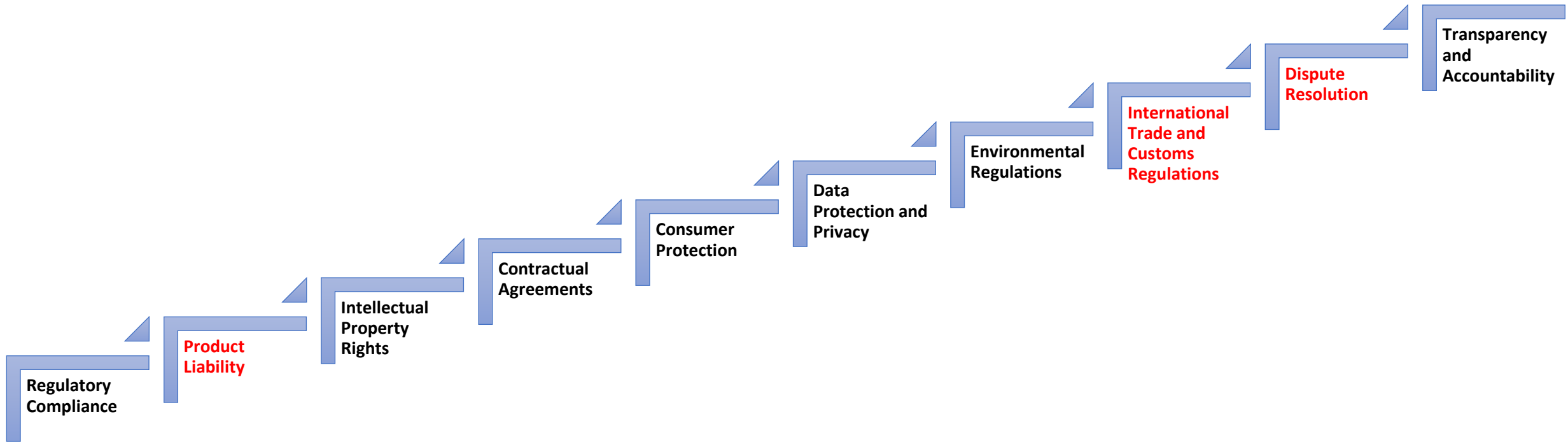
- ANTAM codes vs WTO regulations: Legal Frameworks



- Legal framework issues with other international arrangements (such as Regional Trade Agreements) need to be investigated

### 3. Exploring Practices in Machinery Testing and International Standards

Legal framework issues



## 4. Proposed contents and features of a regional arrangement



**\*\*To be developed by country members**

- 4.1 Scope and objective.
- 4.2 Provisions for servicing and implementing the Agreement.
- 4.3 Agreement.
- 4.4 Definitions and terminology.
- 4.5 Legal framework.
- 4.6 General principles.
- 4.7 National authorities and national policy framework.
- 4.8 Dispute resolution.
- 4.9 Capacity building.
- 4.10 Entry into force and timing for implementation.



# Conclusions

## Feasibility and Benefits of Mutual Recognition Agreement

Advantages of establishing a regional agreement for the mutual recognition of agricultural machinery testing

Opening markets to quality-tested machinery is crucial for development and technological improvement, benefiting all ANTAM countries

## Opportunity Presented by ANTAM Network

ANTAM offers a unique opportunity for countries involved in the production and import of agricultural machinery

The sector as a whole stands to benefit significantly, ensuring food security and environmental protection

## Adoption of Standards within ANTAM

ANTAM countries follow practices similar to general standard adoption, indicating a harmonized approach

International standards, can be adopted within ANTAM countries. WTO also encourages participation in standards.



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