

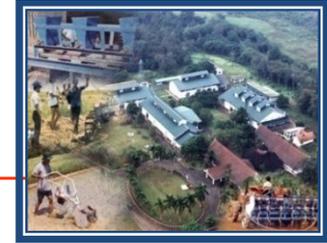
COUNTRY REPORT INDONESIA AGRICULTURAL MACHINERY TESTING DEVELOPMENT



MINISTRY OF AGRICULTURE
2012



BACKGROUND



- Food security and sustainability issue in Indonesia for 240 million people
- The MoA's target in 2014: in providing an extra rice stock of 10 million ton (grain)
-  The role of agric mechanization is important (to increase productivity & efficiency, reduce product losses, increase added value as well as maintain the quality)
- To support AM → qualified machine is required → testing is needed
- The paper covers: (1) AM development; (2) Policy and strategy; (3) AM testing activity.





WHY ... AM is slow developed?

- In general: Utilization of AM is still low (< 50%) for rice cultivation and < 30% for others

- Specifically:



- Land holding and conversion
- Infrastructures & institution
- Financial/ capital
- Human resource capability
- Information and technology
- Lack of agric. machinery quality.

- Solution: → may increase no. of AM in the field with better quality (*via grand aid, financial subside, and management help*)





IMPORTANT of TESTING



- To protect the consumers need;
- To guarantee quality agric. tool or machinery;
- To support manufacturers in evaluating their product;
- To strengthen R&D on agric. machinery ;
- To strengthen the growth of local industry via development of National Standard (SNI).





AGRIC MACHINERY TESTING



• **LEGISLATION/ REGULATION**

- Gov. Act No. 81/2001: A compulsory of testing
- Permentan : list of 15 laboratories for AM testing

• **STANDARDIZATION**

- Test code & procedure
- National Standard (SNI: Prosedure & Min. Req.)
- Testing Management System (ISO 17025: 2005)

• **INSTITUTION**

- Mainly 2 testing laboratories (ICAERD & AMTQC) and others (13 lab.)
- Certification Body (LS-Pro Alsintan)





TESTING FACILITY



- Laboratory of IACERD, Serpong

No	Testing Laboratory	Capacity / Scope
1	Testing Laboratory for 4 Wheel and 2 Wheel Tractors	Max 100 kW
2	Testing Laboratory for Irrigation Centrifugal Pumps	Max 250 mm discharge pipe
3	Outdoor Testing Laboratory for grain post harvest machinery.	Up to 3,000 kg/hour
4	Laboratory for post harvest and processing agricultural machinery	Any machine for food and horticultural production
5	Testing Facilities for sprinkler irrigation and hand sprayer	Big gun sprinkler (25 m) and 25 L tank hand sprayer.
6	Other tool and agricultural machinery	From: sickle, manual pump, crusher, grass chopper, palm shredder and so on.

- Laboratory of AMTQC – MoA, Depok

No	Testing Laboratory	Capacity / Scope
1	Testing Laboratory for pre and post harvest tools.	18 kinds of tools
2	Testing Laboratory for pre and post harvest machinery	68 kinds of agricultural machinery
3	Testing Facilities & Instrumentation	About 45 kinds of instrument and measuring tool



TESTING FACILITY



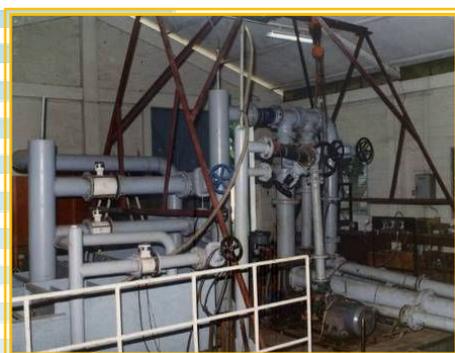
- Lab of IACERD, Serpong (Scope of ISO 17025:2005)



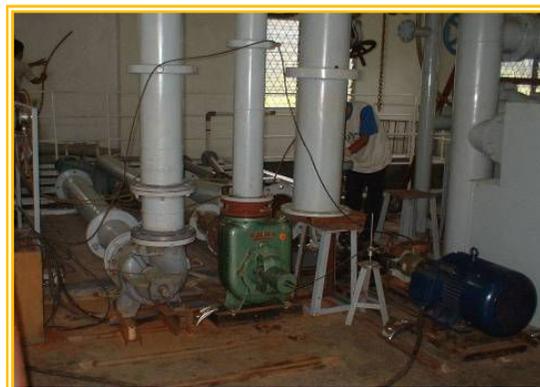
• 2-W tractor



• 4-W tractor



• Irrigation pump



• Post harvest analysis



TESTING FACILITY



- Lab of IACERD, Serpong (Beyond Scope of ISO 17025:2005)



- Testing for Multipurpose Power thresher



- Organic Crusher - Testing



- Granulator Siever



TESTING OUTPUT

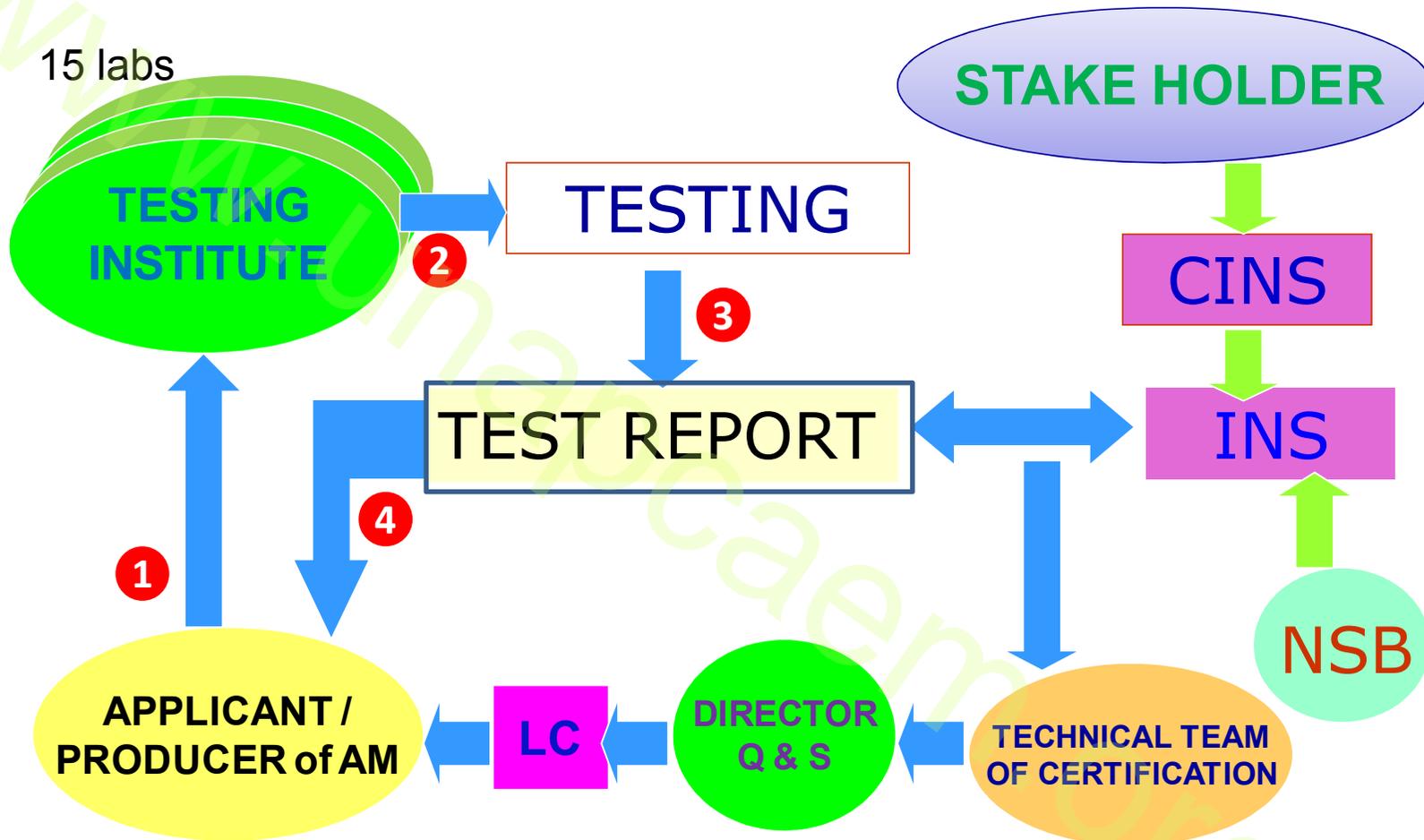


- **TEST REPORT (TR)**
 - output of each testing laboratory
 - contains the performance of machine tested
- **LETTER OF CONFORMITY (LC)**
 - issued by the Director of Stanadard Society
 - comparison between TR and respective SNI
 - used for gov bidding / machine procurement.
- **CERTIFICATE (LABEL on MACHINE)**
 - issued by the Certification Body
 - labelling on each machined tested
 - based on both LC and good manufacturing practices (quality management system)





TESTING PROCEDURE



Source: AMTQC – MoA, Depok





Results of AM. Testing in Indonesia

NO. and KINDS OF AGRIC. MACHINERY TESTED BY ICAERD

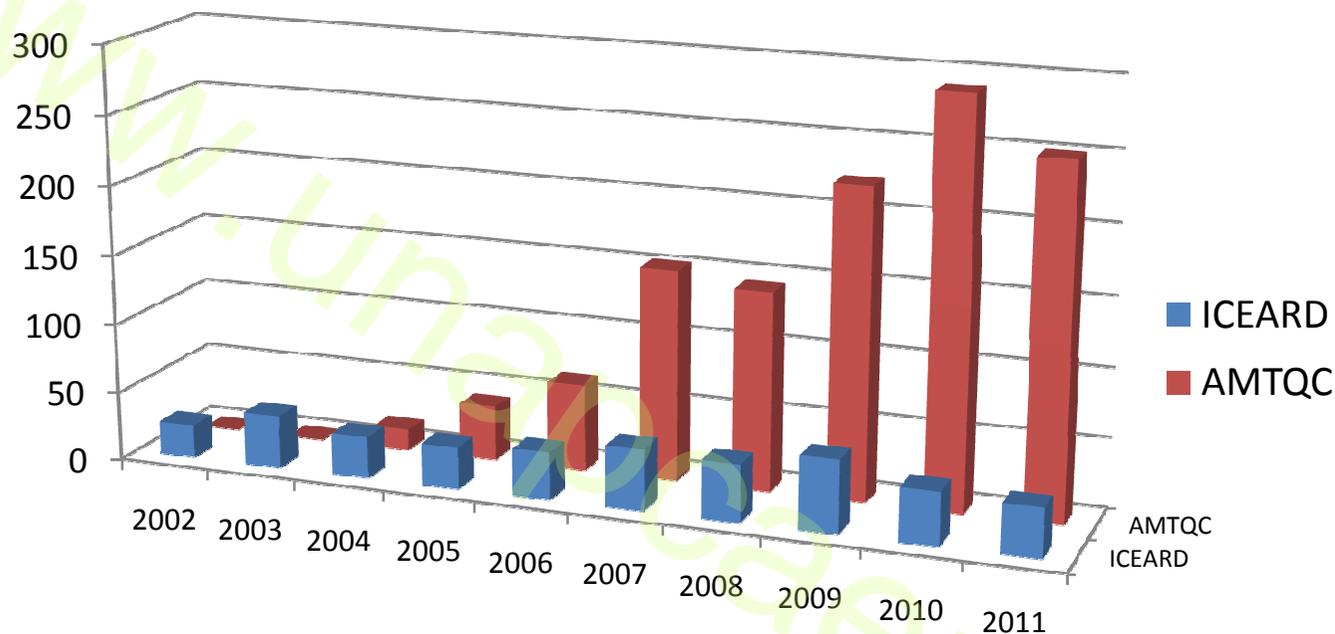
No	YEAR	TYPES OF FARM MACHINERIES							
		4-Wheel Tractor	2-Wheel Tractor	Irrigation Pump	Power Thresher	RMU	Dryer	Organic Crusher	Sprayer
1	2000	6	5	1	-	7	3	-	-
2	2001	4	19	20	-	4	2	-	-
3	2002	-	11	13	-	6		-	1
4	2003	-	11	5	-	11	1	-	-
5	2004	-	12	6	-	-	4	-	5
6	2005	-	22	17	-	-		-	3
7	2006	2	9	10	-	6		7	-
8	2007	2	26	4	4	3	1	4	-
9	2008	5	11	16	1	-		4	4
10	2009	2	13	23	3	-		11	-
11	2010	2	20	7	3	-		6	-
JUMLAH		23	159	122	11	37	11	32	13
TOTAL							408		





Results of AM. Testing in Indonesia

- The number of machines tested → **1,540 unit** (any machines)



- The number of LC (till 2010) is 109 unit model from a total of 307 unit model or about **35%**.
- The number of Certificate has been issued is 43 model from a total of 307 model or about **14%** only.





PROBLEMs in TESTING Development



(1) Testing aspect

- Awareness of manufacturer regarding to testing
- Knowledge about: test report is not the same as a certificate
- Testing is a long procedure and very costly.

(2) Standardization aspect

- Application of national standar (SNI) is still not a compulsory
- Awareness to standar for low to middle manufacturer still low
- Time consume dan costly to produce a national standard (SNI)
- Lack of dissemination on standard to the society.

(3) Certification aspect

- Cost for application of quality management system quite high
- Conselling on quality management system of producer limited
- Ability of certification body still limited (human resource)
- Lack of coordination on conselling certification to producer.



CERTIFICATE

AGRICULTURAL MACHINERY	2010 (UNIT)	2011 (UNIT)	TOTAL (UNIT)
Water pump	5 model	11 model	16 model
HAND TRACTOR	5 model	16 model	21 model
POWER THRESHER	1 model	4 model	5 model
HAND SPRAYER	0	3 model	3 model
PADDY REAPER	0	1 model	1 model
TOTAL	11 model	35 model	46 model



Challenges for Testing Improvement

- Regulation on testing activity, standardization and certification of agricultural machinery;
- Regulation utilization, monitoring and distribution of machinery (including procurement) in district area;
- Laboratory status on capability and competency;
- To complete or improve facility/instrument of laboratory with regard to SNI or test code;
- To strengthen testing collaboration on with other laboratory either within country or abroad testing institution → ***comparison testing***





Priority Area of TC for Machinery Testing



- Strengthening collaboration among agricultural machinery testing institutions;
- Establishing testing network in terms of the development of methods, procedures and standardization of agricultural machinery;
- Strengthening collaboration on dissemination agricultural machinery testing information ;
- Strengthening capacity building (facilities and human resource) of agricultural mechanization institutions for research and testing of agricultural machinery;

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Thank You



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