



AGRICULTURAL MACHINERY MANUFACTURER'S ASSOCIATION (AMMA-India)



UNITED NATIONS

ESCAP

Economic and Social Commission for Asia and the Pacific

CSAM

Testing and Certification in India

**2nd Meeting of Technical Working Groups (TWGs) of the
Asia and Pacific Network for Testing of Agricultural
Machinery (ANTAM)**

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Status of Agricultural Machinery Industry

This is unorganized sector in India mostly with small and medium categories of industries.

MANUFACTURING UNITS

- 250 Medium to Large Scale Units**
- 2,500 Small Scale Industries**
- 15,000 Tiny Industries**
- 1,00,000 Village level Artisans**



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Annual market of major farm machinery used in India

Item	Numbers	Item	Numbers
Tractors	450000 - 500000	Power tillers	50000 - 60000
MB plow	45000 - 50000	Rotavator	100000 - 120000
Cultivators	150000 - 200000	Harrows	120000 - 150000
Seed-ferti drills	60000 - 75000	Planters	15000 - 25000
Rice transplanters	2000 - 3000	Power weeders	35000 - 40000
Reapers	10000 - 15000	Threshers	60000 - 75000
Combine harvesters	3500 - 4000	Trailers	150000 - 175000
Sprayers (TD)	10000 - 15000	Laser land levellers	2500 - 3500
Potato diggers	25000-30000	Rotary hoes/Power weeders	20000-25000

The logo of AMMA-India is circular, featuring a green gear-like border. Inside the gear, there is a map of India in orange and green, with the text 'AMMA INDIA' below it. The words 'AGRICULTURAL MACHINERY MANUFACTURERS' ASSOCIATION' are written around the top inner edge of the gear.

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Providing efficient and improved implements to the farmers is the need of the time. In order to achieve the maximum returns, these farm equipment need to be designed and developed efficiently and tested thoroughly to ascertain their field performance before they reach to the farmers. The Govt. is giving subsidy and other benefits to farm machines which are tested at the designated testing institutes established by Govt. of India.

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- **The Ministry of Agriculture and Farmers Welfare, Government of India has four Farm Machinery Training and Testing Institutes one each in North, South, North-East and Central India.**
- **Central Farm Machinery Training and Testing Institute, Budni is a premier Institute functioning since 1955.**
- **The other sister institutes are located in Hisar (Haryana), Anantpur (Andhra Pradesh) and Biswanath Charially (Assam).**
- **The main objectives of the institutes are training in agricultural machinery and promotion of farm mechanization and testing of tractors and agricultural machinery.**



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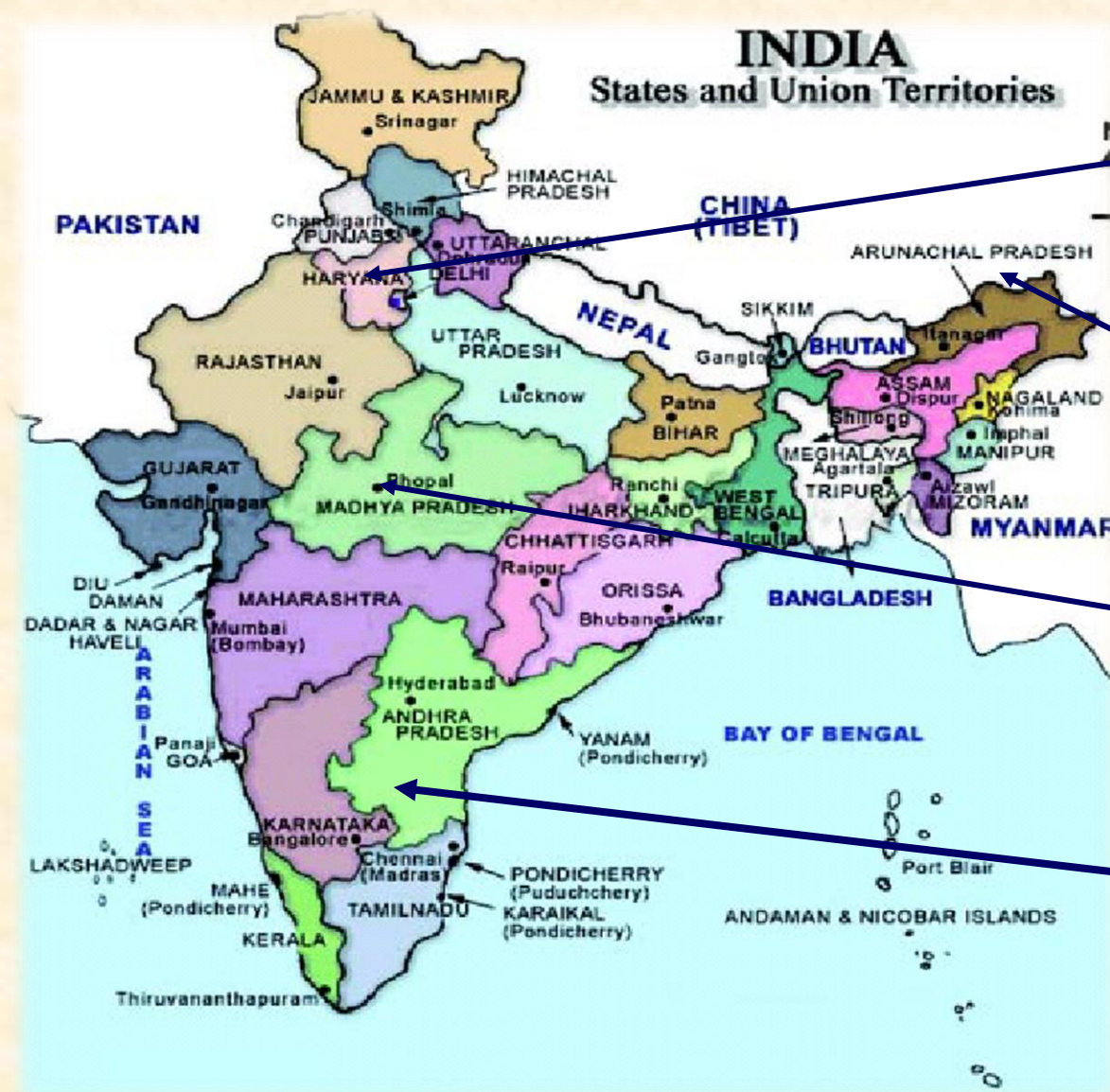
Location of FMTTI'S

Northern Region Farm Machinery Training and Testing Institute Hissar, 1963

North-Eastern Region Farm Machinery Training and Testing Institute, Biswanath-Chariali 1990

Central Farm Machinery Training and Testing Institute Budni 1955

Southern Region Farm Machinery Training and Testing Institute, Garladinne, Anantpur 1983





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TRAINING AND TESTING FACILITIES

- **Bureau of Indian Standards (BIS) also accredits the laboratories of the Institute for testing of the samples under BIS central certification marks scheme. BIS accredit following laboratories.**
- **Engine tests laboratory for testing of stationary diesel engines as per IS:10001 and petrol/ kerosene engines as per IS:7347.**
- **Centrifugal pump test laboratory for testing of centrifugal pumps as per IS:6595.**
- **30 agricultural machinery testing centres at SAUs and ICAR institutes to test as per BIS codes**



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Institutions for testing of non-self-propelled
Agricultural machines/equipment

Total = 30

State Agricultural Universities (SAUs) = 19

ICAR Institutes = 3

Central Universities/Institutes = 2

State Govt. Agencies = 6

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- These 30 test centers established in the country to conduct testing of agricultural machinery (except tractors, power tillers and electric motors) as per the BIS codes.
- Major objectives of these test centre(s) are:
 - To help farmers and Govt. agencies to select quality machines under subsidy programme.
 - To test machines for the farm machinery manufacturers for product improvement.



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Guidelines

- **Two category of tests viz. Commercial and Confidential tests are carried out at these approved testing centres.**
- **Agricultural Machinery and equipment including tractors, power tillers, combine harvesters and new equipment developed by ICAR/State Government, Research Institutions are considered for testing.**
- **Machines/Equipment will be tested after receipt of written request from Manufacturer/ dealer. Following may be ensured before accepting test samples:**
 - ❖ **Full technical specifications of the Test Sample in prescribed format.**
 - ❖ **Advance Test Fee as decided by respective Testing Authorities is submitted by the applicant**



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Testing of Agricultural Machinery (PROCESS)

- Letter for Intent is submitted by Manufacturer/Applicant producing or distributing the equipment/ implement.
- Communication from Testing Authority - Present position with respect to test requested (Waiting list, possible season of test mostly being crop related, Testing Fee, Application Form)
- **Submission of Filled application form, testing fee.**
- **Deposition of Implement by manufacturer along with technical specification in supplied proforma, drawing and photograph.**
- **Lab and Field Testing of Equipment.**
- **Preparation of Draft Report by Testing Authority and sent to applicant through post.**
- **Comments submission by Applicant.**
- **Release of final report.**

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- Material testing – Mechanical, Micro-structure & Tribological properties using **Universal Testing Machine (Tension & Compression)**; **Universal Hardness Tester** and **Brinnel Hardness Tester & Impact Tester**.
- **Assessment to improve the quality of critical components.**

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- We have more than 150 test codes related to agricultural machinery.
- These codes are revised time to time as per need



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LIST OF STANDARDS REFERRED FOR TESTING OF FARM MACHINERY

SL No.	IS.NO./DOC NO.	TITLE	REAFFIRM
STANDARDS PUBLISHED			
1.	IS 619: 1979	Pruning and slashing knives hooked and curved (second revision)	DEC 99
2.	IS 1970: 1995	Hand operated compression knapsack sprayer(fifth revision)	DEC 99
3.	IS 1971:1996	Hand operated stirrup-type sprayer(fifth revision)	
4.	IS 1976:1976	Rotary paddy weeder, manually operated(second revision)	DEC 99
5.	IS 2192:2000	Soil working equipment-Animal drawn mouldboard plough, fixed type-Specification (second revision)	
6.	IS 2559:1978	Garden rake (first revision)	DEC 99
7.	IS 2563:1978	Hedge shears, straight-edge type (first revision)	DEC 99
8.	IS 2565:1979	Ridger, Animal drawn (first revision)	JAN 01
9.	IS3062:1995	Rocker sprayer (fourth revision)	JAN 01
10.	IS 3092:1982	Rubber draining and tapping knife (first revision)	DEC 99
11.	IS 3093:1981	Dah,jungle cutting (first revision)	DEC 99
12.	IS 3094:1982	Bill-hook (firs revision)	DEC 99



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S No.	IS.NO./DOC NO.	TITLE	REAFFIRM
STANDARDS PUBLISHED			
14.	IS 3327:1982	Pedal-operated paddy thresher(first revision)	DEC 99
15.	IS 3342:1998	Soil working equipment-cultivators, Animal drawn-Specification (second revision)	
16.	IS 3369:1965	Puddler, Animal Drawn	MAR 97
17.	IS 3372:1965	Bund former, animal drawn	DEC 99
18.	IS 3394:1978	Pruning secateur (first revision)	DEC 99
19.	IS 3606:1998	Soil working equipment, Disc harrow animal drawn-Specification (second revision)	
20.	IS 3652:1995	Foot sprayer (fourth revision)	JAN 01
21.	IS 3906:1995	Hand-operated knapsack sprayer (fourth revision)	JAN 01
22.	IS 4358:1996	Sickles (first revision)	
23.	**IS 4366(PT-1)1985	Agricultural tillage discs:Part 1 concave type (second revision)	JAN 01
24.	**IS4366(PT-2)1985	Agricultural tillage discs:Part-2: Flat type (second revision)	JAN 01
25.	*IS 4930:1985	Axle assembly for pneumatic wheeled animal drawn vehicles (first revision)	DEC 99



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Farm Machinery Manufacturers' experience on Testing of Agricultural Machinery

- **The Govt. has approved 30 new centers for testing farm equipment. These centers have to be strengthened in terms of manpower and infrastructure facilities so that these testing centers may function more efficiently.**
- **Many of the machines such as cultivator, disc harrow, chaff cutter, mould board plough, disc plough, sickles, weeders, sprayers etc are being manufactured since decades and are popular among farmers. The test certificates for these farm machines should not be insisted by the Govts. for subsidy and other benefits.**
- **For similar machinery there is no need to conduct or repeat all the test procedures and only the variants in the machinery should be tested.**



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Farm Machinery Manufacturers' experience on Testing of Agricultural Machinery

- **No time frame is followed by testing institutions and many a times test reports are given when its purpose is lost.**
- **Now farming is dynamic in nature. Cropping pattern and crop rotations are changing fast and so the requirement of farm equipment.**
- **There is no test codes for newly developed farm equipment and most of the Test Centres refuse to take machines in absent of test procedures. ANTAM may take up appropriate steps to develop test codes and procedures for newly developed farm equipment such as Potato combine harvester, potato graders (electric/engine driven mobile unit), Trash mulch, Trash shredder, Sugarcane ratoon management devices, Tractor mounted sprayers, Fertilizer applicator for sugarcane etc.**

The logo of the Agricultural Machinery Manufacturers' Association (AMMA-India) is located in the top left corner. It features a circular emblem with a gear-like border. Inside the circle, there is a map of India with the text 'AMMA INDIA' below it. The words 'AGRICULTURAL MACHINERY MANUFACTURERS' ASSOCIATION' are written around the top inner edge of the circle.

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THANKS