

BACKGROUND INFORMATION for 5th TC and

Expert Group Meeting

(Oct. 14-16th, Los Baños, the Philippines)

- **Status of Agriculture and Agriculture Mechanization Development**

The promotion of farm mechanization in Asia has brought about the rapid change in its agricultural sector. Asia has become a big player in the world arena of agricultural machinery manufacture. According to FAO, 30.48% of the tractors sold worldwide in 2004 were produced in Asia, with India topping the list. India supplied as much as one third of all farm tractors in the world. The total power availability of this country to farm lands increased from 0.295kw/ha in 1991 to 1.231kw/ha in 2001, with an annual increase of 41.7%. China ranked second in this regard. This development momentum is expected to accrue even more growth potential in the future.

Mechanization has exerted revolutionary impact on the development of agriculture. In the Asia-Pacific region, there is a huge gap in the application of agricultural machinery due to different levels of development, lack of technology transfer and various testing standards and procedures. On the one hand, agriculture machinery contributes to increased agricultural production; on the other hand, it can pollute the environment and pose a safety hazard. While making important contribution to the development of rural economy of Asia and the Pacific, agricultural mechanization is still in its infancy in most developing countries compared with the industrialized nations.

- **Status of Agriculture Machinery Industry**

The agricultural machinery in Asia and the Pacific is characterized by diverse types, testing standards and facilities, as a result of huge difference in topography, scale of farming and different level of economic development across the region. In some Asian developing countries, local manufacturers are still in the “cut and weld” level of manufacturing technology. The implementation of farm machinery standards remains on a voluntary basis. Low or substandard machines continue to be peddled in the market while some machines are not suitable to the farming conditions of the users. At the same time, farm machines are beyond the reach of most farmers owing to high acquisition and maintenance costs.

- **Agriculture Machinery and Safety**

Agriculture is one of the most hazardous occupations worldwide. In several Asia-Pacific countries, the fatal accident rate in agriculture doubles the average for all other industries. Agricultural machinery safety needs to be addressed across the region.

Region-wide safety standards and guidelines on the production and operation of agricultural machines are imperative. At the same time, most of the agricultural machinery in the region is energy-intensive.

- **Agriculture Machinery and Sustainable Environment**

Agriculture machinery has to take into consideration issues like how to minimize effect on environment for sustainable agricultural development. Energy efficient machinery contributes to environmental protection and is cost-effective. To effectively promote the application of energy-efficient and safe agricultural machinery requires concerted efforts across the region to adopt a holistic approach, from capacity building through transfer of agri-technology to training of operators and mechanics, from experience-sharing and needs assessment study to development of common testing procedures and safety standards.

- **Agriculture Machinery Standards and Testing**

Testing stations across the region are equipped with various kinds of facilities to assess and evaluate the performance of agricultural machines. Duplication of testing facilities in the region has resulted in tremendous waste of labour and equipments while in some other developing countries the establishment of such a system still remains a problem. The lack of information and knowledge sharing in this area has hampered not only the distribution of agricultural machinery, but also its improvement to meet the requirements of global standards. The lack of regional testing standards that are in compliance with prescribed safety and environment standards has also created safety and environmental problems.

- **Regional Agriculture Machinery Testing Network**

To promote the application of green agricultural machinery and enhance their safety standards is key to the development of sustainable agriculture, a challenge that most developing countries in the region need to address. In this regard, promoting a synergy in the Asia-Pacific region in the application of uniform testing procedures and safety standards of agricultural machinery was voiced by member countries.

Establishing a regional network for testing agricultural machinery, Asia-Pacific Network for Testing Agricultural Machinery (ANTAM), will form a synergy among national agricultural machinery testing agencies and institutes of member countries of ESCAP for efficient use of agricultural machinery and promotion of green agricultural technology. By adopting common regional standards for farm machinery specifications and their performance, and through mutual recognition of codes and procedures, ANTAM will help enhance quality, safety and environmental efficiency of agricultural machinery, and promote trade of agricultural machinery in the region through adoption of region-wide unified standards and procedures. ANTAM will also avoid duplication of work and reduce the costs by making better use of test rigs and

test implements in countries across the region, and to provide technical inputs and independent information/better service to farmers and small-scale dealers.

The case of the European Network for Testing of Agricultural Machines (ENTAM) serves as a good reference. ENTAM is a network among the official testing stations belonging to European countries that have signed an Agreement providing common activities with the aim of establishing and recognizing tests carried out on performance, safety and environmental aspects of agricultural machinery and implements. The purpose of ENTAM is to promote the cooperation of its members to optimize activities, to avoid duplication of work and costs by testing machinery in different countries, to obtain more neutral test results, to make better use of test rigs and test implements by testing only certain machinery at certain designated testing stations, and to provide independent information/better service to manufacturers, farmers and dealers. The tests are conducted based on recognized national, European or international standards or common agreements (or methodologies). As a result, the existing test facilities are used more effectively. Duplicate activities are cut down with an improved cost situation. Environmental concerns are reduced.