

CONCLUSIONS AND RECOMMENDATIONS

E. Gasparetto, President
Club of Bologna
12 November 2004

1. Presidency and Management Committee

After the 14th Meeting of the Full Members of the Club of Bologna in 2003, the President of the Club Prof. Giuseppe Pellizzi resigned from his charge.

Before the 15th Meeting of the Full Members in 2004, the Management Committee (MC):

- confirmed the two new members of the MC, who were designated in 2003: Prof. El Houssine Bartali, replacing Prof. Ali M. El Hossary; Mr. Yoshisuke Kishida, replacing Prof. Osamu Kitani;
- elected four new MC members: Mr. Jacques Dehollain, Secretary General of CEMA (European Agricultural Machinery Manufacturers); Prof. Ettore Gasparetto, University of Milan (Italy); Prof. Luis Márquez, Universidad Politécnica of Madrid (Spain); Prof. Axel Munack, integrating the German FAL and acting President of CIGR (2003/04);
- unanimously voted the updated Club of Bologna Internal Rules.

After the 15th Meeting of the Full Members, the Management Committee unanimously ratified the new President of the Club, appointed by UNACOMA, Prof. Ettore Gasparetto.

Both the Full Members' Meeting and the Management Committee expressed their gratitude to Prof. Giuseppe Pellizzi for his long activity as President of the Club of Bologna.

2. Conclusions and Recommendations

36 experts from 16 countries took part in the 15th Club of Bologna meeting, held on 12 and 13 November 2004 within the XXXV EIMA Show, under the aegis of CIGR and with the sponsorship of UNACOMA.

There were three topics under discussion, of which the first was **“China Agricultural Machinery and Mechanisation”** with contributions by a guest, Prof. Yuan Jiaping, **“Actual State of China’s Agricultural Machinery Industry and Prospects for International Cooperation”** and by a Club member, Prof. Li Shujun **“Agricultural Mechanisation Promotion in China – Current Situation and Future”**.

The second topic was **“Cost Benefits of the Platform Principles for the Tractors and other Agricultural Machinery”**, with a keynote paper by Dr. Giuseppe Gavioli, representing the CNH tractor and equipment manufacturer.

The third topic was **“EU (European Union) Enlargement and its Influence on Agriculture and Mechanisation”**, with a keynote report by Prof. Andrea Segrè of the University of Bologna.

Conclusions

1. **China Agricultural Machinery and Mechanisation.** The first paper, pointing to the present state of Chinese agricultural machinery industry and to the prospects for international cooperation, focused on the industrial side of the problem, was presented by Prof. Yuan Jiaping, former Vice-President of the CAAMS (Chinese Academy of Agricultural Mechanisation Sciences). After a period of self-development in the field of agricultural machinery, China began to cooperate with foreign manufacturers and now foreign-funded machinery ventures are an important part of China's agricultural machinery industry.

As a result of both autonomous development and of collaboration with outside manufacturers, the output of tractors and agricultural machinery increased, putting China's agricultural machinery industry among the top world entities, at least in produced units. Anyway the highest percentage of agricultural machinery is produced in private units, followed by state-owned manufacturers, while the foreign funded enterprises represent a small percentage (5-6%).

Following the economic liberalisation, both imports and exports increased repeatedly in the last years. Up to almost 20 projects of introduction of foreign manufacturing technologies for farm machinery have been signed or are at present under study.

The second paper was presented by Prof. Li Shujun, present Vice-President of CAAMS. Prof. Li carried out a study on the current situation and the future of the agricultural mechanisation promotion in China. With 8 % of the world's farmland, China's agriculture is able to sustain 23 % of the world's population. The total output of national agricultural products reached the first place in the world and the ancient long-term shortage of food changed into a basic balance and into a surplus in good harvest years. Of course this positive change has been the consequence – among other factors – of the agricultural mechanisation development. Nevertheless, the agricultural machinery utilisation in China is still in its elementary stage with a great market and development potential; there is a big difference between a more developed East China in contrast to a West with less favourable conditions. Anyway agricultural machinery industry in China entered into a fast development: the output and sales value are increasing by 20 % per year in the last period.

2. **Cost Benefits of the Platform Principles for the Tractor and other Agricultural Machinery.**

The presentation by Dr. Giuseppe Gavioli pointed out at the world's steady or decreasing volumes of demand for agricultural tractors and machinery, together with the necessity to increase the number of models, the machine power capacity and automation. At the same time there is a strong demand for less pollution, more safety and an increased demand for services.

To reduce or to keep constant the cost it is necessary to balance the higher product differentiation with an advanced component standardisation. In addition the following measures are pointed out: develop/expand product families; develop global products; globalise the supplier base; carefully plan the product development, to optimise investments.

Among the agricultural machines the tractor is the most important item, both in agriculture and in the agricultural machinery industry. As a consequence a special interest shall be applied to its development, which must consider not only off-road working but also public traffic regulations.

3. **EU Enlargement and its Influence on Agriculture and Mechanisation.** The presentation by Prof. Andrea Segrè carried out an exam of the conditions of economy, agriculture and agricultural machinery utilisation and manufacturing in 10 of the 12 countries, that have just entered, or will enter in a period of two years, the European Union. The two island countries – Cyprus and Malta –

were not taken into account, because of the relatively small importance of their surface and – overall – of the agriculture in their economic context.

Generally speaking, fragmentation of farm structure is common in these ten countries, with an exception for Czech Republic, Slovakia and Hungary. The level of farm mechanisation is usually low. Access to new agricultural machinery is limited since farms in general do not own sufficient capital for machinery renewal and a high percentage of manpower is still employed in agriculture. Although Western European and other developed countries' products have already appeared, the machinery market is still dominated by local production and by imports from Eastern Europe. This trend is, however, likely to change due to the necessity to improve the structures for national agricultural mechanisation and to meet the environmental requirements regarding engine emissions, ergonomics and safety posed by the EU.

The entry of these 8 new countries (and of other two in a couple of years) will significantly influence the agricultural machinery market due, on one hand, to the higher importance of the agricultural sector and, on the other hand, to the current generally obsolete and inefficient machinery stock available.

Recommendations

Topic 1

- **Having noted** that the successful modernisation and mechanisation of Chinese agriculture is the most important issue in the 21st century for all the world, because of its big population and surface;

- **Having recognised** that Chinese Government policy and laws strongly influenced the trend to agricultural mechanisation, such that agricultural mechanisation in China may be regarded more as a consequence of the rural development than as a catalyst to it;

- **Having noted** that both the Chinese policy of granting more privately owned equipment and the new law for the promotion of agricultural mechanisation will lead to an increase in larger scale equipment;

- **Having recognised** that China offers a big market with large potential for foreign investors and that the political climate for private investment by farmers seems to be very favourable in the moment;

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- **Recommend** that an increased promotion of international cooperation is essential to further improve the already favourable conditions of Chinese agricultural mechanisation;

- **Underline** that education will be even more important than food, energy and environment and **recommend** that the Club of Bologna should play a role to promote a more advanced education through world organisations and regional networks as well;

- **Acknowledge** that China is following a process of privatisation like in new EU countries and that a great deal of today's small farmers will be in the future part-time farmers or merge into bigger farms;

- **Recommend** that drying, processing and storing of agricultural products be considered as an important factor of improvement of Chinese agriculture and economy, as up to now these processes have been partly left behind.

Topic 2

- **Having recognised** that tractor and implement manufacturers seem to follow different development strategies and that there is a scarce relation between the updating of these fundamental branches of agricultural machinery;
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- **Underline** that there should be for the future a better exchange of information between tractor and implement manufacturers in order to improve both the multi-functionality of the tractors and a better adaptability/fitting of equipment;
- **Recommend** that new studies are needed to develop new tractor concepts for providing different sources of power and on-cab controls of the equipment, with the consideration of both the off-road working and of the circulation on public roads;
- **Confirm** that education at all levels is a fundamental factor for favouring the improvement of agricultural machinery understanding and utilisation;
- **Having noted** that the platform principle is very useful to reduce the cost of produced machinery and that, at the same time, it is necessary to develop better systems to fit each farmer requirements and an increased need for specialised machines in case of big farms or contractor operation;
- **Reassert** that an efficient service is necessary for the machinery performance improvement in all the sectors of production, stocking and distribution systems;
- **Recommend** that machinery producers should combine standardisation and common platforms with innovations and advanced technologies from research institutes
- **Recognise** that the image and perception of agricultural machinery should be changed from “biological production” to “biological systems”, including humans, animals and plants, to attract young people;
- **Recommend** the establishment of incentives to promote innovations within the platform production lines and the cooperation between industry and research;
- **Recommend** that the machine manufacturers should more strictly contact the farmers and other interested sectors, in such a manner to remain competitive.

Topic 3

- **Having recognised** the fragmentation of farm structure in most of the new members of EU;
- **Having noted** that an easier access to the EU markets after enlargement is seen as an opportunity and that, at the same time, the possibility of increased competition in domestic markets is a threat;
- **Having noted** that demand for agricultural machinery will develop in conformity to the application of the EU rural development policy;
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- **Underline** that the purchase of agricultural machinery is expected to become increasingly dependent on real productive necessity since financial resources will be different;
- **Recognise** that mechanisation will be in a position to develop, provided that the machines respond to the requirements imposed by the new approach and provided that incentives are given to process rationalisation, manpower qualification and environmental compatibility;
- **Recognise** that machinery has to change, due to increased labour cost and to allow the use of renewable energies;
- **Recommend** that the European Union supports the agricultural mechanisation in the new member countries;
- **Recommend** that a special consideration is given to the mechanisation of the small farms, to solve social problems and that part-time farming is considered as an important point;

- **Recommend** that economic and technological conditions in the extended European Union are considered to promote a financing credit structure;
- **Recommend** that the existing agricultural machinery manufacturers are considered for a different production in the different economic systems, changing their line into spare parts and/or other industrial items.