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Can Private Sector R&D Feed the Poor?

BIOGRAPHICAL NOTE AND ABSTRACT FOR

Dr Jeff Tullberg



Jeff Tullberg is an agricultural engineer with broad experience in research, teaching and consulting on the technical and economic aspects of farm machinery management. He has led a number of projects on machinery impacts on soil, cropping systems and the environment, including 10 years of ACIAR-funded cooperative research between University of Queensland and China Agricultural University on conservation agriculture. His recent publications have been concerned with the effects of heavy wheel traffic on the productivity, sustainability and emission effects of mechanised farming systems

Agricultural Machinery – Problems and Potential

The mechanisation of agriculture is an essential feature of human development from semi-feudal subsistence to a more numerous, prosperous, and largely urban society. This idea has motivated national governments and aid programs to accelerate the mechanisation process in developing nations, but the results have been generally disappointing. A combination of technical, economic, social (and very human) factors have often combined to produce little long-term adoption of either purpose- designed ‘appropriate’ farm equipment, (e.g. animal-drawn wheeled tool carriers), or shipments of small tractors. The absence of local champions and involvement is a common ingredient of these expensive failures. This has not been a common problem in the Australian-based programs of ACIAR and IRRI, which are generally smaller, and have usually targeted production or sustainability problems. rather than mechanisation per se. They also involved local farmers, scientists and manufacturers in the development process, and continued over a number of years, allowing the development of mutual trust between the individuals. Successful examples have been concerned with seeding equipment required for conservation agriculture in China and the Indo-Gangetic plain, and laser levelling in Vietnam and NW India. Significant (local) commercial engagement has also been an important feature of success stories like that of conservation agriculture adoption in South America. This has been ascribed to the happy coincidence of rapid mechanisation with consistent positive messages on economics, sustainability and practicability, in the absence of contrary messages or an ingrained tradition of tillage. It is important that the developing world does not blindly follow the Western trajectory of using ever- bigger tractors to disturb and compact soil deeper, while reducing energy, water and fertiliser use efficiency. It can be difficult to convince the Chinese subsistence farmer of the value of conservation agriculture when the popular television image of Western agriculture is still a large tractor doing tillage. We must be seen to follow our own prescriptions.

1899. Myrsotis Alshengsi L.

Gemeiner Sudenkirsche.