

Closing Remarks

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Ladies and Gentlemen, Distinguished Guests and Participants,

At the end of the Symposium on "Technology for Double Cropping of Rice in the Tropics", I would like to express my gratitude to all the participants, in particular to those who came from overseas, for contributing so significantly to the success of the symposium.

It had been generally considered that the benefits derived from rice double cropping, namely the large increase in rice production and in the income of the rural communities would far outweigh the heavy investment required for the establishment of the infrastructure necessary for setting up irrigation and other facilities. For these reasons each country was keen in implementing rice double cropping projects and the area devoted to this type of culture increased considerably.

The Tropical Agriculture Research Center had realized long in advance the potential and importance of the promotion of rice double cropping in the tropical zone. Therefore, in the later part of the sixties, collaborative research was initiated with the Muda Agricultural Development Authority (MADA) in Malaysia to promote rice double cropping in the Muda area. The results stemming from this joint undertaking have undoubtedly contributed significantly to the development of agriculture in the Muda area.

In this regard, the present symposium is particularly timely as it gave the opportunity to the delegates of several countries and international organizations to exchange valuable information on the implementation of rice double cropping projects in their respective countries and regions.

Also various technical reports outlined achievements covering many years of research for the development of techniques for land improvement, establishment of irrigation and drainage facilities, farm mechanization and management, plant breeding and agronomy.

At the same time, however, in most of the reports it appeared that there are numerous constraints on the successful implementation of rice double cropping in the tropics. The factors responsible for this situation are extremely complex and diverse. They include the increase in the incidence of pests and diseases, occurrence of drought, water shortage, inadequate drainage, flooding, weed infestation, damage associated with high and low temperature, soil problems, salinity, high cost of production, difficulty in the transfer of technology, etc.

In addition, in many reports it was indicated that the solution of these problems which are often inter-related requires a systematic and multi-disciplinary approach on a long term basis to develop water resources, set up the necessary infrastructure, breed suitable varieties, design farming systems and upgrade technical assistance.

Indeed, if Japan, where only one crop of rice is grown in a year, presently enjoys such high yields, and stable production of rice, it is because the country was able to remove similar constraints, essentially through the establishment of a sophisticated field infrastructure, continuous improvement and dissemination of rice varieties and methods of cultivation, development of systems to forecast outbreaks of pests and diseases and high inputs of

agricultural chemicals such as fertilizers, pesticides and weedicides, etc.

Tomorrow, as you may know, you will observe the Kakurai Project which will give you the opportunity of becoming acquainted with the present situation of rice cultivation in Japan. At the same time, you will unfortunately realize that the high cost of operation and production associated with the adoption of such a high level of technology is not always compatible with the conditions prevailing in the developing countries where rice prices are comparatively low. In future, it will thus be necessary for each country to develop its own form of technology suited to the specific requirements of the country.

I believe that the exchange of information on the situation of rice double cropping in the respective countries and regions as well as the discussions on the main constraints on the promotion of rice double cropping will certainly contribute to the development of techniques for the establishment of production systems suitable for the implementation of rice double cropping in the tropics.

I am also convinced that this symposium will be the starting point of fruitful exchanges of research information and collaborative research.

Once more, I should like to thank all the participants for their interesting presentations and for their active role in the discussions which took place during the symposium.

Thank you