Kazuo N. Watanabe

Kazuo N Watanabe is a research professor at Gene Research Center & Graduate School for Life and Environmental Sciences, University of Tsukuba, Japan

The research interests at the University of Tsukuba are:

1) Molecular genetic and cytogenetic studies for conservation and for genetic diversity of underutilized species emphasizing crop species in developing countries
2) Production of transgenic plants and environmental biosafety assessment of transgenic plants with respect to the biological / genetic diversity
3) Sustainable germplasm enhancement of the genetic resources with biotechnology applications emphasizing polysomic polyploid species
4) Multidisciplinary studies associated with access and benefit sharing on genetic resources, biosafety and bioethics with emphasis on socio-economic and development aspects.

Specific commodities of interest in biological research are root and tuber crops such as potatoes (*Solanum tuberosum*) and sweetpotatoes (*Ipomoea batatas*): The activities are strongly linked with Bioversity International (Formerly IPGRI), Rome, Italy and other relevant international agricultural research centers such under Consultative Group on International Agricultural Research (CGIAR).

I have been working on various aspects of Convention of Biological Diversity, and the major components of the interest on CBD are on biosafety, access and benefit sharing and sustainable uses of biological resources. Particular category is on agro-biodiversity. Since I have been working with International Plant Genetic Resources Institute (Now Bioversity Internationa) as an Honorary Research Fellow and with Department of Plant Breeding at Cornell University as an adjunct faculty, my interest is international and multi-disciplinary activities on the conservation and use of plant genetic resources for food and agriculture

including biotechnology applications for sustainable development. By feeding back the knowledge and experiences on natural sciences and technology to the socio-economic and political sciences, I would like to make an integrated view on how the natural resources and modern science and technology could lead to sustainable development for food security, poverty alleviation, and regional and world peace.

Case studies of the following categories were emphasized with biodiplomacy team at Institute of Advanced Studies (IAS) of United Nations University:

1) Setting recommendations on policy and regulatory guidelines / laws, and pitfall analyses for implementing biosafety rules under the Cartagena Protocol on Biosafety for the Convention of Biological Diversity

2) Intellectual property right associated with agri-biotechnology and genetic resources

3) Access and benefit sharing of biological resources, emphasizing plant genetic resources for food and agriculture

4) Proprietary agri-biotechnology transfer to developing countries for small-scale industrialization

5) Public awareness and bioethics on agri-biotechnology applications to development

At Cornell University, besides various collaborative arrangements with the faculty members on international agriculture, I offer a short module class on plant cytogenetics laboratory since 1992. My host is Department of Plant Breeding and potato and other Solanaceae species are major interest as commodities on their genetics and genetic diversity studies as well as overall international agriculture development.

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