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Plant Genetic Resources in Vietnam: Current Situation of Conservation and Utilisation

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Abstract

Vietnam, a country in Southeast Asia with an enormous richness in genetic resources, counts about 12,000 plant species, and more than 19 percent of them have been used in daily life of the inhabitants. Nevertheless, the various resources are seriously extinct or threatened by climate change and human activities. Therefore, it is very important to find appropriate methods for conservation of the indigenous plants and landraces. *In situ* and *ex situ* are two main methods used for conserving national plant genetic resources in Vietnam. With the support of local (ASEAN) and global (FAO) organisations, Vietnam had established more than 2.4 million hectares in order to protect valuable biological resources. Among that, 43.4% are national parks, more than 49.3% are natural conservation areas, and the rest are cultural historical environment sites. On-farm conservation is practised in the plant genetic resources centres of Vietnam with fruit trees, root crops, vegetable crops, ornamental crops, medicinal herbs, and forage plants. *Ex situ* conservation method are highly investigated for seven main groups as crop grains, fruit crops, annual and perennial industrial crops, vegetables, ornamental crops and forage plants. In a network of 13 Vietnamese plant genebanks, 9,408 accessions are conserved. 15,760 accessions are stored in seedbanks with medium-term condition, and 152 accessions are conserved for recalcitrant food crops in an *in vitro* bank. Research and utilisation of plant genetic resources are also applied. 7.057 accessions are accessed for quantitative and qualitative traits. 1.093 accessions of 18 genera are used as breeding materials in national breeding programs; some new promising cultivars have been released and used in agricultural production.

Keywords: Conservation, *ex situ*, genetic resources, *in situ*, indigenous