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PRESENT NEEDS AND COMPLEMENTARY STRATEGY FOR CONSERVATION OF PALMYRAH (*BORASSUS FLABELLIFER)* GERMPLASM IN SRI LANKA

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Conservation of palmyrah palm genetic resources has become an important issue in the development of palmyrah sector. The conservation of palmyrah palm varieties in their original habitats is considered one of the important aspects for maintenance of its genetic resources. Otherwise, several field gene banks, involved in collecting propagation materials and growing them in specific locations have been established for base and active collections. The main disadvantages of the two methods are pests, diseases, natural disasters and vandalism. The conventional method used to conserve genetic resources of palmyrah palm has been supplemented in recent years by rapid developments in plant biotechnology. *In vitro* techniques developed for storage of palmyrah palm plant materials can be categorized into two types: (1) slow growth procedures, where germplasm accessions are kept as sterile plant tissues or plantlets on nutrient gels; and (2) cryopreservation where plant material is stored in liquid nitrogen. Slow growth procedures provide short- and medium-term storage options, while cryopreservation enables long-term storage of the plant material. As the progress in biotechnology, DNA storage is regarded as one of the emerging *ex-situ* techniques for germplasm conservation. DNA bank is a particular type of plant genetic resource bank that preserves and distributes the DNA molecules and provides associated information. Increased application of molecular tools are further facilitating the use of such germplasm in palmyrah palm breeding efforts and add new value to the existing collections. All the conservation approaches and methods mentioned above have advantages and disadvantages and a complementary approach to safely conserve the genetic diversity of palmyah palm is strongly recommended. A complementary strategy for conservation of palmyrah palm genetic diversity should employ a combination of methods including nature reserves, gene banks, and others, as no single method can conserve all the diversity. In this respect, three items are necessary to initiate such strategy: 1) strengthening national conservation programmes; 2) contributing to international collaboration and 3) improving methodologies and technologies for conservation.