

ANIMAL GENETIC RESOURCES CONSERVATION THROUGH CRYOBANKING IN THE PHILIPPINES: MANAGEMENT INITIATIVES AND FUTURE DIRECTIONS

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Introduction

Buffaloes, cattles, and caprines play a significant role in maintaining the livestock genetic diversity of an ecosystem. Cryobanking or commonly known as gene banking has been utilized worldwide and serves as a mechanism for conserving animal genetic resources (AnGR).

Materials and Methods

In the Philippines cryobanking settings, management initiatives consist of various components such as information dissemination, collection of AnGR for processing of samples (e.g. species identification, cryopreservation, test of infectious diseases), databank, and utilization. The collection of AnGR was of two types, reproductive cells and non-reproductive cells.

Results and Discussion

Samples collected and stored covering the years 2012-2017 provides the following outlook: total collection and cryopreservation of 304,934 units of semen was particularly from 88.4% buffaloes, 11.2% cattle, and 0.4% caprine. These were reserved genetic materials from improved breeds for meat, milk, and draft. Also, non-reproductive cells from blood and DNA were mainly from swamp buffaloes for genetic diversity study for conservation management. Future directions of the Cryobank features its role in management where it involves up to the gene banking of genetic materials from diverse indigenous species and introduced breeds in the country. This unit will also continue to pursue advancement in structured databank, duplication of stored genetic resources from within the country and even those coming from overseas, establishment of screening protocols for infectious and genetic defects, and assist in the establishment of legal policies, rules, and regulations related to cryobanking activities. The effects of changing environment that threaten the lives and genetic diversity of livestock are also being given utmost considerations.