



Quick guide to the Aichi Biodiversity Targets Genetic diversity maintained

By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

The genetic diversity of cultivated plants and farmed or domesticated animals and of wild relatives is in decline as is the genetic diversity of other socio-economically and culturally valuable species. The genetic diversity which remains needs to be maintained and strategies need to be developed and implemented to minimize the current erosion of genetic diversity, particularly as it offers options for increasing the resilience of agricultural systems and for adaptation to changing conditions (including the escalating impacts of climate change).

Explanation of the Target

This target relates to the genetic diversity of three different categories of species:

- **Cultivated plants and farmed and domesticated animals** - Species which have been selected, domesticated and reproduced by human societies for their produce and/or certain traits.
- **Wild relatives** - Species closely related to current breeds and varieties and that survive in the wild. They are potential sources of genetic material which could be used to develop new breeds or varieties.
- **Other socio-economically as well as culturally valuable species** - Species which are not necessarily important for agriculture but which are particularly important for socio-economic or cultural reasons and are therefore crucial to human wellbeing. They include species used in traditional medicines, non timber forest products and local land races.

The overall purpose of this target is to:

- **Maintain** and **safeguard** genetic diversity through the development and application of strategies which allow for the different genetic characteristics of a species to continue to exist over time. This would include both in situ and ex situ actions.
- Minimize **genetic erosion** which occurs when genes are lost from a gene pool. Species with small populations (gene pools) or with isolated populations are particularly at risk for genetic erosion.

Implications for setting national targets

The genetic diversity of cultivated and farmed species, their wild relatives and other socio-economically important species, is declining, but the extent of this decline and its overall impacts are not well understood. Significant progress has been made in the ex situ conservation of crops, that is the collection of seeds from different genetic varieties for cataloguing and storage for possible future use. However there has been less progress with in situ conservation, including through continued cultivation on farms, which allows for ongoing adaptation to changing conditions (such as climate change) and agricultural practices. As such this target implies a need for continued efforts to conserve genetic diversity through ex situ techniques with greater attention to maintaining and safeguarding genetic diversity in situ.

Guiding questions for setting national targets

- **What species of cultivated plants and farmed and domesticated animals are in the country? What wild relatives are in the country? What socio-economically as well as culturally valuable species are in the country?** Which are nationally, regionally or globally important? Which are being maintained in situ? Which have had their genetic diversity maintained ex situ? What species require management plans?



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- **What plans or strategies are in place to maintain the genetic diversity in situ and ex situ?** How effective have these been? How could their effectiveness be improved? Could traditional plant and animal breeders be involved? What gene or seed banks exist in the country or the region? Could efforts be joined with any international processes?
- **What are the opportunities and constraints in maintaining genetic diversity?** Consider potential ecological, economic, and social costs and benefits in maintaining genetic diversity. How may these justify higher or lower figures for a national target than for the global target?
- **Who are the stakeholders that may be affected by efforts to maintain genetic diversity?** How can they be involved and their needs addressed? What are the trade-offs to consider?
- **What additional resources (financial, institutional, human and technical) will be required to reach the national target that is set?** How can additional funds be raised? What are possible funding sources?

Note that, given the particular national circumstances, national targets may be more specific and more precise than the global target. Further national targets should be ambitious but realistic and be supportive of the Strategic Plan by moving beyond business as usual.

Actions and milestones

The programme of work on agricultural biodiversity, the Global Strategy for Plan Conservation as well as the Food and Agriculture Organization's (FAO) Global Plan of Action for the conservation and sustainable use of plant genetic resources for food and agriculture, the FAO Global Plan of Action for animal genetic resources and the International Initiative on Biodiversity for Food and Nutrition provide guidance on the types of actions which can be taken to reach this target. Both in situ and ex situ conservation of wild relatives of crop plants and other socio economically valuable species, as well as selected wild species of plants and animals, should be improved inside and outside protected areas. Additional measures are also required to protect the genetic diversity of other species of social and economic importance, including medicinal plants, non-timber forest products, local landraces (varieties adapted over time to particular conditions) and the wild relatives of crops. Traditional plant and animal breeders as well as the curators of ex situ collection can play an important role in making progress towards this target. Once operational, the Nagoya Protocol may offer further avenues to reach this target.

Possible indicators

- Trends in genetic diversity of cultivated plants, and farmed and domesticated animals and their wild relatives
- Trends in genetic diversity of selected species
- Trends in number of effective policy mechanisms implemented to reduce genetic erosion and safeguard genetic diversity related to plant and animal genetic resources

Resources

- Programme of work on agricultural biodiversity - www.cbd.int/agro/
- Global Strategy for Plan Conservation - www.cbd.int/gspc/
- The Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture - www.fao.org/agriculture/crops/core-themes/theme/seeds-pgr/gpa/en/
- Global Plan of Action for Animal Genetic Resources and the Interlaken Declaration - www.fao.org/docrep/010/a1404e/a1404e00.htm

