# Info Note



# Mainstreaming Agricultural Biological Diversity across sectors through NBSAPs

Missing Links to Climate Change Adaptation, Dietary Diversity and the Plant

# Treaty

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#### **DECEMBER 2016**

#### Key messages

- While most of the 119 reviewed NBSAPs make general reference to Aichi Biodiversity Targets 7 and 13, only 30 per cent actually include details of concrete actions for agrobiodiversity conservation and sustainable use.
- Very few of the reviewed NBSAPs include explicit plans to use genetic resources for food and agriculture (GRFA), for climate change adaptation or for diversified diets and improved nutrition.
- Furthermore, very few NBSAPs include plans for the implementation of the International Treaty on Plant Genetic Resources (ITPGRFA) which provides a framework for the conservation and sustainable use of plant genetic diversity, for accessing plant genetic resources and equitably sharing benefits associated with their use.
- The authors urge the COP to recommend that Parties consider, in future NBSAPs, how agricultural biological diversity can be mainstreamed in their climate change adaption, and food security and nutrition action plans.

# Introduction

The tenth Meeting of the Conference of the Parties (COP-10) to the Convention on Biological Diversity (CBD) called upon countries to implement the Strategic Plan for Biodiversity 2011–20, including the Aichi Biodiversity Targets, and invited parties to review their national biodiversity strategies and action plans accordingly. National biodiversity strategies and action plans (NBSAPs) are a key instrument for translating the CBD into national action and for integrating biodiversity across sectors. The CBD calls for parties to 'integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies' (Article 6(b)). Mainstreaming biodiversity will be critical to the implementation of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals.

This Information Note presents a summary of an analysis of the revised NBSAPs that were submitted by 119 countries to the CBD Secretariat prior to 20 November 2016<sup>1</sup>. The study focused on how agrobiodiversity has been mainstreamed across sectors through the NBSAPs.

Most of the revised NBSAPs address this theme in the context of reporting on their plans linked to Aichi Biodiversity Target 7 (according to which, by 2020, areas under agriculture, aquaculture and forestry are to be managed sustainably, ensuring the conservation of biodiversity) and Target 13 (according to which, by 2020, the genetic diversity of cultivated plants, farmed and domesticated animals and wild relatives, including other socio-economically as well as culturally valuable species, are to be maintained, and strategies are to be developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity). It is for this reason that this Information Note is divided into sections corresponding to these two targets.

On one hand, it is not surprising that countries have focused most of their NBSAP development on the conservation and use of biological diversity in agriculture under these two targets, since they alone explicitly mention biological diversity linked to agriculture. On the other hand, as our analysis shows, it is possible that by 'sticking too closely to the text' of these two targets, NBSAPs have not capitalized on opportunities to mainstream agrobiodiversity in other sectoral activities. In particular, they have missed opportunities to define a role for agrobiodiversity in broader development planning, poverty reduction strategies, food security and nutrition planning, and climate change adaptation planning.

The evidence of disjuncture between sectors is underscored by the fact that very recently, the United Nations Food and Agriculture Organization's Commission on Genetic Resources for Food and Agriculture endorsed two sets of guidelines to support countries integrating GRFA diversity into national nutrition and climate change policy plans.<sup>3</sup> And of course the UN FAO ITPGRFA provides a framework specifically designed for conservation and sustainable use of PGRFA. Yet these guidelines and the ITPGRFA are rarely mentioned or reflected across the 119 NBSAPs.

## Conservation strategies for genetic resources for food and agriculture (Aichi Biodiversity Target 13)

Ninety-two per cent of the NBSAPs make reference to Aichi Biodiversity Target 13, but only 32 per cent contain specific targets and actions.<sup>4</sup> Of those, Eritrea, Georgia, Nepal, Sudan and Philippines revised their NBSAPs to include specific chapters dedicated to agrobiodiversity conservation. Most European countries followed the European Union Biodiversity Strategy to 2020.<sup>5</sup> Five of the 19 European countries' NBSAPs include specific targets and actions on Aichi Biodiversity Target 13.

As highlighted in figure 1 below, the NBSAPs focus mainly on plant genetic resources for food and agriculture, followed by animal genetic resources.

Twenty-seven per cent of NBSAPs include actions for the preservation of farmers' associated traditional knowledge, innovations and practices. Twenty-two per cent of NBSAPs mention habitat and ecosystem conservation as necessary measures for agrobiodiversity conservation. Nineteen per cent of the NBSAPs mention plans to survey and inventory species.

Most countries address the conservation of GRFA through *ex situ*<sup>6</sup> and *in situ*<sup>7</sup> measures. Only a few NBSAPs include plans for on-farm conservation activities<sup>8</sup>.

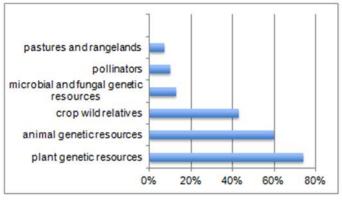


Figure 1. Biota included in scope of NBSAPs concerning conservation

**Regarding** *ex situ* **conservation** the NBSAPs include the following measures:

- New or improved facilities for *ex situ* conservation should be enhanced for plants, animals, microorganisms
- Creation of a national genetic resources institute;
- Development of information systems, including bar code systems
- Support the creation or maintenance of regional gene banks; continued support for the Svalbard Global Seed Vault
- Collection of landraces and crop wild relatives in national collections
- Reintroduction and repatriation of conserved materials
- Development of registers and databases of local plant varieties and animal breeds, including through participatory processes.
- Characterization of landraces and their use in breeding programs
- Molecular research to identify and use beneficial genes of wild relatives and traditional varieties; develop systems for identifying the locations of genes on genetic maps and analyzing the properties of genes; molecular level characterization of native breeds of livestock
- Cooperation between national and international research institutions; bilateral or multilateral crossborder conservation and sustainable use programs
- Establish a national benefit-sharing fund to support to ex situ conservation projects
- Promote private-public sector cooperation to maintain collections
- Forge linkages between national gene banks and community seed or gene banks
- Ensure that genetic material is provided expeditiously to indigenous peoples, traditional communities and family farmers

**Regarding the** *in situ* **conservation** of GRFA, most NBSAPs include activities within protected areas focussing primarily on crop wild relatives.

The Philippines NBSAP includes the declaration of sites for nationally important agricultural heritage systems. Other countries have plans to declare *in situ* conservation sites and to elaborate management plans for prioritized crops and their wild relatives. A few NBSAPs explicitly state these areas should be managed by indigenous peoples or local governments.

Plans for on-farm conservation, in the 35 NBSAPs that mention it, include the promotion of seed orchards for

breeding threatened species; development of home gardens; support for seed saver networks and community/village seed banks; enhancement of genetic diversity through the production, multiplication and diffusion of traditional varieties; increasing the distribution of seed of landraces; support of community networks in the use and exchange of local seeds; use of registers for custodian farmers; documentation of associated traditional knowledge; enhancement and encouragement of the farmers as biodiversity actors; development of collaborative research projects and participatory plant breeding; economic incentives for farmers to preserve native species or breeds: creation of value chains and markets for biodiverse products, and documentation of farmers' actions to conserve PGRFA.

Few NBSAPs include plans to integrate in situ and ex situ conservation measures. Serbia includes the establishment of on-farm conservation centres and their integration and coordination with national gene banks. Japan promotes the creation of networks for GRFA in situ conservation that includes the establishment of systematic back-up systems. Kyrgyzstan includes coordination among onfarm and nursery gardens for the conservation of agrobiodiversity.

Most of the revised NBSAPs include multiple and diverse actions on capacity building and awareness raising linked to the activities mentioned above. Some NBSAPs include plans to create red lists of threatened genetic resources important for food and agriculture, to legally demarcate geographical centres of crop origin, and to create sui generis systems of plant variety protection for traditional crop varieties.

### Mainstreaming GRFA in sustainable agriculture and across sectors (Aichi **Biodiversity Target 7)**

Approximately 31 per cent of NBSAPs include the diversification of crops and livestock as a component of sustainable agriculture. NBSAPs consider agrobiodiversity mainstreaming mainly through agrarian policies, legislation and creation of new institutional arrangements. Some European Union countries report on using agrarian subsidies to promote crop diversification or favour areas with a traditional mosaic-patterned farming in the framework of the 'greening program' of the Common Agriculture Policy<sup>9</sup>. Mainstreaming GRFA is also considered in conjunction with agrarian subsidies in other countries in Europe with programs that promote conservation agriculture, organic agriculture, agroecology and agroforestry.

Sudan explicitly mainstreams GRFA in national development plans and as part of strategies for social and economic development. Finland considers mainstreaming GRFA in relation to its rural development program. Myanmar considers mainstreaming agrobiodiversity in conjunction with land policies that support communal tenure for agrobiodiversity conservation. Philippines suggests that land planning should incorporate agrobiodiversity concerns in its comprehensive land use

plans; and Italy, Japan and Laos suggest mainstreaming agrobiodiversity be included in its rural landscape policies. Only Brazil, Nauru, Nicaragua, Sri Lanka and Tuvalu highlight mainstreaming agrobiodiversity in food and nutrition security policies and programs.

Finally, some countries' NBSAPs mention the need to mainstream agrobiodiversity under other national regulatory instruments - for example, environmental impact assessments and risk assessments certification and labelling schemes, and geographical indications and ecosystem valuation processes.

### Conclusion: the main gaps of the NBSAPs in mainstreaming agrobiodiversity

Overall, ex situ conservation, and, to a lesser extent, in situ conservation are fairly well integrated into NBSAPs (though on farm conservation gets less attention). In addition, GRFA are widely considered in the promotion of sustainable agriculture practices as an important component of agroforestry, conservation agriculture and organic agriculture. Most NBSAPs emphasize the urgent need to confront the erosion local plant and livestock genetic diversity.

Most NBSAPs do not address a range of opportunities for mainstreaming agrobiodiversity in different sectors. In this Information Note, we draw attention to three such missed opportunities.

First, very few NBSAPs consider the role and potential importance of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) as a framework for supporting the conservation and sustainable use of agrobiodiversity, and the equitable sharing of benefits. Only 10 per cent of the NBSAPs make any reference to the ITPGRFA, and only 4 per cent mention the importance of implementing the multilateral system of access and benefit-sharing, and how that needs to complement the implementation of the Nagoya Protocol.<sup>10</sup> Only two countries make reference to Farmers' Rights under the ITPGRFA<sup>11</sup>.

Second, very few NBSAPs describe plans for integrating GRFA diversity into their strategies for adapting to climate change.<sup>12</sup>

Third, few countries consider the role of varieties and breeds of plants and animals, as well as wild, neglected and underutilized species and their unique nutrient composition, in addressing food security and nutrition issues<sup>13</sup>. This is somewhat surprising given the existence of the CBD Cross Cutting Initiative on Biodiversity for Food and Nutrition and the fact that we are in the midst of both the UN Decade of Action on Nutrition and the UN Decade on Biodiversity. Just 5 per cent of NBSAPs anticipate use of underutilized crops and indigenous varieties that are relevant for food security<sup>14</sup>. However, only four NBSAPs specifically integrate and mainstream biodiversity for food and agriculture into nutrition securityrelated policies, programs and action plans.

In this regard, the authors recommend including the above mentioned issues as suggested elements for the draft decisions that will be adopted at COP-13 to the CBD and submitting them for consideration in the *Updated Compilation of Draft Decisions for the Thirteenth Meeting of the Conference of the Parties to the Convention on Biological Diversity*, Doc. UNEP/CBD/COP/13/2/Rev.1, under the Agenda's Item 10: Strategic Actions to Enhance the Implementation of the Strategic Plan for Biodiversity 2011-2020 and the Achievement of the Aichi Biodiversity Targets, including with Respect to Mainstreaming and the Integration of Biodiversity within and across Sectors and under Item 13: Cooperation with Other Conventions and International Organizations.

### Notes

<sup>1</sup>The national biodiversity strategies and action plans (NBSAPs) reviewed are from Afghanistan, Albania, Antigua and Barbuda, Armenia, Australia, Austria, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bhutan, Bosnia and Herzegovina, Botswana, Brazil, Brunei Darussalam, Burkina Faso, Burundi, Cabo Verde, Cambodia, Cameroon, Chad, China, Colombia, Comoros, Congo, Côte d'Ivoire, Cuba, Czech Republic, Democratic Republic of the Congo, Denmark, Democratic People's Republic of Korea, Dominica, Dominican Republic, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, European Union, Finland, France, Gambia, Georgia, Germany, Greece, Grenada, Guatemala, Guinea, Guinea Bissau, Guyana, Hungary, India, Iraq, Ireland, Italy, Japan, Jordan, Kyrgyzstan, Lao People's Democratic Republic, Lebanon, Liechtenstein, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Mauritania, Mexico, Mongolia, Morocco, Mozambique, Myanmar, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Niue, Norway, Peru, Philippines, Poland, Qatar, Republic of Korea, Republic of Moldova, Russian Federation, Saint Kitts and Nevis, Samoa, Senegal, Serbia, Seychelles, Slovakia, Solomon Islands, Somalia, South Africa, Spain, Sri Lanka, Sudan, Suriname, Sweden, Switzerland, Tajikistan, Timor-Leste, Togo, Tuvalu, Uganda, Ukraine, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, Uruguay, Venezuela, Vietnam, Zambia and Zimbabwe.

<sup>2</sup> Updated Compilation of Draft Decisions for the Thirteenth Meeting of the Conference of the Parties to the Convention on Biological Diversity: Annex, Generic and Specific Indicators for Assessing Progress in the Attainment of the Aichi Biodiversity Targets, Including an Assessment of Their Main Characteristics. Doc. UNEP/CBD/COP/13/2/Rev.1 (25 October 2016), which establishes indicators in relation to agricultural biological diversity related to the Aichi Biodiversity Targets. Regarding the attainment of Aichi Biodiversity Target 7 on sustainable agriculture, the indicators are: on areas of agricultural land under organic production, on areas of agricultural land under conservation agriculture; on the proportion of agricultural area under productive and sustainable agriculture (indicator for SDG Target 2.4) and on the Wild Bird Index for farmland birds / Living Planet Index (farmland specialists). For Aichi Biodiversity Target 13 on the conservation of genetic resources for food and agriculture, the following indicators are established: the number of plant and animal genetic resources for food and

agriculture secured in either medium- or long-term conservation facilities (indicator for SDG Target 2.5); the number of plant genetic resource for food and agriculture surveyed/inventoried; the percentage of plant genetic resources for food and agriculture threatened out of those surveyed/inventoried; the number of standard material transfer agreements, as communicated to the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture; the proportion of local breeds classified as being at risk, not-at-risk or unknown level of risk of extinction (indicator for SDG Target 2.5); the Red List Index (wild relatives); the Species Habitat Index (wild relatives); the Species Protection Index (wild relatives) and the level of implementation of global plan of actions on genetic resources for food and agriculture.

<sup>3</sup> FAO Commission on Genetic Resources for Food and Agriculture, Voluntary Guidelines to Support the Integration of Genetic Diversity into National Climate Change Adaptation Planning (2015),

http://www.fao.org/documents/card/en/c/290cd085-98f3-43df-99a9-250cec270867/ (accessed 27 November 2016); FAO Commission on Genetic Resources for Food and Agriculture, Voluntary Guidelines for Mainstreaming Biodiversity into Policies, Programmes and National and Regional Plans of Action on Nutrition (2016), http://www.fao.org/3/a-i5248e.pdf (accessed 27 November 2016).

<sup>4</sup> Eritrea, Georgia, Nepal, Sudan, Philippines, China, Morocco, Peru, Hungary, Sri Lanka, Italy, Uganda, Vietnam, Malaysia, Jordan and Venezuela are the countries that included more comprehensive commitments pertaining to Aichi Target 13 (in this order). Those countries providing a lower level of detail included Bangladesh, Bosnia and Herzegovina, Brazil, Burkina Faso, Cambodia, Comoros, Cote d'Ivoire, Cuba, Ethiopia, Finland, Greece, Japan, Kyrgyzstan, Lebanon, Malawi, Mexico, Myanmar, Nauru, Nicaragua, Poland, Republic of Korea and Serbia. These countries also included specific actions pertaining to the conservation and use of genetic resources for food and agriculture.

<sup>5</sup> Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, Our Life Insurance, *Our Natural Capital: An EU Biodiversity Strategy to 2020*, Doc. COM(2011)244,

http://ec.europa.eu/environment/nature/biodiversity/strate gy/index\_en.htm#stra (accessed 27 November 2016).

<sup>6</sup> China, Georgia, Greece, Hungary, Mexico, Republic of Korea, Sudan and Uganda are the countries that included more specific chapters dedicated to *ex situ* conservation.

<sup>7</sup> China, Georgia, Japan are the countries that have developed more in detail GRFA *in situ* conservation.

<sup>8</sup> Hungary, Italy, Malaysia, Morocco, Myanmar, Nepal, Nicaragua, Sudan, Peru, Philippines and Venezuela are among the countries that have developed more in detail GRFA on-farm conservation.

<sup>9</sup> Articles 43 and 44 and Annex IX of the EU Regulation 1307/2013 establishing rules for direct payments to farm-

ers under support schemes within the framework of the common agricultural policy and repealing Council Regulation (EC) No 637/2008 and Council Regulation (EC) No 73/2009, OJ L347 (20 December 2013).

<sup>10</sup> Armenia, Eritrea, Greece, Nepal and Uganda.

<sup>11</sup> Malawi and Sudan.

<sup>12</sup> This is perhaps most clearly reflected at the intergovernmental level by the adoption by UN Food and Agriculture Organization (FAO) Commission on Genetic Resources for Food and Agriculture, in April 2013, of a Programme of Work on Climate Change and Genetic Resources for Food and Agriculture and by the endorsement in 2014 of 'voluntary guidelines to support the integration of genetic diversity into national climate change adaptation planning.' See

http://www.fao.org/documents/card/en/c/290cd085-98f3-43df-99a9-250cec270867/ (accessed 27 November 2016). In this regard, the NBSAPs have not linked to international processes in the matter as reflected in FAO, *Lessons Learned about Ways and Means to Conserve and Use Genetic Diversity to Build Resilience to Climate Change in Food and Agriculture Systems – Survey Report*, Doc. CGRFA-15/15/Inf.16 (2015),

http://www.fao.org/3/a-mm501e.pdf (accessed 27 November 2016). In some cases, NBSAPs have neither complemented nor incorporated the advances made at the regional level in this regard. For example, Bioversity International, *Strategic Action Plan to Strengthen Conservation and Use of Mesoamerican Plant Genetic Resources in Adapting Agriculture to Climate Change 2014-2024* (2014), http://www.planttreaty.org/content/strategicaction-plan-strengthen-conservation-and-use-mesoamerican-plant-genetic-resources-a (accessed 27 November 2016).

<sup>13</sup>Despite the 2016 FAO Commission on Genetic Resources for Food and Agriculture's Voluntary Guidelines for Mainstreaming Biodiversity into Policies, Programmes and National and Regional Plans of Action on Nutrition and despite the previous Convention on Biological Diversity's Programme of Work on Agricultural Biological Diversity, which was endorsed by the fifth Conference of the Parties' Decision V/5, which included the Cross-cutting Initiative on Biodiversity for Food and Nutrition and incorporated as a proposal for action the mainstreaming of the conservation and sustainable use of biodiversity into agendas and programs related to nutrition and agriculture and poverty reduction, in particular, its integration into programs concerning food-based dietary guidelines, a food composition analysis and dietary assessments, relevant regulatory frameworks and legislation at the national and international levels, national plans of action for nutrition, national poverty reduction strategy papers, the right to food, food security projects and programs (household food security projects, school programs, home gardens) and emergency response and preparedness programs.

<sup>14</sup> Armenia, Cambodia, Myanmar, Philippines, Sri Lanka and Sudan.

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The authors thank Nadine Saad for her comments on an earlier version of this Information Note.

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