February 2013



منظمة الأغذية والزراعة للأمم المتحدة 联合国 粮食及 农业组织

Food and Agriculture Organization of the United Nations Organisation des Nations Unies pour I'alimentation et l'agriculture

Продовольственная и сельскохозяйственна: организация Объединенных Наций Organización de las Naciones Unidas para la Alimentación y la Agricultura

# COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

# **Item 2.2 of the Provisional Agenda**

## **Fourteenth Regular Session**

**Rome, 15 – 19 April 2013** 

# TARGETS AND INDICATORS FOR BIODIVERSITY FOR FOOD AND AGRICULTURE

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### I. INTRODUCTION

1. At its Thirteenth Regular Session, the Commission on Genetic Resources for Food and Agriculture (the Commission) considered the document *International targets and indicators for biodiversity for food and agriculture*, and welcomed FAO's work in the development and use of international indicators for biodiversity for food and agriculture as part of the Biodiversity Indicator Partnership (BIP). The Commission stressed that indicators should be policy relevant, scientifically sound, understandable, feasible to obtain and sensitive to changes. The Commission also encouraged FAO to continue to develop, test and apply biodiversity indicators, and thereby contribute to the Strategic Plan for Biodiversity 2011–2020. It also requested FAO to:

- identify or refine indicators to measure progress made in the implementation of the Global Plan of Action for Animal Genetic Resources and to continue to further develop, through regionally balanced consultations, the headline indicator of the Convention on Biological Diversity for trends in genetic diversity of domesticated animal species of major socio-economic importance, as recommended by the Commission's Working Group on Animal Genetic Resources;
- review existing indicators and identify or develop higher-order indicators, which could be in the form of an index that could enable stakeholders at all levels to effectively monitor the implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture;
- identify targets and indicators within the planned or ongoing processes of global
  assessments or action plans under the mandate of the Commission; and continue efforts to
  develop indicators and associated targets at the genetic level, to facilitate status and trends
  reporting on animal, plant, forest and aquatic genetic diversity for food and agriculture at
  regular sessions of the Commission, which could also contribute to other biodiversity
  reporting requirements; and
- consider, and advise on, how such indicators may provide a basis for countries to assess progress towards the Aichi Biodiversity Targets as relevant, in particular Target 13.<sup>3</sup>
- 2. The Commission reaffirmed that it would take a lead role in the development and use of targets and indicators for biodiversity for food and agriculture and requested its Intergovernmental Technical Working Groups to continue to review targets and indicators for genetic diversity and other aspects of biodiversity within their respective sectors, and to provide recommendations to the Commission on their further development.<sup>4</sup>
- 3. The present document takes stock of recent developments with regard to targets and indicators in other fora and of FAO's work in this field. Proposed targets and indicators for plant, animal and forest genetic resources are contained in sub-documents to this document.<sup>5</sup>

## II. DEVELOPMENTS IN INTERNATIONAL FORA

4. The Conference of the Parties (COP) to the Convention on Biological Diversity (CBD), at its eleventh meeting, requested its Executive Secretary, in collaboration with the BIP, FAO and other partners, as appropriate and subject to the availability of resources to, *inter alia*, further develop global indicators<sup>6</sup> with a view to ensuring that each Aichi Biodiversity Target can be monitored by at least one global indicator by 2014, taking into account indicators that are already in use by, or relevant

<sup>&</sup>lt;sup>1</sup> CGRFA-13/11/18.

<sup>&</sup>lt;sup>2</sup> CGRFA-13/11/Report, paragraphs 95–97.

<sup>&</sup>lt;sup>3</sup> CGRFA-13/11/Report, paragraph 98.

<sup>&</sup>lt;sup>4</sup> CGRFA-13/11/Report, paragraph 99.

<sup>&</sup>lt;sup>5</sup> CGRFA-14/13/4.1, CGRFA-14/13/4.2 and CGRFA-14/13/4.3.

<sup>&</sup>lt;sup>6</sup> COP 11 Decision XI/3, Annex.

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to, other conventions, regional agreements and processes. The COP also requested the CBD Executive Secretary to promote further collaboration on biodiversity monitoring and indicators with the forestry, agriculture, fisheries and other sectors at global, regional and national levels. The CBD COP11 further invited FAO to contribute to assessing progress towards the achievement of selected Aichi Biodiversity Targets. Aichi Biodiversity Target 13 specifically relates to genetic diversity related to food and agriculture. *Appendix I* to this document identifies Aichi Biodiversity Targets and related indicators that are of relevance to the work of the Commission. In this context, FAO is represented on the Steering Committee of BIP.

# III. FAO'S WORK ON TARGETS AND INDICATORS FOR BIODIVERSITY FOR FOOD AND AGRICULTURE

#### Plant genetic resources for food and agriculture

5. As requested by the Commission, and in line with the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture (Second GPA), FAO reviewed existing indicators and the associated reporting format with the aim of ensuring that an effective system is in place to monitor the implementation of the Second GPA. The document Targets and indicators for plant genetic resources occurred indicators for monitoring the implementation of the Second GPA, as well as draft targets for plant genetic resources for food and agriculture, as reviewed by the Commission's Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture, for consideration by the Commission. A draft reporting format for monitoring the implementation of the Second GPA is given in the document CGRFA-14/13/Inf.9.

#### Animal genetic resources for food and agriculture

6. As requested by the Commission, FAO continued to review and refine targets and indicators relevant to animal genetic resources for food and agriculture and to the implementation of the *Global Plan of Action for Animal Genetic Resources*. The Intergovernmental Technical Working Group on Animal Genetic Resources for Food and Agriculture recommended that the Commission agree to the use of the proposed process and resource indicators, and related targets, set out in the document *Targets and indicators for animal genetic resources*, to monitor the implementation and impact of the *Global Plan of Action for Animal Genetic Resources*.

#### Forest genetic resources

7. As requested by the Commission, <sup>13</sup> FAO continued to identify targets and indicators within the ongoing process leading to the preparation of *The State of the World's Forest Genetic Resources*. FAO prepared a list of indicators for trends in the genetic diversity of tree species, for consideration by the Intergovernmental Technical Working Group on Forest Genetic Resources. The Working Group welcomed the provisional list of indicators provided in the document *Targets and indicator for forest genetic resources*. The

<sup>&</sup>lt;sup>7</sup> COP 11 Decision XI/3.

<sup>&</sup>lt;sup>8</sup> COP 11 Decision XI/3.

<sup>&</sup>lt;sup>9</sup> CGRFA-13/11/Report, paragraph 98; Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture, paragraph 316.

<sup>&</sup>lt;sup>10</sup>CGRFA-14/13/4.1.

<sup>&</sup>lt;sup>11</sup> CGRFA-13/11/Report, paragraph 98.

<sup>&</sup>lt;sup>12</sup> CGRFA-14/13/4.2.

<sup>&</sup>lt;sup>13</sup> CGRFA-13/11/Report, paragraph 98.

<sup>&</sup>lt;sup>14</sup> CGRFA-14/13/4.3.

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Working Group recommended that the Commission request FAO to continue working on the provisional list of indicators to monitor the state of forest genetic resources and the status of implementation of the strategic priorities and options for follow-up to *The State of the World's Forest Genetic Resources*, taking feasibility into account, and focusing particularly on the need to develop indicators for the implementation of the strategic priorities.

## Aquatic genetic resources for food and agriculture

8. As part of the preparation of the first report on *The State of the World's Aquatic Genetic Resources for Food and Agriculture*, FAO will review and refine targets and indicators relevant to aquatic genetic resources for food and agriculture. It is suggested that in the course of the preparation of *The State of the World's Aquatic Genetic Resources for Food and Agriculture* a thematic study be prepared that addresses indicators for the state of genetic resources in fisheries and aquaculture; this study should also explore how genetic diversity measures may be integrated into aquaculture and fisheries statistics. <sup>15</sup>

#### **Biodiversity and nutrition**

- 9. Biodiversity and nutrition is monitored through two indicators, one on food composition and one on food consumption, developed by two expert consultations held in 2007 and in 2009. <sup>16</sup> The first indicator relates to nutrients and bioactive non-nutrients provided by biodiversity, while the second relates to dietary intakes of food biodiversity. The nutrition indicators for biodiversity also prove useful for promoting awareness of the importance of food biodiversity, including wild, indigenous and traditional foods, while contributing to nutritional security and the conservation and sustainable use of food biodiversity.
- 10. To date, national consumption surveys at cultivar/variety/breed level or on wild, underutilized, indigenous and traditional plant and animal foods are still very limited. Moreover, only few food composition tables and databases include compositional data for food biodiversity, i.e. related to food identified at the taxonomic level below species, and neglected/underutilized or wild species. In 2011, FAO reported on about 13 000 foods for the food composition indicator and on approximately 5 000 foods for the food consumption indicator. <sup>17</sup>

### IV. GUIDANCE SOUGHT

- 11. The Commission may wish to:
  - Welcome the progress made and encourage FAO to maintain its leading role in the development and use of international targets and indicators related to genetic resources for food and agriculture and to further strengthen cooperation with relevant institutions on these issues;
  - ii. Request FAO to:
    - continue developing, testing and applying indicators for biodiversity for food and agriculture at the genetic level, and, whenever relevant, at species and ecosystem levels;

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<sup>&</sup>lt;sup>15</sup> CGRFA-14/13/16.

<sup>&</sup>lt;sup>16</sup> FAO. 2008. Expert Consultation on Nutrition Indicators for Biodiversity 1. Food composition; FAO 2010. Expert Consultation on Nutrition Indicators for Biodiversity 2. Food consumption.

<sup>&</sup>lt;sup>17</sup> FAO. 2012. *Nutrition indicators for biodiversity. Report on progress of data availability* (available at http://www.fao.org/infoods/biodiversity/Reporting2011twoIndicators.pdf).

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 strengthen work on targets and indicators in relation to the implementation of the Strategic Plan for Biodiversity 2011-2020 and the monitoring of the Aichi Biodiversity Targets;

- c. continue with the development of a thematic study that addresses indicators for
  the state of genetic resources in fisheries and aquaculture, ensuring that this study
  also explores how genetic diversity measures may be integrated into aquaculture
  and fisheries statistics;
- d. continue updating the FAO/INFOODS Food Composition Database for Biodiversity on a regular basis and report on the food and nutrition indicators to the Commission at its Fifteenth regular session.

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# APPENDIX I

## SELECTED AICHI BIODIVERSITY TARGETS AND INDICATORS

The table below presents selected Aichi Biodiversity Targets and Headline indicators of relevance to the work of the Commission. The table has been adapted from the *Indicative list of indicators for the Strategic Plan for Biodiversity 2011–2020* presented in CBD COP Decision XI/3. (A) refers to indicators that are ready for use at the global level; (B) refers to indicators that could be used at the global level but require further development to be ready for use; (C) refers to additional indicators for consideration for use at the national or other subglobal level.

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable					
Aichi Biodiversity Target	Headline indicators (in bold)				
	and most relevant operational indicators				
<b>Target 1 -</b> By 2020, at the latest, people	Trends in awareness, attitudes and public engagement in				
are aware of the values of biodiversity	support of biological diversity and ecosystem services				
and the steps they can take to conserve					
and use it sustainably.	<ul> <li>Trends in awareness and attitudes to biodiversity (C)</li> <li>Trends in public engagement with biodiversity (C)</li> </ul>				
and use it sustainably.	Trends in public engagement with blodiversity (C)     Trends in communication programmes and actions promoting				
	social corporate responsibility (C)				
<b>Target 5</b> - By 2020, the rate of loss of	Trends in extent, condition and vulnerability of ecosystems,				
all natural habitats, including forests, is	biomes and habitats				
at least halved and where feasible	• Extinction risk trends of habitat dependent species in each major				
brought close to zero, and degradation	habitat type (A)				
and fragmentation is significantly	• Trends in extent of selected biomes, ecosystems and habitats (A)				
reduced.	(decision VII/30 and VIII/15)				
	Trends in proportion of degraded/threatened habitats (B)				
	• Trends in fragmentation of natural habitats (B) (decision VII/30				
	and VIII/15)				
	• Trends in condition and vulnerability of ecosystems (C)				
	• Trends in the proportion of natural habitats converted (C)				
	Trends in pressures from unsustainable agriculture, forestry,				
	fisheries and aquaculture				
	Trends in primary productivity (C)				
	• Trends in proportion of land affected by desertification (C) (also				
	used by UNCCD)				
	Trends in pressures from habitat conversion, pollution, invasive species, climate change, overexploitation and underlying drivers				
	<ul> <li>Population trends of habitat dependent species in each major</li> </ul>				
	habitat type (A)				
Target 6 - By 2020 all fish and	Trends in pressures from unsustainable agriculture, forestry,				
invertebrate stocks and aquatic plants are	fisheries and aquaculture				
managed and harvested sustainably,	Trends in extinction risk of target and bycatch aquatic species				
legally and applying ecosystem based	(A)				
approaches, so that overfishing is	• Trends in population of target and bycatch aquatic species (A)				
avoided, recovery plans and measures	Trends in proportion of utilized stocks outside safe biological				
are in place for all depleted species,	limits (A) (MDG indicator 7.4)				
fisheries have no significant adverse	• Trends in catch per unit effort (C)				
impacts on threatened species and	Trends in fishing effort capacity (C)				
vulnerable ecosystems and the impacts of fisheries on stocks, species and	• Trends in area, frequency, and/or intensity of destructive fishing				
ecosystems are within safe ecological	practices (C)				
limits.	Trends in integration of biodiversity, ecosystem services and				
	benefits sharing into planning, policy formulation and				
	implementation and incentives				
	• Trends in proportion of depleted target and bycatch species with				
	recovery plans (B)				

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Target 7 - By 2020 areas under	Trends in pressures from unsustainable agriculture, forestry,	
agriculture, aquaculture and forestry are	fisheries and aquaculture	
managed sustainably, ensuring	• Trends in population of forest and agriculture dependent species	
conservation of biodiversity.	in production systems (B)	
	• Trends in production per input (B)	
	Trends in proportion of products derived from sustainable	
	sources (C) (decision VII/30 and VIII/15)	
	Trends in integration of biodiversity, ecosystem services and	
	benefits sharing into planning, policy formulation and	
	implementation and incentives	
	Trends in area of forest, agricultural and aquaculture ecosystems	
	under sustainable management (B) (decision VII/30 and	
	VIII/15)	

Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity				
Aichi Biodiversity Target	Headline indicators (in bold)			
	and most relevant operational indicators			
Target 13 - By 2020, the genetic	Trends in genetic diversity of species			
diversity of cultivated plants and farmed	Trends in genetic diversity of cultivated plants, and farmed and			
and domesticated animals and of wild	domesticated animals and their wild relatives (B) (decision			
relatives, including other socio-	VII/30 and VIII/15)			
economically as well as culturally	Trends in genetic diversity of selected species (C)			
valuable species, is maintained, and	Trends in integration of biodiversity, ecosystem services and benefits sharing into planning, policy formulation and			
strategies have been developed and				
implemented for minimizing genetic	implementation and incentives			
erosion and safeguarding their genetic	Trends in number of effective policy mechanisms implemented			
diversity.	to reduce genetic erosion and safeguard genetic diversity related			
	to plant and animal genetic resources (B)			

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services				
Aichi Biodiversity Target	Headline indicators (in bold)			
	and most relevant operational indicators			
Target 14 - By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	Trends in distribution, condition and sustainability of ecosystem services for equitable human well-being  Image: []  Trends in nutritional contribution of biodiversity: Food composition (B) (decision VII/30 and VIII/15)  Trends in nutritional contribution of biodiversity: Food consumption (C) (decision VII/30 and VIII/15)  []			