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COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

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SUBMISSIONS BY FRANCE ON THE DOCUMENT *BIODIVERSITY FOR FOOD AND AGRICULTURE – REVISED DRAFT NEEDS AND POSSIBLE ACTIONS*

¹ Rescheduled from 21–23 April 2020.

Commentaires des autorités françaises sur le document *La biodiversité pour l'alimentation et l'agriculture – besoins et éventuelles mesures à prendre* tel que présenté dans l'appendice C du document CGRFA-17/19/Report (en anglais)

***General comments**

The document should clarify the meaning of the term of “**management**”, in particular its articulation with the objectives of “*conservation*” and “*sustainable use*”.

Regarding the translation into French:

- The translation of « weeds » should not be « *mauvaises herbes* » but rather **« adventices »** ;
- The translation of « drivers of changes » should not be « *moteurs de changement* » but rather **« facteurs de pression »**.

***Rationale**

§1

*Biodiversity for food and agriculture (BFA), ~~along with~~ **through** the ecosystem services it supports, is essential to sustainable food and agriculture. It is necessary to enable production systems and livelihoods to cope with and evolve under changing social, economic and environmental conditions, is a key resource in efforts to ensure food security and nutrition while limiting or reducing negative impacts on the environment, and makes multiple contributions to the well-being and livelihoods of many households.*

§7; subparagraph Key components of BFA

*GRFA are a key component of BFA. Knowledge of the characteristics, population status, breeding for sustainable use and conservation of GRFA exists – for example, of crop varieties **and populations**, livestock breeds, tree and other woody plant species, aquatic strains and species, micro-organisms and invertebrates, i.e. those directly used in the various sectors. **However, there are still data gaps on the evolution of this diversity at the farm level over time.** (...)*

*The wild foods component of BFA encompasses those that contribute to major economic sectors such as capture fisheries, and a wide range of other, mostly locally harvested, fungi, plants and animals, including invertebrates. They are important for food security and nutrition in many countries, yet are increasingly at risk of loss. Wild species harvested as sources of food are an important, but often overlooked, component of biodiversity in and around production systems. Some wild foods are relatives of domesticated species, have potential for domestication and provide a pool of genetic resources for hybridization and selection **(nevertheless, plenty of crop wild relatives could not be considered as wild foods as they are not edible).***

*Add a the following paragraph:

The ability of the different components of BFA to evolve and adapt to new environmental conditions is an important distinctive features that should be maintained and/or restored.

§7: subparagraph Assessment & monitoring

*The underdeveloped state of monitoring programmes for **BFA, especially for** associated biodiversity and wild foods means that data on their status and trends are inevitably patchy. Population surveys and proxy measures provide an indication of the status of individual categories of associated biodiversity at local, national or regional levels. Data of this kind present a mixed picture, but there are many grounds for concern about the decline of key components of associated biodiversity **and about the GRFA actually used in the current food system (the global food system rely on a very limited number of species and, within these species, a very limited number of varieties and breeds).***

§7: subparagraph Drivers of change

***BFA Associated biodiversity** and the ecosystem services it delivers are being affected, often negatively, by a range of drivers. Yet they can also serve as a source of resilience to the effects of many of these drivers and as a basis for the adaptation of production systems to current and future challenges. Drivers range from local to global in scale and from developments in technology and management practices within the food and agriculture sector to wider environmental, economic, social, cultural and political factors.*

*Add the following paragraph:

Better understanding how drivers of change impact BFA, at various scales (parcel, farm, landscape, etc.), is of paramount importance. Therefore prospective studies should be conducted in order to identify different scenarios. Concrete and direct action is yet necessary in order to tackle the drives of change that impact negatively the different components of BFA.

§7; subparagraph Legal and policy framework

*Most countries have put in place policy and legal frameworks targeting the sustainable use and conservation of biodiversity as a whole, and many have nature-protection measures in place for wild **and cultivated** biodiversity, often complemented by specific policies for specific GRFA, or they may integrate GRFA into sectoral or rural-development policies. Policies addressing the management of food and agricultural production systems are increasingly based on ecosystem, landscape and seascape approaches. However, these legal and policy frameworks often lack a specific focus on associated biodiversity or, **at a lesser extent**, wild foods. While national and international agreements are in place to reduce overexploitation of captured fish species or forests, legal and policy measures explicitly targeting other wild foods or components of associated biodiversity and their roles in supplying ecosystem services are not widely reported.*

*A number of obstacles constrain the development and implementation of effective policies addressing the sustainable use and conservation of BFA, and of associated biodiversity in particular. Implementation is sometimes hampered by a lack of human and financial resources, a lack of awareness and knowledge on the part of stakeholders, **private sector reluctance**, a lack of political will and/or governance and a lack of cooperation among relevant agencies.*

§11:

The document neither changes, nor replaces, the Commission's existing sectoral global plans of action. Instead, it complements them and creates an overall enabling framework for their consistent and coherent implementation. Also, in view of the cross-sectoral work of the Commission on access and benefit-sharing for GRFA, the document does not refer to access and benefit-sharing issues.

For the sake of clarity, these specifications should appear sooner in the document (e.g. in §5).

§18:

*With regard to BFA, especially associated biodiversity, and the regulating, **cultural** and supporting ecosystem services it underpins, the actions contained in this document aim to:*

***Priority area 1**

*In the case of domesticated plant, animal and aquatic genetic resources for food and agriculture (GRFA) – and of species that are widely harvested from the wild (e.g. forest trees and other woody plant species and species in capture fisheries) – inventories and information exist, although to varying degrees across the regions of the world and across sectors. At global level, monitoring systems for GRFA have been developed, for example the World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture (WIEWS), the Domestic Animal Diversity Information System (DAD-IS) and the FAO Worldwide Information System on Forest Genetic Resources (ReforGen). **Some of them are associated with national and/or regional monitoring systems.** (...)*

*In view of the above, there is an overall need to improve the availability of data and information. More specific needs include improving methodologies for **acquiring**, recording, storing and analysing data (including geographic information systems) on changes in the abundance and distribution of species and ecosystems and improving capacity for monitoring and assessment, for example by increasing the number of skilled taxonomists **or by adopting reporting and metadata formats enabling data aggregation.***

***Priority 1.1**

Rationale

There is a need to improve knowledge of other species of importance to food and agriculture, for example associated biodiversity providing pollination and pest and disease regulation services and wild foods, as well as entire ecosystems and habitats, building on and strengthening existing data where possible. Given the wide scope of these components of BFA and variations in the needs and capacities of countries, priority species, ecosystems or ecosystem services for assessment and monitoring need to be established at national level.

*A wide range of management practices and approaches exist that make use of various components of BFA and are thus considered to contribute to its maintenance and enhanced use. Such practices and approaches include those used at production level (e.g. conservation agriculture, pollination management, organic agriculture, **integrated soil fertility management** and integrated pest management **including biocontrol; sustainable forest***

management), mixed production systems (e.g. agroforestry, **sustainable forest management** integrated crop–livestock–aquatic systems and diversification practices in aquaculture), restoration practices, and approaches at terrestrial and aquatic ecosystem level (e.g. ecosystem approaches to fisheries and aquaculture, sustainable forest management and agroecology). However, in most cases, it is difficult to evaluate the extent to which these are being used, owing to the variety of scales, **definitions** and contexts involved and the absence of information on the application of practices. Although the impacts of BFA-focused practices on BFA are generally perceived to be positive, **for some of these**, there is clearly a need for more research and for the development of appropriate assessment methods in this regard, **based on consistent and harmonised typologies among countries. However, in several cases, the actual contribution of these practices to the maintenance and enhanced use of BFA is actually assessed and established by peer-reviewed research, based on scientific evidence (e.g. agroforestry, organic agriculture, sustainable forest management).**

1.1.2 Improve understanding of the effects of particular drivers (including climate change) on **varieties, races and** population sizes and distributions of associated biodiversity **and**, on the ecological relationships that underpin the supply of ecosystem services **and on the capacity of BFA varieties, races and populations to pursue in situ the ongoing processes of evolution and adaptation.**

1.1.6 Taking into account relevant international initiatives and existing tools and methodologies, strengthen existing and/or develop new tools, standards and protocols **(including participatory approaches)** for data collection, inventory, assessment and monitoring.

1.1.8 **At global, regional and national level,** develop tools for data collection and methodology for their analysis, knowledge management systems and methods for exchange and dissemination of BFA-related knowledge, including on its integrated management, in a participatory way.

***Priority area 2**

***Introduction**

“Areas of natural or semi-natural habitat”, “ex situ stands” and “field gene banks” should be defined.

The term “sustainable use” applied to associated biodiversity involves two main areas: (a) the management in situ of all BFA to maintain the diversity of organisms and their interactions to ensure the continued provision of ecosystem services, **maintaining their capacity to pursue the ongoing processes of evolution and adaptation** and (b) the targeted domestication and selection of species to improve the delivery of ecosystem services. It is widely acknowledged that the management of diversity, including habitats for associated biodiversity species, contributes to building resilient production systems and livelihoods, promoting food security and nutrition and sustainably intensifying food and agricultural production. With a few exceptions, selection and genetic improvement do not focus on associated biodiversity species.

Numerous management practices and approaches applied at farm, tree-stand or other production unit level, or at ecosystem, land or seascape levels, are considered to be of positive influence on the sustainable use and conservation of BFA. At the same time, the principal drivers of change at production-system level that negatively impact BFA and associated ecosystem services are related to management practices, including changes in land and water use and management, pollution and overuse of external inputs, ~~and~~ overexploitation and overharvesting of resources **and climate change**. The development, adoption and implementation of BFA-focused practices and approaches, and the mitigation and avoidance of negative ones, face several challenges. For one, while each component of BFA – from individual genes and species of plants, animals and micro-organisms to entire ecosystems – is important, it does not exist in isolation and must, therefore, be managed as part of the wider landscape or seascape. This requires, inter alia, bringing together and engaging the diverse stakeholders operating within the respective landscape or seascape. (...)

(iii) addressing specific threats such as invasive alien species, **pests and diseases** or particular unsustainable practices in agriculture, forestry, fisheries or aquaculture; ~~and~~

(iv) promoting and expanding the development, adoption and implementation of ecosystem or landscape/seascape approaches in the management of production systems **and in the management of their resilience** to ensure the supply of ecosystem services and improve livelihoods; ~~and~~

v) considering possible impacts of synthetic biology on the BFA.

In the context of BFA, in situ conservation comprises measures that promote the maintenance and continued evolution of biodiversity in and around crop, livestock, forest, aquatic and mixed production systems. Ex situ conservation comprises the conservation of components of BFA outside their normal habitats ~~in and around production systems~~. This may involve the maintenance of live organisms at sites such as botanical gardens, ex situ stands, aquaria, field gene banks, zoos or rarebreed farms, or storage of seeds, pollen or vegetative plant tissues or cryoconserved materials, such as animal semen or embryos, in genebanks. **Developing complementarity with in situ and ex situ conservation of BFA is of paramount importance.**

Priorities for the conservation of GRFA have been agreed by the Commission in the sectoral global plans of action. In general, ex situ conservation has made progress in the past decade in all sectors of GRFA, while in situ and on-farm conservation face greater challenges, including those related to economic **and regulatory** drivers.

***Priority 2.1**

2.1.2 Promote sustainable food and agricultural production practices and approaches that make use of, conserve, **enhance** and restore BFA while **improving ecosystem services and functions, supporting resilience by closing biogeochemical cycles**, improving livelihoods and supporting economic performance and environmental health.

2.1.5 Identify best management practices (including those based on traditional knowledge) that contribute to the increased sustainable use and conservation of BFA and develop guidelines and tools to facilitate their implementation, **such as the mainstreaming of ecosystem services provided by associated biodiversity within the food processing industry value chain**, as appropriate.

*Add the following paragraphs:

2.1.6. Develop complementarity with and interrelationships between in situ and ex situ conservation of BFA, including through participatory approaches.

2.1.7. Promote, develop and disseminate approaches – such as organic farming, integrated pest management, integrated soil fertility management and sustainable forest management – and practices – such as agroforestry, multicropping, intercropping, crop rotation or other agroecological practices – , whose actual contribution to the maintenance and enhanced use of BFA is actually assessed and established by peer-reviewed research, based on scientific evidence.

***Priority 2.2**

Rationale

Conservation systems for GRFA exist, albeit with regional differences in their coverage and effectiveness, and priorities for their conservation have been agreed by the Commission in the sectoral global plans of action. There are many challenges to the conservation of associated biodiversity, including a lack of adequate information on methods and strategies for both in situ and ex situ conservation **and their interrelationships**. Especially with respect to ex situ conservation, there are still biological and technical barriers to the long-term conservation of some species, for example those that cannot be cultured **or that connate be cryoconserved**. Another practical constraint is the difficulty of targeting individual associated biodiversity species for conservation programmes. In many cases, it may prove more efficient to prioritize conservation methods and approaches targeting ecosystems than those targeting individual species. **It may also prove more efficient to improve in situ conservation and to consider ex situ conservation as a safety net (as a state of BFA at a given time).** **Another issue is adapting the current ex situ collections assessment criteria to the new breeding challenges (environmental issue, agroecology, etc.).**

2.2.1 Promote the implementation of the sectoral global plans of action to improve the in situ, onfarm and ex situ conservation of the respective genetic resources, **as well as complementarity with and interrelationships between these conservation methods.**

2.2.4 Promote conservation through a combination of traditional management practices and innovative technologies, as appropriate, and improve their use for characterization, collection, storage, documentation or data management.

2.2.7 Promote multipurpose production systems managed for both sustainable use and conservation of BFA, such as **agroecology, agroforestry, multiple-use forests, aiming at synergetic approaches, such as addressing simultaneously the five main drivers of change on biodiversity loss.**

*Add the following paragraph:

2.2.8 Promote and develop geographical indications that use specific traditional, endemic or locally adapted species, varieties or breeds of plants, animals or micro-organisms.

***Priority area 3**

Introduction

*In addition to developing national planning capacity, popular awareness of the importance of BFA needs to be increased in order to promote investments in the sustainable management of BFA. In many instances to date, agriculture-sector development has focused on the promotion of intensification packages that depend on external inputs, rather than on improving management of associated biodiversity to promote the supply of regulating, **cultural** and supporting ecosystem services.*

***Priority 3.1**

*Research, education and training, at all levels, **especially in the agricultural sectors**, are widely recognized as key means of promoting the sustainable management of BFA. As described in Priority Areas 1 and 2, despite their vital contributions to food and agriculture, knowledge of the many components of BFA, ecosystem services and the impacts of drivers and management practices and approaches needs to be improved to better guide decision-making.*

*In many developing countries in particular, a lack of human capacity and financial resources is a major obstacle to developing the necessary institutions and to planning and implementing a strategic approach to managing, sustainably using and conserving BFA. For this reason, and in order to achieve these objectives, many countries will need to devote particular attention to establishing and building up relevant institutions, adopting and implementing appropriate policies and effective regulatory frameworks and building a strong and diverse skills base, including in taxonomy, **evolutionary biology, social sciences**, and through citizen science.⁴*

*3.1.2 Raise awareness at the national level of the importance of associated biodiversity and ecosystem services, and of the need for their sustainable use and conservation, among farmers, livestock keepers, fisherfolk, forest dwellers, the wider public, donors, policy-makers, the private sector, consumers, **teachers**, children and youth and the media.*

*3.1.4 Improve capacity for research on associated biodiversity and ecosystem services and encourage the formation of multidisciplinary research teams **and participatory approaches**. Promote innovative ways of building capacities, such as through the use of information and communication technologies.*

*3.1.6 Strengthen the teaching of taxonomy, **evolutionary science, sociology**, soil science, ecology, systems biology and other crosssectoral subjects relevant to BFA in universities, schools and in professional and informal education targeting various stakeholders, including citizen scientists.*

*3.1.8 Promote opportunities for ongoing training and education for farmers, fisherfolk, livestock keepers, **foresters** and forest dwellers, including via farmer field schools, producer group extension programmes or community-based organizations, to strengthen the sustainable use and management of BFA and the ecosystem services it supports.*

***Priority 3.2**

Appropriate legal and policy frameworks are essential for the effective management of BFA, but often remain underdeveloped or poorly implemented. Improving such frameworks is

challenging, particularly in view of the multiple stakeholders and interests involved and the need for provisions to keep up with emerging issues in BFA management. **However, recent IPBES assessment established that biodiversity can be conserved, restored and used sustainably while simultaneously meeting other global societal goals through urgent and concerted efforts fostering transformative change.** Laws and policies beyond the field of BFA management with indirect or unintended effects on BFA are also often overlooked. With regard to associated biodiversity and ecosystem services in particular, a lack of adequate coordination between the food and agriculture and nature conservation sectors and limited understanding of these components of biodiversity and of their significance to food and agriculture among policy-makers are major constraints to the development of adequate laws and policies.