SCENARIOS OF BIODIVERSITY AND ECOSYSTEM SERVICES - II
Proposition for a 2017 Call
(version 28th September, 2016)

From 2014 networking call to a 2017 research call

The first phase of Belmont Forum CRA Scenarios of Biodiversity and Ecosystem Services - I was launched in 2014, co-led by ANR and DFG, allowing the networking of world scientists on an important but complex issue: projecting changes in biodiversity and ecosystem services for decision-making.

As previously announced[1], the second phase of CRA is more ambitious towards a large research call joining funders from the Belmont Forum and from BiodivERsA, the European network of funders of research on biodiversity and ecosystem services, that made a pioneer Call in 2011-2012 which included this subject with 9 funded projects.

Taking stock from the four networks funded in 2014 by Belmont Forum (ANR, France; CSIRO, Australia; DFG, Germany; FAPESP, Brazil; JST, Japan; MoEs, India; NSFC, China; NRF, South Africa; RCN, Norway), a **Scoping Forum** was held in Paris by ANR and DFG, on behalf of the Belmont Forum, in cooperation with representatives of BiodivERsA and European Commission from July 6th-7th, 2016. The minutes of this Scoping Workshop are in the Annex and form the basis for the content, procedures and roadmap to launch a 2017 Call. Presentations and agenda are available here[2].

The funders that have already shown potential interest for a 2017 Call are the following[3]: AKA†, Finland; ANR*†, France; BelSPO†, Belgium; BMBF*†, Germany; DFG*†, Germany; ETAG†, Estonia; FAPESP*, Brazil; FCT†, Portugal; FM†, Hungary; FORMAS*†, Sweden; FWF†, Austria; JST*, Japan; Mfal†, Turkey; MINECO†, Spain; MoES*, India; MOST*, China-Taipei; NCN†, Poland; NRF*, South Africa; NSFC*, China; RCN*†, Norway; SAS†, Slovakia; SNSF†, Switzerland. In addition, support from the European Commission through the Work Programme 2017 of Horizon 2020 is envisaged.

Overall objectives

The aim is to promote innovative research for wiser decision by developing scenarios of biodiversity change and its associated ecosystem services, resulting from the complex interaction of socio-economic changes and global environmental changes. It targets a foresight view up to the next 50 years for management of biodiversity that would benefit people, via ecosystem services that contribute to human well-being and social equity or via conservation of biodiversity for next generations. This CRA is contributing to global research programs (e.g. Future Earth), assessment bodies (e.g. IPCC, IPBES), and multi-lateral environmental agreements (e.g. CBD, UNFCCC, UN SDGs, etc.).

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[1] See 2014 call and Oslo's Action BF15-09 « The TPO will prepare a proposition for a follow-up joint call with Eranet Biodiversa. »

[2] https://partage.agencerecherche.fr/anrupload/www/?a=d&i=Jt1TFcMHxx

[3] * refers to BF member and † refers to BiodivERsA member

The two overall issues identified within the 2014 Networking Call of Belmont Forum are still valid as obstacles for greater use of biodiversity scenarios in decision-making:

- ***Harmonizing and integrating development and application of biodiversity scenarios across spatial scales of relevance to multiple types of decisions***
  On the one hand, scenarios at global scales are difficult to translate into actions at [sub-]regional and local scales, where many biodiversity relevant decisions are made. On the other hand, scenarios at local or [sub-]regional scales often do not include global scale constraints and feedbacks (e.g., international trade, teleconnections, etc.) making them difficult to translate into international policy. Discussions with policy and management stakeholders indicate that the difficulty to down- or up-scale biodiversity scenarios is one of the key barriers to support effective decision making at the appropriate scales.
- ***Harmonizing and integrating the consideration of multiple dimensions of biodiversity and ecosystem services in biodiversity scenarios***
  Previous biodiversity scenarios (e.g. loss of specific species due to land use change) have typically focused on a limited number of biodiversity dimensions (e.g. genetic, phylogenetic and functional) or of ecosystem services (e.g. specific resource or regulation). However, decision-making processes often require information on a much broader range of dimensions (incl. socio-economic and cultural aspects) and because some processes are purposely designed to address multiple dimensions (e.g. competition between different ecosystem services).

More recently, IPBES Methodological Assessment on Models & Scenarios had proposed guidance to consider for science and policy interactions on this field:

- Scientists and policy practitioners may want to ensure that the types of scenarios, models and decision-support tools employed are matched carefully to the needs of each particular policy or decision context;
- The scientific community, policymakers and stakeholders may want to consider improving, and more widely applying, participatory scenario methods in order to enhance the relevancy and acceptance of scenarios for biodiversity and ecosystem services;
- The scientific community may want to give priority to addressing gaps in methods for modelling impacts of drivers and policy interventions on biodiversity and ecosystem services;
- The scientific community may want to consider developing practical and effective approaches to evaluating and communicating levels of uncertainty associated with scenarios and models, as well as tools for applying those approaches to assessments and decision making;
- Data holders and institutions may want to consider improving the accessibility of well documented data sources and working in close collaboration with research and observation communities (including citizen science) and communities working on indicators to fill gaps in data collection and provision;
- Human and technical capacity for scenario development and modelling may need to be enhanced, including through the promotion of open, transparent access to scenario and modelling tools, as well as to the data required for the development and testing of such scenario and modelling tools.

Targeted projects

Transdisciplinary projects of 3 years involving at least 3 countries from at least two continents (e.g. with one country at least outside Europe for projects mobilizing research teams from Europe), are targeted to develop **science-based projections of the dynamics of biodiversity and ecosystem services using solution oriented approach** for:

- early warning of (socio-)ecological breakpoints and regime shifts;
- improvement of policy interventions and management practices on biodiversity and ESS.

System-level approaches to link direct and indirect drivers should be envisaged using a variety of ground-based models (incl. narratives) of biodiversity and ecosystem services. A broad range of scenarios should be intricate, including e.g.:

- diversity of socio-economic trajectories with different cultural contexts and demographic patterns;
- diversity of global environmental change incl. climate change, large scale pollution, overexploitation or invasive species;
- analysis of past trends for guiding the development of scenarios, including testing and validation of models;
- adaptation of socio-ecosystems as well as of biodiversity (incl. evolutionary processes);
- crossing scales from local or global to [sub-]regional;

Practical and effective approaches to evaluate uncertainties associated with models and scenarios, e.g., using model-data and model-model comparisons, are encouraged.

The added value of international collaboration and the level of transnational collaboration between teams from different countries should be clearly demonstrated, including for upscaling knowledge at the [sub-]regional level or for comparative approaches of different local contexts.

Open Access to Knowledge should be stated in a data policy management for use beyond the project lifetime.

Appropriation and valorization with stakeholders

Projects should explicitly engage stakeholders and develop transdisciplinary approaches. Capacity building and participatory approaches are encouraged, in particular for scenario-building in which multiple relevant stakeholders explore pros and cons of different trajectories of development and adaptation for usefulness, accuracy and appropriation.

Finally, with their allocated budget, funded projects within this call should participate and co-organize[4] one mid-term and one final meeting to allow for exchanges between the different partners, including stakeholders.

Thematic Project Office (TPO) and Call Secretariat

A “one consortium governance” with two co-leaders is proposed:

- one co-leader from a European country (possibly French Foundation for Research on Biodiversity, BiodivERsA Coordinator);
- one co-leader outside Europe, preferably from an emerging country, member of the Belmont Forum (to be identified).

It is also proposed that ANR will be in charge of the Call Secretariat.

[4] with the help of Thematic Project Office (TPO)

Roadmap

A tentative timeline of the CRA can be found below.

September 2016	Proposal circulated to Belmont Forum/BiodivERsA partners *(this document)*
November 2016	Feedback from Belmont Forum (meeting in Doha) and from BiodivERsA
End Nov. 2016-Feb. 2017	Completion of the buildup of the consortium; work on a draft Call text and MoU (incl. procedures and implementation plan)
March 7th, 2017	Proposal submission to European Commission for co-funding
July 2017	Pre-announcement of the call (after EC co-funding selection, if positive)
October 2017	Launch of the Call
June 2018	Selection of the projects to be funded
End 2018-Early 2019	Start of the funded projects