

**UPDATE 04/20/2020** Due to unforeseen circumstances related to the COVID-19 pandemic, FAPESP must refrain from its participation in this CRA at this time. FAPESP recognizes that research in soil science and groundwater is critical to a sustainable future. We hope that Brazilian scientists, particularly those from São Paulo State, will still pursue collaborations to respond to this CRA as in-kind contributors including considering alternative funding possibilities. Please visit [bfgo.org](https://bfgo.org) for details about the scope and timeline of the call. All updates regarding this call – including decision on FAPESP participating at a later stage- will be posted on [bfgo.org](https://bfgo.org) as well as on the [belmontforum.org](https://belmontforum.org) website and [FAPESP's Belmont Forum page](#).

## Belmont Forum Collaborative Research Action (CRA) on Towards Sustainability of Soils & Groundwater for Society Call Text

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## 1. Content of the call

**Title:** Towards sustainability of soils and groundwater for society

**Theme:** Identify pathways towards sustainability of critical zone, ecosystem dynamics, and societies through provision of soils and groundwater sustainable management options

### Context

Human impact on the biosphere is such that humanity has entered the “Anthropocene”, a new geological period in which human activities are the main driver of global environmental changes. This “great acceleration” has global manifestations, the most evident being the increasing concentrations of atmospheric greenhouse gases that drive climate change. At a local scale, changes in land management and cover, and urbanization exert an increasing and unprecedented pressure on terrestrial ecosystems and related resources. Terrestrial ecosystems, above and below ground biodiversity, soils, and water are natural resources that interact to provide sustainable life support systems and essential benefits to societies such as food production and water quality and quantity. At the heart of the dynamics of these socio-ecological systems are decisions and actions taken by a multitude of socio-economic actors. Rather than being independent, all these human and non-human components interact constantly along more or less long trajectories that remain to be characterized, especially when accounting for conflicts, synergies and trade-offs.

Initially defined as the zone from the top of the lower atmosphere to the bottom of the fresh bedrock in which freely circulating groundwater is found (NRC 2001; Brantley et al. 2006), the Critical Zone is a complex socio-ecological system in which water, rocks, soils living organisms, and societies interact at different timescales. Among the various components of the Critical Zone, below ground components (as invisible) have received so far less attention than above ground components, or in isolation from each other. In addition, in many places around the world, societies experience issues with soils and groundwater degradation due to unsustainable management practices or management practices focusing on one component of the system, namely soil or groundwater. Options to address these degradation issues can only be proposed if we better understand the Critical Zone, especially interactions between its different components. The research will provide a contribution to several of the Sustainable Development Goals (SDGs) such as SDG 6-Clean water and sanitation, SDG 13-Climate action or SDG 1-No poverty, but will also address trade-offs, synergies and conflicts between different SDGs, and will contribute to providing management options benefitting multi-SDGs.

Examples of research questions still under exploration include: better understanding of processes by which society redistributes key limiting resources, especially nitrogen and phosphorus to - for example – enhance plant production; assessing the role of rising atmospheric CO<sub>2</sub> in driving enhanced production versus the adverse impact of CO<sub>2</sub> in terms of warming of the Critical Zone; better understanding the short and long-term impacts on the resilience of key processes in the critical zone, especially those related to soils and groundwater resilience; developing option for sustainable soil and water management (quantity and quality) in arid systems.

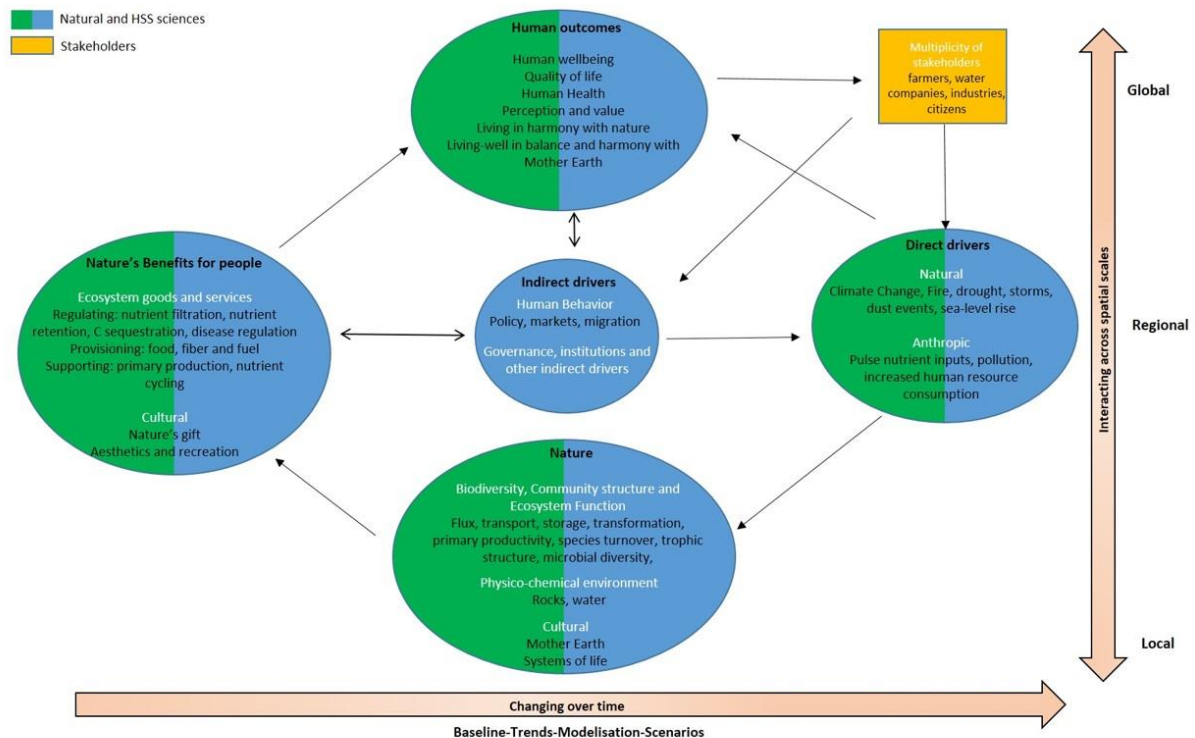
The Critical Zone concept promotes a holistic, systems approach to better understand how this system responds to human activities, to ensure the identification of pathways and

transitions to its sustainable management for the benefit of current and future generations. This “whole system approach” must include all scales of space and time since, for example land use change due to agricultural practices, which lead to soil erosion affecting both agricultural practices and flood risk. Another example of ecosystem processes not fully taken into account in decision-making relates to the accelerating rate of soil degradation, which in many places largely exceeds its rate of formation through long-term biogeochemical processes. This disequilibrium has not sufficiently been considered in relation to societal needs nor have they been integrated into management actions, which are driven by individual and collective human actions.

Understanding changes and potentially reversing on-going degradation in the Critical Zone requires:

- Engagement of scientists from many disciplines to assess and understand interactions between above and below ground components, including ecosystems, soils, landforms, bedrock, surface and groundwater, which combined are responsible for the storage and fluxes of matter and energy needed to sustain the water cycle and biogeochemical cycles. These disciplines need to be combined to multiple social sciences and humanities disciplines to understand the impacts of local and more distant socio-economic factors on these systems, and to provide options for sustainable management practices.
- Consideration of long-term temporal processes and how they interact with shorter ones (especially impacts of socio-economical decisions and management) to ensure socio-ecosystem resilience and maintenance.
- Integration of the many facets of this socio-ecological system into predictive models, including the social, political and economic drivers and processes leading to pressures on this system, especially soils and groundwater systems. Modelling of specific components of this complex system may also be needed such as improving modelling of soils and sediments movements.
- Consideration and engagement of the different socio-economic actors, as the processes of their actions and their feedbacks on the system use different pathways. Consideration should include:
  - 1) How decisions, individual as well as economic, political and planning, impact the Critical Zone, especially soils and groundwater (and how they could be modified towards more sustainable management);
  - 2) How the Critical Zone deterioration feeds back - through the reduced delivery of ecosystem services - on the different societal actors, and how these actors might respond to such a new situation.

Figure 1 presents the multiple interactions that must be accounted for to develop solutions for sustainable management of the Critical Zone and to support maintenance or rehabilitation of functional soils and groundwater.



**Fig.1** This CRA Conceptual Framework provides the basis for long-term, integrated, socio-ecological research. In each of the boxes, the headlines in black are inclusive categories that should be relevant to all stakeholders involved in the CRA. Examples are illustrative, not exhaustive. Arrows describe influence between elements. The anthropocentric values of nature are embedded in the nature, nature's benefits to people and Human outcomes boxes, and in the arrows connecting them. The thick coloured arrows below and to the right of figure indicate that the interactions between the elements change over time (horizontal bottom arrow) and occur at various scales in space (vertical arrow).

This figure was adapted from the following publications: Collins, S. L., et al. 2011. *An integrated conceptual framework for long-term social-ecological research*. *Frontiers in Ecology and the Environment* 9:351–357; S. Díaz, et al. 2015. *The IPBES Conceptual Framework—Connecting nature and people*. *Curr. Op. Environ. Sust.* 14, 1–16

## Goal and objectives

The goal of this CRA is to produce the necessary knowledge and propose solutions to maintain well-functioning soils and groundwater systems in the Critical Zone, or provide options to rehabilitate them where degraded, through:

- 1) Better understanding of the long-time dynamics and functions of soils and groundwater, impacts from societal (including economics) decisions, integrative management practices, public policies, and how these systems have been transformed; and,
- 2) Providing avenues, pathways, and narratives toward transformation of management practices of the whole soil and groundwater systems through a fundamental shift of socio-economic actors' practices and related-decisions making processes to ensure the long-term resilience of these systems.

Improved management style that embraces the concept of a holistic socio-ecological system is at the core of this call, and especially the evolution of management practices from stationary to adaptive systems i.e. evolving under anthropogenic and natural pressures. The design and implementation of novel solutions will help addressing global societal issues such as poverty and migration, as these are related to factors such as soil degradation and the loss of ecosystem services (e.g. soil fertility, water quality and quantity).

Developing improved management practices requires projects that address the whole socio-ecological system, conjunction of short and long-term dynamics of these systems, and that are grounded in a solid transdisciplinary scientific understanding of soil and groundwater systems within the Critical Zone. This will necessitate a strong engagement of socio-economic actors in developing and conducting research projects with interdisciplinary research teams (environmental science, biogeochemistry, sociology, political sciences, economics, etc.). It also requires consideration of side effects, trade-offs, synergies and co-benefits between decisions, policies, regulations and management practices.

## Focus

Given the environmental urgency facing Earth's surface and socio-ecological systems, the focus of this CRA is on better understanding mechanisms of long-term change and retroactions to improve our predictive capacity through integrated models development and scenario building (narratives), including how institutions and governance affect soils and groundwater management practices. Attention should also be paid to differentiating and linking between local and global scales. The Critical Zone is typically a local system, where most impacts are local but it is a system influenced by global processes such as climate change and socio-economic drivers that need to be accounted for.

Proponents can address any terrestrial ecosystems (e.g., humid tropics, arid ecosystems, Mediterranean, temperate, boreal, peatland), which are facing ongoing or predicted future degradation of their soil or groundwater systems. The focus should be on integrative management within these socio-ecological systems, identifying solutions that can be tested or implemented. Projects must address the multiple dimensions of the Critical Zone including the physical, biological and socio-ecological factors. They can also address measures to manage more sustainably these resources and functions, and make them more resilient. Projects may include regional or inter-regional comparisons, or address environmental or land-use gradients.

Proponents must address one or several of the research themes below. This CRA will not focus on agricultural soil management, and on restoration of degraded ecosystems and their biodiversity as these topics are the focus of other European research calls with international participation currently under development and to be launched later in 2020 and 2021.

## Research themes

### 1. Climate change, carbon cycle, and sustainability of soils and groundwater

Research is needed to document studies of climate change impacts on soil and groundwater resources, especially in a long-time perspective (e.g. thaw of permafrost, landslides, water table drying out/groundwater exhaustion, etc.). These resources are also increasingly affected by more intense and frequent wildfires, both in ecosystems that are "adapted" to fires (e.g. Mediterranean zones, savannahs) and ecosystems that are experiencing "unprecedented" conditions (e.g. Arctic zones).

Given the importance of the carbon cycle in climate regulation, more studies are expected on the role of processes within soils and groundwater that are responsible for export of dissolved and/or particulate organic matter to rivers and oceans. Moreover, the biogeochemical processes have been altered/accelerated by socio-economic changes (land use change, water

extraction, etc.). A better understanding is needed on the impacts of management practices and decisions (both local and longer-distance ones; both individual and collective ones) on the balance between carbon erosion and carbon sequestration, including inorganic carbon, in all types of terrestrial ecosystems (cropped land, wetland, forest, grassland, peatland, urban, , etc.). Similarly, studies are expected on the feedbacks of the increase of atmospheric CO<sub>2</sub> on soils and groundwater, through the vegetation cover.

## 2. Highly anthropized ecosystems (including large natural resources extraction)

Among the highly anthropized ecosystems, severely contaminated sites require a special attention in terms of characterization, identification of the anthropogenic causes (mining, industrial activities, urbanization, multiple uses) and of transfers within the Critical Zone, to propose pathways to prevention, alleviation, resilience and/or sustainability. This typically implies interdisciplinary approaches associating not only specialists of soils and groundwater, but of socio-economic sciences, including legal and fiscal sciences.

Similarly, research is expected on the impacts of urbanization on soils and groundwater. Besides the issues associated to urban sprawl, soil sealing and excavation, studies should address the accelerated pedogenesis processes needed to generate soils from urban rubble and produce cleaner groundwater. Similarly, a research effort should focus on the development of circular economy through the use of urban and agricultural wastes to reduce the use of fertilizers and the risks of groundwater pollution including a particular attention to potential health and environmental issues.

Natural resource extraction often associated to forestry, mining or oil and gas has also a major impact on soils and groundwater. In this respect, it is paramount to promote groundwater safeguard zones. These generate a number of ecosystem services other than groundwater protection (co-benefits), often including soil conservation, which should be accounted when developing management or policy schemes (value those ecosystem services in economic terms; develop scenarios of land use in the Critical Zone that maximizes societal support and economic benefit; design economic instruments of cost sharing (e.g. payment for ecosystem services-PES). More generally, natural resource extraction should be regulated through understanding factors driving (non-)compliance by users (legal, social and economic dimensions); designing and testing participatory approaches that help design rules, which reconcile diverging interests and visions of social justice (participatory engineering); designing and testing experiments that favour economic instruments of compliance (i.e. Payment and Penalty-P&P).

## 3. Reconciling short and long-term process to maintain or improve ecosystem functions

A large domain of expected research concerns the dynamics and functioning of the socio-ecological system of the Critical Zone. This implies a better understanding of interactions between long (e.g. soil formation and natural soil erosion) and accelerated (e.g. soil erosion due to human activities) processes and socio-economic processes that govern the formation and evolution of the Critical Zone to provide options for more sustainable management practices. Research is expected on the processes, especially the long-time processes, that maintain functioning of nutrient cycles (N, P and others), the socio-economic drivers of change

in those cycles and the management of these drivers to sustain functioning for the benefit of nature and humanity.

Another emerging issue is the extent and severity of salinization of soils and groundwater due to multi-uses such as tourism, irrigation, coastal saline intrusion, use of brackish, low quality or desalinated water in agriculture, transboundary issues, continental subsidence of the deltas, and the pathways to tackle these issues and to rehabilitate salinized lands. These land degradation issues raise questions associated with the concept of Land Degradation Neutrality (LDN). In particular, effort should be put on designing more appropriate management practices of soils and groundwater through citizen participative science. This requires to improve users' perception of Critical Zone resources and management issues, and increase acceptance of changes through investigating incentives that involve citizens in data collection.

In addition, designing new governance models requires new information derived from long time series of observational data combining citizen involvement, and the incorporation of these citizen data into models (quality assurance issues). This approach favours the development of multi-objective economic participative scenarios – and supported models - to optimize conjunctive land use, soil integrity and surface and groundwater to maximize soil conservation as well as water supply reliability and ecosystem protection in a context of increasing variability (options for insurance against flood and drought). This should support maximisation of soil- and groundwater-related services and functions.

## **2. Expected outcomes**

Proponent should justify the breadth of impact and expected outcomes.

There is a large range of potential outcomes (see below), but they will be specific for each project. Potential impacts of proposals will be one of the crucial items of proposal evaluation as this CRA has a strong focus on provision of soils and groundwater sustainable management tools and practices. Categories of potential outcomes include:

- Strategies towards sustainable Critical Zone management, with a focus on soils and groundwater, to support human societies and nature.
- Knowledge based decision-support tool kit for managers:
  - o Addressing past, current and future aspects of Critical Zone function
  - o Unified non-stationary models of Critical Zone function, with a focus on soils and groundwater processes
  - o Scenario development tools and outcomes
  - o Management of uncertainty
  - o Best practices in management
- Support of policy agenda:
  - o Development of national environment legislation and policy, such as UK in the context of Brexit
  - o Migration policies in relation to local development
  - o U.N. Sustainable Development Goals, such as water quality, climate change, end of poverty
  - o Contribute to the United Nations Rio Conventions
  - o Addressing knowledge gaps identified in the Intergovernmental Panel on Climate Change (IPCC) Special Report on climate change, desertification, land



degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (SR2)

- Evidence of science in decision making as well as potential citizen science (Evidence of money well spent – value of demonstrators – improve social welfare)
- Vibrant transdisciplinary community of researchers and professionals in the field of Critical Zone science and management
- Expand knowledge of:
  - How society makes decisions on land use to achieve Critical Zone sustainability
  - Processes within the Critical Zone supporting soils and groundwater systems
  - Processes impacting the Critical Zone and impacting soils and groundwater systems
  - Mitigation and adaptation to climate change especially in relation to the carbon cycle, but also more generally in terms of soils and water resources (e.g. permafrost thaw and soil moisture change; prolonged droughts)
  - Thresholds/tipping points that affect Critical Zone function, with a focus on soils and groundwater
  - Improved predictive capacity through improved integrative models and data
  - Improved scenario building for sustainable management of the Critical Zone, with a focus on soils and groundwater
  - Etc.
- Data to ground truth remote sensing of the Critical Zone including detailed soils and groundwater maps
- Development of observation systems (social, natural, etc.), novel monitoring devices/instrumentation (such as technologies, probes, monitoring stations, especially in regions where many gaps have been identified by the GEOSS communities or others, indexes to monitor soils and groundwater degradation/rehabilitation), as well as regional and/or global data sets provided by these instrumentations
- Outreach and communication aimed towards the public at large and other audiences to raise awareness of soil, the critical zone concept, and threats related to their degradation.

### 3. Design of the call

#### Eligibility Criteria

Development of research consortia, supported financially by **at least three participating partner organizations established in three different countries (not including self-funding partners)**, is a key criterion. We encourage global geographic diversity to increase the scalability and applicability of the project outcomes. Consortium partners that are not eligible for funding from any of the participating funding agencies can participate in the research project at their own expense. Research consortia must address one or several topics described above.



Given the complexity and scope of the challenges, research consortia must be truly transdisciplinary, thus including **researchers from: a) social sciences/humanities/economy and b) natural sciences/technology, as well as c) societal partners (i.e. citizens, industry, civil society organizations)**, using a co-design, co-development and co-implementation approach. The transdisciplinary of the projects will be assessed through the direct engagement of stakeholders in projects consortium or through in the level of engagement of stakeholders communities / society actors in the project implementation.

Funding will be provided for scientifically and technologically excellent projects managed by universities, other research organisations and companies from involved countries. Funding will follow the *nationality principle* meaning each participating national or regional funding agency will fund its respective national/regional research partners in a particular project consortium.

In addition, applying research consortia are required to interact and include partners of the private sector (e.g. SMEs), stakeholders and/or end-users while preparing the proposal and carrying out the project. Where possible SMEs and other stakeholders should be encouraged to participate in the consortia, to enhance impact, facilitate knowledge exchange and uptake of results to deliver measurable benefits to Soils and Groundwater researches. However, the support of any type of stakeholder as an active partner in the research consortia depends on the national/regional funding regulations defined by the funding bodies (see “**Organizational Annexes**” documents on the submission system (<http://bfgo.org>)).

➔ ***Please carefully check the national/regional funding regulations (see “Organizational Annexes” documents on <http://bfgo.org>)***

## Evaluation Criteria

The proposals will be reviewed under the following selection criteria:

### i. Quality/Intellectual Merit

- *Scientific quality and innovativeness of the goals and objectives of the joint research plan*
- *Added value to be expected from the international research collaboration*
  - How well does the activity advance knowledge and understanding within its own field and across different fields?
  - Does the proposal contribute to scientific excellence and significant progress toward the state of the art?
  - To what extent does the proposed activity suggest and explore creative, original concepts?
  - If these partnerships currently exist what does this new funding allow them to do that they could not do otherwise?
  - What is the added value of the international cooperation? Where appropriate this should also include the extent to which Partner Organizations’ existing investments are leveraged in the proposed project.

## ii. Fit to call objectives (including user engagement and societal/broader impacts)

- *Level of engagement (partner in the project; strong participatory approach for engagement in the project design, implementation, outreach) of stakeholders and research users/societal actors (relevant decision-makers, regulators, NGOs, communities, industry, Local and Indigenous People organizations or civil society) and the effectiveness of proposed knowledge exchange activities*
- *Expected impacts, e.g. research, societal, policy related, economical*  
 What may be the benefits of the proposed activity to society, including policy-development, change of practice, or economic benefit?  
 Have the users been engaged in the co-development of the project, and is it clearly outlined how they will be involved in the co-implementation?  
 Are there plans for effective dissemination of outcomes to relevant sectors?  
 Does the project involve early career researchers?  
 Does the project include training that would benefit user participants and relevant communities?  
 Does the research collaboration focus on global challenges for which solutions can only be achieved by global scientific approaches?
- *Project must address one of the three topics of the Collaborative Research Action*
- *Project must not have a strong focus on agricultural soil management or on restoration of degraded ecosystems and their biodiversity.*

## iii. Transdisciplinarity, regional representation and Personnel/Quality of the Consortium

- *Competence and expertise of teams and complementarities within the consortium*  
 How well qualified are the proposers (Leading Principal Investigator and team) in terms of science knowledge, expertise and experience to conduct the project?  
 What is the quality of previous work in terms of past or potential contributions to, and impact on the proposed and other areas of research?  
 Is the Leading Principal Investigator team (including any identified Co-Principal Investigators) able to lead the project, e.g. having strong management and leadership skills, or having complementarity of expertise and synergy of the members of the team?
- *Inter-disciplinary between natural and social sciences, and other sciences where relevant*
- *Trans-disciplinary approaches within the consortium (co-construction, co-identification, co-development) and global geographic diversity*

## iv. Resources and Management

- *Appropriateness of requested resources and funding*
- *Balanced cooperation*  
 How well conceived and organized is the proposed activity?  
 Is there an operational plan with well-defined milestones in place?  
 Is the coordination plan adequate?

Is there sufficient access to resources?

Is the Data Management Plan in line with the Belmont Forum policy with appropriate resources?

Is the data stewardship during and beyond the project lifetime well described?

Are the requested investments well justified and relevant?

Are the scientific and financial contributions requested of the Partner Organizations from each country well balanced?

#### **v. Coordination activities (optional)**

- Is there sufficient access to resources?
- Are the scientific and financial contributions requested of the Partner Organizations from each country well balanced?
- Will the time dedicated to the coordination activities be sufficient?
- Is the team able to coordinate all funding project, e.g. having strong management and leadership skills, or having strong valorization expertise? Will the coordination plan facilitate communication between the CRA's funded projects to enable cross fertilization?
- Will the coordination plan develop synergistic activities to enhance cross-fertilization of teams and stakeholders?
- Are potential opportunities well identified to enhance the impact of individual projects' results and activities through inter-projects activities?
- Will the consortium be able to provide some facilitation support for Belmont Forum kick-off, mid-term and end term meetings?
- Is the coordination plan including support for the development and delivery of joint products for dissemination to different audiences (decision makers, funding agencies, etc.)? Are the allocated resources sufficient to achieve this objective?
- Will the Lead of the consortium be able to serve as a point of contact for general queries from the project and Group of Programme Coordinators throughout the program lifetime?

### **Maturation phase**

The maturation phase (also called the call's opening period or proposal development phase) consists in a period of 4 to 5 months to be used to support activities of networking especially with various societal actors and disciplines, capacity building, transdisciplinary training or series of workshops. This is to address the challenge of this CRA focused on transformation of management practices (transdisciplinary) using a holistic system approach (interdisciplinary).

Building strong and appropriate consortium will be key for the development of proposal meeting the challenges highlighted in this call text and producing the expected outcomes.

Potential supporting activities during the proposal development phase:

- Workshops and other supporting activities could be organised regionally by Partner Organisation, the Theme Program Office, The Belmont Forum Secretariat and/or other Partners with the objective to build community gathering Natural Scientists,

Humanities and Social Scientists, and Societal actors from different countries. Participation in these workshops will not be mandatory for proposal submission but will be considered as great opportunities for applicants to develop the transdisciplinary community and their networks. A key aspect for the success of these activities will be working with good knowledge brokers and mechanisms. These activities could have a regional focus.

- Webinars will be organised by Partner Organisations with the support of the TPO, Belmont Forum secretariat and other Partners. Webinars will help spreading information about themes, good practices in transdisciplinarity or Belmont Forum specificities through research communities.

## Reporting and Evaluation

All funded projects are expected to attend kick-off, mid-term and end-term meetings organized by the Theme Program Office for discussions and dissemination. The funders may decide on clustering these meetings with others. It is anticipated that all partners involved in the project, should it be funded, will travel to one kick off, mid-term and end-of-term Meetings for this Belmont Forum Call. A provisional funding request (of up to K€ 2,5 per partner per meeting, under 'Travel Expenses') should be included in the funding plan and should be within the current financial limits of the funding plan since the Call will be supporting these activities within its current funding envelope.

Project leaders will also provide an annual integrated update on their project accomplishments, using the BFgo reporting interface. The consortium lead for each award will receive log-in credentials from BFgo to complete these reports, which are due each year on June 15th for the duration of the project, and an additional shorter report focusing on impact aspects will be requested 2 years after the completion of the project. Additional reporting may be required by supporting funders for a given award and should be completed per the award terms and conditions with that organization.

## Valorisation through coordination activities for funded projects/consortium (Optional)

Belmont Forum is developing a *coordination partnership modality* to add value beyond individual projects funded through a Collaborative Research Action in the view of increasing impact of Belmont Forum collaborative funding, building the community, and potentially preparing for future calls.

A *Valorisation grant* (up to 5 years funding to ensure CRA impact analysis) can be made to partners of a consortium with the goals to connect funded projects in this CRA, to build a true collaborative cohort, and to add value through inter-project exchanges and by developing products beyond those of individual projects. This may also connect the funded projects to regional-to-global frameworks, ensuring that outcomes are connecting directly to strategic and implementation plans, policies, SDG reporting, or other relevant initiatives.

Specific tasks the awardee will be entitled to deliver on include:

- Facilitate communication between the CRA funded projects to enable cross fertilization between them;
- Develop synergistic activities to enhance cross-fertilization of teams and stakeholders;
- Identify potential opportunities that can further the impact of projects' results and activities;
- Catalyse synthesis of common topics, lessons learned, regional knowledge, etc.;
- Provide some facilitation support for Belmont Forum kick-off, mid-term and end term meetings;
- Assist the projects with Belmont Forum data management requirements;
- Provide transdisciplinary training and learning for project personnel and stakeholders;
- Assist projects with implementation of metrics to assess the impact of the project outcomes;
- Support the development and delivery of joint products for dissemination to different audiences (decision makers, funding agencies, etc.)
- Serve as a point of contact for general queries from the project and Group of Programme Coordinators throughout the program lifetime; and
- Provide the Belmont Forum with a CRA report that provides highlights from the projects, synthesis activities and general lessons learned (data management, capacity building, communication practices, etc.) to help improve future CRA's and coordination efforts.

One or more partner organizations will hold a competition to support a relevant valorisation/coordination consortium. Applying consortium/projects will add an additional section (with additional funding) to their application to conduct Valorisation/coordination activities as described above. This aspect will be evaluated through a parallel process by the Panel of Experts.

This additional funding opportunities will be described in the Funding Organization Annexes (if eligible). **Please check your Funding Organization Annex before applying .**

## Open Data

All proposed projects will require a data management plan. Data management plan templates and supporting tools are available from the Belmont Forum website, and the [Data and Digital Outputs Management Annex](#) provides the details required at each proposal stage. The plan should include information about types of data, information, models, software, workflows and code, or other digital outputs or products being generated by the project. It should outline the accessible archives or other open repository where these products and accompanying metadata will be stored.

[Belmont Forum Open Data Principles](#) are intended to improve and promote the dissemination of knowledge, the access to the data and their reuse thereby improving the efficiency of scientific discovery and maximizing the return on research funding. The funded projects are expected to make their best efforts to ensure open access to data as soon as possible.

Awarded projects will be checked for compliance to open data procedures at the mid-term and end-term valorization events using information provided to the BFgo reporting system.

## Process and Timeline

A registration must be submitted electronically by the applicants via the Belmont Forum Grant Operations website: <http://bfgo.org> by July 23, 2020, 13:59 UTC. Only registered consortia will be able to submit full-proposals. This registration will not be assessed but will be used to compose the Panel of Experts that will assess the full-proposals.

Full-proposals must be written in English and submitted electronically via the Belmont Forum Grant Operations website: <http://bfgo.org> by August 24, 2020, 13:59 UTC.

Proposals will be evaluated according to criteria of (i) Quality/Intellectual Merit, (ii) Fit to call objectives (including user engagement and societal/broader impacts), (iii) Transdisciplinarity, regional representation and Personnel/Quality of the Consortium, and (iv) Resources and Management.

A total of 9 funders from 8 countries have committed cash and in-kind resources for this call: AllEnvi (France), ANR (France), CNR (Italy), JST (Japan), QNRF (Qatar), KAUST (Saudi Arabia), RFBR (Russia), MOST (Taipei) and NSF (USA)

Discussions are still on-going with the Thailand Science Research and Innovation (TSRI, Thailand) to join this call.

This call aims at supporting medium-sized research projects with 3 years duration. Note that some contributions are in-kind. **See funding organization annexes for specific constraints and requirements of your funding organization(s).**

Results should be announced early 2021 and projects are expected to start on mid 2021.

## Financial Contributions

The Partner Organizations will administer their funds directly and each Partner Organization shall be responsible for costs related to their grant payment as well as costs relating to the monitoring of recipient use of their grant funds.

Notwithstanding any other clause in this agreement, Partner Organizations contributions are subject to the availability of appropriated funds and Partner Organizations are not obligated to commit current or future resources in advance of appropriated funds; nor does this agreement obligate Partner Organizations to spend funds on any particular project or purpose, even if funds are available. Partner Organizations maintain the authority to reduce or increase the amount following budget appropriations.

**See funding organization annexes for further information.**