



Call for proposals Cleaning the Ganga and Agri-Water, Nederlandse Organisatie voor Wetenschappelijk Onderzoek

Merian Fund

Cooperation India – The Netherlands

2020

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1 Introduction

1.1 Background

There is a long history of scientific collaboration between India and the Netherlands. The Dutch Research Council (NWO), through the Merian Fund¹, and the Department of Science and Technology (DST) aim to further stimulate long term research collaboration between their two countries by funding joint research, to strengthen the international position and global impact of their research. Funding is provided for interdisciplinary and transdisciplinary consortia of Indian and Dutch research groups and stakeholder partners, for high quality research that has the potential for societal and scientific impact.

NWO and DST have agreed on strategic knowledge and innovation agendas. A call for proposals on a jointly agreed theme based on this agenda is planned to be published annually. Funded research should be in alignment with national research agendas, as well as international initiatives such as the UN Sustainable Development Goals, and build bridges between different actors in the knowledge chain, fundamental and applied research, and scientific disciplines.

1.2 Available budget

The total budget for this call is M € 1.4 on the Dutch, and Rs. 11 crores on the Indian side. With the available total budget, NWO and DST aim to fund up to two projects with a duration of five years each.

Projects can apply for a maximum of € 700.000 at NWO and a maximum of Rs. 5.5 crores from DST.

¹ The Merian Fund is a NWO-fund for international cooperation with (emerging) science countries and developing countries. The common thread within the Merian Fund is international research to promote the achievement of the United Nations Sustainable Development Goals worldwide. For more information see <https://www.nwo.nl/merianfund>.



The NWO Grant Rules 2.017 are applicable to the part of the project's budget covered by NWO. The part of the budget covered by DST must follow the DST grant conditions. Please see section 3 for further details.

1.3 Deadline for submissions

The deadline for submissions if this call for proposals is **12 May 2020, 14:00:00 hours CEST/ 18:30:00 IST**.

Please note: Applications must be submitted before the closing date to **both** NWO and DST.

2 Aim

Many societal challenges are complex and interrelated. To address them requires collaboration, flexibility and creativity to achieve results for effective and impactful solutions. DST and NWO aim to stimulate strong, sustainable research collaboration between their two countries, in projects that work on scientific knowledge and sustainable, innovative solutions with high scientific and societal impact. They do this by inviting consortia in which researchers from knowledge institutions from both countries will work together with partners from public, semi-public and/or private organisations (for-profit and not-for-profit), in order to increase the societal relevance and impact of their research. Research consortia are expected to make optimal use of the Indian-Dutch research strengths in different disciplines and build on existing knowledge and ongoing relevant initiatives much as possible.

This joint DST-NWO research call aims to contribute to Cleaning the Ganga, which is defined as high priority field for the Indian and Dutch governments and water sector. The call will focus in particular on the impact of agriculture on the Ganga water system and the related scopes for interventions. The Hindon sub-basin is selected as case area. The call addresses several SDG's, in particular 2 (Zero Hunger), 6 (Clean Water and Sanitation) and 13 (Climate Action). In The Netherlands this topic links to the topsectors Water & Maritime, Horticulture & Starting Materials and Agro&Food and one of the 4 societal missions defined in the new Mission-Oriented Research and Innovation Policy, 'Agriculture, water and food'. This call in Indian context will be in line with the significant National Missions such as "Namami Ganga" and "Swatch Bharat".

2.1 Thematic focus

2.1.1 Cleaning the Ganga

The river Ganga stretches from the hills of Uttarakhand to its delta in West Bengal, where it covers the area between Gangotri and the Bay of Bengal. Along that route, the Ganga provides a life line for about 450 million people in high population density zones in India, including more than 50 major cities located in its basin. Its waters contain around 25% of all water resources of India. The river basin significantly contributes to food production with 50% of the area irrigated for agriculture and a high potential for fisheries. It is also the home of several unique and highly endangered species, like the Ganges river dolphin, Ganges shark, the gharial and several turtle species. For ages, the river Ganga has been an integral part of Indian spirituality, a symbol of faith, hope, culture and sanity and the centre of social and religious tradition in the Indian sub-continent.

The Ganga is a glacial river and therefore snow and glacier-melt hydrodynamics are of major importance for the water supply of the river. Rapid urbanisation, industrial and agricultural processes heavily affect the water quality and quantity of the Ganga River in its entire basin. India faces a huge challenge with regard to pollution of the water systems around Ganga as well as waste management in cities and river basins. On top of that, climate change, and specifically the changing monsoons, is severely affecting the water supply and quality of the river. These effects are projected to become even more pronounced in the near future.

The national government of India and affected states have a strong political commitment to contribute to a cleaner river Ganga. In 2016, the Indian government launched "Namami Ganga", the National Mission Clean Ganga (NMCG), to ensure effective abatement of pollution and rejuvenation of the river Ganga using a river basin approach. The Dutch government together with the Dutch water sector, renowned for its expertise and experience in water management and treatment, have adhered to the Indian challenge and committed mutual collaboration in MoUs with the Ministry of Jal Shakti² and with the state of Uttar Pradesh. Both countries are now looking for joint initiatives to find ways to

² Formally known as Ministry for Water Resources, River Development and Ganga Rejuvenation, Government of India.



contribute to a cleaner Ganga, for example in public private partnerships and research & innovation projects.

2.1.2 Impact of agriculture on the Ganga water system

Pollution from domestic/urban sources, industries, agriculture and alterations in surface water hydrology and groundwater are considered key water management issues for the Ganga river basin. Existing research and public-private initiatives on cleaning the Ganga mainly focus on urban/domestic and industrial pressures. The impact of agriculture, however, on the water quality and quantity of the Ganga river system is significant yet inadequately understood. The effects of agri-chemicals, like pesticides and fertilizers, and over-extraction of groundwater, which prevents effective dilution of pollutants, need to be determined before effective interventions for improvement can be proposed.

Around 80–85% of water resources in the country are extracted for agriculture. The current low water price is not an incentive to reduce water use but rather overuse. Highly water intensive crops are being grown using sub-optimal water irrigation methods. Run offs from farms are a leading cause of water quality impairment through nutrient and organic pollutants. Conventional agricultural practices emphasize the application of inorganic chemicals for increased yields. This has produced adverse impacts on the agro-ecology, including widely prevalent nitrate toxicity and contamination in aquifers, surface water bodies and soils impacting soil micro-flora and decreased resilience of agro-ecosystems. The use of low-quality irrigation water has an important impact on agricultural production and food safety with health implications across the value chain. Poor water quality has severe implications for water and food security and is estimated to reduce economic growth by up to a third (Quality Unknown, World Bank 2019).

The negative impacts above are reinforced by the effects of climate change. Climate change is projected to have, and already has significant impact on the water cycle, by altering rainfall patterns and affecting the availability and quality of both surface and groundwater. Increasing variability of rainfall (e.g. during monsoon, some areas receive 75% of the yearly rainfall in 3 to 4 months) influences the flow in surface water systems and the recharge and discharge rates from aquifers.

2.1.3 Case area: Hindon sub-basin

The Hindon basin in the State of Uttar Pradesh is one of the most negatively affected sub-basins of the Ganga river basin, and therefore selected as case area in this call. Water quality does not meet standards, is unsafe for drinking and bathing, and degrades further downstream as 34 drains along the river path of Hindon discharge mostly untreated sewage effluents into the river. Upstream districts are relatively more rural, downstream districts more urbanised. Saharanpur, Muzaffarnagar, Shamli and Baghpat are the main agricultural districts. A total of 48% of the Hindon basin area is under agricultural cultivation and 4% of the land use is forest/green covered area.

Sugarcane and wheat are the most widely grown crops in the region, followed by rice. All of these are water intensive crops that require a lot of water extraction for irrigation. In addition, the average nitrogen usage in Hindon basin is 142 kg/Ha compared to 51 Kg/ha in Europe, and the average phosphorus usage in the Hindon basin is 39 kg/ha compared to 3 Kg/ha in Europe³.

Muzaffarnagar and Ghaziabad, followed by Saharanpur have the highest fertilizer usage per area unit. As a result, agricultural run-off is a cause of pollution of water resources in the Hindon river basin, next to industrial and domestic waste water discharge.

There are various ongoing initiatives in the Hindon sub-basin in which Indian and Dutch parties are joining forces in order to clean the Ganga. These initiatives provide important opportunities for research projects in this call, for example to gain access to potential field sites, access to available data(bases) and collect additional data, perform tests and use existing multi-stakeholder networks in the Hindon basin, which are essential to be able to deliver sustainable solutions and successful implementation. One of these initiatives, for instance, is the 2030 Water Resources Group (2030WRG)⁴. Linkages of research with local initiatives and agendas will help to develop better and more targeted programs of measures (river basin planning) to solve the water issues in the Hindon basin.

³ State Water Resources Agency (SWaRa) Uttar Pradesh.

⁴ The 2030 Water Resources Group (2030WRG) is working with national and State level Indian government, private sector, international partners, academia and others on the development of partnerships on cleaning and rejuvenating tributaries in the Ganga river basin, with demonstration in the Hindon sub-basin. A formal Multi-Stakeholder Platform (MSP) for Hindon/Ganga Tributary Management has been established, chaired by the Government of Uttar Pradesh, with a secretariat hosted by the State Mission for Clean Ganga. A joint knowledge platform is being developed, including a database with information about the Hindon basin and its water situation (data collection and analyses) as well as a fact-based dashboard for decision making and monitoring.



2.1.4 Research areas

This joint DST-NWO research call aims to contribute to Cleaning the Ganga, in particular related to the impact of agriculture on the Ganga water system in the Hindon sub-basin. This requires a better understanding of the impact of agriculture on the water quality and availability in the catchment area of the Hindon, taking into account the above-mentioned issues. Furthermore, the call aims for knowledge to develop effective interventions in the agricultural water management to reduce negative effects, including technical and non-technical application-oriented solutions as well as the governance and policy recommendations required for sustainable implementation.

Three areas of research are being distinguished that are all expected to be addressed in the research project to some extent. This should be reflected in an interdisciplinary consortium composition and integrated research approach (see section 2.2 Specific requirements). The weight of each research area depends on the chosen focus of the project.

1) River basin system understanding, data and monitoring

There is a need for comprehensive and holistic monitoring and mapping of the water resources across Hindon. An adequate level of understanding of the water resources within the river basin system and the impact of agriculture on this system is needed in order to suggest interventions to improve (agricultural) water management. This requires monitoring of the water resources and pollutants within the river basin through data collection, modelling and interpretation. Insights into the surface and groundwater hydrology of the basin are important, existing knowledge should be used as much as possible. How does the river water level fluctuate throughout the year? How does that link to the groundwater system? What influence does extraction of groundwater have? What are the expected effects of climate change? Similarly, an inventory of pollution sources in the basin is necessary to determine their relative contributions. A key challenge is how to monitor the impact of agriculture as 'nonpoint source pollution', also in relation to (point and nonpoint) sources from other sectors.

2) Interventions to improve agricultural water management

The research should focus on technical and nontechnical interventions needed to minimize the footprint of the agricultural sector on the water system in terms of quantity and quality. These interventions should take into account the pressures from other sectors and the effects of climate change. They should contribute to the improvement of surface and groundwater quality and availability in the catchment area of the Hindon. Improving matching between water allocation and water utilization for agriculture is a major challenge. Possible interventions to reduce agricultural water extraction include improving the water use efficiency, for example through improved irrigation technologies or other water conservation methods. The use of alternative water sources could also improve both quality and quantity of irrigation water. Examples are (rain)water storage measures within the catchment area and the reuse of (waste) water.

3) Recommendations for implementation

Research in this programme should contribute to increased awareness of the impact of agriculture on the Ganga water systems, on different levels from policymakers to individual farmers. Results should be translated to science-based recommendations for policies and regulations that promote effective interventions for sustainable agriculture water management. This could include incentive or disincentive mechanisms. The proposal should take into account risks for sustainable implementation of the results and describe measures to mitigate those risks. Socio-economic factors could, for instance, influence effectivity of monitoring systems or hinder the application of technological solutions. Technologies are often already available but successful implementation can be hampered by a lack of appropriate governance or institutions. To achieve the common goal of a healthy water system in the Ganga basin, coordination between government, industry and community-based organisations at the level of (sub)basins is essential. The proposal should clearly describe relevant stakeholders and how they are involved throughout the research process. It should aim at collaboration with different governmental departments, specialists, land owners and/or policymakers, in order to allow for translation of the results of this research into practice.

2.2 Specific project requirements

2.2.1 Integrated research approach and Co-creation

The challenges addressed in this Call are interrelated and multi-scalar, and to reach impact require a holistic approach that spans the entire research and innovation chain. The consortia should be knowledge-chain wide, meaning they should crosscut scientific disciplinary boundaries (interdiscipli-



narity) and integrate scientific and practitioners' knowledge in joint research (transdisciplinarity). The proposed research itself should be characterised by integrated perspectives. It should evolve in a process of co-creation with different partners: researchers from both countries and societal partners should be actively involved throughout the entire project, in (advising on) defining and conducting the research as well as in communicating the progress and results, in order to jointly produce a mutually valued outcome. Added value may be achieved by integrating and synthesising various sources of knowledge to create new knowledge and by creating sustainability through the development of long-term knowledge relations.

Proposals should be based on a thorough review of existing knowledge and should preferably be complementary to existing research initiatives and reinforce these where possible. Project teams are encouraged to use a combination of quantitative and qualitative and quasi-experimental research methods, including operational research, and should include research-into-use approaches.

Projects are also expected to collaborate with the other project(s) awarded in this call, so as to enhance the impact of the call aim as a whole. As a part of this, projects will be expected to attend joint kick-off and midterm workshops, as well as dissemination of results through a final call conference. Projects should budget for this accordingly.

2.2.2 International collaboration

Proposals should furthermore be characterised by equal partnership and sustainable collaboration between the Indian and Dutch partners. This includes inter-institutional cooperation, a balanced contribution to the proposed research, and frequent exchange between the partners, including exchange visits by both senior and junior researchers. Equity and reciprocity of Indo-Dutch collaboration should be vividly brought out in the proposal and should be achieved through appropriate complementary.

Projects are expected to organise a maximum of four exchange research visits (in total) of a minimum of three months each for PhD students and/or post docs, and of minimum three weeks each for senior researchers from both Dutch and Indian site. A balanced reciprocity should be reflected from the exchange visits being proposed under the each project.

2.2.3 Impact Strategy, including Theory of Change & Impact Pathway

The research conducted in this Call for Proposals should have relevance and potential for impact beyond the academic world, such as in societal, technical, economical or cultural realms. This is why, in addition to having a societal or industry partner within the consortium, consortia should consider how relevant stakeholders can be involved in, or benefit from, the design and realisation of the proposed research project.

To further enhance the potential for impact of the proposed research, the application should state how approaches for achieving impact are integrated in the research design and conducted by the consortium in engagement with end users, such as practitioners, policymakers, and industry.

A webinar will be organized on the Impact Strategy concepts, to support the applicants in this call in using these methodologies in their application (and beyond) in an effective way (see section 3.4 Preparing an application).

An integrated approach to impact

Developing a vision on desired change in collaboration between partners and stakeholders is pivotal for developing realistic and feasible strategies to enhance the potential for impact. To this end an integrated approach is required, which consists of the following elements:

- Co-creation
- Theory of Change and Impact Pathway
- Impact Strategy

Co-creation: A form of cooperation in research where different parties (researchers and stakeholders) in the knowledge process (demand and supply) interact and engage in joint learning to define problems, formulate possible solutions, design the research, conduct the research, assess the results and to translate these into new practices and products.

A **Theory of Change** describes how the research process can contribute to impact, taking into account the context, actors involved and describing the sequence of logically-linked cause-effect relations. Developing a Theory of Change in joint effort with research partners as well as stakeholders allows for



making explicit which (and whose) problem is being tackled, and how the desired change is perceived to happen through research efforts. Projections on expected change will be based on a myriad of assumptions; documenting these assumptions allows for reflection on whether and how expected pathways to impact remain adequate or need adjustment.

The **Impact Pathway**, which is part of the Theory of Change, is the visualisation of the change process following from research execution as described in the Theory of Change. It makes explicit how the research activities will lead to results (output) and how these will contribute to desired changes in behavior of partners and stakeholders that are considered essential to achieving the desired impact.

An **Impact Strategy** is the plan of the consortium that spells out how the activities contribute to outcomes. Outputs do not automatically lead to outcomes, thus strategies are needed of the research consortium to plan and monitor how their efforts will enhance the potential for outcomes. This strategy should spell out clearly:

- *Stakeholder engagement*: which are the relevant stakeholders to engage with, how is this engagement foreseen and whose responsibility is it;
- *Communication*: which means of communication are foreseen from inception throughout and whose responsibility it is;
- *Capacity development*: which capacities, of partners and stakeholders, need strengthening in order to achieve the outcomes, how is this organised and whose responsibility is it;
- *Monitoring and Evaluation*: how is monitoring of activities foreseen and how do lessons feed back into the research design, whose responsibility is it.

How to translate this approach in the proposal?

Co-creation: Specify how the different skills and expertise are complementary and how this is integrated in approaches. Co-creation within the consortium and with stakeholders is central to the development of the research proposal through to the execution of the research. Describe how co-creation within the consortium and with stakeholders is organised and monitored.

The Theory of Change describes how the research process is expected to contribute to Cleaning the Ganga, in particular related to the impact of agriculture on the water system. Describe clearly the contribution of the proposed research from problem definition and the identification of knowledge gaps, through to the research design and how this is expected to contribute to change, including accompanying assumptions. The Theory of Change takes into account the context and the key groups of actors required to achieve the desired change. The Theory of Change is the vision narrative that is the background to the Research Impact Pathway.

Explicate in the Impact Pathway the expected change process that the proposed project contributes to through the realisation of output and outcomes, and the desired contribution to impact (see Box 1). Describe the sequence of expected logical cause-effect relations, including underlying assumptions. By formulating and revising the Impact Pathways in a collaborative effort between research partners, and stakeholders, it serves both as thought process (joint reflection) as well as method (tool) for formulating activities and strategies and monitoring and progress.

To further increase the potential for impact of the proposed research, the application should state how productive interactions around knowledge from the consortium to end users, such as government ministries, societal stakeholders and companies, will be facilitated. To this end, a clear impact strategy (including stakeholder engagement, capacity development, and communication, also with the aim to influence the enabling environment) needs to be provided. This impact strategy should contain descriptions of the actual knowledge transfer activities undertaken to encourage innovation and boost impact from inception through to the end stages of the proposed research.

Indicators, at output and outcome levels, facilitate monitoring progress and accordingly adjusting the research approach, where the assumptions proved insufficient or incorrect. Indicators should be formulated in SMART ways and be ambitious, yet realistic.

A Theory of Change is not fixed, but rather reflected on continuously throughout the research process. For this reason, it is also used as part of the monitoring, evaluation and learning trajectory.



Box 1: Output, outcome and impact

Research outputs relate to the direct and immediate results obtained by a research project or programme;

Research outcomes relate to the changes in behaviour, relationships, actions, or activities of stakeholders as a result of sharing and uptake of research;

Research impact is defined as changes in economic, environmental and social conditions a project or programme is aiming at.

Change is a complex process that depends on a variety of actors and factors of which research is only one. Where research outputs fall under the direct sphere of control of a research project or programme, outcomes belong to their sphere of influence, and impact to their sphere of interest.

3 Guidelines for applicants

3.1 Who can apply

Applications can be submitted by consortia that include at least:

- Two different research organisations that are based in the Netherlands,
- Two different recognised academic institutions and/or public funded research & development organisations that are based in India, and
- A partner from a public, semi-public or private practitioner organisation (for-profit or not-for-profit).

Eligible consortia are composed of researchers based in the Kingdom of the Netherlands and in India, with active involvement in the project of a senior Principal Investigator (PI) on both the Dutch and the Indian side. Principal investigators should fulfil the requirements of 3.1.1. Co-applicants should be eligible according to the criteria in 3.1.2. The consortium must also include at least one partner from a public, semi-public or private practitioner organisation (for-profit or not-for-profit).

Together, the consortium members will 1) formulate relevant research questions and approaches; 2) formulate and submit the proposal through the Principal Investigators; 3) conduct the project activities; 4) coordinate knowledge sharing and support the application, dissemination and communication of the project results to a broader group of possible knowledge users that are not a member of the consortium; and 5) take responsibility for the adequate and timely reporting conditions.

Each Principal Investigator and consortium can only submit one proposal.

This call aims at knowledge chain-wide collaboration, to enhance demand articulation, ownership, and the effective uptake of results. For this reason, all consortium partners, as well as relevant stakeholders, are expected to be engaged in all phases of the project execution, from its inception to sharing the (emerging) results. Evidence of such active engagement will be an important element in the assessment of project proposals and may be demonstrated through references to involvement in project preparation, active involvement as a project partner and links between the proposed research project and ongoing projects of NGOs, private or industry organisations, and/or policy implementation.

A Consortium Agreement to regulate consortium governance, task division, resource management and ownership of results between the collaborating consortium organisations is obligatory (see section 3.5 for details).

3.1.1 Principal Investigators

A proposal should have two Principal Investigators: one based in the Netherlands or at a university established in the Kingdom of the Netherlands, and one based in India from a recognized academic public funded R&D institution. The two Principal Investigators will serve as the recipients of the grants from their respective countries. They will serve as the points of contact for their respective funding agency and will submit the proposal to both agencies. The Principal Investigators' organisations will take responsibility for the project secretariat, the day-to-day management and all financial affairs of the research project, including the final financial accountability towards their respective funding agency.

Netherlands-based Principal Investigator

For scientists based in The Netherlands, the NWO eligibility criteria apply. The Netherlands-based Principal Investigator should be affiliated to one of the following:

- Universities established in the Kingdom of the Netherlands;
- University medical centres;



- NWO and KNAW institutes;
- TO2 institutes;
- the Netherlands Cancer Institute;
- the Max Planck Institute for Psycholinguistics in Nijmegen;
- researchers from the DUBBLE Beamline at the ESRF in Grenoble;
- NCB Naturalis;
- Advanced Research Centre for NanoLithography (ARCNL);
- Prinses Máxima Center for pediatric oncology.

AND

have an employment contract for at least the duration of the application procedure and the duration of the research the grant is applied for,

AND

have at least a PhD or an equivalent qualification.

Researchers with a zero hour contract at one of the institutions above cannot apply. An exemption can be made for Principal Investigators on a 'tenure track' contract at one of the institutions above.

India-based Principal Investigator

For Indian scientists, DST requires the Principal Investigator to be:

A researcher working in regular position in a recognized academic institution or public funded R&D institution/laboratory, based in India,

AND

have at least a PhD or an equivalent qualification.

3.1.2 Co-applicants

A co-applicant is participant in the consortium and receives funding through the Principal Investigator of the respective country (or from DST in case of the Indian co-applicants). The consortium should include co-applicants from at least one other Dutch and Indian institution than the Principal Investigators.

Dutch co-applicants

NWO requires co-applicant to be:

- A researcher from one of the institutions listed in 3.1.1., who has an employment contract for at least the duration of the application procedure and the duration of the research the grant is applied for,
AND
has at least a PhD or an equivalent qualification.
Researchers with a zero hour contract at one of the institutions listed in 3.1.1 cannot be a co-applicant. An exemption can be made for researchers on a 'tenure track' contract at one of the institutions listed in 3.1.1.
- An experienced researcher (a professor, assistant professor, or a researcher with a similar appointment) with an appointment at a university of applied sciences funded by the Dutch Ministry of Education for the duration of the application process and the project (funded in accordance with Article 1.8 of the law on higher education and scientific research).
- If the applicant is affiliated to an organisation not listed in paragraph 3.1.1 and which is not a university of applied sciences as specified above, the organisation must meet the following cumulative criteria:
 - i. is based in The Netherlands;
 - ii. is a public institute and carries out its Research independently;
 - iii. receives at least 50% public funding;
 - iv. is not-for-profit other than for the purpose of carrying out further Research;
 - v. its researchers enjoy freedom of publication in international scientific journals.

Please note: these conditions will be assessed by NWO **prior to** submission of the application. To this end, the co-applicant's organisation must submit the following documents by email to dst-merian@nwo.nl no later than **21 April 2020**:

 - a recent extract from the Chamber of Commerce register;



- the deed of incorporation, articles of association or other formal document indicating the public task and the non-profit status;
- the latest available annual accounts accompanied by an auditor's statement.

Indian co-applicants

DST requires co-applicants to be:

A researcher working in regular position in a recognized academic institution/public funded R&D institution/laboratories or S&T based voluntary organizations, based in India,

AND

has at least a PhD or an equivalent qualification.

3.1.3 Public and/or Private practitioner collaboration partners

Consortia should contain at least one public and/or private practitioner collaboration partner. Public and/or private practitioner collaboration partners are partners from the public and/or semi-public sectors and/or industry. They are closely involved with the research and impact strategy. Please note that personnel of these organisations is excluded from payment of salaries and research costs from the NWO grant, unless they are hired through the module 2 – work by third parties (see Annex 6.1). Costs for for-profit partners cannot be charged to the project budget from NWO or DST grant.

All organisations participating in a consortium must be registered as a legal persona.

3.2 What can be applied for

The Principal Investigators and consortia can apply for funds for a project with a maximum duration of five years. Per project, a maximum of € 700.000 can be requested from NWO, and a maximum of Rs. 5.5 crores is available from DST.

This call invites full proposals to be submitted. All consortium members have to be involved in the formulation of the research questions, in the development of the proposal and in the execution of the research project. Each Principal Investigator and consortium can apply for one project only.

Reimbursable costs

Different costs can be reimbursed from the DST and NWO grants. The application form allows you to specify which organisation you would like to cover a certain cost. You should complete two budgets, one specifying the costs to be covered by the NWO grant and one specifying the costs to be covered by the DST grant.

Reimbursable costs NWO budget:

The budget is built up using the NWO-wide standardised building blocks, the so-called budget modules. These budget modules are described in Annex 6.1. In the proposal budget, applicants choose which combination of budget modules are needed to answer the research question and how often each module will be deployed. Each module can be applied multiple times. The following budget modules are available for an application within this call:

1. Personnel
Salary and/or research leave costs can be requested within the limits of the module specification in Annex 6.1. Please note that, should you wish to use this module to cover the salary, living costs, or research leave of someone appointed in India, local tariffs apply, and may not be more than the equivalent in the Dutch agreement "Funding for Scientific Research"⁵. Costs of personnel from TO2 institutes or Public Knowledge Organisations (RKI's) may be requested, but this should be a cost-covering tariff conform the CAO and salary scale of the employee in question and may be no more than the Handleiding Overheidstarieven (HOT).
2. Material Credit
Only costs directly related to the project are eligible for reimbursement. These costs should be specified and substantiated in the proposal. Infrastructural expenses (housing, standard office computers), commuter traffic and other costs relating to overhead are not eligible for funding, nor are expenses covered by the bench fee. International travel related to international cooperation, or

⁵ <https://www.nwo.nl/en/funding/funding+process+explained/salary+tables>



costs related to international workshops, may also be placed under module 5 (internationalisation). Please note that if the Principal Investigator on the Dutch side is not from a university or KNAW institute, the project will be required to submit an audit report at the end of its duration. If this is the case, please budget for this accordingly (see Annex 6.1).

3. Impact

Funding from this module can be requested for costs related to the proposal's impact strategy, such as workshops, policy briefs, and other activities to share the project's findings during and at the end of its duration. Please take into consideration the requirements regarding impact and an impact strategy as specified in section 2.2 of this Call for Proposals. Proposals should furthermore request funding for a kick-off, midterm and final workshop; and funding to attend the joint kick-off, midterm and final workshop with the other project funded in this Call (between € 20,000 and € 25,000).

4. Internationalisation

Funding in this module can be requested to further facilitate international exchange and travel. This may be a maximum of 20% of the total requested budget from NWO.

NWO has provided a budget form (Excel) that should be uploaded with your application. While filling in the budget, you are expected to justify how the proposed cost will support the project. This justification may be no more than 1 A4 page, and should be included in section 4b of the application form.

A specification of the costs that are covered per module can be found in Annex 6.1. The budget modules can be applied for as many times as necessary, up to the total budget maximum (€ 700.000). All requested costs must conform the module specifications.

Reimbursable costs DST budget:

Details of admissible costs from the DST grant are attached as Annex 2 to this call, based on the updated latest norms of DST.

3.3 When can applications be submitted

The deadline for the submission of proposals is:

- **12 May 2020, 14:00:00 hours CEST** (for submission of proposals to NWO)
- **12 May 2020, 17:30:00 IST** (for submission of proposals to DST)

Proposals must be submitted on time to both NWO (via ISAAC) and DST (via e PMS (onlinedst.gov.in)). Applications submitted after the deadline to either NWO or DST, or both, will not be taken into consideration.

For submissions to NWO

When you submit your application to ISAAC you will also need to enter additional details online, such as the institutions or organisations of both principal investigators, and your co-applicants. You should therefore start submitting your application at least five working days before the deadline of this call for proposals.

3.4 Preparing an application

3.4.1 Webinar

A webinar on the Theory of Change and Impact Pathway approach will be held in March 2020. In this webinar, you will be given more information regarding this approach, as well as have the opportunity to ask questions. The webinar is not mandatory but highly recommended for applicants from both India and The Netherlands to join, because it will support the applicants to implement the required approach in their application in a meaningful way. The Theory of Change and Impact Pathway approach will be used in the monitoring and evaluation during the running time of the projects to be funded as well. More information, including the link to join the webinar, will be made available on the programme page.

3.4.2 Full proposal

For NWO:

- Download the application form and budget Excel form from the electronic application system ISAAC or from NWO's website (on the grant page for this programme).
- Complete the application form and budget Excel form, using the guidelines in the application form and call.



- Save the application form as a pdf file and upload it in ISAAC and email to DST.
- Save the budget form as Excel and upload it as separate document in ISAAC.

For DST:

- Download the application format from the electronic application system ePMS (onlinedst.gov.in) or from DST's website.
- Complete the application form and budget Excel form (Annexure-I of application form), using the guidelines in the Annexure-II and fill up the formats for endorsements and contribution letters (Annexure-III).
- Save the application form as a pdf file and upload it in ePMS (onlinedst.gov.in).
- Save the budget form as Excel and fill up the endorsement and contribution letters and email the scanned versions to [DST atdstwticall@gmail.com](mailto:DSTatdstwticall@gmail.com).
- Two (2) hardcopies of the uploaded research proposal should be sent to Dr. Neelima Alam, Scientist E, Department of Science and Technology, Technology Bhavan, New Mehrauli Road, New Delhi-110016 by speed post.

Full proposals should include:

- The application form for full applications.
- A completed budget, using the Excel budgetform. Please note that the Indian and Dutch part of the consortium complete and submit a separate budget, using the budgetform provided by DST and NWO respectively.
- A letter of commitment from the organisations of the principal investigators, co-applicants, and public or private collaboration partners, in which the institution or organisation confirms that they agree to the conditions required for the execution of the project. The letter must be signed by the Dean of the faculty or the director of the organisation and be printed on the letterhead of the institution or organisation. See the format in Annex 6.3.
- A draft consortium agreement.
- CVs of both Principal Investigators and all co-applicants and public or private collaboration partners (each max 1 page).
- A list of literature references.
- In case of co-financing: a letter from the co-financing institution confirming the numeric amount that will be provided as co-financing. In case the institution of a consortium member provides co-financing, this confirmation can be included in the letter of commitment. Letters of guarantee are unconditional and do not contain any opt-out clauses.

It is not permitted to include other documents than those requested above. Applicants will be asked to remove any additional documents.

3.5 Conditions on granting

The NWO Grant Rules 2017 and the Agreement on the Payment of Costs for Scientific Research apply to all grants provided by NWO.

For the Indian applicants, applicable terms and conditions are as per DST's guidelines available on www.dst.gov.in.

3.5.1 Conditions start and duration of project

Start

The project should start within six months after the date of the grant award letter. At least one researcher must be appointed to the project at the time of its start. If the project has not started within six months, the WOTRO Steering Committee, on behalf of NWO, and DST can decide to revoke the granting decision.

Start documents

The Netherlands-based Principal Investigator and Indian Principal Investigator are responsible for ensuring the necessary documents for the start of the project are submitted to their respective funding organisations, so that the project in its entirety can start on time.

NWO

The project can start if the following documents have been approved by NWO:

- A project notification form with information of project staff;
- A data management plan;



- A consortium agreement, signed by all consortium organisations;
- (if relevant) approval of relevant ethics committees;
- (if relevant) receipt by NWO of the first tranche of in-cash co-financing.

DST

The project can start:

- If official sanction order for implementation of the project and disbursement of first instalment of grant has already been issued;
- and a consortium agreement signed by all consortium organisations has been provided.

Publications

When publishing the results of the subsidised research, the support by NWO and DST should be mentioned.

3.5.2 Reporting to NWO and DST

Annual and Midterm report

Annually, the project must submit a report to inform NWO and DST on the overall project progress, experiences and output. The Principal Investigators will receive instructions and a format for this report in advance.

The projects will also be evaluated at about the mid-term of the projects' running time by self-assessment. This includes a workshop of the project team organised by the consortium and a discussion of the results with stakeholders from outside the project team. Consortia should include this workshop in their budget. The mid-term report will be based on the conclusions of the workshop, including a reflection on and (if applicable) revision of the Impact Pathway and impact strategy, the underlying assumptions and the indicators. The International Advisory Committee, composed by DST and NWO, will evaluate the progress of the projects based on mid-term reports submitted by the consortia. Interviews or field visits may be organized to evaluate the progress and impact of the projects. The IAC will give recommendations to the projects based on their evaluations.

The mid-term report of all the projects of a call need to be submitted before the joint mid-term workshop and will be used as input for organising the mid-term workshop.

Final accountability to NWO

A substantive final report should be submitted within three months after the end of the project's runtime, detailing the research done and the achieved results, as well as a reflection on the project's Impact Pathway, the underlying assumptions and the indicators. As part of this, projects will be asked to again complete a self-assessment, and hold a final workshop, including interaction with stakeholders from outside the project team. The final substantive report will again be evaluated by the joined review committee, constituted by DST and NWO. The final workshop should again be taken into account in the consortium's budget.

Simultaneously, the Dutch principal investigator and the controller/financial manager of the Principal Investigator's institution should submit a signed financial end report, organised according to the budget lines of the approved NWO budget. The realised in cash and in-kind co-financing should also be accounted for. If the Dutch Principal Investigator is not based at a Dutch university, an external audit report must also be submitted. NWO reserves the right to conduct an external financial audit.

NWO reserves the right to externally evaluate projects financed under this call. The project ends with the issuing of the grant settlement decision. This decision is taken after approval of the final document(s) by NWO.

3.5.3 Programmatic coherence

The projects awarded under this Call should contribute to Cleaning the Ganga, in particular related to the impact of agriculture on the water system, as described in 2.1. To this end, Principal Investigators, researchers and other consortium members are expected to contribute to knowledge exchange and knowledge utilisation at call level, and to participate in and contribute to the meetings organised for that purpose. This includes a joint kick-off and midterm workshop with all projects of the Call, as well as a final conference. This is in addition to the activities organised by the individual projects for this



purpose. Consortia should budget for their participation in these meetings in their application (between € 20.000 and € 25.000).

3.5.4 Co-financing

- It is possible for contributions to be partially in-kind and partially in-cash. The amounts of co-financing specified in the budget should correspond to the amount of co-financing specified in the letter of guarantee or, in case of co-financing by an organisation that is part of the consortium, in the letter of commitment. Letters of guarantee are unconditional and do not contain opt-out clauses;
- The private and/or public parties that are part of the consortium should be involved in the research for the duration of the project;
- Co-financing provided by an Indian institution or organisation should preferably be included in the Indian budget, and should be accounted for to DST. Co-financing provided by other institutions or organisations should preferably be included in the NWO budget, and accounted for to NWO;
- After a research proposal has been awarded funding, NWO will invoice the private or public party that has pledged an in-cash contribution to the NWO budget if that in-cash contribution to the NWO budget is equal to or exceeds € 5,000. After the contribution has been received, the money will be awarded to the project. It is the responsibility of the Dutch Principal Investigator to invoice cash co-funding organisations who are contributing less than € 5,000.

3.5.5 Consortium agreement

For research partnerships to be effective, they have to be fair. A consortium agreement should be signed by all consortium partners prior to the start of the awarded project, detailing agreements regarding rights (such as copyright, publications, intellectual property etc. of products or other developments in the project), knowledge utilisation, as well as affairs such as payments, progress- and final reports, and confidentiality. The agreement furthermore details agreements on governance of the consortium (to the extent that it gives sufficient guarantee for effective collaboration), finances, and if applicable, basic knowledge to be contributed, liability, disputes, and information sharing within the consortium. The agreement has to be drafted in a spirit of equity.

The initiative for the concluding of these agreements lies with the principal investigators. The agreement will be tested for consistency with the NWO Grant Rules 2017 and applicable terms and conditions are as per DST's guidelines available on www.dst.gov.in. For Intellectual Property (IP) rights, the provisions as specified in Chapter 4 of the NWO Grant Rules 2.017 are applicable, according to which the IP-rights to the results belong to the research institution, whose employee generated the results in question (ownership follows inventorship). For the IP rights of the results of possible co-financing institutions, the percentages shown are applicable, unless an appropriate reflection justifies the deviation from this.

3.5.6 Open Access

All scientific publications resulting from research that is funded by grants derived from this call for proposals are to be immediately (at the time of publication) freely accessible worldwide (Open Access). There are several ways for researchers to publish Open Access. A detailed explanation regarding Open Access can be found on www.nwo.nl/openscience-en.

3.5.7 Data management

The results of scientific research must be replicable, verifiable and falsifiable. In the digital age this means that, in addition to publications, research data must also be freely accessible. As much as possible, NWO and DST expect that research data resulting from projects funded in this programme will be made publicly available for reuse by other researchers. "As open as possible, as closed as necessary" is the guiding principle in this respect. As a minimum, NWO and DST require that the data underpinning research papers should be made available at the time of the article's publication. The costs for doing so are eligible for funding and can be included in the project budget. In the data management section, and in the data management template if the project is awarded funding, researchers explain how they plan to manage the data expected to be generated by the project.

1. Data management section

The data management section is part of the research proposal. Researchers should answer four questions about data management within their intended research project. Therefore before the research starts the researcher will be asked to think about how the data collected must be ordered and categorised so that it can be made freely available. Measures will often need to be taken during the



production and analysis of the data to make their later storage and dissemination possible. Researchers can state which research data they consider to be relevant for storage and reuse.

2. Data management plan

After a proposal has been awarded funding the researcher should elaborate the data management *section* into a data management *plan*. The data management plan is a concrete elaboration of the data management section. In the plan the researcher describes whether use will be made of existing data or a new data collection and how the data collection will be made FAIR: Findable, Accessible, Interoperable, Reusable. The plan must be submitted to as part of the starting documents. Approval of the data management plan by NWO is a condition for disbursement of the funding. The plan can be adjusted during the research.

Further information on the NWO data management protocol can be found at www.nwo.nl/datamanagement.

3.5.8 Nagoya Protocol

The Nagoya Protocol became effective on 12 October 2014 and ensures an honest and reasonable distribution of benefits emerging from the use of genetic resources (Access and Benefit Sharing; ABS). Researchers who make use of genetic sources from the Netherlands or abroad for their research should familiarise themselves with the Nagoya Protocol (www.absfocalpoint.nl). NWO assumes that researchers will take all necessary actions with respect to the Nagoya Protocol.

3.5.9 Ethical aspects

Any research proposal that raises ethical issues must be carefully considered in advance. The applicants need to assess what ethical challenges will be met in the proposed research, consider how these will be addressed, and how ethical clearance will be obtained. In the Netherlands, certain research projects require a statement of approval from a recognised (medical) ethics review committee or an animal experiments committee. In addition, some research proposals require a licence under the Population Screening Act (WBO). Similar laws and regulations in India must be adhered to if required and applicable. Applicants must subscribe to and comply with the prevailing codes.

Applicants themselves are responsible for determining whether their research proposal raises possible ethical issues. If so, they are also responsible for obtaining any necessary statement of approval from the appropriate ethics review committees and/or license under the Population Screening Act or similar organisations. A research project can only start when NWO has received a copy of the necessary approving ethical statement and/or Population Screening Act license (if applicable). For complex questions related to ethical issues and in case applicants would question the need for ethical clearance, NWO and DST reserve the right to consult an external adviser. If after consulting the applicant, NWO and DST are of the opinion that an ethical assessment is needed for the application, then the applicant is obliged to take the necessary measures for such an assessment. If the applicant fails to obtain the necessary statement of approval from an ethics review committee then the grant shall be immediately withdrawn.

Once the project has started the research must be conducted in an ethically responsible way. The Global Code of Conduct for Research in Resource-Poor Settings can be complementary in this aspect to the Code of Conduct for Research Integrity. If the applicant fails to conduct the research in an ethically responsible way, NWO and DST shall reserve the right to withdraw the grant immediately.

3.6 Submitting an application

Applications should be submitted to both NWO and DST, by the Netherlands-based and India-based Principal Investigators respectively. Applications not submitted to both organisations will not be taken into consideration. The applications that are submitted to NWO and DST by each consortium should be identical (with exception of the budget annexes).

Applications submitted after the deadline, or that have not been submitted to both digital application systems of NWO and DST before the deadline, will not be included in the assessment procedure.

3.6.1 Submission to NWO

The Principal Investigator based in the Netherlands or at a university established in the Kingdom of the Netherlands must submit his/her application via his/her own ISAAC account. Applications not submitted via ISAAC will not be admitted to the assessment procedure.



If the Principal Investigator does not have an ISAAC account yet, then this should be created at least five working days before the application is submitted to ensure that any registration problems can be resolved on time. If the principal investigator already has an NWO-account, then he/she does not need to create a new account to submit an application.

Please note that you will be asked to submit additional information when submitting your application in ISAAC, such as the organisations of your consortium members. For this reason, we strongly advise that you start submitting your application at least five working days before the deadline. For technical questions please contact the ISAAC helpdesk, see Section 5.1.2.

3.6.2 Submission to DST

The Indian Principal Investigator must submit the application via e-PMS (onlinedst.gov.in) under Technology Mission Division. In addition, the budget sheet (Annexure-I of application form) and contribution letters (Annexure-III of application form) should be submitted via email along with a copy of the full proposal to dstwticall@gmail.com.

Two (2) hardcopies of the uploaded research proposal should be sent to Dr. Neelima Alam, Scientist E, Department of Science and Technology, Technology Bhavan, New Mehrauli Road, New Delhi-110016 by speed post.

4 Assessment procedure

4.1 Procedure

The first step in the assessment procedure is the check if the application (both submitted to NWO and DST meets the eligibility criteria, specified in section 4.2.1. All applicants and their institutions must fulfil national eligibility rules for research proposals as set by the relevant organisation (see section 3.1, Who can apply).

NWO and DST will jointly compose an International Advisory Committee (IAC), with international experts. All applications are assessed in competition by the IAC, according to the criteria specified in paragraph 4.2.2. The IAC will formulate a funding advice. The NWO-WOTRO Steering Committee and the board of DST will take a provisional decision based on the advice of the IAC regarding the applications to be awarded. The decision is final when both boards have reached the same decision.

Below is a further description of the assessment procedure.

4.1.1 Code for dealing with personal interests (Personal Interest Code)

The assessment and/or decision-taking process for this funding round will be carried out according to the Personal Interest Code. More information concerning the Personal Interest Code can be found on the NWO website. See: <https://www.nwo.nl/en/common/subsidies/funding-process-explained/code-for-dealing-with-personal-interests>.

4.1.2 Eligibility

After the deadline, the administrative eligibility of the applications is assessed by NWO and DST, based on the eligibility criteria specified in paragraph 4.2.1.

If correction of an application is possible and necessary, the Principal Investigators will be given the opportunity to adjust their application. If the application is not corrected within the given time frame, NWO and DST will not include the application in the assessment process. Corrected applications will, after approval of eligibility by both NWO and DST, be included in the assessment procedure.

4.1.3 Substantive assessment

All eligible applications will be sent to independent, (inter)national reviewers, who will assess the application based on the criteria specified in 4.2.2. Each application will be assessed by a minimum of three reviewers. The reports by the external reviewers will be made available to the Netherlands-based Principal Investigator via ISAAC and to the Indian Principal Investigator via e-mail, after which the consortium will have five working days to write a response to the reviewers' reports. The Principal Investigators is responsible for sharing the reviewer reports with the consortium. The response should be submitted by the Dutch Principal Investigator on behalf of the consortium, via his or her ISAAC account. Simultaneously, the Indian Principal Investigator will submit the response on behalf of the consortium to DST via email.



4.1.4 Assessment and Grant Advice

The IAC will make a final assessment of the application, based on the application, the reviewer reports, and the response, according to the criteria in section 4.2.2. The IAC will subsequently rank all applications. The IAC will subsequently present a substantiated advice to the WOTRO Steering Group and the board of DST regarding which applications are to be awarded.

4.1.5 Decision

The NWO-WOTRO Steering Committee, on behalf of NWO, and the board of DST will check the assessment procedure has been carried out in accordance with the Call for Proposals, and will provisionally decide on the projects to be awarded, based on the advice of the IAC. The decision becomes definitive when the WOTRO Steering Committee and the board of DST have come to the same provisional decision.

4.1.6 Qualification

Based on the IAC's final score, NWO and DST will award a qualification to all full proposals, and will make this known to the Netherlands and Indian Principal Investigator with the decision about whether or not the application has been awarded funding.

Only applications that receive the qualification "excellent" or "very good" will be eligible for funding. For more information about the qualifications please see www.nwo.nl/en/funding/funding+process+explained/nwo+qualification+system.

4.1.7 Data management

The data management section in the application is not evaluated and therefore not included in the decision about whether to award funding. However, both the referees and the committee can issue advice with respect to the data management section. After a proposal has been awarded funding, the researcher should elaborate the data management section into a data management plan. Applicants can use the advice from the referees and the committee when writing the data management plan.

A project awarded funding can only start after NWO and DST have approved all starting documents as stated in section 3.5. It is the responsibility of the Principal Investigators to ensure that these documents are submitted on time to the respective funding agencies so that the project can start within the allowed time frame.

4.1.8 Timeline of the call

February 2020	Call open
March 2020	Webinar on Impact Strategy
12 May 2020, 14:00:00 hours CEST/ 18:30:00 IST	Submission deadline full proposals
May – June 2020	Referees are consulted
July 2020	Applicants can submit a response (rebuttal). Consortia have 5 working days to submit a rebuttal
October 2020	IAC meeting
November 2020	Decision NWO-WOTRO Steering Group and Board of DST
November 2020	NWO and DST inform applicants about the decision

4.2 Criteria

4.2.1 Eligibility criteria

The administrative eligibility will be checked at desk officer level by NWO and DST. Applications that are not complete, have not been completed correctly, or have not been submitted on time to both organisations will not be admitted to the assessment procedure. This also applies if, after receiving the opportunity to correct the application, the Principal Investigators do not resubmit the application within the given time frame. If correction of an application, or the submission of necessary additional information, is possible, the Principal Investigators will be given the opportunity to correct their



application and/or submit the necessary additional information within a given time frame. If the Principal Investigators are unable or unwilling to comply with this request, the application will not be admitted to the assessment procedure.

Eligibility concerns compliance with the conditions set in this call. Formal criteria include:

- Timely received application via NWO's electronic application system ISAAC and DST's online submission system (www.dst.gov.in);
- Application has been submitted by the Dutch Principal Investigator and the Indian Principal Investigator, who meet national eligibility criteria (section 3.1);
- Specific conditions (as outlined in Sections 3.1, 3.2, the annexes) have been applied;
- Completed and signed application form, signed by all principal investigators, co-applicants, and collaboration partners;
- Composition of consortium complies with the requirements;
- Format, length of text, language (English) is as required;
- Budget conditions are met;
- Completed annexes are added.

The following annexes should be added:

- CVs of Principal Investigators, co-applicants and collaboration partners mentioned in questions 1b and 1d of the application form;
- Letters of commitment of all consortium organisations, outlining the availability and commitment of consortium members, signed by heads of the participating department or organisation;
- Draft Consortium Agreement;
- Letters of guarantee from parties providing co-financing (if applicable);
- The budget requested from NWO and DST, uploaded as separate Excel files.

No additional annexes are allowed. Please include all annexes in your application except the budget form or otherwise specified.

Applicants will receive written confirmation of receipt within two weeks after the deadline of this call, stating whether or not the application has been accepted into the selection procedure.

4.2.2 Assessment criteria

Applications will be assessed according to the following criteria:

- I. Quality of the research proposal
- II. Quality of the consortium
- III. Potential scientific and/or societal breakthrough

The criteria carry equal weight and each count for one-third of the final assessment. The assessment criteria are further operationalised below:

- I. Quality of the research proposal
 - Scientific importance of the proposed research;
 - Complementarity to other research programmes or (inter)national research agendas;
 - Innovativeness of the research question and approach;
 - Interdisciplinarity and transdisciplinarity; the proposal incorporates the scientific disciplines necessary for addressing the problem, as well as knowledge from outside the scientific community;
 - Clarity of problem statement and rigour of research;
 - Suitability and feasibility of the approach and methodology;
 - Appropriateness of the budget requested.
- II. Quality of the consortium
 - Quality of the involved research partners;
 - Quality of the Indian-Dutch collaboration, including equality in the partnership;
 - Potential for long-term knowledge relations;
 - Coherence and complementarity of the consortium, including organisation of the research;
 - Quality of knowledge co-creation, including attention to and involvement of the complete knowledge chain.
- III. Potential scientific and societal breakthroughs
 - Relevance for society, including the relevance of the proposed research for the focus of the Call;
 - Degree to which the proposal aims for scientific and societal breakthroughs;
 - Quality of (stakeholder analysis and) involvement of wider public/specific target groups;
 - Quality of (the Theory of Change and Impact Pathway, including indicators and) impact strategy;



- Quality of communication plan for knowledge transfer, including outreach to industry, societal partners, and/or other stakeholders.

5 Contact details and other information

5.1 Contact

5.1.1 Specific questions

For specific questions about Cooperation India-The Netherlands and this call for proposals please contact:

NWO:

Berry Bonenkamp
+31 70 349 44 16

Monika Brasser
+31 70 349 45 03
dst-merian@nwo.nl

DST:

Dr. Neelima Alam
+91 11 26590467
neelima.alam@nic.in

5.1.2 Technical questions about the electronic application system ISAAC

For technical questions about the use of ISAAC please contact the ISAAC helpdesk. Please read the manual first before consulting the helpdesk. The ISAAC helpdesk can be contacted from Monday to Friday between 10:00 and 17:00 hours CEST on +31 (0)20 346 71 79. However, you can also submit your question by e-mail to isaac.helpdesk@nwo.nl. You will then receive an answer within two working days.

6 Annexes

Annex 1: Overview NWO budget modules

Annex 2: DST funding specifications

Annex 3: Format Letter of Commitment

6.1 Budget Modules NWO grant

The following budget modules can be applied for from the NWO grant. Please use the Excel budget format while completing your budget. If you are asked to provide justification, please do so in section 4b. of your proposal.

1. Module Personnel: a) PhD/PDEng/MD PhD; b) Postdoc; c) Non Scientific Personnel; d) Personnel at universities of applied sciences (HBO); e) Research leave; f) Other scientific personnel;

NB: Remunerations for PhD scholarship students at a Dutch university are not eligible for funding from NWO.

- **Module 1a) PhD/PDEng/MD PhD**
The guideline is that 1 fte PhD for 48 months or 0.8 fte for 60 months can be applied for. If a different duration of appointment is desired for the realisation of the proposed research, then the guidelines may be deviated from as long as this is well justified (e.g. PDEng 2 years or MD PhD longer than 4 years).
The salary costs will be remunerated according to the agreements in the 'Agreement for Funding Scientific Research' made with the Association of Universities in the Netherlands and are based on the collective labour agreement of the Dutch universities (for researchers employed by University Medical Centres, the costs are based on the collective labour agreement of the Netherlands Federation of University Medical Centres).
In addition to salary costs, the project employee funded by NWO will receive a one-off individual bench fee (€ 5.000) to encourage his or her scientific career. The agreement and the maximum amounts for personnel costs can be found at <https://www.nwo.nl/approval-of-funding-for-scientific->



research-2008 and <https://www.nwo.nl/salarytables>.

- **Module 1b) Postdoc**

The appointment of a postdoc must be at least 6 months at 1FTE, and maximum 48 months at 1 FTE. The amount of months and FTE can be budgeted for as necessary, but must always be at least 0.5 FTE or for a duration of at least 12 months. The product of FTE x duration of the appointment must always be equal to at least six months at 1 FTE.

If the applicants wish to deploy expertise for a shorter period of time, then the material credit can be used for this.

The salary costs will be remunerated according to the 'Agreement for Funding Scientific Research' made with the Association of Universities in the Netherlands (for researchers employed by University Medical Centres, the costs are based on the collective labour agreement of the Netherlands Federation of University Medical Centres).
- **Module 1c) Non-scientific personnel**

For the appointment of non-scientific personnel, specifically needed for the research project which funding is applied for, a maximum of € 100,000 can be requested with this module. This can concern personnel such as student assistants, programmers, technical assistants, analysts, et cetera. This module can only be applied for in combination with budget modules 1a and/or 1b. The amount of months and FTE can be budgeted for as necessary, but must always be at least 0.5 FTE or for a duration of at least 12 months. The product of FTE x duration of the appointment must always be equal to at least six months at 1 FTE. If the applicants wish to deploy expertise for a shorter period of time, then the material credit can be used for this.

Salary costs are dependent on the level and are remunerated in accordance with the agreements in the most recent 'Agreement for Funding Scientific Research' made with the Association of Universities in the Netherlands and are based on the collective labour agreement of the Dutch universities. The agreement and the maximum amounts for personnel costs can be found at <https://www.nwo.nl/approval-of-funding-for-scientific-research-2008> and <https://www.nwo.nl/salarytables>.
- **Module 1d) Personnel at universities of applied sciences**

For the appointment of personnel at universities of applied sciences the system of the Handleiding Overheidstarieven (HOT) has been applicable since 1 January 2018, in particular the column 'cost covering rates per hour' (table 2.2, Integrale loonkosten). This cost covering rate per hour is based on the collective labour agreement for universities of applied sciences, and with respect to the salary scale of the employee concerned. The rates in the HOT are maximum values. For students, only the actual amounts paid to students can be entered as costs within the project. A maximum hourly rate of € 25.00 always applies to students.
- **Module 1e) Research leave**

In this module, the replacement costs for the main applicant and/or co-applicants can be applied for, so that they can be released from educational, administrative and management tasks. The research leave grant can only be used in combination with and for the purposes of the projects or programmes applied for. For the research leave grant, a maximum size of 5 months per project applies based on 1 fte at the level of the postdoc employee as described in module 1b, with the hourly rates according to the agreement with the Association of Universities in the Netherlands. This budget is intended for the release of the applicants from educational and supervisory tasks so that they can work on the research for which funding has been requested. The employer can use the research leave grant to cover the costs of the replacement for the non-research tasks of the applicant(s) such as education, administrative and management tasks. These tasks must be specified in the proposal.
- **Module 1f) Other scientific personnel**

Budget for other scientific personnel such as university graduates, graduate physicians and graduate physicians training to be specialists that are needed for the research project that funding is requested for. This module can only be applied for in combination with module 1a and/or 1b. A maximum of € 100,000 can be requested for this. The size of the appointment must be a minimum of 6 months at 1FTE and a maximum of 48 months at 1 FTE. The size of the appointment can be adjusted as necessary, but should always be at least 0.5 FTE or for a duration of at least 12 months. The product of FTE x duration of the appointment should always be equivalent to at least 6 months at 1 FTE.

2. Module Material credit

A maximum of € 15,000 per year per full-time scientific position (budget modules 1a, 1b and/or 1d) can be applied for, specified according to the three categories stated below:

Project-related goods/services

- consumables (glassware, chemicals, cryogenic fluids, etc.);
- equipment and/or software (e.g. lasers, specialist computers or computer programs, etc.);



For these small items of equipment and/or software, the amount may not amount to more than € 160,000 per application.

- measurement and calculation time (e.g. supercomputer access, etc.);
- costs for acquiring or using data collections (e.g. from Statistics Netherlands);
- access to large national and international facilities (e.g. cleanrooms, synchrotrons, datasets, etc.);
- work by third parties (e.g. laboratory analyses, data collection, etc.);
- personnel costs smaller in size than those offered in module 1.

Travel and accommodation costs (for the employees for which a personnel grant was requested in budget modules 1a and 1b)

- travel and accommodation costs (national and international);
- congress visits (max. 2 per year);
- fieldwork;
- work visits.

Implementation costs

- national symposium/conference/workshop organised by the project;
- costs of open access publishing;
- data management costs;
- recruitment costs (incl. advertisement costs);
- costs involved in applying for licences (e.g. for animal experiments);
- audit costs (only for institutes not subject to the Education Auditor's Protocol (onderwijsaccountantsprotocol)) of the Ministry for Education, Culture and Science of the Netherlands, maximum € 5,000 per project; for projects with a duration of up to and including three years, maximum € 2,500.

Costs that cannot be applied for are:

- basic facilities within the institution (e.g. laptops, desks, et cetera);
- maintenance and insurance costs.

If the maximum amount of € 15,000 per year per full-time scientific position is not sufficient for realising the research, then it may be deviated from if a clear justification is provided in the proposal. The only exception to this is the amount for small equipment (€ 160,000).

4. Module Valorisation/Impact: a) Knowledge Utilisation

Module 4a) The aim of this module is to facilitate the use of the knowledge that emerges from the research. The contribution requested may be no more than 20% of the total grant requested from NWO and must be specified.

As knowledge utilisation can assume very different forms in the various scientific disciplines, it is up to the applicant to specify which costs are needed, for example for producing an educational package or realising a feasibility study into application possibilities, or the costs of submitting a patent application.

For further information about knowledge utilisation, please see <https://www.nwo.nl/en/about-nwo/organisation/nwo-domains/wotro/Impact+toolkit/Impact+toolkit++Research+Uptake>.

NB: please take into account the requirements stated elsewhere in the call for proposals, such as regarding costs for the project's and the joint kick-off, midterm, and final workshops.

5. Module Internationalisation: a) Internationalisation; b) Money follows Cooperation

• Module 5a) Internationalisation

The aim of this module is to encourage international collaboration. The contribution requested may be no more than 20% of the total requested budget from NWO. The amount requested must be specified. If the maximum amount is not sufficient for realising the research, then it may be deviated from if a clear justification is provided in the proposal.

Funding can be requested for:

- travel and accommodation costs insofar as these are direct research costs that emerge from the international collaboration and for additional costs that are not covered in a different manner, for example from the bench fee. For an overview of the fixed maximum prices per country, see the listings of the Dutch government (<https://www.rijksoverheid.nl/documenten/besluiten/2018/09/26/tarieflijst-dienstreizen-buitenland-per-1-oktober-2018>).
- travel and accommodation costs for foreign guest researchers
- costs for the organisation of international workshops/symposia/scientific meetings.



• *Module 5b) Money follows Cooperation (MfC)*

The module Money follows Cooperation offers the possibility to conduct part of the research project at a knowledge institute with a public task outside of the Netherlands.

The applicant must convincingly justify that the researcher from the foreign knowledge institute contributes specific expertise to the project which is not available in the Netherlands at the level required for the project.

This condition is not applicable if NWO has concluded a bilateral agreement regarding Money follows Cooperation with the national research funding agency of the country in which the foreign knowledge institute is located.

The requested budget within this module must be less than 50% of the total budget requested from NWO.

A researcher at a foreign knowledge institute must meet the requirements for co-applicants in paragraph 3.1, with the exception the requirement that he or she must be located within the Kingdom of the Netherlands.

The applicant receives the grant from NWO, and is responsible for transferring the MfC part of the grant to the foreign knowledge institute, as well as for accounting for this part of the grant towards NWO. The risks associated with the exchange rate are the responsibility of the applicant. Therefore, costs and benefits that result from exchange rates cannot be subsidised. The applicant is responsible for:

- the financial accounting of all costs in both euros and the local currency, in which the utilised exchanged rate should be visible;
- a reasonable fixing of the exchange rate. The applicant must be able to give a description of this reasonable fixing at any time if so requested by NWO.

NWO does not award subsidy to co-applicants abroad who fall under (inter)national sanction laws. The EU Sanctions map (<https://www.sanctionsmap.eu>) serves as a guideline in this matter.

6.2 DST Funding specifications

Information about DST funding: maximum budget and what costs can be reimbursed (section 3.2)

(a) Maximum budget from DST for DST-NWO programme Cleaning the Ganga and Agri-Water: approximately Rs. 5.5 crores per project: The projected budget by the Indian PI will be reviewed by Indian members of the Advisory Committee and will undergo financial due-diligence as per DST processes, which will take into account cost needed for the projected activities, matching efforts and conformity to DST guidelines.



(b) Heads wise break up of cost (Break-up of cost)

I. Non recurring costs																											
1	PERMANENT EQUIPMENTS (non recurring costs) <i>Not more than 30% for equipment Not more than 50%, if demonstration unit is proposed.</i>	<i>As per requirement to be assessed by Indian Advisory Committee members</i>																									
II. Recurring costs –																											
2	MANPOWER:																										
	<table border="1"> <thead> <tr> <th>S.no.</th> <th>Manpower Position</th> <th>Monthly Emoluments</th> <th>Essential qualifications and upper age limit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Research Associate – I</td> <td>Rs. 47,000/- + HRA</td> <td rowspan="5">As per DST OM. No. SR/S9/Z-08/2018 dated 30.01.2019 or as per the norms of the Institute undertaking such projects if they have a different structure than that defined in the above mentioned OM</td> </tr> <tr> <td></td> <td>Research Associate – II</td> <td>Rs. 49,000/- + HRA</td> </tr> <tr> <td></td> <td>Research Associate – III</td> <td>Rs. 54,000/- + HRA</td> </tr> <tr> <td></td> <td>Junior Research Fellow (JRF)</td> <td>Rs. 31,000/- + HRA</td> </tr> <tr> <td></td> <td>Senior Research Fellow (SRF)</td> <td>Rs. 35,000/- + HRA</td> </tr> <tr> <td>2</td> <td>Scientific Administrative Assistant/Field worker, Project Associate-I, Project Associate-II, Senior Project Associate, Principal Project Associate, Project Scientist-I, Project Scientist-II, Project Scientist-III, Project Scientist B, Project Scientist C, Project Scientist D, Project Coordinator-II, Project Coordinator-III, Project Manager</td> <td>As per DST OM. No. SR/S9/Z-05/2019 dated 31.08.2019</td> <td>As per DST OM. No. SR/S9/Z-05/2019 dated 31.08.2019</td> </tr> </tbody> </table>	S.no.	Manpower Position	Monthly Emoluments	Essential qualifications and upper age limit	1	Research Associate – I	Rs. 47,000/- + HRA	As per DST OM. No. SR/S9/Z-08/2018 dated 30.01.2019 or as per the norms of the Institute undertaking such projects if they have a different structure than that defined in the above mentioned OM		Research Associate – II	Rs. 49,000/- + HRA		Research Associate – III	Rs. 54,000/- + HRA		Junior Research Fellow (JRF)	Rs. 31,000/- + HRA		Senior Research Fellow (SRF)	Rs. 35,000/- + HRA	2	Scientific Administrative Assistant/Field worker, Project Associate-I, Project Associate-II, Senior Project Associate, Principal Project Associate, Project Scientist-I, Project Scientist-II, Project Scientist-III, Project Scientist B, Project Scientist C, Project Scientist D, Project Coordinator-II, Project Coordinator-III, Project Manager	As per DST OM. No. SR/S9/Z-05/2019 dated 31.08.2019	As per DST OM. No. SR/S9/Z-05/2019 dated 31.08.2019		
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3	OTHER COST	<i>May include knowledge sharing and research uptake activities such as costs towards publishing of joint (only) research outputs, filing of patents, technology transfer, stakeholders meet or workshops and or awareness camps.</i>																									
4	CONSUMABLES	<i>Amount as per project requirement (justification through DST processes)</i>																									
5	TRAVEL	<i>Amount as per project requirement (justification through DST processes), to be provided where the research work involves field work or/and project has many investigators/institutions and large manpower. Travel will include both national and international travel between the two collaborating countries. International travel of PI/Co-PIs and coordinators will be admissible only on the basis of reciprocity. One way travel is not encouraged. The maximum period of stay of faculty will be 3 months and for students it will not exceed 12 months.</i>																									
6	CONTINGENCIES	<i>Contingency can be utilised for stationary, accessories, software etc. The contingency amount may also be used for paying Registration Fees for attending international conferences.</i>																									
7	OVERHEADS CHARGES	<i>As per DST norms and conditions: Towards meeting the cost of academic expenses including infrastructural facilities, an amount of: a) For project costing upto Rs.1 crore, 10% of the total cost for educational institutions and NGOs and 8% for laboratories and institutions under Central Government Departments/Agencies; b) for projects costing more than Rs.1.0 crore and upto Rs.5.0 crore, overheads of Rs.15.0 lakh or 10% of total cost whichever is less; c) for projects costing more than 5.0 crore and upto Rs.20.0 crore, Rs.20.0 lakh will be provided as overheads;</i>																									
GRAND TOTAL		<i>Approx. RS. 5.5 crores per project (The amount will be the maximum cost admissible under the call. Actual amount may vary depending on level of activities proposed in the programme.)</i>																									



6.3 Format Letter of Commitment

[The letter should be printed on the stationery of the consortium organisation concerned]

[address main applicant]

Concerns: Letter of Commitment

[Location], [date]

Dear [name principal investigator],

Through this letter, I confirm that [**name consortium organisation**], is available and committed to participate in the *proposed project*, entitled '[*proposal title*]', which was submitted to the '[*Title of Call*]'.

[outline the availability and commitment of the consortium organisation]

[if applicable, indicate the consortium organisation's total contribution in cash, or quantify the in kind contribution. This amount should be the same as indicated in the application form.]

Yours sincerely,

[signed by the head of the organisation/department]

Location: [..]

Date: [..]

..... [signature]
[NAME + POSTION]