



# Work plan 2018 – 2021

Programme  
The Norwegian Programme for Research Cooperation with India – INDNOR

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# 1 Introduction/Summary

The Norwegian Programme for Research Cooperation with India (INDNOR) was established to strengthen Indo-Norwegian research cooperation and promote Indo-Norwegian research funding cooperation. The programme is part of the effort to enhance the internationalisation of Norwegian research. At start-up, the INDNOR programme encompassed the following thematic priority areas: *international political issues, climate, the environment, clean energy and social development*. In addition, the programme is to be an instrument for following up priority areas under the agreement on research cooperation between India and Norway, priority areas in the Research Council's roadmap for bilateral research cooperation with India as well as other thematic areas following input from the Ministry of Foreign Affairs and the Royal Norwegian Embassy in New Delhi.

Calls for proposals will be carried out by the various thematically oriented research programmes at the Research Council. Grant application processing and project follow-up will take place within the relevant thematic programmes and scientific activities (hereafter called thematic/scientific programmes) at the Research Council. An Expert Advisory Group has been appointed by the Research Council. Experts have been selected from the research sector, government, trade and industry and other sectors, and the group will include representatives from the Ministry of Foreign Affairs and the Royal Norwegian Embassy in New Delhi. The Expert Advisory Group will play an important role in setting agendas for the development of strategies in relation to research cooperation between India and Norway in a bilateral as well as a multilateral context, and will provide advice to the authorities on research cooperation with India.

The INDNOR programme has been established to promote research cooperation with India and provide a cohesive framework for research initiatives targeting India. The programme will enable the Research Council to negotiate joint financing of Indo-Norwegian research cooperation with the Indian authorities. It will facilitate the integration of Indo-Norwegian research cooperation in the Research Council's programmes and activities and enhance research collaboration.

Importance will be attached to following up the Government's India strategy, *Opportunities in diversity. The Norwegian Government's strategy for cooperation between Norway and India* (2009), the white paper on climate (Report to the Storting no. 30 (2008–2009) *Climate for Research*, the white paper on research, Meld. St. 18 (2012–2013) *Long-term perspectives – knowledge provides opportunity*, the Government's strategy, *Panorama – Strategy for cooperation on higher education and research with Brazil, China, India, Japan, Russia and South Africa* (2016–2020) and the Research Council's Strategy for International Cooperation 2010–2020. The INDNOR programme is targeted toward R&D institutions as well as trade and industry, and depending on the thematic area or scientific field, funding may include activities ranging from basic research to industry-oriented research.

## 2 Background and challenges

The Research Council is working to strengthen bilateral research cooperation between India and Norway and has established an initiative on research funding cooperation as part of this effort. Activities have encompassed bilateral cooperation with India as well as research cooperation within the framework of the EU's framework programmes for research and other shared European platforms.

The white paper on climate (Report to the Storting no. 30 (2008–2009) *Climate for Research*) and the white paper on research, Meld. St. 18 (2012–2013) *Long-term perspectives – knowledge provides opportunity*, both identify India as one of Norway's prioritised partners for research cooperation. This was further emphasised in the Government's strategy, *Panorama – Strategy for cooperation on higher education and research with Brazil, China, India, Japan, Russia and South Africa* (2016–2020).

Developments in India, the country's changing role in the world and its increasing economic and geopolitical significance create a new set of opportunities and challenges for Norway. India is one of Norway's prioritised partners for cooperation. The Norwegian Government has drawn up a strategy, *Opportunities in diversity. The Norwegian Government's strategy for cooperation between Norway and India* (2009), which clarifies the objectives and priority areas for Norway's relations with India. India's importance as a research and knowledge nation is increasing. Cooperation within areas such as knowledge development, research and higher education are crucial for strengthening Norway's relations with Indian society and for enhancing bilateral cooperation within selected thematic priority areas.

### *Challenges*

According to a recent bibliometric study (Science-Metrix 2014), India is one of the countries in which the share of co-publications with other countries is growing faster than the world average. The study recommends that Norway considers strengthening its collaboration with India with regard to co-publication.

Globalisation in social, economic, environmental, political and cultural areas places high demands on all levels of society. Knowledge production and transfer is also becoming internationalised and increasingly competitive. At the same time, the world is facing major challenges related to climate change, energy supply, technological development, water resources, food security, sustainable agriculture, disease and welfare services. The international research system must – and is expected to – join forces and assist in how to meet these challenges. Growing globalisation and internationalisation have created international arenas where countries cooperate, but also compete to establish research collaboration with the very best researchers and research nations.

### *Thematic priority areas viewed in relation to the UN Sustainable Development Goals*

The thematic priorities of the INDNOR programme, which build on the Norwegian Government's strategy for cooperation between Norway and India, the thematic areas set

out in the Programme of Cooperation under the bilateral agreement on research cooperation, and potential areas for cooperation identified in the Research Council's roadmap for bilateral research cooperation with India, are closely aligned with several of the UN Sustainable Development Goals.

*Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.*

The bioeconomy is a prioritised area under the Programme of Cooperation, and the roadmap highlights the bioeconomy as an area of relevance for trade and industry.

*Goal 3: Ensure healthy lives and promote well-being for all at all ages.*

The Programme of Cooperation prioritises two areas related to this: research cooperation on human vaccines and medical research in general.

*Goal 6: Ensure access to water and sanitation for all.*

Water management is a sub-area of climate and environmental research alike. Research on climate and the environment are key areas within the thematic scope of the INDNOR programme.

*Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.*

Energy is one of the areas prioritised under the INDNOR programme from the outset. It is also one of the areas designated for bilateral cooperation in the Programme of Cooperation. The Research Council's roadmap for bilateral research cooperation with India highlights energy as a potential area for cooperation both in general and as innovation-oriented research.

*Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation.*

Ensuring the involvement of trade and industry is one of the secondary objectives of the INDNOR programme. In addition, the Ministry of Foreign Affairs has asked the INDNOR programme to give priority to promoting better ties between research and the business sector. The Programme of Cooperation gives priority to innovation-oriented research.

*Goal 13: Take urgent action to combat climate change and its impacts.*

Research on climate and the environment have been part of the thematic scope of the INDNOR programme since the programme was launched, and are priority areas in the Norwegian Government's India strategy. The Programme of Coordination lists several thematic areas of relevance to climate and the environment.

*Goal 14: Conserve and sustainably use the oceans, seas and marine resources.*

Research in the marine and maritime sectors are priority areas under the Programme of Coordination and are identified in the roadmap as potential areas for cooperation in industry-oriented research.

*Goal 16: Promote just, peaceful and inclusive societies for sustainable development, the provision of access to justice for all, and building effective, accountable and inclusive institutions at all levels.*

Research on social conditions has been a priority under the INDNOR programme from the outset, based on the priorities set out in the Norwegian Government's India strategy.

## **3 Objectives for the programme**

### **3.1 Primary objective**

The INDNOR programme was established to:

- strengthen research cooperation between India and Norway;
- promote research funding cooperation between India and Norway.

### **3.2 Secondary objectives**

The secondary objectives of the INDNOR programme are:

1. To strengthen bilateral research cooperation with India;
2. To establish binding cooperation on research funding with the Indian governmental research funding bodies in collaboration with relevant thematic research programmes scientific activities at the Research Council;
3. To continue to foster relations with India through cooperation with EU and Nordic countries as well as multilateral organisations in which India and Norway are partners;
4. To implement capacity-building, dissemination and promote the establishment of new research cooperation between India and Norway;
5. To lay the foundation for cooperation with India in all thematic areas and scientific fields, and encompassing basic research, applied research and innovation. Efforts will be made to ensure the involvement of trade and industry, universities and university colleges, and research institutes in both countries.

## 4 Thematic and scientific priority areas

When it was launched, the INDNOR programme encompassed the following thematic priority areas as set out in the Norwegian Government's India strategy: *international political issues, climate, the environment, clean energy and social development*.

The programme will be flexible when it comes to incorporating new thematic and scientific initiatives. Relevant criteria for recommendations of new thematic research priority areas may include areas where Norway has leading research groups, areas where India has special expertise, areas of interest specifically expressed by Indian research funders and analyses of issues facing India, both social challenges and challenges in the Indian research and innovation system.

The programme is to be an instrument for following up priority areas in the Programme of Cooperation under the bilateral Agreement on Science and Technology between India and Norway, priority areas in the Research Council's roadmap for bilateral research cooperation with India as well as other thematic areas following input from the Ministry of Foreign Affairs and the Royal Norwegian Embassy in New Delhi.

The current priority areas under the Programme of Cooperation after the last meeting of the Joint Working Group under the bilateral agreement in 2016 are:

- Climate research including ocean and arctic/polar research;
- Clean energy;
- Geotechnology and geohazards;
- Marine research – bioprospecting and polar research;
- Nano-science/technology;
- Vaccines – human and fish/animal, including vaccination programmes and biotechnology of new vaccine development;
- Information and Communication Technologies;
- Glaciology;
- Medical research (Cancer, diabetes, infectious diseases, etc.);
- Bioeconomy;
- Industrial R&D relevant/complementary to both countries.

The Research Council's roadmap for research cooperation with India emphasises the following topics for consideration for the future: energy, ICT, nanotechnology, biotechnology in medical research and integrated social science and humanities perspectives. Potential areas of cooperation in innovation-oriented research highlighted in the roadmap are the maritime, oil and gas, marine and energy (renewable) sectors; the environment; the bioeconomy; ICT and biotechnology.

In its allocation letter, the Ministry of Foreign Affairs has asked the INDNOR programme to give priority to promoting close ties between research, education and innovation/trade and industry.



## **5 Priorities for structuring the research effort**

The INDNOR programme was launched to promote research cooperation between India and Norway and facilitate the establishment of long-term cooperation schemes on funding between the two countries. Unlike other programmes at the Research Council, the INDNOR programme does not have its own programme board and its funds are primarily administered by other thematic/scientific programmes at the Research Council within the framework designated by the Research Board of the Division for Society and Health. The division's executive director has appointed an Expert Advisory Group consisting of experts on India from the research, trade and industry and public sectors, as well as representatives of the Ministry of Foreign Affairs and the Royal Norwegian Embassy in New Delhi. The Expert Advisory Group jointly give feedback on the annual report and plans for the coming year as a group, and the members may also be consulted individually. The Research Council maintains a close dialogue with the Ministry of Foreign Affairs and the Royal Norwegian Embassy in New Delhi with regard to the implementation of activities under the programme.

## **6 Cooperation with related instruments**

Norway is an active partner in the EU's framework programmes for research, and Norwegian research groups have established a number of collaborative efforts with the other Nordic countries. The Research Council participated in the Asia NORIA-net, whose aim is to establish binding research cooperation between the Nordic countries and countries in Asia, particularly China and India. The Research Council is also a participant in the New/INNO INDIGO ERA-NET and the EU-India Social Science and Humanities Platform (EqUIP), both of which are regional networks for cooperation between India and the EU countries. The INDNOR programme, together with relevant thematic programmes and scientific activities at the Research Council, may be a participant and funder of Norwegian participation in joint calls for proposals targeting India within these networks.

The EU's framework programmes provide Norwegian research groups with multiple opportunities for cooperation with partners from India. It is within the mandate of the INDNOR programme to develop cooperation with India based on established joint European initiatives and to initiate European and Nordic cooperation based on established relationships with Indian research groups.

## **7 Anticipated results, impacts and societal outcomes**

### *Increased Indo-Norwegian research cooperation*

The INDNOR programme is to promote increased research cooperation with India. The extent of this cooperation can be measured, for example, through the number of joint calls

for proposals with Indian partners, participation in multilateral calls with Indian partners as co-funders, bibliometric data showing co-publication between Norwegian and Indian researchers and other research findings. Another objective of the programme is to increase knowledge in Norway on social conditions and culture in India.

#### *Increased cooperation on innovation-oriented research*

The INDNOR programme is to promote closer ties between research, education and innovation/trade and industry. Research cooperation can pave the way for Norwegian trade and industry to gain greater access to Indian markets. Close cooperation with Innovation Norway in India and the Royal Norwegian Embassy in India is essential to achieving this. In addition, efforts must be made to identify relevant Indian government-level partners that can help to promote innovation-oriented research.

#### *Efforts to achieve the UN Sustainable Development Goals*

Global challenges are a key focus of the INDNOR programme's thematic priority areas and the programme will help to achieve many of the UN Sustainable Development Goals.

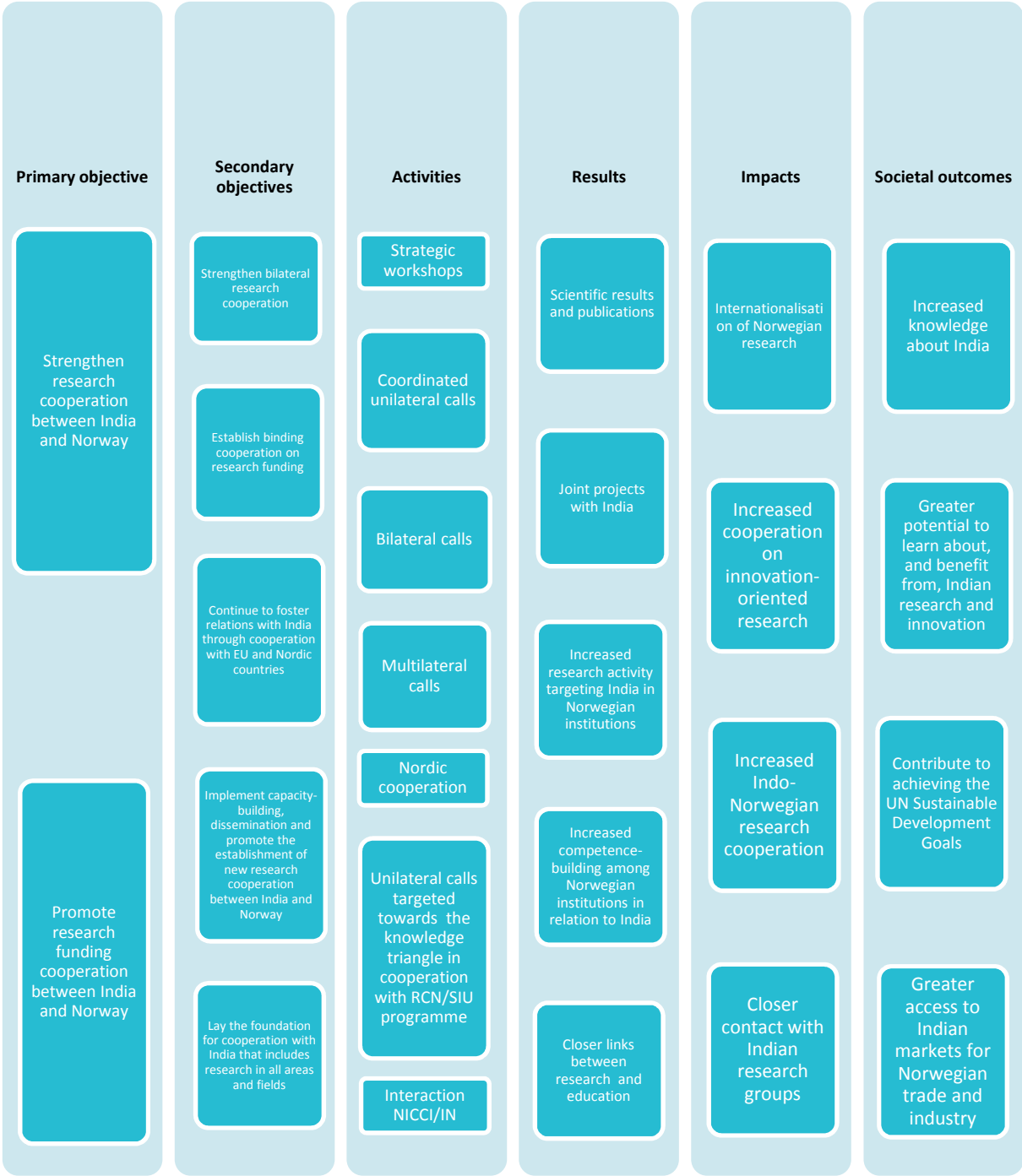
#### *Dissemination and communication activities*

The INDNOR programme will implement overall measures to disseminate information about Research Council activities relating to India and to promote learning across research fields and programmes. The programme will play an important role in disseminating information about the various types of activities and the results of research cooperation with India. Collaboration with other programmes and activities at the Research Council is essential. It is also particularly important to maintain and develop a good dialogue with users. Establishing suitable arenas for dissemination, communication and learning will be another key task.

#### *Recruitment*

Recruitment of qualified researchers is important generally speaking, and recruitment efforts under the INDNOR programme will be important for capacity-building in Norway and India. There are very few people in Norway who possess researcher-level expertise within the programme's thematic priority areas as well as adequate cultural understanding and language skills.

### 7.1.1 Programme logic model



## 8 Resources and budget

The INDNOR programme has a programme period from 2010 to 2021.

The INDNOR programme (2010–2021) receives a total of NOK 185 million in funding from the Norwegian Ministry of Foreign Affairs for the period 2010–2019, and a total of NOK 100 million for the period 2017–2021 from the Ministry of Foreign Affairs via the Royal Norwegian Embassy in New Delhi. The programme also receives an additional NOK 169 million in funding directly from the Royal Norwegian Embassy for the period 2011–2020. This amounts to a total of NOK 454 million in funding over the entire programme period.

In addition, cooperation with thematic research programmes at the Research Council has resulted in funding also via these programmes. This funding is expected to continue.

The short-term plan for funding announcements is as follows:

Schedule for funding announcements					
Thematic priority area		Priorities for structuring the research effort		Funding announcements	
Thematic priority area	Amount	Type of support/measure	Amount	Title of funding announcement	Time period Amount
<b>Year 1 –2018</b>		<b>Year 1</b>		<b>Year 1</b>	
Clean energy		Researcher Projects with industry involvement		Solar energy and smart grid (ENERGIX)	7
International political issues		Researcher Projects		International relations	
		Researcher Projects/ Researcher Projects with industry involvement		International relations, foreign policy and Norwegian interests (UTENRIKS)	10
New thematic area				tbd	25
All prioritised areas		Support for Events/ dissemination		All prioritised areas (Program for Dissemination and coordination measures for environmental and development research (MILUTARENA) or similar scheme)	1.5
Sum		Sum		Sum	43.5
<b>Year 2 – 2019</b>		<b>Year 2</b>		<b>Year 2</b>	
New thematic area		Researcher Projects/ Researcher Projects with industry involvement		tbd	25
Sum		Sum		Sum	25
<b>Year 3 – 2020</b>		<b>Year 3</b>		<b>Year 3</b>	
New thematic area		Researcher Projects with industry involvement		tbd	25
Sum		Sum		Sum	25

The preliminary long-term budget for the INDNOR programme is as follows:

Long-term budget	2018	2019	2020	2021	2022
Disposable budget available	110 320	111 407	81 614	65 651	30 097
Revenues for the year	36 348	36 348	18 590	26 090	
Expenditures in total	35 261	48 383	42 053	35 554	20 000
Project allocations/Expenditures and plans	5 615	7 835	6 953	3 554	
Project allocations/Future calls	28 146	40 048	34 600	31 500	20 000
Strategic workshops	1 500	500	500	500	
Provisions/Excess allocations	75 059	63 024	39 561	30 097	10 097
Provisions in relation to disposable budget available	68%	57%	48%	46%	34%

The budget includes some residual funding that will presumably be allocated to activities initiated towards the end of the programme period.

More details are available in the INDNOR programme's annual action plans.

## 9 Governance and organisation

### *Coordination with other Research Council activities*

The INDNOR programme has been launched to establish binding funding cooperation with India and to follow up government objectives. In addition to enhancing synergy with other relevant activities at the Research Council and establishing formal cooperation on calls for proposals and follow-up of research projects, the programme will, where appropriate, play a key role in initiating joint activities, such as workshops, seminars or scientific conferences.

### *Advisory bodies*

The programme coordinator of the INDNOR programme and representatives of relevant programmes and activities involved in cooperation with India will comprise an internal India forum within the Research Council administration that will assist in developing policy, drawing up dissemination strategies and building networks.

Close dialogue with the INDNOR programme's Expert Advisory Group, the Ministry of Foreign Affairs and the Royal Norwegian Embassy in New Delhi will be essential to ensure adequate follow-up on applicable priority areas and the Norwegian Government's objectives related to India.



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