

## Norwegian Programme for Research Cooperation with India (INDNOR) (2010-2019)

### The year 2011

The Norwegian Programme for Research Cooperation with India (INDNOR) was established in 2010. The programme forms part of the follow-up to the Norwegian Government's India strategy (which was launched in August 2009). From the outset the INDNOR programme has focused on the following five thematic priority areas: international political issues, climate, the environment, clean energy and social development.

The primary task in 2011 has been to issue funding announcements in cooperation with relevant thematic research programmes at the Research Council of Norway. In the course of the year, calls involving funding from the INDNOR programme were issued in collaboration with the programme on Climate Change and Impacts in Norway (NORKLIMA), the programme Clean Energy for the Future (RENERGI) and the Norway – A Global Partner programme (NORGLOBAL).

The 24 pre-projects awarded grants in 2010 were active in 2011, and five events/workshops were organised with Indian partners to boost activity in strategic areas.

The allocation process for the first joint call for proposals with the Department of Science and Technology in India, JOINTINDNOR, was completed in 2011. Funding was allocated to three new Researcher Projects, which started up in the second half of the year.

Two meetings of the programme's Expert Advisory Group were held in January and August 2011, respectively.

### Objectives and purpose of the programme

The Norwegian Programme for Research Cooperation with India (INDNOR) has been established to promote collaboration on research and research funding between India and Norway. The programme is part of the effort to enhance the internationalisation of Norwegian research. Activities in specified thematic priority areas under the programme will be carried out in cooperation with the relevant thematic research programmes at the Research Council of Norway. At start-up, the INDNOR programme encompasses the following thematic priority areas defined by the Ministry of Foreign Affairs: international political issues, climate, the environment, clean energy and social development. The cooperation programme will seek to extend its scope over time to include a wider range of thematic areas and scientific fields.

The 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 and 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 research 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 independent research institutes in both countries.

## Overview of finances and projects

*Disposable budget available in 2011: NOK 35 881 179.*

*Funding used in 2011: NOK 14 803 228.*

*Programme's sources of funding in 2011: An allocation of NOK 20 million from the Ministry of Foreign Affairs.*

*Number and type of projects in 2011: NOK 260 000 in Other Project Support awarded to 1 project; NOK 876 000 in Support for Events awarded to 2 projects; NOK 14 304 000 awarded to 20 pre-projects; NOK 655 000 awarded to 3 Researcher Projects.*

## Assessment of performance and scientific challenges

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, the white paper *Climate for Research* (Report No. 30 (2008-2009) to the Storting), and the Research Council's overall strategy, *In the Vanguard of Research*. The INDNOR programme is targeted towards 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. The white paper *Climate for Research* identifies India as one of Norway's prioritised partners for research cooperation.

### Challenges

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'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.

At the same time, the world is facing major challenges related to climate change, energy supply, technological development, water resources, disease and welfare services. The international research system must – and is expected to – join forces and assist in meeting these challenges. Interest in cooperation with Indian research groups and authorities is on the rise among Norwegian researchers and research institutions. The INDNOR programme is designed to serve as a catalyst and facilitator for research cooperation and competence-building at universities, university colleges and research institutes. The programme will fulfil existing needs as well as comprise a more long-term, stable, quality-oriented focus on research collaboration with India. It will provide a basis for increasing the number of research projects, stimulate Norwegian expertise on India and attract both Norwegian and international researchers.

Many European countries are currently investing heavily in research cooperation with India. In this competitive field, Norwegian researchers are not obvious potential collaboration partners for Indian institutions. To establish successful research collaboration at the programme level, Norway must demonstrate the quality of its research groups and its willingness to make significant long-term investments.

#### Performance

As it was only launched in 2010, it is too early to reach conclusions about the performance of the INDNOR programme, but some important activities were carried out in 2011 to advance the programme's objectives:

**Meeting places.** In February the Research Council organised and funded a workshop on water and climate change in India. The seminar was organised jointly by the Norwegian Institute for Agricultural and Environmental Research (Bioforsk) and the Indian Energy and Resources Institute (TERI) as a side-event at the major conference on sustainable development, organised annually by TERI, the Delhi Sustainable Development Summit (DSDS). The workshop brought together leading Indian and Norwegian researchers in the field. In addition, support was granted to three events in autumn 2011: a geohazards workshop organised jointly by the University of Bergen and the Ministry of Earth Sciences in India and held on 12-14 September in New Delhi; India 2011, a week-long event (1-9 October) at the Norwegian University of Science and Technology (NTNU) to strengthen cooperation between Norway and India; and workshops on solar energy and hydrogen storage organised by the University of Oslo as part of the International Conference on Advanced Materials (ICAM 2011) held on 12-16 December in Coimbatore, India. These events were in line with the programme's first objective: to strengthen bilateral research cooperation with India, particularly in the field of climate change.

**Broad mobilisation of the research community in Norway.** The 24 pre-projects awarded grants in 2010 started up their activities in 2011. This has mobilised research groups encompassing a broad selection of thematic areas from a variety of research environments. Calls for proposals involving funding from the INDNOR programme were issued in collaboration with the programme on Climate Change and Impacts in Norway (NORKKLIMA), the programme Clean Energy for the Future (RENERGI) and the Norway – A Global Partner programme (NORGLOBAL). The NORKKLIMA and RENERGI programmes each awarded NOK 18 million of INDNOR funding to three-year projects under their respective funding announcements. The NORGLOBAL programme awarded NOK 12 million of INDNOR funding and allocated a corresponding amount of its own funding to the funding announcements. These announcements were in line with the programme's fourth objective: to implement capacity-building, dissemination and promote the establishment of new research cooperation between India and Norway.

**Joint call for proposals.** The INDNOR programme, together with the Department of Science and Technology (DST) in India, awarded funding to three Researcher Projects in 2011. The projects also started up in 2011. This joint call was in line with the programme's second objective: to establish binding cooperation on research funding with the Indian governmental research funding bodies in collaboration with relevant thematic research programmes and scientific activities at the Research Council.

The Research Council has participated in the EU's Strategic Forum for International Science and Technology Cooperation (SFIC), which seeks to coordinate research cooperation between large partner countries such as India and the European countries. This is in line with the programme's third objective: 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. India was selected as the strategic partner country for an SFIC pilot initiative focusing on water-related challenges. A special SFIC India group was established as part of the initiative. The group has compiled an overview of the European countries' bilateral research cooperation with India, primarily on water-related issues, and organised an Indo-Norwegian research conference on water-

related challenges in November 2010. Norway was the co-organiser and rapporteur for one of the conference's sessions. The group has drawn up guidelines for including third countries in bilateral research projects, and organised an information tour of some 35 research institutions in India in June 2011.

In addition, the Research Council serves as an observer for the EU's new ERA-NET, New INDIGO, the Initiative for the Development and Integration of Indian and European Research. The Research Council also participated in drawing up a report on innovation in India as part of its membership of the European Network of Innovation Agencies (TAFTIE). A seminar on this topic was held in Brussels in October 2011: <http://www.taftie.org/content/innovation-hot-spots-india-internationalisation-strategies-task-force-report-2011>.

Expert Advisory Group. An Expert Advisory Group was established for the programme in December 2010. The group's mandate is effective until the end of 2014. The group met twice in 2011. Among other things, the group provides input and works to ensure that the INDNOR programme achieves its overall objectives.

### Key figures, 2011

*Number of projects: 24 pre-projects; 3 new Researcher Projects in 2011. Information on projects involving cooperation with thematic research programmes at the Research Council is reported under those programmes.*

*Doctoral fellows: 3 Indian doctoral fellows in the field of polar research at the University Centre in Svalbard (UNIS), funded by the Ministry of Education and Research with additional funding from the Research Council (2 men, 1 woman); 1 Indian doctoral fellow participating in a JOINTINDNOR project on biotechnology and food.*

*Post-doctoral fellow: 1 post-doctoral fellow participating in a JOINTINDNOR project on geology and hydrology.*

*Project managers: Of the total number of project managers, 6 are women, 21 are men, and 2 are of unknown gender.*

### Target figures for women, 2011-2014

The INDNOR programme allocates most of its funding via other relevant thematic research programmes at the Research Council, and these are responsible for issuing funding announcements, assessing grant proposals and following up projects. This procedure ensures compliance with the Research Council's general guidelines for grant proposals, which state that women applicants will be especially encouraged.

The programme administers pre-projects directly. In this portion of the portfolio six of the project managers were women and 11 were men in 2010. The gender imbalance among project managers appears to have become somewhat more pronounced in 2011.

The programme issued a joint call for proposals together with the Department of Science and Technology in India in 2010, which resulted in the start-up of three, three-year Researcher Projects in 2011, of which one has a woman project manager.

To direct attention to the gender dimension, the INDNOR programme issued a joint call with the NORGLOBAL programme in 2011. The call, which had an October deadline, focused on women's rights and gender equality and the inclusion of Indian institutions as project partners.

Grants will be awarded to two to three projects within this overall thematic area in February 2012.

Comments to the figures:

The programme will place greater focus on gender balance in its own funding announcements, and will otherwise seek to conform to the target figures and procedures established for the relevant thematic programmes.

Performance indicators, 2011

*Scientific articles, peer-reviewed:*  
*Scientific articles, not peer-reviewed:*  
*Other publications/communication:*  
*Books: 1*  
*Monographs: 3*  
*Target group-oriented dissemination measures: 22*  
*Mentions in the mass media: 18*

Comments to the figures:

As activities under the programme are still being launched, the figures for performance indicators are low. In addition, information on publications for related projects carried out under other thematic research programmes at the Research Council will be incorporated directly into the annual reports of those programmes in the future.

The seven pre-projects that have now been concluded carried out extensive external dissemination activities, and the collaborative projects have been frequently mentioned in the mass media.

Most important activities in 2011

The programme's most important activity in 2011 has been to follow up the pre-projects with calls for proposals for Researcher Projects within several of the programme's thematic priority areas: clean energy, climate, international political issues and social development.

#### **Research-related activities:**

The primary task in 2011 has been to issue funding announcements in cooperation with relevant thematic research programmes at the Research Council. In the course of the year, calls involving funding from the INDNOR programme were issued in collaboration with the NORKLIMA, RENERGI and NORGLOBAL programmes. The NORGLOBAL programme also contributed its own funding specifically for cooperation with India, thereby increasing the total amount of funding available for Indo-Norwegian cooperation.

The NORKLIMA programme issued a call for proposals for Researcher Projects on climate change, hydrological impacts and adaptation with a deadline of 30 August. Fourteen grant proposals were received in response to the call, and three projects received a total of NOK 16.6 million in funding.

The RENERGI programme issued a call for proposals for Researcher Projects and Innovation Projects for the Industrial Sector, with a deadline of 12 October. NOK 18 million had been set aside for projects on all topics within the thematic priority area of clean energy. Three projects on

geothermal energy, CO<sub>2</sub> storage, and wind power, respectively, were approved for funding in December.

The NORGLOBAL programme also issued calls for proposals with a deadline of 12 October. Funding was provided under the sub-programmes “Globalisation of environment, energy and climate research” (GLOBMEK) and “Women and gender”, which received a total of 11 and six grant proposals, respectively. The assessment process had not been concluded by the end of the year.

The 24 pre-projects awarded grants in 2010 were active in 2011, and seven of these were concluded. In addition, five events/workshops were organised with Indian partners to boost activity in strategic areas.

The allocation process for the first joint call for proposals with the Department of Science and Technology in India, JOINTINDNOR, (issued in 2010) was completed in 2011. Three new Researcher Projects were awarded funding and launched in the second half of the year. NOK 6 million was allocated in Norwegian funding over a three-year period, with a corresponding contribution (including work contribution) from India. The topics addressed by the projects extend across a wide range, encompassing materials for clean energy, climate change and food from waste.

Cooperation with the Royal Norwegian Embassy in New Delhi was expanded in 2011. In addition to assessing grant proposals submitted to the embassy, the Research Council took over the administration of five research projects in 2011. An agreement on transferring administrative tasks was signed in December in order to lighten the administrative load on the embassy and take advantage of the Research Council’s well-established routines for research administration.

The Research Council has become an observer for the geographical ERA-NET involving India, New INDIGO. This has given the Council access to a meeting place for research-financing institutions as well as the authorities in a number of European countries and India. New INDIGO also organises and issues joint calls for proposals. In 2011 the Research Council agreed to contribute EUR 350 000 to a call for proposals in the field of biotechnology applied to human health. The funding will be taken from other programmes at the Council, as biotechnology is not a thematic priority area under the INDNOR programme.

The Research Council has also participated in the EU’s Strategic Forum for International Science and Technology Cooperation (SFIC) India group, which seeks to establish a European strategy for research cooperation with India.

As a member of the European Network of Innovation Agencies (TAFTIE), the Research Council also participated in drawing up a report on innovation in India. A seminar on this topic was held in Brussels in October 2011 (see the link under the section Performance above).

### **Communication and dissemination measures:**

The most important communication measure in 2011 has been to make active use of the programme’s webpages for dissemination purposes. In addition, the programme administration has provided information about the programme at meetings and seminars with research institutions in Norway and India.

Presentations on Indo-Norwegian research collaboration were given at:

- The workshop “Water and Change”, a side-event at DSDS, Delhi, India, 2 February 2011.
- A joint working group meeting of DST and the Norwegian Ministry of Education and Research, Delhi, India, 3 February 2011.
- A meeting with the Norwegian Ministry of Foreign Affairs and Indian delegation, 8 June 2011.
- Three seminars during NTNU’s week-long event India 2011, Trondheim, Norway, 1-9 October

2011.

- The opening plenary session of ICAM 2011, Coimbatore, India, 12-15 December 2011.

**Measures to increase recruitment of women (when relevant):**

These are described in the section on target figures for women above.

**Administrative activities:**

The Ministry of Foreign Affairs has been informed of the progress of the programme through bi-annual meetings with the Research Council and Norad.

Two meetings of the Expert Advisory Group were held in 2011: one in January and one in August. The thematic profile of the programme was discussed at the first meeting, and the Research Council's project portfolio on India-related projects was presented and reviewed in its entirety at the second meeting.

There have also been a number of meetings with the Royal Norwegian Embassy in New Delhi, several of which have been attended by representatives of Norad and the Ministry of Foreign Affairs' Asia II Section.

### Highlights and findings

As it is still very early in the programme period, there have been few project findings as yet. However, in terms of general activity and cooperation with India the programme has achieved a great deal:

Calls for proposals within most of the thematic priority areas of the programme, in cooperation with relevant thematic research programmes at the Research Council.

Active participation in the EU's SFIC India group.

Participation in TAFTIE's activities on innovation in India.

Participation in the geographical ERA-NET New INDIGO, including joint European calls involving cooperation with India.

Closer cooperation and a binding agreement on administration of research projects with the Royal Norwegian Embassy in New Delhi.

More information about the programme is available on the programme webpages:

<http://www.forskningradet.no/servlet/Satellite?c=Page&cid=1253954776512&pagename=indnor%2FHovedsidemal>