

FOCUS ON INDIA

ADVISORY LETTER ON DUTCH-INDIAN COLLABORATION
IN SCIENCE, TECHNOLOGY AND INNOVATION



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Focus on India

Advisory Letter on Dutch-Indian Collaboration
in Science, Technology and Innovation

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Advisory Letter to the Dutch Government

India is an emerging global power. It has a relatively young and growing population of 1.3 billion, equivalent to 18% of the total world population. India is the biggest democracy in the world, located in a region marked by tensions. Consequently, it is a country which occupies a key geopolitical position. The country is making solid economic progress and has been delivering high rates of growth for many years (estimated at 7.5% per annum for the coming years). India is also becoming a global player in the fields of science, technology and innovation. The output of scientific articles has grown to 5% of global production, and India is renowned for its frugal innovations.

The strategic links between India and Europe are discussed regularly. Last autumn, for example, a major EU-India summit took place, at which both the European Commission President Jean-Claude Juncker and President of the European Council Donald Tusk were in attendance. Bilaterally, too, the ties between the Netherlands and India are good. Indian Prime Minister Narendra Modi visited the Netherlands in June 2017, and Dutch premier Mark Rutte is scheduled to visit India in 2018.

In May 2017 the Advisory Council for Science, Technology and Innovation (AWTI) published the report 'STI Diplomacy' about how to strengthen the internationalisation of science, technology and innovation, in which it observed the growing importance of talent, knowledge and innovation for the competitiveness of the Netherlands. International collaboration is indispensable in this context, and this needs to be backed by solid diplomatic support ('STI diplomacy'). The Netherlands lags a long way behind its neighbouring countries here in terms of defining its focus on and making available resources for STI diplomacy. In its report, AWTI therefore recommended strengthening the diplomatic network, setting up a steering group to develop a Dutch strategy for the internationalisation of both commerce and knowledge, and the plan-based implementation of that strategy with additional instruments and budget. The Dutch Advisory Council on International Affairs (AIV) and a steering group of the Dutch Trade & Investment Board, chaired by Chris Buijink, published similar recommendations.¹

Given India's position in the world and the recommendations from the 'STI Diplomacy' report, AWTI recently carried out an in-depth study on the scope for partnership between India and the Netherlands in the fields of science, technology and innovation. The

¹ Advisory Council on International Affairs (AIV, 2017), *Advisory Letter: The Dutch Government's Presence Abroad*, no. 32, The Hague: AIV, May 2017, and DTIB Stuurgroep internationale handels-, innovatie- en investeringsbevordering (2017), *Team Nederland: Samen sterker in de wereld. Een actieplan voor banen en groei*, The Hague: DTIB, April 2017.

Netherlands has built up a collaborative relationship with India in these fields stretching back over many years. AWTI concludes that a stronger focus on India as a trading and knowledge partner is desirable and recommends ways in which STI collaboration can be developed more successfully. The conclusions and recommendations are based on a review of the literature and data on India as well as discussions and meetings held by AWTI with various stakeholders and experts (see Annex 1). These discussions revealed a broadly felt need for an advisory letter. The timing of this advisory letter has been chosen partly because of the prime minister's proposed visit to India in 2018. The main conclusions and recommendations are set out below. The underlying findings are discussed in more detail in Annex 2.

Conclusions

1) The Netherlands stands to benefit from STI collaboration with India

Both India and the Netherlands have placed increasing emphasis in recent years on social challenges and sustainable development goals.

In the field of **science**, India is a top performer in a number of disciplines (in particular Engineering & Technology, Natural Sciences and Life & Health Sciences).² India is home to a number of top scientific institutes which are comparable with Dutch universities in terms of infrastructure, funding and quality³ and which also participate in European framework programmes. The prospect of scientific collaboration with India is interesting, promising and useful for the Netherlands, particularly in areas which are high on the agenda for both countries. In addition, India offers a large and supplementary research population and generates a large body of interesting data.

Targeted collaboration is also desirable and possible in relation to **innovation**. India has a strong position, including as regards innovation, in a number of sectors which are likely to continue to be powerful drivers of the Indian economy in the future: biotechnology, pharmaceuticals, automotive, electronics and ICT.⁴ Four Indian states lead the field on innovation: Gujarat, Karnataka, Maharashtra and Tamil Nadu. India is also renowned for its 'frugal innovation' – innovation aimed at finding functional solutions at very low cost. India can act as a trial ground for the Netherlands here. It can also serve as a springboard to other countries where conditions are comparable to those in India, for example countries

² Elsevier, *World of Research*, Amsterdam: Elsevier, 2015.

³ This emerged during the AWTI roundtable meeting on STI collaboration with India held on 13 December 2017.

⁴ Institute for Competitiveness, *The India State Innovation Report 2016*, Gurgaon, India: 2016.

elsewhere in Asia or in East Africa. Evidence that this possibility exists is illustrated by the interest shown by Indian partners in embarking on *joint* innovation projects with Dutch partners. The Indian partners see particular added value in this joint development of knowledge and innovation.⁵ One caveat here is that the regulations and procedures in India can throw up barriers in practice, especially for foreign SMEs.

With its young population, India possesses a large reservoir of **talent** which is both interesting and potentially useful for Dutch higher education, research and business. The number of intake places at top Indian universities is limited and many talented people are unable to follow their desired education programme at the highest level. Some of them move abroad to study, with the vast majority (85%) traditionally opting for an English-speaking country (United States, United Kingdom, Canada, Australia and New Zealand).⁶ Within the EU, Germany has come to the fore powerfully in recent years as a country where Indians want to study and work – and Germany is also targeting this group specifically, with a special programme aimed at recruiting Indian talent. Particularly with Brexit on the horizon, the Netherlands could also potentially attract a larger share of this Indian talent, partly thanks to the wide range of higher education programmes taught in English in the Netherlands.

2) The Netherlands has something to offer India

The Netherlands is among the leading countries in the world in its knowledge in a number of fields that are relevant for India, such as water management and agriculture, energy and climate, health and ICT. The Netherlands also has an attractive business climate, as reflected in the fact that a number of (large) Indian companies have been established in the Netherlands for some time. The ‘Dutch’ method of collaboration is also a strength; one of the strengths of Dutch businesses and research institutes is their multidisciplinary approach, and the Netherlands is also highly experienced in public-private partnership – both initiatives in which there is a great deal of interest in India. The Netherlands offers good development opportunities for talent from India, both in its research institutes and in industry. Dutch ICT and engineering companies, in particular, have a great need for qualified staff which they are unable to meet fully with ‘Dutch’ personnel.

⁵ Information from the AWTI roundtable meeting on 13 December 2017 and discussions.

⁶ EY/FICCI, *Higher education in India: Moving towards global relevance and competitiveness*, 2014. See also Indian government summary: <http://164.100.47.190/loksabhaquestions/annex/12/AS337.pdf>

Recommendations

To strengthen the collaboration between the Netherlands and India in the fields of talent, knowledge and innovation, AWTI makes the following recommendations:

1) Develop a Dutch 'India strategy'

A crucial element of effective STI diplomacy is that the Dutch government acts in unison and with a clearly defined strategy. The Ministries of Education, Culture & Science, Economic Affairs & Climate and Foreign Affairs are in the driving seat when it comes to relations with India. The proposed Netherlands-India strategy needs to be built around the priorities and targets formulated for collaboration in relation to knowledge, innovation and talent. This strategy is the cornerstone on which research institutes, regions, businesses and other stakeholders can build their own strategies (e.g. in the form of a long-range plan). These organisations regard such a strategy as extremely important.⁷ The elaboration and implementation of the strategy could build upon the experience of the current 'Joint Working Group' which coordinates the STI collaboration activities that fall under the 2008 Memorandum of Understanding between India and the Netherlands.

In the strategic approach to science and innovation, opt for a limited number of focus areas in which the Netherlands has something to offer and where it can make the difference, and which dovetail with India's strengths and/or a 'demand'. Key areas on the Indian side include ICT applications, space, the environment, health, agriculture, water and mobile devices. India also has a very strong focus on data and data-based science. The following themes offer promise for the Netherlands: water management, food and agriculture, health, climate and space, and ICT as a lever in fields such as robotics and healthcare. It will then be necessary to explore what common challenges there are to enable a further selection to be made and narrow the focus to specific themes for collaboration. It should be borne in mind here that the pooling of strengths via the EU or aligning with one or more other countries (e.g. Germany) may sometimes be a good alternative.

Priority must also be given to 'talent'. Develop a strategy in relation to mobility and talent, keeping in mind the connection between attracting students and knowledge workers, and also seek to promote study mobility from the Netherlands to India. Involve Dutch universities, universities of applied sciences, Nuffic (the Dutch organisation for internationalisation in education) and the Netherlands Education Support Offices (NESO), the regions and Dutch industry in this approach.

⁷ This was one of the main conclusions to emerge from the roundtable meeting organised by AWTI on 13 December 2017 on STI collaboration with India.

2) Work together effectively

Effective cooperation towards India.

Involve the various stakeholders in the development and implementation of a Netherlands-India strategy. Many actors (e.g. businesses, research institutes and the regions) are active in or with India. At present, they often go their own way. Acting in concert will increase their effectiveness.

Effective collaboration with India.

India is a large and great country with a long history and a rich culture. Structure effective collaboration with India on the following basic premises:

- ▶ **Equal partners**: this means 'give and take' on both sides.
- ▶ **Partnership**: working together to address common challenges.
- ▶ **Trust**: collaboration must be based on trust.
- ▶ **Commitment** for the long term: collaboration with India will require a long-term endeavour.

Increase the returns from collaboration by means of:

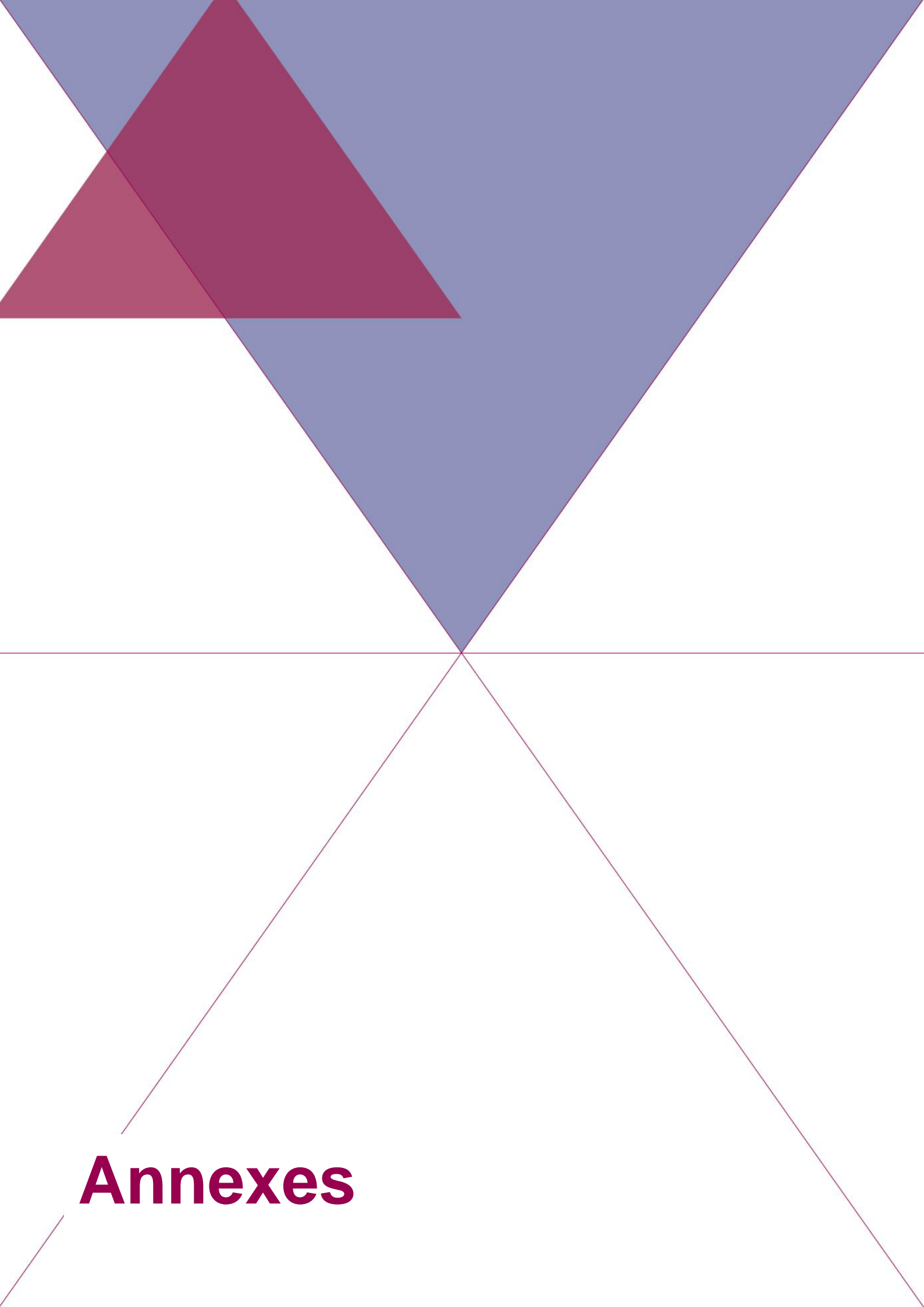
- ▶ Good **branding** of the Netherlands as a 'knowledge and innovation country' in the priority areas. The Netherlands cannot fall back on an automatic familiarity in the way that countries such as the United Kingdom and France can. Equally, branding of India in the Netherlands is also important; at present, the Dutch appear to have little sense of the fact that India is becoming a global power.
- ▶ Greater and more effective **visibility** in India, for example by combining trade and knowledge missions, stimulating better cooperation and coordination between stakeholders in their activities in India and/or setting up a permanent 'outpost' to promote the Netherlands as a knowledge country, by analogy with the German 'Wissenschafts- und Innovationshaus' in New Delhi.
- ▶ Extra attention for the **SME sector**. For SMEs, doing business in India is often hidebound with red tape. Good diplomatic support, organising targeted innovation missions, providing market studies or setting up living labs can all help here.
- ▶ Adequate **funding**: in a number of cases, the targeted deployment of reasonably modest amounts for start-up finance or seed funding can establish excellent partnerships. In other cases, for example where India is itself able or willing to invest substantial amounts, the principle of being equal partners requires that the Netherlands makes available a comparable budget.

STI collaboration between the Netherlands and India has been under way for some years and has brought several interesting initiatives. Particularly now that India is increasingly emerging as an STI country, a realignment of the collaboration is in order. AWTI firmly believes that a good strategy, aimed at stability and durability, can lift the collaboration between India and the Netherlands to a higher level and generate mutual benefit in terms of knowledge, trade and talent.

The Hague, February 2018,

Professor Uri Rosenthal, Chairman

Mrs. Anneke Bovens, Secretary



Annexes

Annex 1 Procedure

This advisory letter was prepared by a project group comprising AWTI Council Members Martin Schuurmans (Chairman) and Tim van der Hagen as well as AWTI staff members Hamilcar Knops (Secretary), Ruud Verschuur and Trudi van der Wiel.

AWTI drew on the following resources in preparing this advisory letter:

- ▶ Two expert meetings, on 6 October 2017 and 13 December 2017.
- ▶ Interviews with experts.
- ▶ Literature review.

The following external experts attended the two expert meetings:

- ▶ Jolanda van der Aart amsterdam inbusiness
- ▶ Louis Beijer Ministry of Economic Affairs and Climate
- ▶ Berry Bonenkamp Netherlands Organisation for Scientific Research (NWO)
- ▶ Jaap Broersen Ministry of Economic Affairs and Climate
- ▶ Dorine Collijn Maastricht University
- ▶ Han Dommers Nuffic
- ▶ André Driessen Ministry of Foreign Affairs
- ▶ Thijs Geurts Ministry of Education, Culture and Science
- ▶ Albert Janssen Shell and Wageningen University & Research
- ▶ Rita Molenkamp-Szűcs Municipality of Amsterdam
- ▶ Jelle Nijdam Netherlands Enterprise Agency (RVO)
- ▶ Arjo Rothuis Wageningen University & Research
- ▶ Herman Russchenberg Delft University of Technology (TU Delft)
- ▶ Jos Smits Maastricht University

Interviews were also held with the following experts:

- ▶ Linda van Beek VNO-NCW & MKB-Nederland
- ▶ Carel Jan van Driel Philips
- ▶ Nisha Dutt Intellectap
- ▶ Freek Jan Frerichs RVO Innovation Council in New Delhi
- ▶ Jos van Haaren Philips
- ▶ Mrinalini Kaur Sapra Embassy of India in The Netherlands
- ▶ Ashok Kaushik Embassy of India in The Netherlands
- ▶ Arjan Koeslag Regieorgaan SIA
- ▶ Martijn Lammers RVO Innovation Council in Mumbai
- ▶ Anish Patil Culture Guru

AWTI would like to thank the experts for their contribution.

Annex 2 Findings

The following findings are based on a review of the literature and data on India as well as discussions with experts. The topics were also discussed during the expert meetings.

1) The Netherlands stands to benefit from STI collaboration with India.

India is an interesting partner for the Netherlands for a number of reasons:

a) General

- i) India is an emerging economy which has delivered solid economic growth for many years (estimated at 7.5% per annum for the coming years)⁸ and with a relatively young and still growing population of 1.3 billion (18% of the world population). India is expected to overtake China in the next few years as the world's most populous country.
- ii) India is the biggest democracy in the world, is situated in a region marked by tensions and therefore occupies an important geopolitical position.
- iii) The English language offers an easy entry. India has many official languages, but in addition English is an 'associated extra official language', which in many places is used as the lingua franca.

b) Science

- i) India is a strongly emerging nation scientifically, which currently produces 5% of global scientific output and which is a top performer in several disciplines. Although investments in R&D are still limited, at 0.84% of GDP, the aim is to grow this to 2% in the coming years.
- ii) The number of publications is greatest in the exact disciplines Engineering & Technology, Natural Sciences and Life & Health Sciences,⁹ and it is generally acknowledged that India has a high level of knowledge and technology in the fields of pharmaceuticals, automotive, software, aviation and satellite design and launch. India competes at global level in these disciplines. India is also emerging as a force to be reckoned with in the disciplines of reverse engineering and the manufacture of generic drugs.¹⁰
- iii) Although the quality of research in India varies widely, the country does have a number of top scientific institutes which, in terms of infrastructure, funding

⁸ IMF, World Economic Outlook Update, January 2018, see: www.imf.org/en/Publications/WEO/Issues/2018/01/11/world-economic-outlook-update-january-2018.

⁹ Elsevier, *World of Research*, Amsterdam: Elsevier, 2015.

¹⁰ European Commission, *RIO Country Report 2015: India*, 2016, p. 93.

and quality, are comparable to Dutch universities. Indian science also operates transparently.¹¹

- iv) Scientific collaboration with India is accordingly interesting, promising and useful. This is partly due to the fact that India offers a large and supplementary study population, is able to deliver a large amount of interesting data and carries out research on a number of (often socially relevant) topics which are also high on the agenda in the Netherlands, for example research on diseases such as diabetes and cardiovascular disease.
 - v) India could also be a key partner for large-scale research infrastructure, as is currently happening with the Square Kilometre Array Telescope (SKA) in South Africa and Australia, which needs to be set up and managed by several countries.
 - vi) India is a fully fledged partner which is keen to collaborate with the Netherlands in the focus areas water, *life sciences & health*, high-tech systems and materials (HTSM) and agriculture & food.¹² This collaboration was launched in 2008 with the signature of a Memorandum of Understanding (MoU). The first programme began in 2009.¹³
 - vii) India also participates in EU framework programmes, for example being involved in many projects within the Seventh Framework Programme in the fields of energy (wind energy, energy-efficiency, biofuels, coal mine methane drainage), environment and climate change, health, ICT, *nanoscience*, socio-economic research and agriculture & food.¹⁴
- c) Innovation and industrial activity
- i) India has voiced the ambition of making the period from 2010-2020 the decade of innovation. In addition, the Indian government has adopted five flagship priorities:¹⁵
 - *Make in India*: Establishing India as a manufacturing country.
 - *Digital India*: Taking India forward as a country of digitalisation and ICT.
 - *Skill India*: Education and skills training for the young population.
 - *Clean India*: Cleaning the Ganges and more/better sewage systems.
 - *Creating New Infrastructure*: An extra investment of €9 billion in infrastructure (water, roads and rail).

¹¹ Meeting at AWTI on 13 December 2017.

¹² <https://www.rijksoverheid.nl/actueel/nieuws/2011/11/09/samenwerkingsovereenkomst-india-nederland-over-wetenschap-en-techniek-in-landbouw>

¹³ NWO, *Notitie aanpak India-samenwerking*, (mimeo), 2016.

¹⁴ European Commission, *Review of S&T Cooperation Agreement between the European Union and the Government of the Republic of India 2007-2011*, Brussels: 2012.

¹⁵ European Commission, *RIO Country Report 2015: India*, Brussels: 2016.

- ii) Four Indian states are innovation frontrunners: Tamil Nadu, Maharashtra, Karnataka and Gujarat.¹⁶
- iii) India has a strong position, including as regards innovation, in a number of sectors which are likely to continue to be powerful drivers of the Indian economy in the future: biotechnology, pharmaceuticals, automotive, electronics and ICT. Agriculture and food is also a key sector in the Indian economy, and one where there is a great need for innovation in order to increase yields and curtail losses in processing and transportation.¹⁷
- iv) Many internationally operating multinationals have established R&D centres in India. These R&D centres operate mainly in the fields of ICT, biotechnology, pharmaceuticals, telecommunications and the automotive industry.¹⁸
- v) India has shown an interest in innovating with Dutch partners. Indian partners see particular added value in the joint development of knowledge and innovation.¹⁹ One caveat here is that the regulations and procedures in India can throw up barriers in practice, especially for foreign SMEs wishing to do business in India.
- vi) India is particularly renowned for its frugal innovation – innovation aimed at finding functional solutions at very low cost. The focus of innovation in the Netherlands is more on high-tech solutions, which are generally high-cost. The challenge in partnering with India will therefore lie mainly in seeking extreme cost reductions.
- d) Social challenges and sustainable development goals
 - i) There are many shared social challenges on which the two countries can work together. Examples include climate, the living environment and health.
 - ii) India is moreover so large (especially in terms of population) that progress made on sustainable development goals will almost certainly have a solid (quantitative) impact.
- e) Cooperation with India opens up a larger ‘market’ through upscaling
 Indian businesses and knowledge institutes are keen to develop knowledge, innovations and products in partnership with the Netherlands. This cooperation is not only interesting with a view to the Indian market, but possibly elsewhere as well; conditions in India are fairly comparable with those in countries elsewhere (e.g. East Africa or other Asiatic countries). Investing in the development of (affordable and) scalable innovations with/in India thus means investing in a

¹⁶ Institute for Competitiveness, *The Indian State Innovation Report 2016*, 2016.

¹⁷ Institute for Competitiveness, *The Indian State Innovation Report 2016*, 2016.

¹⁸ European Commission, *RIO Country Report 2015: India*, 2016, p. 62.

¹⁹ Information from the AWTI roundtable meeting on 13 December 2017 and discussions.

potentially much larger market²⁰ (which in turn largely consists of countries with which the Netherlands is currently not active or less active in terms of STI diplomacy).

f) Talent

- i) With its young population, India has a large reservoir of talent. Not all these talents are able to develop within India. The share of young Indians entering higher education is fairly low by international standards, at 18% (compared with 26% in China and 36% in Brazil). There is moreover wide variation in quality between higher education institutions in India,²¹ and the number of new places at the top institutes is limited to around 100,000 per year.²² It is estimated that there are 900,000 Indians each year who have a lot of talent but who are unable to follow their desired education programme at the highest level in India.²³ A proportion of them are able to look abroad for a good education.
- ii) There are currently around 200,000 Indian students studying abroad.²⁴ Half of them go to the United States, followed by the United Kingdom, Canada, Australia and New Zealand.²⁵ These five countries together account for more than 85% of all Indian students abroad. There has been a big increase in the number going to Germany in recent years, with around 12,000 Indian students at present. Germany has set up a special programme to attract Indian students. The number of Indian students on Bachelor's and Master's degree programmes in the Netherlands has risen sharply in recent years and currently stands at 1,500.²⁶
- iii) India also has a limited number of places for postgraduate education following a Bachelor's degree, such as a Master's or PhD, whereas Indians are highly motivated to obtain such degrees. Only 140,000 people in India

²⁰ This combination was for example clearly sought during the Impact Startup Fest 'Innovations for a Better World' on 25-26 September 2017 in The Hague.

²¹ British Council, *Understanding India*, 2014, p. 4.

²² For example, top institutes such as IIT and NIT have around 36,000 places available per year on their programmes. Source: <https://josaa.nic.in/SeatInfo/root/SeatMatrix.aspx>

²³ This figure emerged in a number of our discussions. It is certainly realistic: the 20% cleverest Indians who currently begin a higher education programme each year equates to approximately 1 million persons. Only 100,000 of them are able to obtain places at the top Indian institutes.

²⁴ <http://monitor.icef.com/2015/02/india-key-source-international-students-can-become-destination/>

²⁵ EY/FICCI, *Higher education in India: Moving towards global relevance and competitiveness*, 2014. See also Indian government summary:

<http://164.100.47.190/loksabhaquestions/annex/12/AS337.pdf>

²⁶ <https://www.onderwijsincijfers.nl/kengetallen/sectoroverstijgend/internationale-mobiliteit-van-leerlingen-leraren-en-studenten/internationale-mobiliteit-van-leerlingen-leraren-en-studenten>

are registered as postgraduate students,²⁷ largely due to a lack of research places.²⁸

- iv) The employment opportunities for highly trained researchers in India are also relatively limited: India has 157 research posts per million inhabitants, compared with a global average of 1,268. The majority (85%) of the more than 700 universities and 33,000 colleges in India do not have a research mission.²⁹
- v) In short, India is home to a large reservoir of talent that could be interesting for Dutch higher education (talented and motivated students who make a contribution to the international classroom), Dutch research (for example as doctoral students) and Dutch business. Linked to a good alumni policy, these talented Indian students could continue to contribute to strengthening the ties and/or cooperation between the two countries even after they have left the Netherlands again.

2) The Netherlands has something to offer India

- a) The Netherlands has an attractive business climate, with the result that several Indian companies have been established in the Netherlands for a number of years.
- b) The Netherlands offers opportunities for Indian talent.
 - i) Approximately 1,500 students with Indian nationality were registered on Bachelor's and Master's higher education programmes in the Netherlands in the 2016/17 academic year.³⁰ That is a threefold increase over five years.³¹ They are mainly studying at research ('academic') universities; Indian students have less interest in higher professional education programmes at universities of applied sciences.
 - ii) India is one of the four priority countries for the 'borderless network' which was set up to strengthen Dutch 'green education' (senior secondary vocational, higher professional and university education) internationally through better coordination, cooperation and exploitation of educational opportunities.³²

²⁷ British Council, *Understanding India*, 2014, p. 15,

²⁸ Institute for Competitiveness, *The Indian State Innovation Report 2016*, 2016.

²⁹ European Commission, *RIO Country Report 2015: India*, 2016, p. 91.

³⁰ <https://www.onderwijsin cijfers.nl/kengetallen/sectoroverstijgend/internationale-mobiliteit-van-leerlingen-leraren-en-studenten/internationale-mobiliteit-van-leerlingen-leraren-en-studenten>

³¹ <https://www.nuffic.nl/nieuws/nuffic-news/feestelijke-opening-nuffic-neso-india-tijdens-handelsmissie>

³² [groenonderwijs.nl/ data/documenten/Borderless%20netwerk/Nieuwsbrief%20Borderless%20Network%20jan%202017.pdf](https://groenonderwijs.nl/data/documenten/Borderless%20netwerk/Nieuwsbrief%20Borderless%20Network%20jan%202017.pdf)

- iii) The Netherlands can also offer development opportunities in terms of research posts for talented Indian doctoral students.
- iv) Many ICT and engineering companies in the Netherlands have a great need for skilled personnel which they are unable to meet entirely using 'Dutch' labour. Indians certainly have something to offer here. In a company such as ASML, for example, Indian staff are already the largest contingent with a foreign nationality after the Belgians.
- c) The Netherlands is in the top group in the world in terms of knowledge in a number of fields that are relevant for India, such as water, climate, energy, health and ICT.
- d) One of the strengths of Dutch businesses and research institutes is their multidisciplinary approach. This is something that is of interest to India, given that Indians are educated and organised in a fairly monodisciplinary way. As a result, Indian research institutes devote little attention to multidisciplinary research and there is virtually no collaboration with the business community.³³ Dutch examples of linking disciplines, such as combining waste processing with energy generation, are initiatives from which India can draw inspiration and learning.³⁴
- e) The Netherlands also has a strong tradition in public-private partnership. India would like to adopt or align with this approach.
- f) There are ample opportunities for solving shared social challenges. Partnership is heavily emphasised.

3) Basic conditions for collaboration

There are a number of basic conditions that must be met for successful STI collaboration between the Netherlands and India:

- a) **Equal partners**: this means 'give and take' on both sides.
- b) **Partnership**: the added value lies in working together on common challenges.
- c) **Trust**: collaboration must be based on trust.
- d) **Commitment** for the long term: collaboration with India will require a long-term endeavour.
- e) **Adequate funding**: in a number of cases, the targeted deployment of reasonably modest amounts for start-up finance or seed funding can establish excellent partnerships. In other cases, for example where India is itself able or willing to invest substantial amounts, the principle of being equal partners requires that the Netherlands makes available a comparable budget.

³³ British Council, *Understanding India*, 2014, p. 27.

³⁴ Example cited by a representative of Amsterdam: a project by the Amsterdam waste processing company (Afvalenergiebedrijf Amsterdam).

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