



# International Cooperation in Science, Technology and Innovation: The Case of India, Argentina and Guatemala



**Tatiana Lenzuen\***



**Leonel Monterroso\*\***

## Introduction

Diplomatic ties between India and Latin America have been fostered. Unlike other regions in the world, India's relation with Latin America 'has been remarkable for its lack of hype and its low profile' (Badri-Maharaj,2017).

As an international society, our most urgent issue is to utilize the scientific and technological innovations in developing countries, in a way that can contribute to their growth and the eradication of those common issues. In this paper, we will concentrate on the international cooperation and partnership between India-Argentina and India-Guatemala. A background will be given in order to have a better understanding on the context. Similarly, several approaches concerning a reciprocal cooperation in the fields of science, technology and innovation will be presented. Finally, conclusions shall be drawn in light of the theoretical elements discussed previously.

## Indo-Argentina Cooperation

India and Argentina's relationship comes a long way. This year marks the 70<sup>th</sup> year anniversary of their international cooperation. Both nations share common values such as democracy, plurality, family and spirituality. Those common values made the relationship stronger throughout the years, and more importantly shape both countries' intention to develop and collaborate together regarding their issues in science and technology. Science technology and

---

\* Lawyer, Bullo Norasa Law Fir, Argentina.

\*\* Head of International Relations, Secretariat for Science and Technology of Guatemala, Guatemala.

innovation are important elements that allow nations not only to grow and solve long-term pressing issues, but also have helped nations around the world to share their innovations in order to achieve common goals.

Both countries are members of the G20 Forum, which is a platform that gathers the world's most powerful nations, the last summit took place in Buenos Aires, Argentina in November 2018, and the theme of the Summit was '*Building Consensus for Fair and Sustainable Development*'.<sup>1</sup> The countries that participated in this summit agreed on sharing common goals, both India and Argentina strengthened their relationship thanks to an official trip by the Prime Minister of India, Narendra Modi, which will be followed by another official trip to India from Mauricio Macri, the President of Argentina. This is proof of both countries' commitment to improve their relationship. The agreements that may be reached as a result of the alliance present relevant topics such as satellite development for internet and scientific exploration, climate change, agriculture, fishing, mining and renewable energy.

## **Common Approaches between India and Argentina in STI**

In the case of India and Argentina, their intention to reach some common goals regarding science and technology to solve shared problems with today's scientific innovations and mutual cooperation is praise-worthy. Food and energy security are a few problems that both countries shared and can be solved in a long-term cooperation, by way of sharing of resources, exchange of scientists and promotion of science education in both the nations teaching the next generations the importance of science to the advancement of the society. The Government of Argentina created, at a National level the *Programme of Robotics and Technology for Education*<sup>2</sup>, a programme of the Federal Council of Science and Technology, with the purpose of implementing robotics at some local schools of different provinces in the country, in order to foster the use of robotics at the classrooms and the tools to achieve a global and a more technology-

related education.

Notwithstanding this, Argentina is a big country and only a few schools are not going to be enough to make this improvement work, but it is a first step to help society achieve common goals and also make the civil society be a part of the scientific innovations and more importantly to train future scientists. Both nations' common achievement is the improvement of life for their citizens regarding food and energy security through their partnership

Some local schools from the City of Buenos Aires in Argentina implemented robotics, and science technology to their curriculum for students from the first grades of primary school.

Argentina has been achieving some agricultural developments in through the use of efficient as machinery, advances in molecular biology and genetic engineering, and by generating efficient integration in the global value chains. Both nations are primarily agricultural economies and working together can prove mutually beneficial, resulting in crop development and profitable product distribution. For example, the way the crops are stored through the application of an efficient technological system can prevent the loss of harvest in a big way.

Regarding energy security Argentina has been developing an important project called "Vaca Muerta" with aims at creating 503.000 jobs by 2050 being implemented in the Argentina's Vaca Muerta field which is the world's second-largest shale gas deposit. This project will be the key for the future of Argentina- India energy security mutual development. Additionally, there are also opportunities for India to invest in the vastly present resources of copper and lithium in Argentina, which in turn can lead to mutual development.<sup>3</sup>

Another project Argentina is developing is with the INVAP company which develops advanced technological inventions such as nuclear energy and airspace radars, this company also has a plant in Mumbai.<sup>4</sup> With this kind cooperation in science and technology fields, Argentina is trying

to not only create more jobs and opportunities for Argentinian scientists through the Minister of Science and Technology but also promoting international scientific cooperation of scientists of Argentina with their colleagues abroad in the mutual interests for the development of science exchange information, knowledge and research. This kind of cooperation is implemented by the creation of research projects, events, bi-national centres, and scholarships for foreign scientists.<sup>5</sup> Likewise, this type of cooperation is essential for countries to be able to achieve concrete goals and reduce their citizens problems, working together as an international society and community has proved to be essential in creating good outcomes. These outcomes always come with good results because sharing knowledge of national's scientist, lawyers, researcher's and other professionals enriches the spectrum of knowledge and brings more opportunities to finally improve people lives

Finally, both countries goals are to eradicate poverty and create better water-food-energy systems for them to be available for all the population and also to reduce the effects of climate change. Also, the creation of jobs and opportunity for more people, science and technology developments are going to help both countries achieve these goals and contribute to the environment to reduce and eradicate climate change.

## **The Case of India and Guatemala**

India and Guatemala established diplomatic relations in 1972, after the Minister of State for External Affairs, Shri Anand Sharma, visited Guatemala for the first time. Subsequently, the Embassy of India in Guatemala opened its doors in 2009; likewise, Guatemala inaugurated its diplomatic mission in New Delhi in 2014.<sup>6</sup>

Unlike other partnerships with major Latin American countries such as Argentina, Brazil, Chile and Mexico, the India-Guatemala relations have been less dynamic, although that is changing due to globalization and a keen interest from both parties to foster ties of cooperation with each other.

Bilateral agreements between both countries have been signed in the past. For instance, in 1981, an agreement on Trade and Economic Cooperation is reached and, in 2015, an agreement for visa exemption for diplomatic and official passport holders is signed. Similarly, from 2007 to 2015, several bilateral visits have been paid by diplomats and other public servants with the aim of establishing a more concrete reciprocal cooperation.

It is worth mentioning that there has been a more proactive exchange of cooperation in the past, in the field of trade. Pharmaceutical products, articles of iron & steel, cotton, machinery & mechanical appliances are just a few products that have been imported/exported through a more economic partnership (Op.Cit).

In 2006, a technological center at the School of Engineering at the University of San Carlos of Guatemala was inaugurated, by the Government of India. This center for technology, within a two-year period, trained more than 1,599 public servants and employees of the private sector of Guatemala. Finally, in 2008, the aforementioned center was given to the University of San Carlos of Guatemala, so it would administer it under its own procedures and policies.

In terms of human capital training in India, within the Central American Integration System (SICA), the Government of External of Affaires of India offered to increase the number of scholarships to Guatemala from 100 to 200, through the Technical and Economic Cooperation Program of India (ITEC), which has benefited hundreds of Guatemalans over the years.<sup>7</sup> Currently, the ITEC program covers several areas of knowledge such as Humanities, Health, Social Sciences and Science, Technology and Innovation. So far, the programme has been very successful and is getting more attention and interest amongst Guatemalans.

## **Concrete and Reciprocal Collaboration between India and Guatemala in STI**

Thus far, the cooperation and partnership between Guatemala and India in the fields of Science, Technology and Innovation, has been active and

it shall gain more momentum in the years to come. It is in the best interest of Guatemala to strengthen the ties of cooperation with India, whereby both countries would benefit from an alliance in order to face common issues and, at the same time, bring more opportunities.

For instance, Barefoot College (based in India) has worked on a bilateral project that is being undertaken with former scholar recipients from Guatemala. This project focuses on energy through solar panels that would provide energy to more than 200 families in rural Guatemala. It is foreseen that the aforementioned project would be put in practice in its totality once the funds are available. It is worth mentioning that Guatemala is working with the private sector to obtain the necessary funds to complete the project. Indeed, this project would not have been undertaken without the mutual cooperation of both countries; hence the importance of the alliance.<sup>8</sup>

Currently, there is not an actual framework agreement on cooperation between both nations and there have been bilateral talks recently, to make this happen<sup>9</sup> True, there has been a mutual cooperation; however, there has to be a more structured agreement that would set the parameters and goals of such cooperation. The reciprocal cooperation, through a framework agreement on cooperation, would cover the following areas of cooperation:

- Exchange of scholars and scientists, from both India and Guatemala, in order to exchange knowledge at universities and other academic institutions.
- The establishment of postgraduate studies in both countries through inter-institutional agreements with universities.
- The establishment of a department of Science Diplomacy at the respective embassies (Guatemala and New Delhi), with the aim of seeking opportunities and mutual cooperation of both countries, which would result in a more dynamic cooperation in the fields Science, Technology and Innovation.

Furthermore, the creation of a Center for Science and Technology and Innovation in Guatemala would be an asset in its efforts to

promote Science, Technology and Innovation. Indeed, the National Secretariat for Science and Technology of Guatemala is interested in having an actual Center for Science and Technology and Innovation, given that there is not such center. Likewise, a technological park in Guatemala would open many opportunities for both India and Guatemala, given that it would position Guatemala as the leading country in Central America in the fields of Science, Technology and Innovation. Similarly, India would position itself as a major regional player and its influence in the regional would be very beneficial in its quest of seeking an important place in today's world.

The cooperation to be established between both countries would have to be reciprocal. This is a situation in which both parties can cooperate to strengthen more those ties of cooperation.

## Conclusion

Argentina has a lot of potential between the nation resources such as scientists. Projects such as "Vaca Muerta" and other projects can contribute to reduce Argentina's current economic crisis can reduce the unemployment numbers, give a major boost to small businesses and also prevent the fall of the Argentinian currency against other countries' currencies.

The partnership Argentina has with India not only allows cooperation, exchange of knowledge of its professionals, but also encourages private companies of both countries to invest in these avenues. This results the investments to grow in both the countries and create bigger opportunities for their people..

Guatemala and India started having a more diplomatic approach through visits of public servants and businesses men. The cooperation had a more economical approach in its beginnings and, currently, it has covered other areas such as education, training of human capital, scholarships, donations and technological-oriented projects, which is a dynamic cooperation.

It is in the best interest of Guatemala to have a more bilateral and reciprocal cooperation with India in the fields of Science, Technology and

Innovation. True, Guatemala does not have as many economical resources as its emerging partner. However, it can prioritize resources and projects through its own budget. Both countries share similar challenges and have opportunities that can be taken. India constitutes a model of a developing nation that is looking at a brighter future for its economy and people. Guatemala can also follow its partner's steps in replicating a similar model. Hence, both parties win momentum and an important position.

### Endnotes

- 1 The Summit G20 2018 was the first time Argentina host the biggest leaders of the world in just one summit.
- 2 The Federal Council of Science and Technology of the Government of Argentina, created the programme to foster the inclusion of robotics and science and technology at some local schools of different programmes of Argentina, so that these students can benefit from it.
- 3 Vaca Muerta is one of Argentina biggest projects regarding Science and Technology.
- 4 INVAP is an Argentina Company based in Bariloche, the South of Argentina and provides design, integration, construction and delivery of equipment, plants and devices. The company operates in North America, Europe, Asia Pacific, Latin America, the Middle East and Africa, and delivers projects for nuclear, aerospace, chemical, medical, petroleum and governmental sectors.
- 5 Minister of Science and Technology of Argentina projects to promote international cooperation on science projects.
- 6 Online Reference: Ministry of External Affairs of India. 2017. India-Guatemala Relations.
- 7 The information was provided by the Embassy of Delhi in Guatemala on January 9, 2019.
- 8 This information was obtained from the Embassy of Guatemala in New Delhi on January 9, 2019
- 9 This information was obtained from the Embassy of Guatemala in New Delhi on January 9, 2019.

### References

- Argentina G20 Summit 2018. 'OVERVIEW OF ARGENTINA'S G20 PRESIDENCY 2018'. Retrieved on January 10, 2019 from <https://g20.argentina.gob.ar/en/overview-argentinas-g20-presidency-2018>.
- Argentina Government Minister of Treasury. 2019. "Vaca Muerta Project". Retrieved on January 10, 2019 from <https://www.argentina.gob.ar/vaca-muerta>
- Argentina Minister of Science and Technology. 2018. "International cooperation". Retrieved on January 11, 2019 from <https://www.argentina.gob.ar/ciencia/cooperacion-internacional>
- Argentina Government Program of Robotics and Technology for Education. 2018. "Robotics Technology Programme". Retrieved on January 14, 2019. <https://www.argentina.gob.ar/cofecytventanilla-permanente/programa-robotica-y-tecnologia-para-educar/%c2%a0>
- Badri-Maharaj, S. 2017. Prospects and Constraints. *India's Relations with the Latin America-Caribbean Region. IDSA Occasional Paper No. 45.*
- Embassy of Guatemala, India. 2018. 'The Little Blue Book of Guatemala'. New Delhi: India
- Inter-American Development Bank. 2009. 'China's and India's Challenge to Latin America: Opportunity or Threat?'. Retrieved on January 10, 2019 from
- Roett, R. and Paz, G. (eds). 2016. *Latin America and the Asian Giants: Evolving Ties with China and India*; Washington DC: Brookings.
- Sacom Invap Company. 2018. "State-of-the-art technology to manage the environmental emergencies of the planet and provide satellite information for the benefit of Argentines". Retrieved on January 10, 2019 from <http://saocom.invap.com.ar/>
- Ministry of External Affairs of India. 2017. 'India-Guatemala Relations'. Retrieved on January 10, 2019 from [https://mea.gov.in/Portal/ForeignRelation/16\\_Guatemala\\_November\\_2017.doc.pdf](https://mea.gov.in/Portal/ForeignRelation/16_Guatemala_November_2017.doc.pdf)