

# Engaging the scientific diaspora: the case of Mexico

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**Brief description:** This case study explores the institutional and organizational dynamics that shape Mexico's engagement with its scientific diaspora. Through a documentary review and complementary consultations with diaspora members and government officials, the study examines both formal mechanisms, such as the Global Network of Highly Skilled Mexicans Abroad (Red Global MX), and the broader informal dynamics that sustain transnational scientific collaboration.



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## 1. INTRODUCTION. Background and Context

The scientific diaspora refers to the community of highly qualified professionals (researchers, innovators, academics, and entrepreneurs) who reside outside their country of origin and yet maintain ties with it through research collaboration, knowledge transfer, or international cooperation (Barré et al., 2003; Bonilla, 2022). Far from being reduced to the notion of “brain drain” it has been reconfigured as an opportunity for knowledge circulation and the leveraging of transnational networks (Giannoccolo, 2009; Tejada, 2012).

In Mexico, this phenomenon holds particular significance within Latin America due to the significant size of its highly skilled migrant community and the early development of institutional mechanisms for engagement. Between 1990 and 2013, over 300,000 individuals with higher education emigrated, many of them holding graduate degrees in science and technology (Gaspar & Chávez, 2016). While often interpreted as a loss of human capital (Rogozinski, 2020), this outflow has also opened spaces for academic cooperation and science diplomacy, leading to the emergence of organized communities that influence both national and international agendas.

A key example is the Global Network of Highly Skilled Mexicans Abroad (Red Global MX), established in 2005 by the Ministry of Foreign Affairs (SRE) through the Institute for Mexicans Abroad (IME). Its purpose is to connect professionals in strategic areas such as science, technology, and innovation (Kunz, 2010; Marmolejo-Leyva et al., 2015). As of 2024, it comprised 75 chapters distributed in 35 countries, and by 2025, active chapters exist in 49 countries. The network is governed by internal guidelines issued by the IME (updated in 2021 and ratified in 2024), which recognize such chapters as legitimate expressions of the Mexican scientific diaspora.

These efforts are part of a broader policy to institutionalize ties with nationals abroad, involving the Mexican Agency for International Development Cooperation (AMEXCID) and scientific repatriation programs historically promoted by the National Council of Science and Technology (CONACYT) (Bravo, 2018). With the recent creation of the Secretariat for Science, Humanities, Technology and Innovation (SECIHTI) there is potential for stronger inter-institutional coordination with the SRE and IME, although such coordination is still in the process of consolidation.

There are also complementary international networks with representation or chapters in Mexico, such as the Erasmus Mundus Association (EMA), the German Academic Exchange Service (DAAD) Alumni, and the Marie Curie Alumni Association (MCAA), among others, that connect Mexican researchers who have been trained abroad. Although not originally created to cooperate with the scientific diaspora, their academic collaboration activities have linked Mexicans abroad with national institutions, generally in an independent and voluntary manner (personal communications, 2025).

Recent developments have also influenced these dynamics. Reforms to CONACYT, first transformed into CONAHCYT (H stands for Humanities) in 2018 and later into SECIHTI in 2025, altered priorities and reduced international engagement, while also generating conflicts with both national and international scientific communities (Manjarrez, 2023). The COVID-19 pandemic further disrupted global mobility but also highlighted the resilience of the Red Global MX, whose chapters continued to engage in outreach and remote cooperation.

Mexico thus represents a relevant case for regional and global analysis of the scientific diaspora for three main reasons:

1. Its scientific prominence in Latin America positions Mexico as one of the countries with the highest academic output and number of researchers in the region.
2. The institutional trajectory of Red Global MX, with nearly two decades of operation and a presence in 49 countries, makes it one of the most established initiatives in the Global South.
3. Its capacity to adapt to political, budgetary, and public policy changes provides valuable lessons for countries seeking to build sustainable and flexible policies for engaging their scientific diaspora.

This case study aims to answer the central question of how the mechanisms linking Mexico with its scientific diaspora have been configured, articulated, and sustained, both through government-led initiatives (such as Red Global MX) and through autonomous networks and associations of Mexican researchers abroad. Accordingly, its general objective is to analyze the institutional, organizational, and community-level factors that have facilitated or limited the operation and impact of these mechanisms in the fields of science and international cooperation. Specifically, the study seeks to (i) identify the key actors involved, (ii) examine the operational dynamics between the Mexican government and diaspora networks, and (iii) document the lessons and challenges that the Mexican experience offers as a reference for other countries in the Global South.

This study focuses on Red Global MX chapters in Germany and Spain due to existing collaboration ties and access to informants. However, this does not imply these are the most representative or active chapters. Others, such as in Australia, Japan, and Latin America, also show strong engagement, but fell outside our logistical reach for this analysis.

## 2. LITERATURE REVIEW: National, regional and global context

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### National Context

Over the past two decades, the Mexican scientific diaspora has received growing academic and political attention. However, concrete institutional initiatives have been limited. The most prominent effort remains the creation of the Red Global MX in 2005 by the Ministry of Foreign Affairs through the Institute for Mexicans Abroad, which has become the main institutional mechanism for engaging highly qualified Mexican professionals residing abroad.

The international mobility of Mexican researchers has fostered scientific cooperation, highlighting the diaspora's capacity to create academic linkages and transnational networks that benefit both the country of origin and the host country (Marmolejo-Leyva et al., 2015). Nonetheless, structural challenges have also been identified in sustaining cohesion within the diaspora in a context where the Mexican State provides limited human, material, or institutional resources (Kunz, 2010; Tigau, 2009).

The Mexican context reflects tensions regarding the value and limitations of these initiatives. While some studies underscore the opportunity to transform *brain drain* into *brain circulation* (Gaspar & Chávez, 2016; Rogozinski, 2020), others point out that once-robust return programs

(such as those supported by CONACYT) have faced budget cuts, reintegration turns difficult and institutional discontinuity occurs (Martuscelli & Martínez Leyva, 2007). Historically, the regulations of the National System of Researchers (SNI) included provisions allowing Mexican scientists residing abroad to participate, an approach that remained in place at least until the 2022 version of the regulation (CONACYT, 2022). However, this clause is absent from the 2023 and 2025 regulations of the newly structured National System of Researchers and Scholars (SNII), which restrict eligibility to those affiliated with public institutions within Mexico. This shift represents a narrowing of the institutional framework for engaging the scientific diaspora and limits formal mechanisms for recognizing their contributions from abroad (SECIHTI, 2025).

One of the few existing institutional efforts aimed at engaging the diaspora is the Repatriation Program of SECIHTI. While it represents a relevant step toward encouraging the return of Mexican researchers, it operates in isolation and lacks coordination with strategic mechanisms such as *Red Global MX* or other entities focused on international scientific collaboration. This disconnection limits the generation of synergies, hinders comprehensive follow-up of repatriated researchers, and weakens the potential to build a stable collaboration ecosystem with the scientific diaspora.

Additionally, the 12-month maximum duration of the repatriation grant poses a significant limitation. In practice, this period is often insufficient for full integration of the researcher into the host institution, and in many cases, does not result in stable or long-term employment. This creates uncertainty for both scientists and institutions, ultimately undermining the very purpose of the repatriation program, which could be more effective if oriented toward building sustainable capacities within the national scientific system.

There have also been declarations of intent to integrate Mexican talent abroad into the academic staff of new universities promoted by the current administration (SECIHTI, 2025).

Several studies have analyzed public diplomacy strategies led by Mexican embassies,—particularly in the United States—to strengthen ties with the diaspora, highlighting *Red Global MX* as a central instrument in this effort (Bravo, 2018). It has also been suggested that the Mexican model serves as a reference in the field of diaspora diplomacy, by balancing national identity with scientific and technological cooperation, as discussed by Sánchez and Cantú (Kennedy, 2022).

Finally, institutional documents such as the *IME-Red Global MX* Collaboration Guidelines (ratified in 2024) formalize this relationship by recognizing the chapters as legitimate interlocutors and establishing coordination mechanisms with the State, although financial sustainability and alignment with national science policy remain structural challenges.

## Regional Context

Latin American and Caribbean (LAC) literature converges on several key lessons: (i) the need for strong inter-institutional structures to sustain engagement with the diaspora beyond individual will; (ii) the recognition of diasporas as *legitimate actors* in science policy and diplomacy, beyond their cultural or entrepreneurial contributions; (iii) the value of symbolic incentives and visibility in supporting the voluntary work of diaspora chapters; and (iv) the potential of diaspora networks to contribute to higher education internationalization strategies and the fulfillment of the Sustainable Development Goals (SDGs) (Echeverría-King et al., 2020).

The Central American case shows how diaspora engagement can strengthen capacities in universities and higher education systems, while also warning that institutional fragility undermines its sustainability (Bonilla, 2022). In the Southern Cone, Argentina and Colombia have implemented more structured strategies. In Argentina, the policies aimed at attracting back scientists since the early 2000s (such as the RAICES program) have been analyzed as examples of how a solid legal, budgetary, and political framework can promote *brain gain*, although not halt continued emigration (Tejada, 2012). In Colombia, various studies have examined efforts to connect talent networks abroad with national development projects, while also highlighting institutional fragmentation and discontinuity as persistent obstacles (Kramer & Zent, 2019). Personal communications with representatives of diaspora networks in Mexico echo this diagnosis, underscoring institutional fragmentation and lack of continuity as common challenges across Latin America.

Nonetheless, the COVID-19 pandemic opened new opportunities for transnational cooperation, with scientific diasporas playing a key role in providing expert advice and strengthening South-South cooperation schemes (Echeverría-King et al., 2022).

Regional literature thus identifies three key elements for an effective policy of scientific diaspora engagement: (i) designing national policies that transcend governmental cycles; (ii) offering not only economic but also symbolic and professional incentives; and (iii) recognizing that communities abroad operate through voluntary networks that require institutional support, but not state control (Valenzuela-Moreno, 2021; Gómez-Flores, et al, 2022).

## Global Context

Globally, the scientific diaspora has increasingly been recognized as a strategic resource for development, particularly in countries facing structural challenges within their national science, technology, and innovation systems. In contrast to the traditional *brain drain* narrative, various international experiences demonstrate that it is possible to transform scientific migration into more dynamic forms of knowledge circulation and engagement, known as *brain circulation and brain linkage* (Shin & Moon, 2018). These strategies enable the integration of knowledge acquired abroad with local development priorities.

Several relevant cases illustrate this trend, many of which offer points of comparison with countries in the Global South. In India, for example, initiatives such as the *Global Initiative of Academic Networks* (GIAN) and the VAJRA program have enabled active participation by diaspora researchers through short-term stays, virtual mentoring, and collaborative projects with national institutions (Pandey et al., 2022). Similarly, China has implemented programs like the *Thousand Talents Plan*, which combine financial incentives, access to research infrastructure, and academic positions for Chinese scientists abroad, incorporating their expertise into the national innovation system (Cao et al., 2020).

In contrast, although the United States is not typically seen as a country of scientific emigration, it has developed strategies aimed at integrating scientific communities of foreign origin, recognizing their crucial role in the national innovation ecosystem. These practices function more as passive attraction strategies, benefiting from *brain gain* without establishing frameworks of reciprocity with countries of origin (Warner et al., 2022).

Russia faces the challenge of regaining scientific talent lost after the collapse of the Soviet Union. Since the early 2000s, it has launched programs such as the *Global Education Program (GEP)*, *Scientific and Pedagogical Labour Force for an Innovative Russia*, and specific funding mechanisms aimed at attracting Russian researchers abroad. However, these strategies have faced major obstacles, including bureaucracy, uncompetitive working conditions, and political centralization, all of which limit their effectiveness as long-term sustainable policies (Schiermeier & Severinov, 2010; Subbotin & Aref, 2020).

### 3. METHODOLOGY

This study adopts a qualitative, exploratory, and descriptive approach aimed at understanding the mechanisms of engagement between Mexico and its scientific diaspora. It is based on the premise that such engagement does not occur exclusively through formal state-driven structures, such as the *Red Global MX*, but also through international alumni networks, voluntary associations, and hybrid mechanisms of transnational cooperation. Although *Red Global MX* is a key reference due to its institutional framework, geographic reach, and trajectory, it does not by itself represent the entirety of Mexico's experience in this area.

The analysis was primarily based on an extensive documentary review that included national and international academic literature, institutional reports, international cooperation documents, official outreach materials from *IME* and *Red Global MX*, as well as articles from specialized media outlets that have documented the evolution of these initiatives since their inception in 2005. In addition, personal communications with key informants were used to complement and validate the findings of the documentary review. This combination of sources helped identify historical patterns, institutional tensions, and emerging dynamics in the relationship between Mexico and its scientific diaspora.

Complementary consultations were conducted with key participants currently or previously involved in diaspora networks, aimed at updating and contextualizing the insights drawn from the literature.

These consultations, conducted electronically, provided qualitative information on the day-to-day operations of chapters, the challenges of institutional coordination, and the motivations behind voluntary participation. In total, six participants were consulted, including government officials and diaspora network representatives.

To ensure traceability without compromising anonymity, the contributors are presented in an anonymized format in the following table, which summarizes their general profile, network or institution of affiliation, and the type of contribution (Table 1).

Personal communications were structured around five general thematic areas: (i) professional trajectories and motivations for joining networks; (ii) experiences and challenges in collaborating with Mexican institutions; (iii) existing mechanisms of institutional support, coordination, and recognition; (iv) perceptions of the diaspora's impact on national scientific development; and (v) proposals for strengthening ties with Mexico and lessons applicable to the Venezuelan context. While these do not constitute formal interviews, the qualitative insights they provided

**Table 1.**  
Anonymized participant profiles to ensure traceability of qualitative contributions

Participant	General Profile	Network/Institution	Type of contribution
P1	Government official	IME	Institutional coordination and program management
P2	Government official	IME	Consular engagement, symbolic recognition and diplomatic facilitation
P3	Former chair	Red Global MX, Germany	Voluntary leadership, independent initiatives, visibility of Mexican talent abroad
P4	Chapter coordinator	Red Global MX, Spain	Voluntary leadership, science outreach activities, operational challenges
P5	Former chair	MCAA Mexico chapter	Voluntary leadership, challenges in institutional collaboration
P6	Former chair	Erasmus Mundus Association	Voluntary leadership, community participation

complemented the documentary review and helped place the Mexican experience within a broader framework of transnational cooperation.

The methodological limitations of this study must be acknowledged. On the one hand, it was not possible to cover all regions or sectors of interest due to logistical constraints. On the other, the voluntary nature of chapter work and the turnover in foreign service staff made it difficult to expand the number of voices consulted. Thus, the perspectives gathered are necessarily partial and context-specific, but they contribute analytical value by showing how different stakeholders interpret and shape the experience of engagement with Mexico.

To mitigate these limitations, methodological triangulation was employed, contrasting information from personal communications with secondary data, official reports, and academic literature. In that way, the triangulation between documentary sources and personal communications enhances the validity of the findings and provides a situated and updated view of the relationship between the Mexican state, its institutional networks, and its scientific diaspora.

Most qualitative insights come from informants affiliated with the *Red Global MX* chapters in Germany and Spain, as well as members of alumni networks based in Mexico. This reflects the contacts available to the research team rather than a judgment of relevance. Chapters in other regions, such as Australia and Japan, also remain active and organized, but could not be included in this analysis due to logistical constraints.

### **Ethical considerations**

The consultations consisted solely of informational exchanges via electronic means, with no collection of sensitive data. Formal ethical approval was not deemed necessary; however, explicit consent was obtained from all individuals consulted for the inclusion of their shared experiences in this study.

## 4. SPECIFICITIES OF THE CASE STUDY

The findings presented in this section are based on personal communications with members of the Mexican scientific diaspora and representatives of alumni associations, complemented by documentary sources previously described (see Table 1). While these offer rich illustrations, other chapters from *Red Global MX*, especially in Asia-Pacific and Latin America, were beyond the logistical reach of this research and could offer additional perspectives not captured here.

According to the guidelines of the *Red Global MX*, its purpose is to recognize the strategic value of skilled migration, understanding that, far from representing a mere loss of human capital, it can become an asset or a strategic resource for national development. In this sense, the circulation of knowledge among emigrants has been promoted as a strategy for global engagement, led by the *Institute for Mexicans Abroad (IME)*. To this end, the network is structured into international chapters, coordinated by volunteers who identify collaboration opportunities and channel them into concrete projects. The IME, along with embassies and consulates, is tasked with providing institutional support, logistical assistance, and access to relevant contact networks. However, as highlighted in personal communications, the level of institutional support varies widely depending on the diplomatic representation.

The operational model and institutional framework of *Red Global MX* are characterized by a hybrid design: on the one hand, there is formal backing through the Ministry of Foreign Affairs (SRE) and the 2024 *IME-Red Global MX* collaboration guidelines; on the other, day-to-day functioning relies on the organizational capacity of the chapters, driven by the voluntary work and leadership of their members. Nonetheless, there is no comprehensive national strategy that systematically integrates the network with the country's science, technology, and innovation policy, nor has a dedicated budget been allocated for its activities. This limits the continuity, scale, and long-term planning of its projects.

Inter-institutional coordination has been fragmented: while some consulates have actively supported the chapters' work, others have shown limited awareness or interest in engaging with the scientific diaspora. This factor creates disparities in collaboration opportunities, depending on geographic location and the profile of the diplomatic staff in charge.

In practice, interaction between the network and other institutions (such as the SECIHTI, the Ministry of Economy, universities, or state governments) varies according to the political context, available resources, and shifting institutional priorities. Although *Red Global MX* lacks centralized funding and permanent staff to sustain an international structure, it has managed to remain active thanks to the commitment of its members and occasional support from various governmental and academic entities.

Within this ecosystem, key actors have played differentiated and often fragmented roles. The IME has been the institution responsible for providing symbolic, political, and logistical support to *Red Global MX*, primarily through Mexico's consular network. Meanwhile, the former National Council of Science and Technology (CONACYT, now SECIHTI) previously promoted repatriation programs, postdoctoral fellowships, and research positions which –although not coordinated with *Red Global MX*,– directly influenced the return trajectories of some of its members.

As previously described, the current repatriation program maintains a 12-month duration, which has been identified by beneficiaries as insufficient for achieving long-term reintegration into the national science and technology system. Nevertheless, it remains one of the few formal mechanisms still in place today.

In addition to this effort, public and private universities, civil society organizations such as the *Mexican Association for the Advancement of Science (AMEXAC)*, and foundations have promoted *ad hoc* collaborative activities with Mexican scientists abroad. However, these actions have been developed in a scattered fashion, lacking a coherent public policy or a common coordination platform, which limits their strategic impact.

As part of recent efforts to strengthen the infrastructure for engagement, the IME, via personal email communications, reported the development of a new digital platform expected to launch by the end of 2025. This platform aims to integrate chapters, nodes, institutional partners, and eventually private sector actors. It is an attempt to address past, less successful efforts to consolidate digital systems and is intended to serve as a central hub for interaction with the highly skilled diaspora.

Experiences shared by members of *Red Global MX* chapters highlight the importance of the network as a bridge between the Mexican community abroad and national institutions. In personal communications with active members, it is emphasized that the network not only helps maintain ties with Mexico but also facilitates collaboration on strategic projects that combine talent and knowledge from abroad. A key issue identified is the need for clear entry points in Mexico, namely, people or institutions willing to collaborate without excessive bureaucracy. It is also noted that the network's potential impact largely depends on the willingness and capacity of national counterparts –or institutional nodes, when they exist,– to connect the diaspora with relevant actors in the country.

Chapter activities have ranged from organizing scientific and cultural events to participating in mentorship programs for students and early-career researchers. One example is the *Adopta una Prepa* (Adopt a high school) program, coordinated by the Spain chapter of *Red Global MX*, which has organized more than 80 academic talks in public high schools in Mexico since the pandemic. These talks, delivered by highly skilled members of the diaspora, have reached dozens of schools simultaneously, without institutional support and relying solely on volunteer efforts.

Similarly, the value of initiatives such as the audiovisual series *Voces mexicanas desde el exterior* (Mexican voices from abroad) is worth highlighting. This project features over 140 interviews with Mexicans on five continents. Although it was developed by a member of the Germany chapter of *Red Global MX*, it was not carried out as an official chapter activity but rather as an independent initiative.

An important aspect is the motivation behind the volunteer work of diaspora members. Most express a strong personal interest in maintaining ties with Mexico and contributing to its development from abroad (personal communications, *Red Global MX* Spain and Germany chapters, EMA, MCAA Mexico alumni).

Institutionally, Mexico has a symbolic recognition mechanism: the “*Ohtli*” Award, granted to distinguished Mexicans residing abroad in recognition of their contributions to the community.

This honor, which includes a silver medal and a diploma, has repeatedly been awarded to scientists who are members of *Red Global MX* since its establishment in 2018, through embassies and consulates.

Nonetheless, the observed obstacles reflect both structural limitations and sociopolitical tensions. Bureaucracy and lack of institutional continuity have hindered the consolidation of long-term programs. The six-year political cycles of public administration lead to shifts in priorities that directly affect the work agenda of *Red Global MX*, especially the sustainability of its volunteer-based activities. In addition, there are frictions with some sectors of the national scientific community, who view the diaspora with ambivalence: while some recognize its strategic value, others express concern about possible privileges or unequal access to resources for those working from abroad.

*Red Global MX* has positioned itself as a space for international engagement bottom-up, in the sense that it is nationals themselves who initiate efforts and later seek support from Mexican institutions.

The governance of the relationship between Mexico and its scientific diaspora does not operate as an articulated system, but rather as a mosaic of decentralized contributors and fragmented efforts. While there are formal guidelines, involved institutions (IME, SECIHTI, universities, consulates), and volunteer-led chapters, these elements are not connected through systematic flows of coordination, funding, or decision-making.

In practice, interaction among actors depends more on individual initiative and sporadic support than on a structured governance framework. This absence of a clear governance circuit is one of the central findings of the Mexican case: it explains both the resilience of the network;—sustained through voluntary commitment— and its limited scope and impact due to the lack of permanent mechanisms for institutional articulation. Furthermore, Mexico, through the experience of *Red Global MX*, shares many of the challenges and opportunities of other countries, positioning its case within a broader framework characterized by still-consolidating efforts, fragmented institutional dynamics, and emerging experiences of transnational engagement.

## 5. LESSONS AND LEARNINGS (Good Practices)

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The lessons summarized in this section are based primarily on the documentary review, enriched by insights from personal communications that served to validate and illustrate the trends identified.

Mexico's experience in engaging its scientific diaspora through *Red Global MX* and other networks serves as a privileged laboratory for understanding the potential and limitations of such initiatives. With nearly two decades of operation under conditions of limited funding and strong reliance on volunteer work, it offers valuable lessons for both Global South countries and nations with highly skilled migrant communities seeking to strengthen ties with their countries of origin. These lessons can be grouped into four main dimensions: institutional design, governance, community participation, and sustainability.

### • **Institutional Design: Flexible but Fragile Formal Frameworks**

A key lesson from the Mexican case is the importance of having an institutional framework that grants recognition and legitimacy to diaspora networks, while also allowing for autonomy and operational flexibility. The guidelines of the Institute for Mexicans Abroad (IME) have fulfilled this role: they provided basic rules of operation that enabled *Red Global MX* to expand rapidly across various countries, adapting to local contexts and member initiatives. This flexibility proved essential for sustaining the network even during periods of limited state support.

However, the absence of a national science, technology, and innovation strategy that systematically incorporates the diaspora has limited the network's impact. Its operations remain situated in an intermediate space between cultural diplomacy and scientific diplomacy, without a clearly defined role in public policy agendas. The lesson is clear: formal frameworks are necessary, but they must be accompanied by mechanisms for institutional integration, such as advisory councils or permanent spaces for diaspora participation in defining scientific policy and international cooperation priorities. Otherwise, symbolic recognition risks remaining superficial, without translating into real and sustained influence.

### • **Governance and Operationalization: Strengths and Limits of Volunteerism**

The decentralized model of Red Global MX, based on volunteer-led chapters coordinated by Mexicans abroad, has revealed a dual nature. On the one hand, it has been its greatest strength: it enabled the network to grow and establish a presence in over 30 countries, remaining active even during adverse circumstances such as the COVID-19 pandemic. The horizontal and flexible structure has fostered bottom-up innovation, giving rise to diverse projects (from virtual mentorships to science outreach programs in Mexican schools) that would have been unlikely to emerge from a centralized bureaucratic structure.

On the other hand, this reliance on volunteerism generates structural vulnerabilities. Chapter continuity often depends on a few key leaders (“champions”), whose departure due to job changes or relocation can lead to the suspension of activities. Furthermore, there are pronounced disparities among chapters: while some have established strong ties with universities and state governments in Mexico, others operate in isolation, with limited consular support or no clear channels for institutional dialogue.

The lesson here is that volunteerism cannot be sustained indefinitely without institutional support. To ensure sustainability and equity across chapters, support mechanisms are needed: training, communication platforms, exchange opportunities, and competitive funding for projects aligned with national priorities. Without these minimum supports, volunteer energy erodes, and the transformative potential of these networks is diluted.

### • **Community Participation: Legitimacy and Autonomy**

The legitimacy of the diaspora is not built solely from the top down through government recognition, but also from collective action that provides meaning, cohesion, and a sense of belonging. The Mexican experience illustrates how the motivation of diaspora members has been a driving force in creating spaces for collaboration and shared identity, beyond formal frameworks.

Examples such as the *Adopta una Prepa* program, which connects Mexican scientists abroad with public schools in Mexico, or the audiovisual series *Voces mexicanas desde el exterior*, led by active members in Europe, show that community commitment can generate tangible impacts on the education of new generations and the visibility of Mexican talent abroad.

Other international networks, such as the Erasmus Mundus Association and the Marie Curie Alumni Association, offer similar lessons. In both cases, legitimacy and community spirit emerge from the bottom up, through voluntary alumni initiatives that share experiences, disseminate opportunities, and open doors. Although these efforts are not dependent on the Mexican government, they indirectly contribute to strengthening ties between Mexico and its diaspora.

The takeaway is clear: public policy should recognize, support, and avoid instrumentalizing these initiatives. Symbolic recognition (such as the *Ohtli* Award granted to distinguished Mexicans abroad) is valuable, but it does not replace the need for formal mechanisms of dialogue, participation, and co-creation of public policies with the diaspora.

### • Sustainability and Incentives: Beyond Funding

Sustainability remains one of the main challenges for scientific diaspora networks. The lack of stable, long-term funding has limited *Red Global MX*'s capacity to plan and execute projects with sustained impact. So far, chapters have survived thanks to ad hoc funding, occasional support from universities, or members' personal resources. While this precariousness has fostered creativity and the use of digital tools, it also leads to burnout, demotivation, and exacerbates inequalities among chapters.

The central lesson is that incentives for the diaspora should not be limited to financial aspects. Symbolic incentives (such as public recognition and institutional legitimacy), professional incentives (access to international networks, collaboration opportunities, academic visibility), and political incentives (participation in dialogue with decision-makers) can be equally crucial in sustaining voluntary engagement.

An effective engagement policy should combine light but continuous mechanisms of financial support with non-monetary incentives that foster a sense of belonging, acknowledge the value of volunteer work, and reduce the unequal burden faced by the most active chapters. In doing so, minimum conditions for equity are created, and the resilience of the networks is strengthened.

## 6. POLICY IMPLICATIONS

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The Mexican experience reveals both progress and tensions in the institutionalization of its relationship with the scientific diaspora. The continuation of the IME-*Red Global MX* Collaboration Guidelines (2024) marks an important milestone by formalizing the channels of dialogue between the government (through the IME) and chapters abroad. However, the sustainability of these networks still largely depends on volunteer work and the leadership of key individuals.

Moreover, other programs, such as the repatriation fellowships managed by SECIHTI, operate in isolation and without coordination with *Red Global MX* or other international scientific

engagement platforms. Their short-term design, limited to 12 months, rarely leads to stable employment, thereby limiting their strategic impact and reproducing conditions of uncertainty and precariousness for returning researchers.

The aim of this section is not to prescribe policies or propose an operational plan, but to identify structural lessons and enabling conditions that, based on the Mexican case, may inform the design of diaspora engagement strategies in other Global South countries. These lessons should be viewed as inputs for reflection rather than closed normative prescriptions, since their implementation will depend on each country's institutional and sociopolitical specificities.

Among the most relevant insights are the following:

- **Need for coordinated inter-institutional structures:** The Mexican experience shows that diaspora engagement strategies cannot be confined to cultural or scientific diplomacy alone. Effective articulation is needed among ministries of foreign affairs, science agencies, universities, and diaspora networks. Without such coordination, programs tend to operate in a fragmented manner and lack strategic projection—such as in the case of short-term repatriation schemes that function independently of existing networks.
- **Recognition and legitimacy of diaspora chapters and associations:** Providing institutional visibility and channels of dialogue to voluntary networks is essential for sustaining participation. This recognition must respect their autonomy and avoid political or bureaucratic co-optation.
- **Importance of non-financial incentives:** In contexts where funding is limited, symbolic, professional, and social incentives (such as diplomatic support, access to dissemination platforms, or the opportunity to participate in decision-making processes) can make a significant difference in maintaining volunteer engagement.
- **Reconceptualizing the diaspora as an actor, not merely a resource:** Beyond temporary return programs or talent recruitment efforts, the challenge lies in co-creating transnational collaboration spaces grounded in horizontality, mutual recognition, and sustainability. This entails acknowledging the value of knowledge produced abroad not just as a complement, but as an integral part of the national scientific system.
- **Volunteerism as both opportunity and challenge:** *Red Global MX* has demonstrated the power of individual commitment in sustaining initiatives for over two decades. However, this reliance also creates structural inequalities. The challenge is to design support mechanisms and flexible incentives that maintain the momentum of volunteerism without making sustainability depend solely on it.

Although diaspora engagement policies must respond to very diverse institutional, political, and economic contexts, there are shared minimum conditions for their success: legal frameworks, stable incentives, operational autonomy for networks, and alignment with national development priorities.

The following table summarizes some of these key conditions observed in the Mexican case, along with the risks associated with their absence, in order to identify useful lessons for other countries in the Global South such as Venezuela. See Table 2.

**Table 2.**

*Key Conditions for Scientific Diaspora Engagement – Lessons from the Mexican Case*

<b>Key Condition</b>	<b>Strategic Function</b>	<b>Risks if Absent</b>
Inter-institutional structure and state support	Engagement should not depend solely on the foreign ministry; it requires coordination among agencies of science, higher education, embassies, and local governments.	Fragmented policies, duplication of efforts, and low sustainability.
Formal recognition and legitimacy without co-optation	Recognizing the diaspora as a legitimate actor enhances its visibility and capacity for dialogue, without compromising its autonomy.	Network invisibility, distrust, low participation; risk of political instrumentalization.
Non-financial incentives as a driver of sustainability	Visibility, diplomatic support, symbolic certifications, and access to platforms can sustain commitment without the need for large budgets.	Volunteer fatigue, inequality among chapters, low project continuity.
Viewing the diaspora as an active participant, not just a resource	Moving from talent attraction to co-constructing horizontal, flexible projects aligned with national priorities.	Short-term programs with no structural integration or impact; frustrated or precarious returns.
Recognizing volunteerism as both engine and limitation	Volunteer leadership drives the network, but requires light-touch support and succession mechanisms to avoid dependence on key individuals.	Discontinuity when leaders step down, disparities among chapters, and structural fragility.

Based on this systematization, it is possible to identify common patterns that help contextualize the Mexican case and its comparative relevance:

- Official and symbolic recognition of the scientific diaspora as a strategic actor.
- Design of flexible engagement schemes, ranging from in-person exchanges to digital collaboration.
- Alignment with national science, technology, and innovation policies linked to development goals.
- Symbolic, institutional, or financial incentives adapted to state capacity and the diaspora's profile.
- Shared governance models between the government and diaspora networks, combining institutional legitimacy with operational autonomy.

Despite its structural fragility, the case of Mexico offers valuable lessons. Its ability to sustain an active network for two decades (even with limited funding and amid high institutional turnover) demonstrates the potential of such initiatives. For Venezuela, adopting a progressive, inclusive, and flexible approach may be the first step toward a national strategy that sees its scientific diaspora as an opportunity to build a shared future both within and beyond its borders.

## 7. CONCLUSIONS

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Altogether, the evidence discussed in this study leads to the following findings:

The Mexican experience shows that formalizing frameworks for collaboration is a necessary but insufficient step. Without solid inter-institutional structures, continuous support for volunteer work, and a diversified incentive policy, the diaspora risks operating as a fragmented force: more dependent on individual leadership than on a coherent national strategy.

The challenge lies in finding a balance: maintaining the energy, creativity, and flexibility of volunteer-led chapters, while institutionalizing clear, sustainable, and adaptable forms of support that ensure continuity and amplify impact. Only then can the scientific diaspora consolidate itself as a true strategic stakeholder for national development, and not just as a set of scattered good intentions.

Although these lessons are grounded in the Mexican case, their value is transferable to other countries in the Global South. Venezuela, for example, could benefit from the outset by recognizing the importance of building multi-level governance that connects the foreign ministry, science agencies, universities, and local participants; while also granting autonomy, legitimacy, and horizontal collaboration spaces to its scientists abroad.

Moving from scattered initiatives to sustainable policies requires seeing the diaspora not as a problem to be solved or a brain drain to be reversed, but as a strategic partner capable of contributing from multiple geographies. In this regard, Mexico offers both cautionary tales and sources of inspiration.

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