

Innovation in Enterprises Operating at Informal Environments: The National Innovation Foundation, Lessons from India to Mexico.

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Abstract. In Latin America, the connection between innovative entrepreneurs in the informal economy and formal knowledge and policy institutions is minimal or non-existent. This is largely due to the fact that both academics and policymakers often assign a passive and therefore non-innovative role to such agents. However, this is not the case in other regions, particularly in India, where efforts are being made to enhance the capabilities of these entrepreneurs under the idea expressed by Anil Gupta that "minds in the margin are not marginal minds," a lesson from which our society can learn [1]. This paper focuses on exploring the dynamics of the National Innovation Foundation, an intermediary organization in India that connects innovators in informal environments with the formal sector of their society, thereby strengthening their production while respecting their culture. The plausibility of applying this model to Mexico is also discussed.

1 Introduction

Whether observed from the perspective of policymakers or the dominant academic viewpoint, it is generally accepted that the informal economy brings about social and economic issues that deserve attention [2]. These problems are numerous, ranging from low aggregate productivity and a positive relationship with job insecurity to associations with outright illicit activities. Therefore, it is not surprising that the vast majority of research on this topic has aimed to explain its mechanisms of reproduction and propose policies to reduce the participation of informality in the economy.

The "informal sector" concept emerged in the early 1970s, initially referring to non-agricultural micro-enterprises not legally tied to the state. Later, in an effort to more accurately reflect modern labour dynamics—particularly those of the less fortunate—the International Labour Organization (ILO) found it useful to expand the definition of informality to include employment relationships that are not legally regulated or protected. This significantly encompasses subsistence agricultural producers, transforming the informal sector into a subset of the informal economy.

Given the heterogeneous set of activities that comprise the informal economy, there cannot be a single theory to explain its existence, nor a one-size-fits-all policy strategy to address the challenges it presents. Nonetheless, research has identified shared characteristics

of these activities that must be considered in formulating any policy aimed at addressing the informal economy.

A primary factor to consider is that informality can and should be understood primarily as an institutional problem. By definition, the informal economy consists of lawful activities that are not legalized. These activities are not illegal; rather, they evade registration and/or escape both the responsibilities and benefits that formalization offers. Therefore, an economic activity is informal depending on the relative rigidity of the existing institutional framework [3].

A second factor, related to the first, is that informal actors operate on the margins. This marginalization may occur because society pushes workers (whether employees or entrepreneurs) to the margins due to its inability to integrate them into the formal sector, or because they choose to "escape" a system that fails to meet their expectations and needs. This institutional segmentation correlates with economic, social, and systemic segregation [4].

One plausible development strategy for informal activities is to support those with the greatest potential for impact on local development. Given the lack of physical, human, and sometimes social capital that typically characterizes these activities, this support involves guiding and linking production, incentivizing learning processes, fostering creation and innovation, and promoting knowledge dissemination. In short, these should be comprehensive, knowledge-based, and

knowledge-driven efforts. Intermediary organizations have a crucial role to play in this regard [5].

It is precisely at this juncture that this paper aims to contribute. The primary objective is to analyze the impact that intermediary organizations have on innovation processes in production and their outcomes. To this end, the case of the National Innovation Foundation (hereafter, NIF) is examined. NIF is an intermediary organization in India, established to integrate innovative activities from the country's informal sectors (particularly rural and agricultural activities) but has expanded to include all types of activities, regardless of their legal status, making it highly inclusive. This raises a question that can be understood as a secondary objective: Could NIF serve as a model of an intermediary organization for a Latin American country like Mexico, where informal activities are widespread?

In addition to the introduction, this paper includes four more sections. The first section, through a literature review, addresses the background of the topic, specifically the so-called new vision of informality and the role that intermediary organizations could play in this context. Next, the object of study—NIF—and the methodology used in this research are presented. The third section summarizes the purpose of the Foundation, its actions, and the results obtained. Finally, the chapter concludes by discussing the relevance of such organizations for the Mexican context and possible avenues for further research.

2 Literature review

2.1 The New Vision of informality

Orthodox theories generally accept that agents operating within the informal economy possess little physical and human capital, leading to limited capacities and, consequently, low productivity. This lack of productivity is often cited as the root of their poverty, reinforcing the conclusion that these activities are a hindrance to the development of Latin American societies. As a result, policies derived from these early works—which we will collectively refer to as the "traditional" or "dominant" view for simplicity—have broadly focused on creating strategies to eliminate or at least reduce the weight of informal activities in the economy.

However, statistics show that the implementation of these policies has been largely unsuccessful in reducing informality rates. This failure has likely prompted a relatively recent shift among some researchers, academics, and policymakers toward an alternative perspective—one that is far more optimistic than previous approaches. This new perspective assigns a significant role to the informal economy (or at least a part of it) in the growth and development of local economies. In the literature, this emerging school of thought is often referred to as the "new vision" to distinguish it from the dominant, more orthodox views [6, 7].

Essentially, this new vision highlights the economic importance of informality and advocates for political

efforts to integrate it into the formal economy. One of the key contributions that this perspective acknowledges is the significant number of jobs provided by the informal sector and the crucial source of income it represents for large segments of the population. Moreover, it argues that informal actors are not passive (as more orthodox views might suggest), but rather productive, capable of providing consumables, services, and capital goods at reasonable prices [7]. It also recognizes the capabilities of these informal actors and how, through these capabilities, they can generate innovations that address their problems, meet their needs, and capitalize on opportunities within their context [8].

The new vision goes even further, asserting that informal agents can contribute to fostering entrepreneurship, creating networks that enable collaborative work where capacities are complemented, preserving traditional knowledge, and generating processes that lead to new products and production techniques. These processes might involve substituting production factors and altering labor relations—in other words, they are capable of innovation [1, 6, 8-10].

Thus, this collection of thought, grouped under the "new vision" umbrella, suggests that productive and commercial activities within the informal economy can contribute to the growth of local economies and have the potential to reduce poverty. Additionally, they can stimulate innovation and the adoption of technology within marginalized communities in their own socioeconomic environments [7, 11]. One could even speak of the formation of inclusive innovation systems, whose configuration allows the participation of informal actors characterized by their exclusion, vulnerability, and marginalization in innovation dynamics. These systems foster interaction and learning between informal and formal actors, facilitating access to resources, increasing agency, and deriving benefits from innovations [8].

2.2 The Nature of Innovation in Informal Environments

Historically, the study of innovation within the informal economy has been limited. The topic has its roots in the works of Castells and Portes [12], but interest in it has been renewed by the studies of Gupta [10, 13-14] and some of his direct and indirect successors [1, 7, 15]. This renewed interest has broadened the concept of innovation, allowing for the inclusion of innovations that take place in households, communities, groups of artisans, or small manufacturing producers [15, 17].

Innovation within the informal economy shares many of the characteristics that define standard innovation. Thus, innovation in the informal economy can be described as a process that generates useful novelty in products, processes, or marketing for the individual or organization implementing it [1, 10, 16]. These innovations can also be categorized according to their complexity, ranging from incremental improvements to sustained efforts that bring about significant changes for a community [7, 16, 18].

The factors that incentivize or strengthen innovation are conceptually similar between formal and informal processes: financing, physical capital, and human capital. Particularly important is the interaction among the various agents that comprise the productive system. Indeed, the formation of networks is useful not only for disseminating the product of the innovation itself in the markets and facilitating access to financing and raw materials but also because they enable the flow of information and knowledge among other agents, such as producers and formal research centers, which influences the innovative behavior of agents and fosters creation [19]. As Lundvall [20] emphasizes, innovation is promoted by the complex interactions between heterogeneous actors whose capacities are ultimately complementary and operate within specific institutional environments.

However, innovation that arises in informal environments differs in several respects from traditional or formal innovation, differences that must be considered in analysis. The first point is that informal innovations should be understood from a local perspective, meaning “the creation of new and improved ways of doing things within the specific local context in which they have developed, even if they are not considered innovative in other parts of the world” [21].

A second difference lies in the objectives pursued by such innovation. It is primarily driven by individual or collective efforts from members or sectors marginalized from society, aiming to solve local problems—whether economic or otherwise—to improve their standards of living [15]. In a context of marginalization, the motivations guiding innovation are not necessarily market-driven; instead, other factors such as the mere enjoyment of the creative process, social recognition, or the need to solve common problems become more relevant than those dictated by the market [7]. Indeed, the main objective of inclusive innovations can be understood as reducing or eliminating the conditions that generate exclusion [22].

Another aspect in which informal innovation often differs from formal innovation is in its access to resources. Given its origins, it is understood that innovators in informal environments do not have significant investments in physical capital. This is because obtaining credit or other forms of financing is often not an option, as they lack guarantees [23-25]. In fact, the limited or non-existent access to financing is frequently considered by many as the most serious constraint for informal enterprises, often causing inventions to remain prototypes and not reach the market.

Human capital is also scarce in the informal economy. Indeed, formal education is limited in informal contexts, with traditional, local, or indigenous knowledge taking on a prominent role instead. As a result, the influence of

science and technology created in laboratories and universities has little significance in the development of innovation within the informal economy, which in turn has little to no influence on formal science and technology.

These characteristics are not, of course, exclusive to innovations within the informal economy but are also found in other initiatives that result in small-scale innovations, such as grassroots innovation, “below the radar” innovation (BRI), innovation for the poor by the poor, jugaad innovation, autonomous innovation, or local innovation. However, given its informal nature, in this case, the challenges of linking with formal institutions or enterprises are exacerbated, complicating the production/innovation processes [3].

2.3 Intermediary Organizations for Innovation

It is understood that innovators operating within the informal economy require complementary knowledge and internal capacities through cooperation with various actors. This is where the intervention of intermediary innovation organizations is justified¹, as they act as a bridge or link between producers and other participants capable of collaborating in the development of local or regional capacities. Indeed, the primary role of intermediary organizations is to complement the internal knowledge and intellectual capacity of a group with external connections. For example, they connect group members with others who can offer new or improved ideas for their business [26].

The specialized literature highlights the ability of interface entities to close gaps of various dimensions by creating links between idea and knowledge generators, on the one hand, and users of these, on the other, facilitating the formation of networks among heterogeneous actors, which are essential for the innovation process. They are also recognized for their neutrality, impartiality, and independence, which allows for relationship building and negotiation of property rights, creation of bridges, signing of contracts, and generation of trust, among other things; fostering learning and co-evolution among the agents that comprise these emerging systems [28].

It is important to note that the roles of intermediaries are established according to the context in which they operate and the problems or challenges they face; and it is in this sense that various profiles are distinguished². In any case, their role is to connect producers with innovators, fostering networks to access resources and knowledge. The literature recognizes numerous and diverse functions of making interconnections. Howells [26] mentions ten: foresight and diagnosis, scanning and processing of information, processing of knowledge and

government institutions and are financed through donations from their members.

²The literature recognizes at least four types: a) Intermediaries for problem resolution, b) intermediaries for technology transfer and d) intermediaries to establish networks or bridges in innovation ecosystems [29-30].

¹The concept of intermediary organizations includes organizations, both public and private, such as regional institutions, innovation consultants, knowledge-intensive service companies, among others [26-27]. However, for the most part, intermediary organizations are public in nature and although some receive resources from the state, they are not

combination/recombination, gatekeeping and brokering, testing and validation, accreditation, validation and regulation, protection of results, commercialization, and evaluation of results. To these functions, Agogu  et al. [29] added four additional basic functions that appear in most intermediary organizations within the context of innovation: i) connecting actors; ii) involving, engaging, and mobilizing these actors; iii) resolving, avoiding, or mitigating potential conflicts of interest; and also, iv) stimulating the process and outcomes of innovation.

3 Method

As stated in the introduction, this study aims to understand the potential effects that intermediary organizations have on the productive and innovative processes of firms and other organizations classified within the informal economy. Therefore, it is crucial to select intermediary organizations that allow us to analyze the objective.

Mexico, like other Latin American countries, has made efforts to support micro and small-scale producers, who share some characteristics with producers within the informal economy. In Mexico, "Fundaciones Produce" - non-profit civil associations- act as a bridge between agricultural research centers and producers, through research focused on their problems and technology transfer in this sector. Meanwhile, organizations such as the National Chamber of the Transformation Industry (CANACINTRA), the National Chamber of Commerce, the Business Coordinating Council (CCE), and the Employers' Confederation of the Mexican Republic (COPARMEX) have sought to promote competitiveness, productivity, integration, and development within the Mexican business sector.

Although these efforts can be considered significant, they do not encompass the processes of entrepreneurship and innovation categorized as informal. Additionally, these supports have been scarce, poorly coordinated, and intermittent; often directed towards specific activities (crafts or small-scale agricultural activities) which have been chosen primarily because of their high social and institutional acceptance, showing little to no emphasis on their contribution to creative and innovative processes. Therefore, despite the importance of these efforts, they can scarcely be considered cases that contribute to understanding the effects of an intermediary program aimed at enhancing the innovation processes of informal agents and their interrelation with the formal sector³.

A better approach to the problem can be achieved with cases located in other regions. In this aspect, India stands out for having a series of programs and organizations aimed at supporting entrepreneurship, innovation, and skill development in the informal economy and its connection with the formal sector. An initial analysis - consisting of the collection and review of documents and

other sources on intermediary organizations in India (period 1998-2018) - has identified the [31] as the main organization promoting innovations in various sectors of the economy and at different levels of society [31].

3.1 Understanding the National Innovation Foundation

India is a country of contrasts, reflected in a society with overwhelming inequality⁴. Given these harsh external conditions, not only individuals but even entire communities turn to their local environment to overcome these obstacles. In this way, they invent effective techniques and learn various uses of their biodiversity [32]; thus, inducing creativity and invention [10]. This effort has been so remarkable that the Indian government has redefined its development strategy to integrate it into public policies.

In this manner, the Asian state has become a pioneer and primary promoter of inclusive innovation concepts, directing efforts towards people at the base of the economic pyramid, encouraging the creation of solutions, models, and creative tools to provide health, food, and education to its population. One of the key players in this strategy is the National Innovation Foundation (NIF).

3.1.1 The Honey Bee Network and its Transition to Institutionalization. The Creation of NIF

In 1988, Dr. Anil K. Gupta, while researching the problems of farmers in Bangladesh, India, perceived the enormous creative potential of these actors. To unleash and channel this potential for their benefit and that of their communities, he decided to form a network linking producers with their localities. This is how the Honey Bee Network (HBN) was established, consisting of academics, farmers, scientists, and other individuals interested in showcasing and disseminating traditional knowledge and local innovation, ensuring that grassroots innovators receive the appropriate benefits [14]. Since then, the Honey Bee Network has acted as an interface organization for other organizations, communities, and entrepreneurs, focusing on supporting individuals with limited formal training who rely on local knowledge [33].

In the decade following its creation, the network supported 10,000 cases of grassroots innovation and uses of traditional knowledge. However, it lacked sufficient human and financial resources to fully exploit the potential generated, necessitating that the network scale to a more formalized structure with its own funding. By this time, the political capital generated by the Honey Bee Network had grown sufficiently to influence STI policy models and establish an institutional support framework for grassroots innovators across the country through a

³ This type of organizations can be identified in other Latin American countries. Thus, in Brazil, the Social Technology Network (RTS) stands out, made up of 900 organizations, which seeks to promote both products and techniques developed in cooperation with communities. While Argentina has the

Network of Technologies for Social Inclusion (RedTISA) and the International Network for the Promotion of Local Innovation (PROLINNOVA).

⁴ It is estimated that in 2017, 1% of the population captured 73% of the wealth generated.

formal intermediary organization: The National Innovation Foundation [34].

Thus, the NIF was established in March 2000 in Ahmedabad as an autonomous institution of the Department of Science and Technology. It operates as a global network working to explore, document, and develop commercial innovations in various areas of the country to benefit the local population and other regions [13].

Demonstrating a democratic tradition, the Foundation directs its efforts to the entire population—children, youth, adults, and the elderly—either individually or in teams, without any restrictions based on gender, education, occupation, or legal status (formal/informal). It also does not discriminate between types of occupations, thus supporting farmers, designers, mechanics, students, engineers, experts in traditional knowledge, scientists, and/or academics, giving equal importance to each opinion and thereby strengthening cooperation. Thus, the only requirement for support is to be an Indian citizen with a creative idea in any field of knowledge [31]. This principle guides its main objectives and constitutes the focus of our analysis.

4 Methodology

Given the proposed objectives, this research should be considered exploratory. Due to the goals pursued and the resources available⁵, this research initially relied on document analysis, which is particularly suitable for obtaining data about the context of the research and providing additional data to strengthen understanding [35].

Considering the complexity of the analysis, a simple document review was insufficient to address the research questions and objectives, so the methodology was supplemented with content analysis and information triangulation. Content analysis allows for the identification of relationships and the establishment of descriptive categories from the collection and organization of information to draw conclusions [36]. This technique was applied to understand particularly challenging passages regarding the Foundation's tasks, specifically the number and types of actors it interacts with and the complex mutual interactions among them, while maintaining the diversity of sources and a balance between them.

Findings on NIF's lessons to model a peer organization in Mexico were discussed with a panel integrated by two informal entrepreneurs, two public officers and two academic experts on innovation in informal settings. They provided valuable feedback that allowed us to produce our conclusions as depicted in Figure 1.

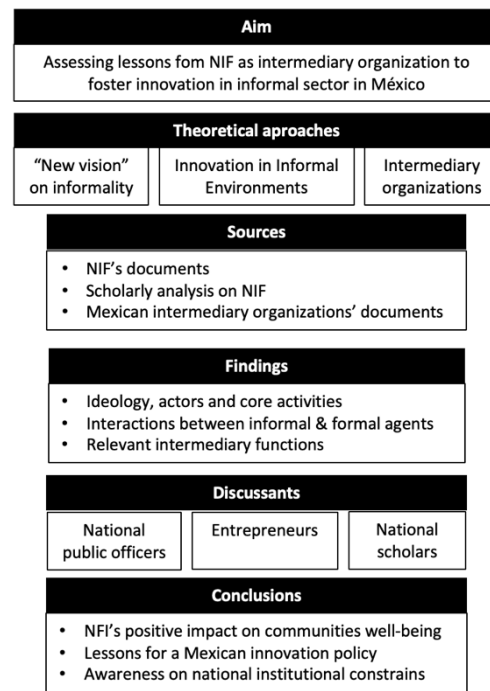


Figure 1. Analytical process.

5 Results and Discussion: Core Activities, Objectives, and Outcomes of the NIF

The Foundation conducts five core activities, which can be summarized as follows:

a) Exploration, Documentation, and Database Management: The NIF invests a substantial part of its efforts in exploring and discovering grassroots inventions, which involves extensive fieldwork and travel to rural and urban areas. Once an invention is identified, it is documented through interviews with the inventors and processed into a database managed by the Foundation, with the aim of promoting creativity and preserving knowledge [13]. Inventions for which property rights are held or for which permission from the inventor is obtained are disseminated through the HBN newsletter and other media to enrich the repertoire of informal knowledge.

b) Value Addition, Research and Development: The NIF supports holders of traditional knowledge to enhance their design and manufacturing processes with contributions from modern science and technology to add market value. To this end, the NIF's team of technicians examines inventions to determine the novelty of each idea and classifies them according to their potential. Additionally, market analysis is conducted through field visits, focus groups, consultations with market specialists, and entrepreneurs. Some inventions are even tested in laboratories with which the NIF has partnerships to demonstrate their efficacy through experiments. Once the

⁵In particular we refer to the difficulties of moving to India to carry out field studies or conduct interviews with the main actors.

initial evaluation is completed, the invention is presented to the Research Advisory Committee for expert guidance.

c) Intellectual Property Management: Based on the idea that knowledge is valuable and should be protected, the NIF acknowledges the importance of intellectual property rights (IPR) in generating grassroots innovations [31]. The Intellectual Property Management team participates in searching, drafting, and filing patent applications in collaboration with global intellectual property law firms. Occasionally, the IPM team also provides legal assistance to innovators in negotiating and drafting licensing agreements and addressing issues related to the infringement of their property rights [31].

d) Innovation Fund for Business Development and Micro Venture: The Foundation recognizes that inventors face a series of obstacles, with financing being a major issue. To facilitate the transition of collected inventions into self-sustaining businesses, the Micro Venture Innovation Fund (MVIF) was established in 2004 and is supported by the Small Industries Development Bank of India (SIDBI)⁶. This venture capital fund provides financial support to grassroots innovators with minimal requirements and no collateral or guarantee [31, 37], investing in technologies and products for which the market does not exist or is very limited [31]. Additionally, the NIF offers financial education and assistance in negotiation to inventors to engage in profitable activities as entrepreneurs in the formal sector [38], empowering informal entrepreneurs with the backing of this institution.

e) Social Dissemination of Innovations: The Foundation aids in the preservation of traditional knowledge and collective wisdom through its documentation and dissemination efforts (both social and commercial). As part of its social dissemination strategy, a Community Technological Innovations Acquisition Fund was launched to acquire rights to some innovations, explaining the purpose of the fund, the rights, duties, and obligations of both parties. The fund also organizes various events and exhibitions inviting companies to promote innovations for possible licensing or commercialization.

Following these activities, the NIF's history appears as a success story. According to its official website, it has registered 3,450,000 ideas, innovations, or traditional knowledge in its database to date⁷. It has filed 1,394 patent applications and submitted 8 patent applications to the U.S. Patent and Trademark Office (USPTO), of which 5 have been granted. Additionally, the intellectual property management team has filed 10 trademark applications and registered 81 plant varieties under Plant Variety Protection and Farmer Rights Authority [31].

However, the success achieved by the Foundation cannot be reduced to a quantitative measure, as this ignores its fundamental principles, which involve including the entire Indian society in the process of knowledge and innovation dissemination. Perhaps a better

approach to its efforts can be seen through the respect the organization shows towards grassroots innovators, manifested primarily in the effort to establish direct contact with them without expecting them to come to the Foundation. This is done through various methods: travel-walks, calls, awards, and competitions, involving formal actors to create dialogues and hear the ideas of traditional knowledge holders and learn about their creations firsthand. In this regard, perhaps the most paradigmatic action is the ShodhYatra, conducted by the NIF in collaboration with SRISTI, HBN, and GIAN twice a year, which consists of a walk to the most remote communities in the country to collect ideas, traditional knowledge, and demonstrate that "the difficulties and challenges of the natural environment are the main motivators of creativity and innovations" [39].

Additionally, the NIF has rational and strategic thinking and is aware of the conditions and limitations of grassroots innovators. It recognizes that knowledge created in informal settings may be unreliable and less attractive to certain markets. Consequently, the Foundation has decided to strengthen the relationship between holders of informal traditional knowledge and the scientific community so that the former can benefit from external validation of their ideas and scientific knowledge, thus improving their inventions and strengthening ties between innovators and the scientific community [24].

Finally, the NIF is particularly interested in the socialization and dissemination of knowledge. To this end, in 2012, a Community Technological Innovations Acquisition Fund (GTIAF) was established to acquire the rights to grassroots technologies, which are then licensed at low or no cost to other innovators, manufacturers, farmers, or entrepreneurs across the country, facilitating cooperation among communities [24]. It is important to note that, although the NIF acquires the rights to a particular technology, the innovators retain the right to use the inventions as they see fit [31]. The dissemination effort also extends to the commercial sphere. Since 2010, the Foundation has organized the exhibition "Innovations at the President's House" in the Presidential Garden, showcasing innovations. Additionally, together with GIAN, it organizes other exhibitions to connect inventors with companies of various sizes in different sectors.

6 Conclusions and Future Research Directions

The actions of the NIF align perfectly with activities characteristic of intermediary organizations. The Foundation, leveraging traditional knowledge, the ingenuity of grassroots inventors, and connections with various formal and informal actors, has promoted innovative processes and production in underprivileged

⁶Main financial institution for the promotion, financing and development of the micro, small and medium enterprises (MSMEs) sector and coordination of the functions of institutions dedicated to similar activities.

⁷The Foundation recognizes that not all of them are unique or different [32].

communities in India, thereby enhancing their economic well-being. The results are positive: there is evidence that the processes established by the NIF have led to innovations that have even been registered with the USPTO, with some gaining international recognition.

This evidence supports the idea expressed in section 1.3 that creativity, ingenuity, and invention exist in informal environments and that they lead to a certain type of innovation, which, for its generation, requires the basic elements typically listed in classical literature: knowledge, learning, physical capital, human capital, etc.—elements that are often scarce in the informal economy. Therefore, the implementation of intermediate organizations is fully justified [40].

However, perhaps the most reflective aspect of the NIF's direction, effort, and ideology (as well as that of the Honey Bee Network) is its respect for the culture of traditional knowledge holders and the environment. This approach reinforces the identity and dignity of communities and the social fabric in general, which seems to be essential when communicating to people from different cultures [40]. The Foundation's work raises awareness about the significance of these communities and their importance to society at large.

These results lead us to consider the innovation policy principles of the NIF (a concept initially developed by the Honey Bee Network) and some of its organizational traits as worthy of consideration for developing similar intermediary organizations in Mexico. Indeed, there is a high potential for productive sectors that are currently marginalized from the structured and globalized economy in the country. In this regard, it is advisable to draw from the NIF's experience and connect these sources of knowledge and creation emerging from informal settings with more orthodox sources of knowledge. For example, the creative potential of artisan communities could be integrated and eventually utilized for the benefit of society, even beyond these communities.

The results from the NIF highlight the need for different types of capacities for innovation intermediaries to contribute to a more inclusive innovation system. The expectation is primarily that they will help establish social connections among different actors, enhancing the action capacity of socially excluded individuals and opening up learning opportunities. It is perceived as crucial that this intermediary actor is able to represent and give voice to excluded actors within the community, and create spaces for dialogue and connection of complementary capabilities to address specific needs and issues or leverage contextual opportunities.

Nevertheless, adaptation and planning for Mexico would require clearer strategies for overcoming the challenges of a different context. The following challenges have been identified: a) **Level of Consensus:** Many economic agents with the power or knowledge to establish an innovation system (decision-makers, academics, entrepreneurs) are not convinced of the economic and social importance of innovation occurring at the margins; b) **Epistemological Heterogeneity:** Although some current policymakers are genuinely interested in innovation and leveraging traditional

knowledge, there does not seem to be a methodical and established approach to the nature of this innovation and therefore no strategy for its implementation; c) **Disarticulation in Program Implementation and Application:** Various programs support small or micro entrepreneurs; however, these efforts are generally disjointed and mostly focus on production/commercialization rather than innovation; d) **Market Logic vs. Cooperative Logic:** Some regions of the country and productive sectors have cultural approaches different from those in India. For instance, unlike the Indian literature, a segment of the Mexican population—particularly urban informal sectors—appears to be more competitive and less cooperative than its Asian counterpart, with lower relative poverty. There is also less political tolerance for tax evasion.

Thus, while there is significant potential to harness creativity and knowledge found at the margins, substantial work remains to persuade large segments of the population of the benefits of implementing such innovation. Achieving this requires both theoretical and practical strengthening of new contributions, which will dictate new lines of research. Epistemologically, there is a need for strengthening and homogenizing concepts and definitions. Empirically, it is necessary to expand the evidence, particularly concerning the benefits that innovation in marginal/informal environments brings to society.

Finally, from a practical standpoint, several questions are raised for further analyzing the relevance and adaptation conditions of similar approaches to those of the Foundation. These include: How can we benefit from the experience of national programs, despite their different focus and disarticulated nature? Could these programs initially provide a learning base for evaluating their enrichment from the perspective of a model like that of the NIF? What criteria could we use to identify the regions in Mexico that would offer the best conditions for testing the development of a policy to foster innovation in informal environments, guided by principles different from traditional ones?

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