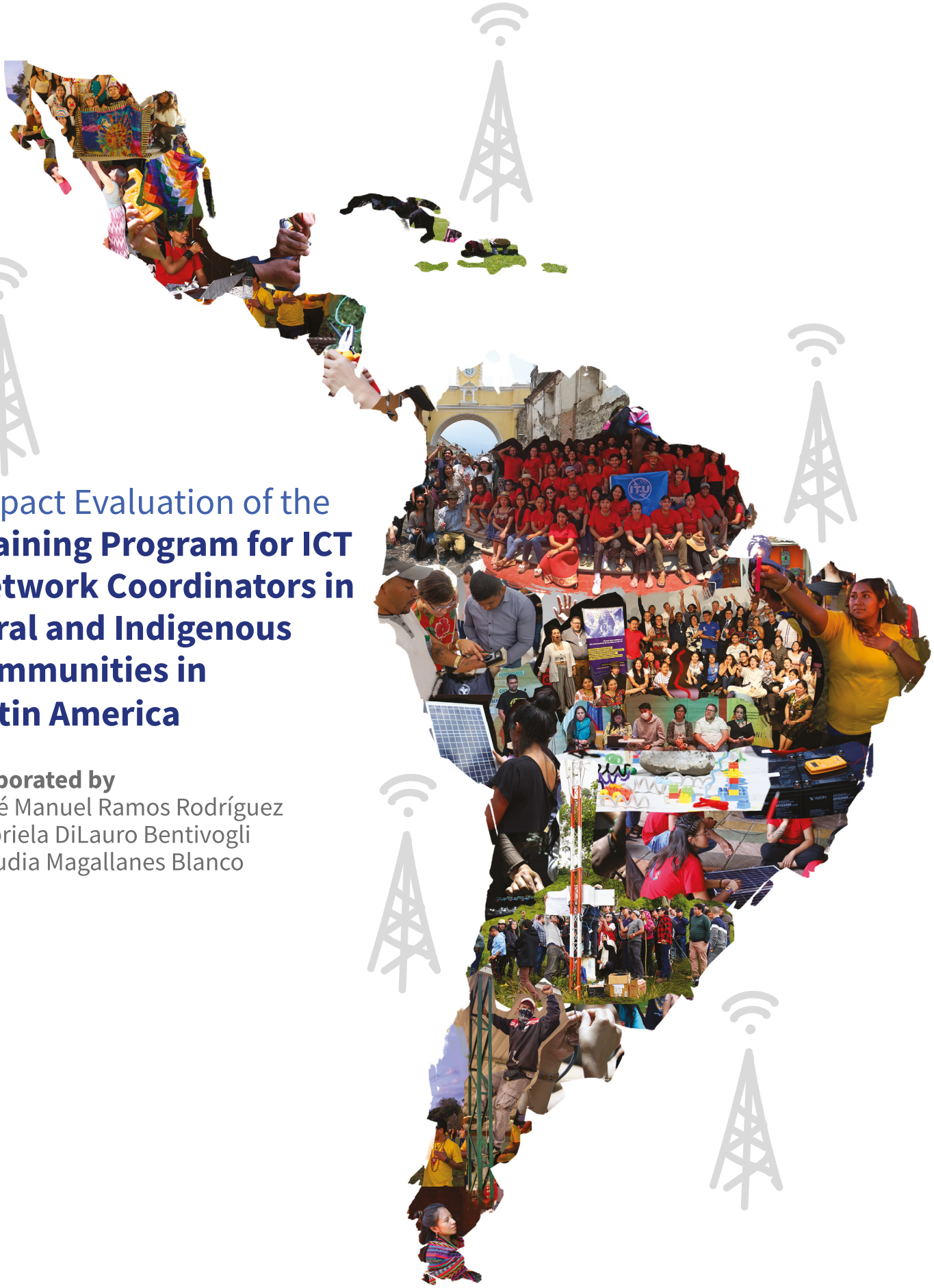

Impact Evaluation of the **Training Program for ICT Network Coordinators in rural and Indigenous communities in Latin America**

Elaborated by
José Manuel Ramos Rodríguez
Gabriela DiLauro Bentivogli
Claudia Magallanes Blanco

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This program is an initiative of
International Telecommunication Union (ITU)
Association for Progressive Communications (APC)
Redes por la Diversidad Equidad y Sustentabilidad y A.C.
Rhizomatica Communications

Partner organizations in specific editions of the program
48 Percent
Colnodo Association
Internet Society Chapter Guatemala
Connect Humanity
Mesoamerican Leadership School
ISOC Foundation
Tosepan Limaxtum Radio
Central American Network of Indigenous and Community Radios
Community Networks Seedbed – Red Fusa Libre
Techio Comunitario
Tosepan Titataniske Union of Cooperatives

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Executive Summary

This report presents the findings of the Impact Evaluation of the Training Program for ICT Network Coordinators in rural and Indigenous communities in Latin America. The evaluation had a mixed methodological approach. It articulated quantitative data from surveys applied to graduates, with qualitative analysis of interviews and case studies. This allowed the triangulation of information and a comprehensive understanding of the program's impact in its different dimensions.

The evaluation was structured around three main objectives: a) to analyze the improvement of participants' skills; b) to identify direct and indirect impacts of the program on organizations and communities; and c) to gather recommendations on the course's contents, methodologies, and approaches from the perspective of the stakeholders.

The results show the program's positive impact on graduates' technical, organizational, and methodological skills. They are applied in real projects and often strengthen their professional or community role as technology promoters.

The implementation of connectivity networks, community radio stations, local training processes, and institutional strengthening reflects organizational and community impacts. Graduates promoted connectivity in their territories with tangible effects on daily life, the social fabric, and cultural appreciation. Likewise, regional collaborations were developed from the program.

In terms of recommendations, we identified key areas to be strengthened in future editions of the program: The sustainability of the networks (technical, economic and organizational), the strengthening of the technical component, the improvement of pedagogical strategies (with greater accompaniment and knowledge leveling), and the incorporation of a cross-cutting gender approach. It also emphasizes the need for greater territorial contextualization and integration between technical content and community processes.

In conclusion, **the evaluation shows that the program constitutes a highly relevant training initiative with transforming capacity into contexts of marginality and digital exclusion.** Its consolidation and future projection require addressing the recommendations, ensuring sustainability, and deepening its articulation with community, institutional, and regional agendas.

1. Introduction

This report presents the results of the Impact Evaluation of the Training Program for ICT Communication Network Coordinators in Indigenous and Rural Communities in Latin America, implemented since 2019. This initiative arose as a collaborative effort between REDES A.C., Rhizomatica, other partner organizations, and the Telecommunication Development Bureau (BDT) of the International Telecommunication Union (ITU) to strengthen local capacities for the management, sustainability, and maintenance of community ICT networks.

The program has a **hybrid training model**

Five virtual modules

1 2 3 4 5

Four-week each

Followed by a **ten-day** intensive on-site module or bootcamp

BOOTCAMP

The program has a valuable historical database with participants' information, their satisfaction with the training experience, the most relevant content, and the types of projects and organizations to which graduates are linked. However, most of this data is collected at the end of the course, focusing on the immediate training experience. There is no systematic follow-up on the program's subsequent effects.

Towards the end of 2024, the program coordination requested an evaluation of the program's impact in its various dimensions. The goal was to identify the changes, contributions, or processes activated by program graduates at least one year after course completion. This evaluation also sought to assess the program's potential as a tool for strengthening community, organizational, and territorial initiatives in community telecommunications.

The report has five sections: **1) Introduction, 2) objectives, 3) methodology, 4) main findings, and 5) conclusions and recommendations.** The detailed reports of the quantitative and qualitative studies underlying the findings are annexed.


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COLOMBIA

2. Evaluation objectives

2.1. General objective

To evaluate the direct and indirect impacts of the program on the creation and sustainability of meaningful community experiences of communication and connectivity, also considering the personal and professional impacts on its graduates.

2.2. Specific objectives

2.2.1 To know the graduates' perception of how the TP improved their capacities to implement, manage, and support the development of the communication and community connectivity project.

2.2.2 To know the direct and indirect impacts of the program on the communication and connectivity experiences of organizations and communities in terms of technology, sustainability, and networking.

2.2.3. To identify issues and competencies to be addressed in the TP from the perspective of graduates, organizations, and communities.

3. Methodology

The evaluation was mixed methods research. It combined quantitative and qualitative techniques to triangulate information and achieve a comprehensive understanding of the program's impacts.

For the quantitative component, we designed a questionnaire with Likert scale, multiple-choice, and open-ended questions. Between January 23 and 26, we sent the online form to 86 graduates of the four program cohorts. We closed the survey on February 15 and obtained **50 responses, reaching 58% of the universe.**

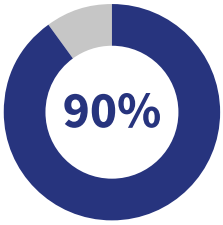
Between January and April 2025, we did qualitative research. We conducted **11 semi-structured interviews with a purposive sample of participants from Argentina, Colombia, and Mexico,** ensuring diverse territorial and organizational representation. We also visited community experiences where program graduates have participated. We did inductive coding and thematic analysis to process the information and identify emerging categories.

4. Main findings

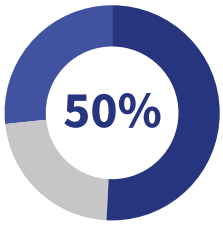
4.1 Improvement of participants' capacities

The evaluation shows a substantial improvement in the participants' capacities to implement, manage, and support community technology projects, especially concerning ICTs

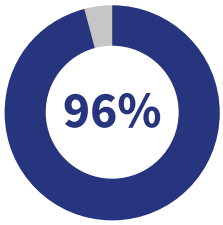
The survey indicates that:



90% of graduates improved or greatly improved their capacities in these areas



50% said they felt prepared to solve technological challenges independently, 22% felt very prepared, and 26% felt somewhat prepared.



96% reported having applied their knowledge in concrete projects in their communities or organizations

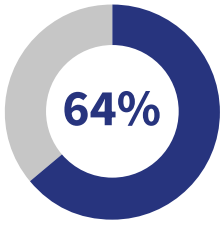
These improvements can be better understood with information from the interviews and field visits, where graduates reported that learning was not limited to technical aspects. The interviews show transformations in methodological, organizational, and communicational dimensions. **A cross-cutting finding is the integration between technical aspects and community perspectives. Participants highlight understanding how technologies make sense in relation to autonomy, sustainability, and territorial belonging.** They report an important appropriation of knowledge on energy, networks, free software, infrastructure, and public policies. They also claim they have incorporated this knowledge in training processes, workshops, and community projects in radios and networks. The survey shows that **70% of the graduates have shared their knowledge with their co-workers and with members of other organizations.** Although a third of the graduates state they have shared "little" of the knowledge acquired with the community.

Overall, the data show that the program **strengthened technical capacities and strategic and critical skills for designing and implementing technologies with a community focus.** These capacities have been applied in real contexts, although structural barriers persist, such as the scarcity of resources and organizational limitations, which condition technological autonomy in some cases.

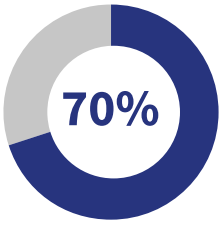
4.2 Impact on organizations and communities

The evaluation identified multiple programs' direct and indirect impacts, strengthening technological, organizational, cultural, and networking aspects in organizations and communities. The qualitative analysis evidenced significant transformations derived from participating in the program. Quantitative results show how graduates apply the knowledge they acquired in the program and their perception of its community impact.

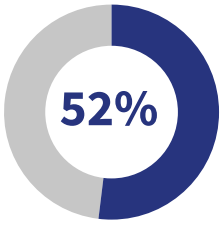
The graduates state that



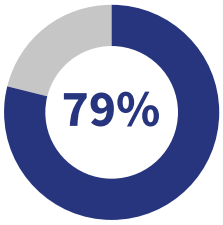
The skills acquired have been key to their projects



They have applied the knowledge in real contexts



Participated in successful projects derived from the training received



Consider that the projects derived from the program positively impacted their communities

These data coincide with observations from the field visits and interviews, which show concrete changes in technological practices, such as the installation of community networks and infrastructure, improvements in technical decision-making, and greater technological autonomy.

The interviews reveal that graduates have directly promoted the installation of internet networks, solar energy, and community intranets, which have expanded access to connectivity in rural and Indigenous areas. In Argentina, experiences like the Las Juntas neighborhood network, Río Salado, and the Irundi network in Bananal show how graduates of the program have helped bring connectivity to their communities in concrete ways. In Colombia, the San Pablo community network is a good example of how the program has supported local efforts to improve technology infrastructure and make use of solar energy. In Escoipe, Argentina, the story of La Voz de la Quebrada shows how a community radio station became the starting point for bringing Internet access to the area.

In addition, supporting organizations have strengthened their technical and methodological support capacities, adopting the program's training methodologies in their institutional practices.

At the community level, the case studies show how connectivity has improved aspects of daily life such as:

Which have reinforced social cohesion, and enabled new forms of collective participation. **The results highlight cultural appropriation of technology** as evidenced in the dissemination of content in native languages, the promotion of local heritage, and the reflection on identity.

Positive impacts are also evident in the creation and strengthening of regional collaboration networks articulated through the bootcamp and other spaces promoted by the program. **This has generated a network of technical, activist, and academic allies active in various initiatives.**

Finally, there are also academic impacts evident through the incorporation of the course contents in university chairs, research, or advocacy processes, which suggests **a broader projection of the program in critical training on technologies and community communication.**

4.3 Topics and competencies to be strengthened in the training program

The evaluation reveals a consensus among graduates on the need to strengthen and diversify the contents, methodologies, and approaches of the program to broaden its relevance, technical depth, and transformative capacity in the territories.

The suggestions from the survey point to the **need for greater coverage and depth in technical content** (such as community networks, free software, fiber optics, digital security and equipment maintenance), as well as the **strengthening of strategies for sustainability, community communication, project financing and the integration of emerging technologies** (such as artificial intelligence and digital sovereignty). At the same time, an **improvement in the pedagogical methodology is demanded,** with greater emphasis on face-to-face practices, community work, and a territorial approach.

Five key thematic axes emerged from the interviews and visits to the territories:

I. Contents

The content is requested to be deepened on three priority lines:

1. Internet governance and regulatory frameworks, with a critical and contextualized perspective.
2. Technical, economic, and organizational sustainability of networks, including practical tools for project formulation and fund management.
3. Community communication, with emphasis on social appropriation of the networks, construction of narratives, and visibility of the communities.

II. Methodological design

The interviewees recommend improving the interactivity of the virtual platform, implementing an introductory unit to level technical knowledge, establishing more structured schedules, and strengthening pedagogical support throughout the process. They emphasize the need to adapt the contents and dynamics to the participants' profiles, especially those who come from areas with low connectivity or low digital literacy.

III. Technical component

The more complex modules (such as energy and wiring) require visual materials, accessible language, and practical guides. They suggest differentiating the levels of technical depth and extending classroom time to promote understanding and technological autonomy.

IV. Gender focus and inclusion

Participants point out the need to have a gender approach throughout the program, promote the participation of women in technical and leadership areas, and incorporate female references in the training contents. They also demand greater methodological sensitivity to address these issues in diverse contexts.

V. Territorialization and critical reflection

Graduates stress the importance of including more local cases adapted to the specific realities of each region, fostering horizontal exchange among participants and promoting spaces for analysis of the social, cultural, and political effects of technological deployment in the territories.

Taken together, the recommendations provide a clear picture of the opportunities for improving the program, aimed at strengthening its formative impact, its adaptability to different contexts, and its transformative potential in communities and organizations.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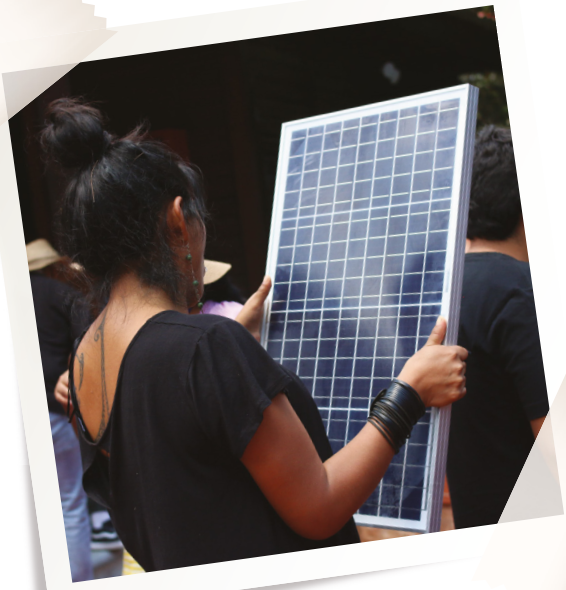

5. Conclusions and Recommendations

This impact evaluation identifies relevant transformations at three levels: a) the capacities of graduates, b) organizational and community dynamics, and c) the structural components of the training model.

a) Development and application of technical-community skills

The findings show a **substantial improvement in the graduates' competencies in technical skills, and organizational, methodological, and political capabilities.** The critical appropriation of knowledge, its application in real contexts, and integration with previous knowledge were recurrent elements in the interviews and the survey. However, we also identified **limitations in the self-perception of technological autonomy, especially concerning solving complex problems without external assistance.** This suggests the need to reinforce the technical component with greater support, considering the levels of prior knowledge.

b) Organizational and community impacts of the training process

Qualitative evidence suggests the program has direct and indirect effects on the **consolidation of community technological processes,** such as the installation of internet networks, the use of solar energy, and local training actions. Likewise, grassroots and support organizations have strengthened internal capacities, methodological design, and network articulation. At the community level, **access to connectivity, the strengthening of the social fabric, the circulation of cultural contents, and the symbolic appropriation of technologies improved.**

c) Structural adjustments and opportunities for improvement

The evaluation identified a series of topics and competencies that graduates consider a priority for the improvement of future editions. **They are technical and financial sustainability of networks, Internet governance and legal frameworks, community communication, emerging technologies, and digital security.** Likewise, they proposed adjustments to the methodological design of the course, in particular: improving the virtual platform, establishing systematic accompaniment mechanisms, leveling initial knowledge, diversifying pedagogical resources, having a transversal gender approach, and greater territorial contextualization.

Strategic value of the program's integral approach

The training approach that articulates technology, community, culture, and other social aspects is relevant and highly valued by participants. Its capacity to enable regional collaboration processes, facilitate the exchange of experiences, and promote technological appropriation from a community perspective positions it as an innovative and strategic training proposal in the region.

In conclusion, the evaluated program has verifiable direct and indirect impacts in the training of critical capacities, the dynamization of community projects, and the construction of regional collaboration networks. The evidence gathered supports the relevance of its continuity and suggests the need for some adjustments to enhance its scope, sustainability, and transformative impact in the territories.


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