

Between Tradition and Innovation: An Analysis of Development Perspectives Among Rural Youth in Chile's Tarapaca Region

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Abstract: This study investigates the socioeconomic conditions of rural youth in Chile's Tarapacá Region, examining the challenges they face in development, entrepreneurship, and innovation. The research adopts a mixed-methods approach, combining quantitative analysis of data from the 2017 CASEN Survey and the 2022 National Employment Survey with qualitative research based on semi-structured interviews with rural youth and development institutions. Findings reveal that rural youth experience a high rate of multidimensional poverty (54%), substantially exceeding the national average (21%), alongside pronounced gender disparities in income and workforce participation. The study identifies significant economic diversification, with agriculture accounting for only 30% of rural youth employment, though marked by high labor informality (39%). A key finding highlights the misalignment between existing development policies and rural youth realities, particularly regarding cultural relevance for the Aymara population. While young people demonstrate strong commitment to their cultural identity and territory, they encounter substantial barriers in accessing productive resources, technology, and basic services. The study concludes that effective rural youth development requires an integrated approach combining cultural relevance, meaningful participation, and institutional coordination. Policy recommendations include establishing culturally adapted development programs, enhancing rural infrastructure, and implementing mechanisms for youth participation in territorial development decisions.

Keywords: rural youth, social innovation, rural development.

1. Introduction

Rural youth represent a crucial component of sustainable development and social cohesion in regions facing geographic, economic, and cultural challenges, as exemplified by the Tarapacá Region. Despite their significance, this demographic finds itself in a vulnerable position characterized by high rates of multidimensional poverty and limited access to fundamental resources, including education, formal employment, and basic services. The region's economic structure, marked by widespread labor informality and a scarcity of development opportunities tailored to rural communities' cultural and social characteristics, further compounds these challenges.

The fundamental issue stems from the disconnect between existing public policies and rural youth realities, which impedes

these young people's meaningful participation in their communities' economic and social development. Although some development programs have been implemented, they fail to adequately address rural youth needs due to their broad-brush approach and insufficient adaptation to specific contexts. This gap perpetuates cycles of poverty and migration, further eroding local social and economic frameworks.

This study addresses the following research question: What policies and programs can be designed and implemented to address the specific needs of rural youth in the Tarapacá Region and facilitate their active integration into the economy and society? Through this inquiry, we seek to identify strategies that can bridge the gap between youth needs and current policy solutions.

The article's central argument maintains that while rural youth in Tarapacá face considerable obstacles, they possess latent potential that can be activated through inclusive and culturally relevant public policies. Recognizing rural youth's cultural identity and social dynamics is not only crucial for their empowerment but also provides a pathway toward sustainable regional development. By incorporating participatory and contextualized approaches in policy formulation, challenges can be transformed into opportunities, fostering resilience and encouraging youth to remain in their communities.

This article is structured to provide comprehensive coverage of the topic. It begins with a literature review synthesizing previous research on rural youth's role in economic and social development, highlighting successful practices and policy limitations in similar contexts. The methodology section outlines the approaches and tools employed to analyze youth characteristics and perceptions in the region. The results section examines youth sociodemographic conditions, key challenges, and opportunities for fostering inclusion and development. The discussion explores the relationship between findings and current policies, proposing strategies for better integrating rural youth into development processes. Finally, the conclusion summarizes recommendations and presents a roadmap for designing effective policies aligned with Tarapacá's local realities.

Throughout this article, we aim to provide analysis that

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moves beyond describing the current situation to propose viable, adapted solutions promoting more equitable and inclusive development. The integration of rural youth into economic and social processes is fundamental to strengthening community fabric and ensuring the region's long-term sustainability.

2. Literature Review

The significance of rural youth has become increasingly relevant in the context of socioeconomic development and sustainability. Young people in rural areas not only represent considerable potential for economic development but also serve as key agents in social transformation and the implementation of effective policies addressing local challenges.

Rural youth play a vital role in agricultural development and food security. According to Geza *et al.*, agriculture serves as a crucial vehicle for economic development in rural areas, where young people can make significant contributions to job creation and improved living conditions (Geza *et al.*, 2022). Youth empowerment through agricultural programs has proven effective in enhancing skills and fostering active participation in the local economy (Effendy *et al.*, 2020). This becomes particularly critical in contexts where urban migration has depleted the agricultural workforce, subsequently affecting rural communities' production and sustainability (Bespalyy, 2020).

Youth participation in community development proves essential. Iwuchukwu *et al.* emphasize that youth groups play a dynamic role in social transformation and community development, identifying various ways these groups can enhance community living conditions (Iwuchukwu *et al.*, 2015). The inclusion of youth in development policy and program formulation ensures their needs and perspectives are considered, resulting in more effective and relevant policies (Hlungwani *et al.*, 2021).

Additionally, youth empowerment closely connects with health promotion and education. Lloyd *et al.* emphasize that access to health services, particularly school clinics, can enhance rural youth health outcomes, crucial for their holistic development (Lloyd *et al.*, 2012). Education and training provide young people with essential skills for active participation in the economy and society (Hati, 2023). Limited access to educational and training opportunities restricts employment prospects and perpetuates cycles of rural poverty (Hlungwani, 2021).

Recent years have seen increased attention to rural youth in socioeconomic development, highlighting their central role in community sustainability and revitalization. Trivelli and Morel (2021) note that while youth participation mechanisms are essential, they remain underutilized in rural settings, limiting the potential of interventions that could enhance youth living conditions and social inclusion. Research on youth empowerment demonstrates that active youth participation in policy design and implementation leads to more effective and sustainable outcomes (Hlungwani *et al.*, 2021).

Butt *et al.* (2011) underscore rural youth's crucial role in agricultural and rural development. Their study in Pakistan's

Okara District reveals significant youth contributions to agriculture, despite challenges stemming from the absence of formal systems for organizing and training youth participation in development activities. Similar patterns emerge in South Africa, where Geza *et al.* (2022) observe persistent barriers to youth inclusion in agriculture and rural development, despite existing empowerment policies.

Youth mobility significantly shapes rural youth experiences. Farrugia (2016) introduces the "mobility imperative" concept, describing young people's necessity to migrate to urban areas for resources and opportunities due to rural-urban structural inequalities. This global phenomenon creates constant migration pressure on rural youth, resulting in brain drain and rural socioeconomic fabric deterioration (Gabriel, 2006; Corbett, 2007).

Youth entrepreneurship emerges as a potential solution for unemployment and rural economic revitalization. De Guzman *et al.* (2020) identify entrepreneurship education and workforce readiness as critical elements enabling youth to contribute to community economic development. However, limited access to educational infrastructure and resources poses significant challenges, reflecting observations from South African empowerment programs where implementation suffers from inconsistency and inadequate monitoring (Geza *et al.*, 2022).

Regarding participation and inclusion, Trivelli and Morel (2021) emphasize the need to adapt participatory mechanisms to address rural communities' complexities and overcome rigid social norms and limited social connectivity. Integrating youth into decision-making processes not only enhances public policy effectiveness but also strengthens their role as community change agents (Akiva *et al.*, 2014; UNDESA, 2003).

Technical skills development and education play fundamental roles in enabling youth economic participation and innovation capacity. Irvin *et al.* (2017) emphasize that access to advanced education, including technical training, proves essential for developing critical thinking and innovation among rural youth. This education enhances their economic participation and ability to contribute meaningfully to their communities (Namdeo & Naberia, 2022).

The emergence of "green" jobs and empowerment initiatives offers promising solutions to rural employment challenges. Geza *et al.* (2022) note that while these opportunities require enhanced training and coordinated policies, they represent viable pathways for improving quality of life and promoting sustainability.

The relationship between rural youth and innovation proves crucial for sustainable development and economic growth in rural areas. Young people in these communities serve not only as innovation consumers but also as creators and promoters of new ideas and technologies capable of transforming their environments. This dynamic manifests across multiple dimensions, including education, entrepreneurship, and digital technology adoption.

Education serves as a cornerstone of rural youth's innovative capacity. Irvin *et al.* (2017) demonstrate that exposure to advanced mathematics correlates with rural youth educational achievement, suggesting that robust education catalyzes critical

thinking and innovation. Technical and scientific skills training enables youth to engage in innovative activities and develop creative solutions to local challenges.

Youth attitudes toward rural development activities significantly influence their innovation capacity. Namdeo and Naberia (2022) found that a substantial majority of rural youth maintain positive attitudes toward development activities, facilitating their participation in innovative initiatives. Public policies and development programs can leverage this disposition to foster rural innovation.

Entrepreneurship provides another avenue for rural youth innovation. Uduji *et al.* (2021) examine how Nigerian rural youth, despite facing unemployment and poverty challenges, demonstrate potential for engagement in informal agriculture and entrepreneurship. Programs supporting youth entrepreneurship prove essential for fostering innovation, enabling youth to experiment with novel ideas and business models that can revitalize their communities.

Digital technology represents a critical factor in the rural youth-innovation relationship. Kelly and McGrath (2022) highlight the effectiveness of collaborations between rural public libraries and coding clubs in developing youth digital skills, expanding their opportunities and knowledge base. However, limited rural digital infrastructure access presents a significant barrier to innovative technology adoption (Graves *et al.*, 2021). Improving technology access proves essential for enabling youth to fully realize their innovative potential.

Youth engagement in sustainable agriculture exemplifies an area where innovation can create significant impact. Mureithi (2023) documents how Kenyan youth adoption of sustainable agricultural practices enhances both agricultural production and environmental sustainability. Innovation in this context encompasses modern technology implementation and agricultural practices addressing climate change and food security challenges.

3. Methodology

This research employed a mixed methodological approach, integrating quantitative analysis of secondary data with qualitative research based on semi-structured interviews, enabling a holistic and multidimensional understanding of the situation facing rural youth in the Tarapacá Region. This methodological combination facilitated information triangulation and developed a more comprehensive perspective on the realities and challenges experienced by this population group.

The quantitative component drew upon exhaustive analysis of two main secondary data sources: the 2017 National Socioeconomic Characterization Survey (CASEN) and the 2022 National Employment Survey (ENE). CASEN provided detailed information on the target population's socioeconomic conditions, enabling analysis of key dimensions including income poverty, multidimensional poverty, and technology access. The ENE facilitated characterization of labor situations and employment dynamics among rural youth. The analysis specifically focused on residents aged 18-35 in the region's rural areas, establishing systematic comparisons with both their

urban counterparts and national averages to properly contextualize findings.

The qualitative research proceeded through systematic semi-structured interviews with two main stakeholder groups. The first group comprised rural youth from five communes in the Tamarugal province: Camiña, Colchane, Huara, Pica, and Pozo Almonte. Participant selection aimed to maximize territorial representation and experiential diversity, including youth engaged in agricultural and livestock activities, participants in the Women's Prodemu program, and higher education students from institutions such as Inacap and the University of Tarapacá. This diverse participant selection captured a broad spectrum of perspectives and experiences regarding rural development and opportunities for entrepreneurship and innovation.

The second interview group involved representatives from six key institutions in regional rural development: the Regional Ministerial Secretariat of Agriculture, the Agricultural Development Institute (INDAP) through its Regional Development Department, the Production Development Corporation (CORFO), the Technical Cooperation Service (SERCOTEC), the Foundation for Women's Promotion and Development (PRODEMU), and the Indigenous Territorial Development Program (PDTI). These institutional interviews proved crucial for understanding policy and program implementers' perspectives and identifying gaps between programmatic offerings and rural youth needs.

The interviews were structured around five fundamental analytical dimensions: conceptualization and experiences in entrepreneurship and innovation; recognition and perception of development institutions; specific concerns regarding water and energy efficiency; perceived development obstacles; and rural youth self-perception and future vision. These dimensions were selected to provide comprehensive understanding of the dynamics affecting rural youth development in the region.

The research encountered several important methodological limitations. The 2017 CASEN data's temporality may not fully reflect recent socioeconomic changes, particularly considering the COVID-19 pandemic's impact. Territorial dispersion and access difficulties to remote localities, coupled with irregular digital connectivity, presented challenges for qualitative data collection. Additionally, while the interview sample was diverse, it cannot be considered statistically representative of the region's entire rural youth population.

To address these limitations, we implemented a rigorous source triangulation strategy, enabling comparison between quantitative data and qualitative perspectives while verifying findings across different information sources. We paid special attention to temporal data contextualization and maintained systematic, transparent documentation of all methodological procedures.

Data analysis followed an iterative process beginning with descriptive statistical analysis of quantitative data, followed by exhaustive thematic coding of interviews. Subsequently, we conducted comparative analysis between youth and institutional perspectives, identifying significant gaps and opportunities for improving existing policies and programs. This analytical process provided a solid foundation for

developing evidence-based public policy recommendations grounded in both quantitative and qualitative findings.

4. Results

A. Characterization Sociodemographic

The Tarapacá Region exhibits distinct demographic characteristics regarding its rural youth population. Analysis reveals that only 4% of the region's population aged 18-35 resides in rural areas, significantly lower than the national average of 16%. However, within the region's rural areas, the proportion of young people slightly exceeds the national average, representing 23% of the total rural population—suggesting important demographic potential for territorial development.

Gender composition reveals a mild feminization of the rural youth population, with women comprising 52%, similar to figures observed in both regional urban youth and national rural youth populations (51% in both cases). The average age is 26 years, with no significant gender differences. A distinctive regional aspect is its border condition, reflected in substantial foreign presence: 18% of the population aged 18-35 is of foreign origin, primarily from Bolivia, considerably higher than the 10% regional average.

Poverty analysis among rural youth in Tarapacá reveals significant disparities. Income poverty reaches 17% (4% extreme and 13% non-extreme poverty), indicating a more precarious situation compared to both rural adults over 35 and urban youth in the region. This reality manifests in monthly income figures, averaging CLP \$415,298, with a median of CLP \$274,932, indicating unequal income distribution. Income decile analysis shows that 78% of rural youth receive autonomous income below the national average, with 54% falling within the region's poorest 30%.

Gender gaps in poverty are particularly concerning. Among rural young women, poverty reaches 19% (4% extreme and 15% non-extreme), compared to 14% among men (3% extreme and 11% non-extreme). This disparity reflects in income levels: rural young women average CLP \$305,797, with a median of CLP \$223,403, significantly lower than their male counterparts. Income decile distribution shows particularly high concentration of young women in the lowest two income deciles.

Multidimensional poverty reveals an even more critical situation, reaching 54% among rural youth in Tarapacá, significantly exceeding both the national average (21%) and rates observed in national rural areas (39%) and among regional urban youth (23%). Dimensional analysis shows severe deficiencies concentrated in housing: 57% lack adequate access to basic drinking water or sanitation services, while 47% face habitability challenges, including 26% living in overcrowded conditions and 35% in precarious housing.

In education, 36% of rural youth have not completed mandatory 12-year schooling. While this represents improvement compared to the previous generation (46% among those over 35), a significant gap persists with urban youth (29%). This disparity amplifies in higher education access,

where only 27% of rural youth access this educational level, contrasting with 40% in urban areas.

A particularly concerning aspect is the high incidence of reported discrimination among rural youth. Twenty-five percent report experiencing unfair treatment or discrimination outside the home in the previous 12 months, primarily due to nationality (12%), place of residence (12%), and socioeconomic reasons (8%). These data suggest structural and cultural barriers hindering rural youth's full integration into regional society.

B. Employment Situation

Analysis of rural youth employment in the Tarapacá Region reveals significant patterns of economic participation and distinctive labor dynamics. The 2022 National Employment Survey data shows 67% of the rural youth population as economically active, with 91% employed, representing 61% of the total rural youth population. These figures suggest high labor participation rates, though with particular characteristics warranting detailed analysis.

Employment structure in Tarapacá's rural areas reflects significant economic diversification. While agriculture remains the predominant economic activity, it represents only 30% of rural youth employment, indicating important transformation in traditional productive structure. The commerce sector emerges as the second most important activity, employing 15% of youth, followed by public administration and defense (10%), construction (9%), manufacturing (7%), tourism (7%), mining (6%), administrative services (4%), and health and social care professionals (4%). This diversification suggests rural youth adaptation to new economic opportunities, though it might also indicate traditional labor market fragmentation.

Gender disparities in the labor sphere are particularly notable. While unemployment rates remain similar between genders, female workforce participation is significantly lower: 40% of rural young women are economically inactive, compared to only 26% of men. Occupational gender segregation is evident in employment's sectoral distribution. Men concentrate primarily in agriculture (36%), commerce (16%), and construction (13%), while women, though also participating in agriculture (23%) and commerce (14%), show greater presence in tourism-related services (14%) and public administration (13%).

A crucial aspect of the employment situation is the occupational category structure. Private sector employees constitute nearly half the employed population, but self-employment stands out significantly, reaching 31% of those employed. This high incidence of independent work could be interpreted both as entrepreneurial spirit manifestation and as a response to formal employment opportunity scarcity.

Labor informality emerges as one of the most critical challenges, affecting 39% of employed rural youth—a rate more than double that observed among urban youth in the region (17%). This issue is more acute among men (42%) than women (34%) and reaches particularly high levels in self-employment (87%). By economic sector, informality is especially prevalent in agriculture (77%), construction (52%),

and commerce (43%). These high informality levels suggest significant labor precariousness, contrasting with relatively high employment rates.

The paradoxical situation of high employment but high informality, evidenced in multidimensional poverty indicators—where 61% of rural youth do not contribute to the pension system despite low unemployment rates (5% in rural areas versus 13% in urban areas)—suggests a precarious labor insertion pattern. This phenomenon likely relates to rural economy structural characteristics, where traditional activities and self-employment predominate over formal employment.

C. Youth Perceptions and Experiences

Analysis of rural youth perceptions and experiences in Tarapacá reveals complex interaction between cultural identity, development aspirations, and structural challenges. A key finding is young people's strong identification with their Aymara cultural heritage and territory, transcending mere economic connection to rural space. This connection manifests particularly in the communes of Camiña, Colchane, and Pica, where youth express deep responsibility toward preserving traditions and continuing ancestral agricultural practices.

Rural youth self-perception is markedly influenced by cultural heritage. In Pica, for example, youth express explicit "privilege and pride in having Aymara identity," considering agriculture not merely an economic activity but a "passion generating rootedness to land and inherited traditions." This vision repeats in Colchane, where youth express the "need to perpetuate people's permanence in territories as cultural legacy," demonstrating strong territorial identification and willingness to face challenges maintaining this connection.

Regarding entrepreneurship and innovation understanding, a significant gap exists between rural youth and their urban counterparts, particularly higher education students. While the latter handle concepts closer to formal entrepreneurship and innovation definitions, rural youth tend to conceptualize these activities from a more holistic and community-based perspective, integrated with traditional values and practices. This difference suggests the need to adapt entrepreneurship promotion programs for cultural relevance and Aymara worldview recognition.

Youth experiences with development institutions reveal complex and frequently frustrating reality. While demonstrating high awareness of available institutions—able to identify between three and six support organizations—their experiences with these entities tend more negative than positive. In Camiña, for example, youth indicate programs "come defined from central level" without considering youth participation in defining locally and culturally relevant themes. Similar situations arise in Colchane, where they identify "difficulties establishing institutional contact" due to geographic distance and scarce institutional presence in territory.

5. Challenges and Obstacles

The analysis of challenges and obstacles faced by rural youth in the Tarapacá Region reveals a complex interaction of

structural, institutional, and sociocultural barriers that limit their development opportunities. These difficulties, identified by both the youth themselves and institutional representatives, configure a panorama that requires comprehensive attention and multidimensional solutions.

A fundamental challenge lies in the absence of a coherent public policy specifically designed for rural youth. As young people from Camiña point out, there is a "lack of policy to encourage young people to stay in the field" and a notable absence of youth participation in decision-making about entrepreneurship and innovation. This deficiency manifests in the implementation of programs that, according to testimonies, "come defined from central level" without considering the territorial or cultural particularities of rural communities, resulting in decontextualized interventions of limited effectiveness.

Barriers to land access emerge as a critical obstacle for developing productive initiatives. Youth from Pozo Almonte point out the paradox that they are encouraged to participate in agriculture and livestock farming, but face severe difficulties in accessing productive land. The situation is worsened by complex requirements imposed by institutions such as the Ministry of National Property, which according to testimonies, privileges external companies over local farmers. Additionally, the land tenure structure, where property roles are frequently registered in the name of parents or heads of household, disqualifies many young people from accessing benefits from institutions like INDAP.

Connectivity, both digital and road-based, represents another significant challenge. In Huara, for example, some localities have only three hours of electrical power per day, which severely limits access to digital services and development opportunities. This digital divide manifests particularly in difficulties participating in online calls and applications for promotion programs, creating structural inequality between rural and urban youth. The situation is worsened by poor road connectivity and limited public transport frequency, which makes access to services and institutions concentrated in urban centers difficult.

Institutional barriers are evident in multiple dimensions. Youth report significant difficulties in understanding and completing application forms, which often presuppose technical capabilities and access to digital resources not available in the rural context. Administrative complexity and excess requirements act as demotivating factors, especially considering that many youth lack experience in project formulation and find demand levels excessively high.

Access to basic services and productive infrastructure represents another significant obstacle. Multidimensional poverty data reveal that 57% of rural youth lack appropriate access to drinking water or health services, while 47% face habitability problems. These basic deficiencies limit not only quality of life but also productive development possibilities, particularly in initiatives that require compliance with sanitary regulations for producing value-added products.

Labor informality, which reaches 39% among rural youth, constitutes a significant barrier to sustainable economic

development. This situation is particularly acute in traditional sectors such as agriculture (77% informality) and reflects both the precariousness of labor conditions and difficulties accessing formalization and social protection mechanisms.

Gender gaps persist as a significant obstacle. Rural young women not only face higher work inactivity rates (40% versus 26% of men) but also experience higher poverty levels and lower average income. These disparities are exacerbated by cultural and structural barriers that limit their participation in economic activities and access to productive resources.

The lack of cultural relevance in support programs emerges as a key obstacle. Youth point out that promotion instruments do not properly consider their comprehensive cultural vision or traditional production practices. This disconnect between the Aymara worldview and support program design results in interventions that fail to capitalize on communities' endogenous development potential.

Educational and training challenges are also significant. 36% of rural youth have not completed mandatory schooling, and only 27% access higher education, which limits their possibilities of developing technical and business capabilities. Additionally, the lack of training programs adapted to the rural and cultural context makes it difficult to acquire skills relevant to entrepreneurship and innovation.

Geographic dispersion and service centralization act as additional barriers. The concentration of support institutions and programs in urban centers, particularly in Iquique, makes regular access to services and development opportunities difficult. This situation is aggravated by transportation costs and time constraints involved in displacement from remote rural areas.

6. Analysis and Discussion

The results obtained from the diagnosis of rural youth in Tarapacá reveal patterns that both converge and diverge with existing literature on rural youth development. This section analyzes these findings in the context of previous research, examines institutional perspectives in contrast with youth experiences, evaluates existing policies, and reflects on the fundamental role of cultural identity in rural development.

The high level of multidimensional poverty (54%) and significant gender gaps found in Tarapacá reflect patterns similar to those documented by Hlungwani *et al.* (2021) in other rural contexts. However, the situation in Tarapacá presents distinctive characteristics, particularly at the intersection of poverty and ethnicity. The presence of strong Aymara cultural identity adds an additional dimension to understanding rural poverty, which goes beyond traditional economic metrics and relates to aspects of territorial development and cultural preservation.

The economic diversification observed in the region, where agriculture represents only 30% of rural youth employment, contrasts with findings by Butt *et al.* (2011), who emphasize agricultural predominance in rural development. This divergence suggests a significant transformation in rural subsistence strategies, although it maintains parallels with observations by De Guzmán *et al.* (2020) on the need for

diversified labor preparation for rural youth.

Analysis of institutional perceptions reveals a significant disconnection with youth experiences. While institutions like CORFO and SERCOTEC emphasize the importance of innovation and entrepreneurship from a predominantly urban perspective, rural youth articulate a more holistic vision of development, integrating traditional practices with modernization needs. This conceptual gap reflects what Trivelli and Morel (2021) point out regarding the underutilization of youth participation mechanisms in rural environments.

The experiences reported by youth regarding access to promotion programs coincide with observations by Geza *et al.* (2022) on barriers limiting youth inclusion in rural development. However, the Tarapacá case adds an additional dimension: the importance of cultural relevance in support program design and implementation. The successful experience of the Camelid Livestock Roundtable mentioned by young people from Colchane exemplifies how active and culturally relevant participation can trigger positive results.

Evaluation of existing policies reveals significant limitations in their ability to address specific rural youth needs. The absence of instruments specifically designed for rural youth, identified by all interviewed institutions, reflects a critical gap in public policy. This situation aligns with Farrugia's (2016) observations on the "mobility imperative" facing rural youth, forced to adapt to urban development models.

The relationship between innovation and tradition emerges as a central theme in the analysis. While Kelly and McGrath (2022) emphasize the importance of digital skills for rural development, young people from Tarapacá articulate a more complex vision that seeks to integrate technological innovation with traditional practices. This perspective aligns with Mureithi's (2023) observations on adopting sustainable practices that respect traditional knowledge.

The role of cultural identity and Aymara worldview in rural development emerges as a fundamental element differentiating the Tarapacá case from other contexts studied in literature. Rural youth in the region are not only seeking economic opportunities but also aspire to preserve and strengthen their cultural identity. This duality presents both challenges and opportunities for rural development policy design.

Adjustment measures proposed by institutions, such as CORFO's implementation of regional committees and PRODEMU's coverage expansion, represent steps in the right direction. However, these initiatives have not yet managed to completely address the need for a more comprehensive and culturally relevant approach, as suggested by Trivelli and Morel (2021).

The digital divide identified in the diagnosis presents particularities that go beyond what is documented in existing literature. While Graves *et al.* (2021) emphasize the importance of access to digital infrastructure, the Tarapacá case reveals how limitations in access to basic services like electricity can fundamentally hinder participation in the digital economy.

Rural young women's experiences in Tarapacá add an important dimension to gender analysis in rural development. Their efforts to combine traditional activities like textiles with

innovation in design and marketing represent an example of how cultural preservation can coexist with economic development, an aspect little explored in existing literature.

The systemic vision of development expressed by rural youth from Tarapacá, which integrates agricultural production, livestock, and sustainability practices, represents an alternative model to traditional sectoral development. This holistic perspective, rooted in the Aymara worldview, offers valuable lessons for designing rural development policies that are both effective and culturally sensitive.

7. Recommendations

From the comprehensive analysis of the rural youth situation in Tarapacá and the identified gaps, a set of recommendations is proposed, structured in three intervention levels: public policies, capacity development, and institutional strengthening.

In the public policy arena, developing a specific normative framework for rural youth that recognizes their territorial and cultural particularities is imperative. This policy must be based on a rights-based approach that guarantees equitable access to productive resources, especially land. Review and modification of fiscal land allocation criteria are recommended, establishing preferential mechanisms for rural youth and simplifying capital and guarantee requirements. Similarly, updating INDAP's Organic Law is essential to facilitate youth access to development programs, regardless of family property ownership.

The creation of a comprehensive rural youth entrepreneurship support program emerges as a priority need. This program must incorporate seed capital components, technical assistance, and prolonged accompaniment, adapted to the region's productive and cultural realities. It is crucial that this program recognize and value the systemic production vision characteristic of Aymara communities, integrating agricultural, livestock, and environmental sustainability aspects within a coherent development framework.

To address service and technology access gaps, implementation of a basic rural infrastructure improvement program is proposed, prioritizing access to continuous electrical energy and digital connectivity. This program must be complemented by creating community digital service centers at strategic regional points, functioning as training spaces, internet access points, and online procedure support centers.

In terms of capacity development, implementation of a culturally relevant technical and business training program is recommended. This program must combine traditional knowledge with technological innovation, incorporating teaching methodologies that respect and value ancestral knowledge while introducing new techniques and tools. Training must include specific modules on business management, digital marketing, and market access, adapted to the region's rural and cultural context.

To improve entrepreneurship opportunity access, establishing a mentoring system connecting rural youth with experienced regional entrepreneurs is suggested. This system must be complemented by creating a peer support network facilitating experience and knowledge exchange among young

rural entrepreneurs. Additionally, developing adapted financing mechanisms is essential, such as community revolving funds or solidarity guarantee systems, which consider rural economy particularities.

Institutional strengthening requires creating formal youth participation spaces in rural development decision-making. Replicating and adapting the successful Camelid Livestock Roundtable model is recommended, establishing communal-level youth thematic tables allowing direct dialogue between youth and authorities. These instances must have effective ability to influence resource allocation and program design.

To improve institutional interventions' cultural relevance, creating a public officials training program in Aymara worldview and identity-based rural development is proposed. This program must be complemented by incorporating cultural mediators in development institutions, facilitating program communication and adaptation to local context.

In market access and value-added scope, development of a specific support program for local product transformation is recommended. This program must include assistance in obtaining sanitary resolutions, developing collective brands with cultural identity, and accessing marketing channels. It is essential that this program recognize and promote traditional processing practices while facilitating their adaptation to current sanitary regulations.

To address gender gaps, implementation of affirmative measures in all promotion programs is proposed, establishing minimum female participation quotas and developing specific components addressing rural young women's particular needs. These measures must be complemented with female empowerment and leadership programs strengthening women's role in their communities.

Finally, establishment of a participatory monitoring and evaluation system allowing continuous monitoring of these recommendations' implementation is recommended. This system must incorporate culturally relevant indicators and feedback mechanisms facilitating intervention adaptation and continuous improvement.

Effective implementation of these recommendations requires sustained resource commitment and political will, as well as active rural youth participation in all process stages. Only through a comprehensive, participatory, and culturally relevant approach will it be possible to effectively tackle challenges facing rural youth in Tarapacá and promote their sustainable development.

8. Conclusion

The exhaustive analysis of the rural youth situation in the Tarapacá Region reveals a complex panorama characterized by significant structural challenges, but also by important opportunities for sustainable territorial development. This investigation's findings have fundamental implications for public policy formulation and the design of rural development-oriented interventions.

A central finding is the profound disconnect between existing policies and development instruments and rural youth realities and aspirations. The absence of programs specifically designed

for this population group, along with the lack of cultural relevance in current interventions, has resulted in a significant gap between youth needs and institutional responses. This situation is aggravated by worrying multidimensional poverty indicators, which reach 54% among rural youth, significantly above the 21% national average.

Research has revealed the fundamental role of Aymara cultural identity in shaping rural youth development aspirations and strategies. Far from representing an obstacle to modernization, this cultural identity emerges as a potential asset for territorial development. Young people demonstrate a remarkable ability to integrate traditional knowledge with technological innovation, evidenced in their holistic approach to productive systems that combines agriculture, livestock, and environmental sustainability practices.

Gender disparities persist as a critical challenge, manifesting in higher poverty rates and lower economic opportunities for rural young women. However, experiences like those in the Women's Prodemu program demonstrate the potential for interventions specifically designed to address these gaps, especially when combined with recognition and valorization of traditional cultural practices.

Economic diversification observed in the region, where agriculture represents only 30% of rural youth employment, indicates a significant transformation in rural livelihood strategies. This diversification, although potentially positive, is limited by high levels of labor informality and significant barriers to accessing productive resources, particularly land.

The digital divide emerges as a fundamental obstacle to rural youth development, not only in terms of technology access but also as a barrier to participation in promotion programs and development opportunities. This situation is exacerbated by deficiencies in basic infrastructure and connectivity that characterize many rural localities in the region.

A hopeful finding is rural youth's strong disposition to remain in their territories and contribute to their development, provided suitable conditions exist for doing so. This disposition, combined with their deep knowledge of the territory and commitment to cultural preservation, represents a significant asset for regional development that public policies should capitalize on.

The successful experience of initiatives like the Camelid Livestock Board demonstrates the potential for participation spaces that recognize and value local knowledge while facilitating effective interaction between communities and institutions. Such experiences provide valuable models for designing future interventions.

These findings underline the imperative need for a comprehensive and coordinated approach to address rural youth challenges in Tarapacá. This approach must be based on three fundamental pillars: cultural relevance, effective participation, and institutional articulation. Cultural relevance implies recognition and appreciation of the Aymara worldview as a framework for intervention design. Effective participation requires creating spaces and mechanisms that allow youth to genuinely influence decisions affecting their development. Institutional articulation demands effective coordination among

different government levels and sectors to ensure intervention coherence and effectiveness.

In conclusion, sustainable development of rural youth in Tarapacá requires a fundamental transformation in how public policies are designed and implemented. This transformation must start from recognizing rural youth not as passive beneficiaries of development programs, but as active change agents with the capacity to contribute significantly to their territories' development. Only through an approach combining cultural relevance, effective participation, and institutional articulation will it be possible to bridge the identified gaps and harness rural youth potential for sustainable regional development.

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