

Social Technologies for Social Inclusion in Traditional Communities in the Amazon

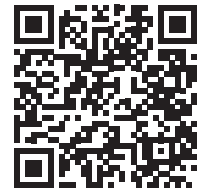
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ABSTRACT

There is a widely recognized consensus in contemporary society and the academic community that education is crucial for a nation's socioeconomic development. This paper presents the research experience, outreach, and curricular internship of the Grupo de Pesquisa Interação, employing the Interaction Method (Action-Research) approach to train professionals for working with riverside communities in the Amazon region. The research employs a comprehensive set of data collection techniques, such as bibliographic and documentary research, semi-structured surveys, interviews with key informants, and both group and individual dynamics with domestic-family groups to encourage participation from local community members and institutions. The results aim to provide community organizations and domestic-family groups with environmentally sustainable innovations and social technologies. Additionally, they offer qualified support to regional public policy institutions for developing affirmative actions geared towards citizenship and social inclusion.

Keywords: traditional peoples; university outreach; sustainability.

INTRODUCTION

The sociohistorical formation of human societies is shaped by diverse processes of natural resource appropriation, mediated by the cultural practices of various peoples coexisting through the transmission of knowledge. Historical legacies guide these interactions, giving rise to conflicts and problems that continually resurface in contemporary settings, influencing lifestyles and challenging societal values. Meanwhile, socio-educational processes flow within a complex web that combines exchanges and divergent interests.

In contemporary society, the pace of scientific and technological advancement is unprecedented in history. Yet, this progress presents a paradox, as it is juxtaposed with predatory exploitation and the depletion of natural resources, including flora and fauna, and the expropriation of territories. Such developments have calamitous consequences, adversely affecting global quality of life, eroding the unique social structures of ethnicities, and jeopardizing the survival of traditional and indigenous peoples. This scenario poses significant social and environmental risks.

This study focuses on communities within the Amazon Biome's hinterlands, a region where diverse natural and managed ecosystems support various social groups. These groups exhibit a rich sociobiodiversity, comprising indigenous peoples from multiple ethnicities. Approximately 55% of these individuals reside in the Legal Amazon's states (Acre, Amapá, Amazonas, Mato Grosso, Maranhão, Pará, Rondônia, Roraima, and Tocantins) (ISA, 2023), representing around 358,000 individuals across 215 ethnicities and speaking 180 different languages from various linguistic families (Chaves, 2021).

Traditional communities in this region include riverside and floodplain dwellers, extractivists, fishermen, quilombolas, among others, living in roughly 300,000 communities of diverse sizes. These human settlements range from extended family units to larger congregations of up to 500 families, though the latter is less common. Communities are typically located in floodplains, along riverbanks and their tributaries, or in upland areas, like those of quilombolas and extractivists. The Amazon's sociobiodiversity is not only a guardian of natural ecosystems but also a repository of vast, invaluable knowledge and resources, representing an immense global heritage (Chaves, 2021).

The Amazon, a Giant by thine own nature, poses a serious challenge to institutions and public policy managers in addressing the needs of traditional peoples, both due to complex logistics and the nature of historically enacted policies in the region. This is compounded by logistical complexities and the nature of historically implemented policies in the region. Public policies have traditionally been influenced by capitalist forces, shaping the life dynamics in the Amazon and the management of its resources. The colonization process, from its inception, imposed a series of economic development cycles on the region, driven by market fluctuations, with the objective of integrating the region into the national and global capitalist systems (Chaves, 2001).

The region's inhabitants face numerous barriers in accessing Social Goods and Services (SGS) such as education, healthcare, energy, credit, and employment support. They adopt various stances in response to the challenges that limit their practices, historical rights over their territories, and the inadequacies in fulfilling their needs, which in turn impedes sustainable development. Responses from traditional communities range from passive adaptation to active resistance, as they seek to protect their interests and advance their social and political rights.

This paper succinctly outlines the research and university outreach experiences of the Interdisciplinary Group for Socio-Environmental Studies and Development of Social Technologies in the Amazon (Grupo Interação) affiliated with the Universidade Federal do Amazonas (UFAM). The data presented are derived from two research projects: "Sustainability of the Culture Economy Practices of the Residents of Puraquequara, in Manaus-AM," completed in 2021, and "Accessibility Conditions to Social Goods and Services by Riverside Peoples in the Amazon," completed in 2014. Both projects were funded by the CNPq Research Productivity Grant.

The research aimed to explore the socio-environmental dilemmas and challenges faced by local social segments, seeking to enable sustainable practices through citizen participation. These studies contribute to socio-educational initiatives, fostering social enterprises and Innovations in Social Technologies (ST), grounded in the synergy between traditional and academic-scientific knowledge. Such efforts are directed towards enhancing sustainable practices, improving local resource management, and elevating living conditions in these communities.

METHODOLOGY

Our methodological approach was underpinned by the Interaction Method (Chaves, 2001), an embodiment of action-research (Thiollent, 2000). This approach integrates ethical, political, and sociocultural principles central to social inclusion. Its framework and implementation mirror a social program, intertwining social service initiatives with efforts to bolster citizenship. The objective is to engage, inspire, and mobilize community members and leaders, fostering their development into active agents of social transformation within the research and university outreach initiatives. This method involves a nuanced amalgamation of scientific knowledge and grassroots wisdom, emphasizing the collective cultivation of knowledge and fostering socio-educational processes that support community management and enhance access to social rights.

The Grupo Interação focuses on seven key areas: income generation, environmental management, environmental education, agroecology, social technology innovations, sociopolitical organization, and the provision of social goods and services. These interconnected domains were addressed simultaneously across all action areas.

The operational framework is segmented into three distinct yet interrelated phases: Phase I - Local Participatory Diagnosis; Phase II - Strategic Action Plan Development; Phase III - Action Plan Implementation; and Phase IV - Ongoing Monitoring and Evaluation.

The research and university outreach activities were conducted in the Amazonas state, situated in Brazil's northern region and at the core of the Amazon Biome, these activities involved traditional communities of fishermen, riverside and floodplain residents, and extractivists in the municipalities of Maués (communities of Santo Antônio de Mucajá, Menino Deus do Limão, Ebenézer, and Monte Sinais); Manaus (communities of Ramal do Brasileirinho, Bairro do Mauzinho, and Puraquequara); Iranduba (Cacau Pirêra); Novo Airão; Caapiranga (communities of Dominginhos and Bararuá).

ANALYSIS AND DISCUSSION OF RESULTS

NATURE OF PUBLIC POLICIES IN THE AMAZON

According to Becker (2010), the Amazon Biome forms the planet's largest genetic bank and has thus gained the *status of an ecological challenge emblem*. This recognition stems from utopian consciousness and ecological ideologies, whether perceived as capital-nature or as an essential source for various life forms, with its biodiversity of ecosystems and the heterogeneity of indigenous and traditional peoples, coining the term sociobiodiversity. Generally, this biome is a primary source for science, technology, and innovation.

Despite being a setting that inspires songs, poetry, and prose, the mosaic of ecosystems and lives that constitute the grandeur of the Amazon still places it as an illustriously unknown entity in its excellence. This region represents 60% of Brazilian territory and is of immense importance and value to humanity. Considering various regional, national, and international studies on land dynamics and climate change, the Interaction Research Group shares the view that contemporary society's actions regarding the Amazonian peoples and their territory are crucial for the planet's future.

In the context of public and social policy feasibility in the Amazon, the intrinsic contradictions within the social relations framework and the prevailing forces within the state emerge. The power struggle, fueled by conflicting interests in the domain of institutions, ranges from disputes within the policy formulation spheres to discrepancies occurring during the implementation of practices by technicians providing services to users.

Medeiros and Esterici (1994), analyzing the mechanisms of the state apparatus, recognize competent and legitimate channels within institutions but also identify channels dominated by the political forces representing dominant classes, attempting to assert their interests.

This dynamic results in differentiated forms of access for social segments: the observation of historically unequal access to social goods and services, particularly by traditional peoples.

In the Amazon region, the viability of public policies for education access at all levels represents one of the main challenges in implementing development oriented towards social inclusion. This condition hinders the creation of effective mechanisms and instruments to meet demands and tackle problems manifested in the local reality of traditional peoples. The studies conducted identify the need to expand policies focused on providing excellent education to train citizens and professional technical staff with dynamic competencies committed to working and developing in partnership with Amazonian riverside communities, respecting their uniqueness, generating innovations, and social technologies (Chaves; Coelho, 2014).

Achieving meaningful outcomes in this context requires partnerships at multiple levels, despite the array of challenges. Our activities involved collaborations with various research and extension networks, including the *Red Multiben do Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo* (CYTED) which includes Brazil, Spain, Argentina, Costa Rica, Uruguay, Portugal, and Colombia, and the *Red de Estudios Organizacionales en América Latina, el Caribe e Iberoamérica* (REOALCel).

TRADITIONAL AMAZONIAN PEOPLES

The traditional peoples of the Amazon, who embody its sociobiodiversity, possess diverse and dynamic sociocultural identities. Their unique way of life within traditional communities reconfigures and persists, as part of a historical process intertwined with global sociohistorical transformations. These peoples encompass various social groups, including riverside dwellers, floodplain residents, fishermen, extractivists (such as rubber tappers and nut collectors), and quilombolas, among others.

In the Amazon, these peoples exist in a dualistic coexistence with the contradiction of abundant natural wealth and sociocultural diversity, while simultaneously confronting numerous social and environmental issues, such as rapid deforestation, river siltation, and contamination of water bodies. They form a significant part of the population living in social exclusion and extreme poverty in the region. Various social and human rights violations in the region stem from both historical and contemporary developmentalist government programs, which aim to integrate the region into national and international economic circuits. This modus operandi involves efforts by governmental and business sectors to expand exploitation and access to natural resources, often encroaching on the territories of Amazonian peoples and Conservation Units.

The guiding principles of major projects such as infrastructure development, extensive cattle ranching, overfishing, mining, oil and gas extraction, timber harvesting, agribusiness, and land grabbing, create socio-environmental conflicts and resource utilization processes that conflict with the interests and lifestyles of many in the Amazonian population (Chaves, 2021).

Traditional peoples have sociocultural roots that originate from the cultural identity of indigenous peoples inhabiting the Amazon region since its occupation and conquest. The indigenous heritage provides riverside dwellers with a complex cultural identity, which endures despite the impositions of other cultures' lifestyles, particularly under the globalized acculturation process of capitalist society.

Amazonian peoples have inherited a wealth of traditional knowledge, encompassing techniques in farming, hunting, fishing, extractivism, handicrafts, and religious and mystical rituals. The basis of these peoples' sociocultural organization stems from establishing a unique model of social identity and natural resource management. They cultivate a set of knowledge and processes transmitted generationally through orality and/or empirical learning (Chaves, 2001). Amazon inhabitants preserve a vast repertoire of knowledge on the medicinal use of plants, a culture that enables them to manage health treatments in the absence or inadequacy of public health services (Chaves, 2013, 2014b). According to Chaves (2021)¹

(...) é mister reconhecer que tais saberes atuam de maneira relevante na dinâmica das relações socioculturais dos grupos sociais, delineando uma forte distinção entre aqueles que possuem maior domínio sobre as técnicas de manejo e que consideram as plantas como seres sensíveis e sensitivos, assumindo assim importante liderança no interior do grupo social, por serem reconhecidos como detentores dos saberes, sendo reconhecidos como pajés, xamãs, curandeiros/as e benzedor e benzedoiras.

Regarding the use of medicinal plants, the community secretary and person in charge of the Community Pharmacy and Medicinal Plant Gardens emphasizes: "The use of medicinal plants, when there is no doctor available, we resort to medicinal plants for diseases. Here in Maués, we have our Community Pharmacy and can get our medicine from there. Medicinal plants are very useful to us." (F. A. S.).

In terms of handling medicinal plants, there is a predominance of mutual aid, solidary and collective practices of exchange, marked by the everyday experiences of community domestic groups. This is characterized by the structuring of a partnership system among various internal and external agents (herbalists, markets, fairs, and traders), where the distribution and consumption chain of medicinal plants constitutes a set of local productive and innovative arrangements and systems.

¹ Translation: "(...) it is essential to recognize that such knowledge plays a significant role in the dynamics of sociocultural relations among social groups, delineating a strong distinction between those with greater mastery of management techniques and who consider plants as sensitive and sentient beings. They thus assume important leadership within the social group as recognized holders of knowledge, known as shamans, healers, and blessers." (Chaves, 2021, s. p., editorial translation).

Daily life in traditional Amazonian communities is governed by a diverse set of coexistence rules, such as:

- *Domestic-Family Groups* formed by members with blood ties or compadrio relationships (godchildren, friends, or non-blood-related members), sharing interdependence in housing and labor dynamics to ensure group sustainability, constituting a *production unit*;
- *production units*, recognized for participating in the association in the social division of labor, which delineates and supports group cohesion, guided by criteria of physical strength, skills, gender, and family matrix;
- *Mutual Aid*, the routine of knowledge exchange, products, and service sharing among domestic groups, forming the local community (internal exchanges);
- *Intercommunity Socialization*, engaging in exchanges with adjacent communities (product exchanges, leisure, and other activities)
- *Oral transmission of practices and knowledge* through diffusion across different generations;
- *Traditional Technologies and Tools*, implying the predominance of using and producing low-impact, simple technologies with few adaptations;
- *Multipurpose Producers*, community members of any traditional group master various productive practices, i.e., combining traditional group work with other labor forms (hunting, gathering, agriculture, handicrafts, fishing).

The economy in the traditional rural areas of the Amazon is highly diversified, encompassing activities such as extractivism, handicrafts, family-based agricultural production, fishing, and the cultivation of medicinal plants and native species. Its purpose is to ensure family and local community subsistence through the rational use of natural resources, distinguishing it from the modern capitalist economy, which is primarily focused on producing goods for profit.

In traditional Amazonian rural areas, the main characteristics of economic work include low-scale production and non-wage labor practices. While these activities enter the capitalist distribution circuit, they are not formally subsumed under capital (Marx, 1978), as they are often invisibilized or deemed unproductive. The alignment process imposed by capital seeks to homogenize property forms through real subsumption under capital (Marx, 1978), leading to land expropriation and productive diversification.

In their production process, traditional peoples generally use rudimentary tools, requiring significant labor effort. Access to educational processes and support for traditional management practices through research and extension with agroecological techniques is imperative. The Grupo Interaçãoguides and develops socioeconomic principles of the Solidarity Economy (ES), Creative Economy (EC), and particularly Culture Economy (EdaC). These economic modalities' growth determinants and indicators are not solely expressed through monetary value and profitability but are based on sociocultural, environmental, and technological sustainability principles.

According to Boff (2012), in the Solidarity Economy, humans take center stage with capital in the background. From this perspective, work is seen as a creative action, not merely a commodity bought with wages. It becomes a cooperative rather than competitive activity, based on democratic self-management and non-centralizing power. It focuses on achieving quality of life through work without prioritizing profit gains. This type of economy prioritizes local development over global, where viable micro-sustainability adopts collective solidarity as a principle.

Over the last three decades, the Creative Economy has emerged as a significant economic movement in global society, exhibiting rapid growth and increasing relevance. Studies on this topic have proliferated across various countries and regions, reflecting its importance in the international division of labor.

However, the theoretical and practical foundations of the Creative Economy still grapple with numerous inconsistencies, necessitating greater effort to broaden and consolidate debates and studies on its tangible manifestations. The adoption of the Creative Economy concept demands heightened vigilance due to several scientific controversies regarding its practical and conceptual similarities, and its emergence amidst the intrinsic contradictions of the knowledge society (Chaves, 2021).

The term Creative Economy refers to economic activities and enterprises rooted in creativity and the arts, leveraging intellectual capital to generate income and employment, and recognized as strategic for promoting socioeconomic development. In this context, the configuration of the knowledge society (Castells, 1999) aligns with a new narrative that emphasizes the imperatives of originality and creativity. This approach celebrates societal changes, disruptions, and innovations stemming from artistic manifestations (Chaves, 2021).

The manifestations and conceptual approaches to the Culture Economy (EdaC) adopt a holistic and multidisciplinary perspective. They advocate for the interface between economy, culture, and technology, focusing on goods, services, and products characterized by creative content, cultural value, and market objectives (Duisenberg, 2008). Studies, discussions, and experiences with riverside communities in the Amazon have helped redefine the practical theoretical content of EdaC.

It's viewed as an economy type that concentrates on enhancing sociocultural practices with social technologies, aiming to advance regional social and economic development through the appreciation of regional cultural practices. More importantly, it creates alternatives for people brutally excluded from development, without assured assistance (Chaves, 2013).

However, it is important to highlight that the actions of outreach and research do not intend to assume the responsibilities that belong to public policy institutions of the State. Instead, they aim to provide qualified data, reliable indicators, and relevant and viable experiences to support the formulation and (re)structuring of social policies for social inclusion, with participation and social control.

A critical alert regarding the use of the EdaC concept is its lack of deeper exploration and formalization for establishing practical theoretical bases. The references and recurrence to EdaC pose a complex challenge for the agents who adopt and work under this perspective.

Nevertheless, given the brief exposition of the concepts at hand, it is necessary to clarify the similarities and differences in relation to the two modalities of socioeconomic organization, thus expanding the understanding of EdaC in comparison to the Creative Economy (EC). EdaC is considered to encompass activities or segments of the economy that use creativity and innovative forms of organizational cooperation in their cultural base for generating products, processes, services, brands, and management practices, but that originate from indigenous ethnicities or traditional peoples (extractivists, quilombolas, riverside communities, and others).

In his study on social technologies in traditional communities in the Amazon, Barreto (2012, p. 4)² notes that these living spaces, due to their dynamics and sociocultural organization, “podem vir a se constituir como um locus privilegiado”, especially for studies on ST. He considers these communities as assuming an inclusive, transformative, and even emancipatory character, playing a fundamental role in the debate concerning alternative ways of generating innovative knowledge.

SUSTAINABILITY & SOCIAL TECHNOLOGIES

The debate on environmental degradation and its connection to capitalist production and consumption patterns began to gain broader attention towards the end of the 1960s. Since the mid-20th century, amid the crisis of modern rationality characterized by anthropocentrism and individualism, theoretical and practical discussions about environmental issues have gained prominence. More recently, the recognition of the severity of ongoing climate changes has pushed large segments of society into exclusion, imposing a profound socio-environmental crisis that challenges our very existence and limits (Chaves, 2006).

² Translation: “potentially becoming a privileged locus” (Barreto, 2012, p. 4, editorial translation).

The current escalation represents a civilizational crisis, marked by the depletion of natural resources due to the adopted model of exploitation; significant interference by society on the environment, leading to the accelerated extinction of various life forms on the planet; intensification of the greenhouse effect; pollution of water sources; deforestation, and other anthropogenic effects, fundamentally rooted in the societal mode of production/consumption (Chaves, 2014b).

In this context, the debate has underscored the vital need for the engagement of various sectors of organized civil society and government in building environmental sustainability and a new development model with less environmental impact. The environmental crisis should be understood as stemming from capitalist social relations of production, where capital exploits labor to produce misery and social inequality. While exploiting natural resources without concern for scarcity and depletion, it exacerbates social issues arising from unequal relations of production and distribution of socially produced wealth, a result of the accumulation/poverty dichotomy.

Central to these debates is the discussion on ecodesvelopment proposed by Ignacy Sachs at the World Conference on the Environment in Stockholm (1972), wherein the concept of sustainability is dynamic. According to Sachs (1992), Ecodesvelopment advocates a process based on seven pillars: social, economic, environmental, geographical, cultural, spatial, and political. The social pillar emphasizes establishing a stable growth pattern to reduce social inequality between rich and poor. The economic pillar refers to compatibility between production and consumption patterns, equity in the flow of public and private investments in relation to investments and access to science and technology. The environmental pillar involves intensifying the use of existing resources in various ecosystems compatibly with a minimum level of potential deterioration. The geographical pillar aims for a balanced distribution of human settlements and economic activities, establishing a network of biosphere reserves to protect biological diversity while helping local populations improve their living standards. The cultural pillar is about modernization and seeking changes, in mutual respect and agreement with existing cultural continuity in specific contexts. The spatial pillar advocates for the deconcentration of metropolises, adoption of conservationist and health-friendly agricultural practices, sustainable management of forests, water, and decentralized industrialization. The political pillar champions strengthening representative democracy, the rule of law, decentralized and participative systems, community public spaces, and decentralized resource management.

Thus, the concept of sustainability, as referenced in the studies of Sachs (1992), presents an expanded approach that criticizes limited concepts encompassing only economic and environmental issues. The author asserts that the path to sustainable development requires a new relationship between humans and nature, as it demands rational management of natural and technological resources guiding the economic, political, and cultural actions of society.

Therefore, by adopting the perspective provided by Sachs' studies (1992), employing references from Social Technologies (ST) became a coherent and necessary path, as they present principles and parameters that corroborate the proposal for development based on the sustainability of production and consumption practices in society. The concept and practices of Social Technologies are recognized in their nature as public policy, being organized through two representative bodies in Brazil: the Instituto de Tecnologia Social (ITS), established on July 4, 2001, and the Rede Tecnologia Social (RTS), from 2005. ITS defines Social Technologies as a set of transformative techniques and methodologies, developed and/or applied in interaction with the population and tailored to their needs, representing solutions for social inclusion and improvement of living conditions (ITS, 2004).

For Rede Tecnologia Social (2008, p. 8)³, STs are “[...] produtos, técnicas ou metodologias, reaplicáveis desenvolvidas na interação com a comunidade e que representam efetivas soluções de transformação social”. STs are recognized by the Grupo Interações as tools that enhance and value traditional practices and techniques of a sustainable nature. For the Group, Social Technologies are marked by the singularities of the agents/social groups that produce them, constituting an integral part and expression of socio-political and cultural identity. They are elements that externalize representative techniques and practices contributing to emancipation and social protagonism, given that this type of technology is guided by various factors such as environmental, economic, political, social, and cultural conditions, among others.

Social Technologies can contribute to empowerment, emancipation, and social inclusion through the exchange of knowledge among the involved social actors, in addition to creating spaces for democratic participation and expanding citizenship (Chaves, 2014a). Understanding that the path to a sustainable society requires socio-educational practices with respect for the environment, the aim is to establish new forms of human/nature relations in both urban and rural environments through the respect, valorization, and enhancement of traditional sustainable practices. Furthermore, this direction necessitates the construction of educational alternatives for labor and citizen training to improve the quality of life for the entire population, but especially for segments that are excluded from access to social goods and services.

In this regard, the Grupo Interações carries out work in the areas of professional and/or educational training, elementary, secondary, university, and professional education among various social segments in the countryside and the city. Among the results achieved with the creation of STs monitored by the Group, the following stand out:

³ Translation: “[...] products, techniques, or methodologies, reapplicable, developed in interaction with the community and representing effective solutions for social transformation” (Rede de Tecnologias Sociais, 2008, p. 8, editorial translation).

- *Environmental Awareness and Food Security*: Implementation of school and community gardens to value unconventional edible plants, involving workshops, lectures, and student excursions, alongside technical assistance for cultivating vegetable species and using solid waste in garden beds.
- *Community Pharmacy and Medicinal Plant Gardens* - Focus on traditional health practices through the cultivation and use of medicinal plants.
- *Suspended Domestic Gardens* - implemented in wooden structures adapted to the water height during the flood season, ensuring basic food in the diet of community members throughout the year. This ST consists of bed systems and agroecological techniques, generally in the backyards of domestic-family groups, based on sustainable practices using recyclable materials and environmental care.
- *Local Solidarity Economic Enterprises* - advisory for community member training through participatory development of booklets, formative activities, monitoring of agroecological practices and social entrepreneurship, expanding the production of handicrafts, agricultural products, among others.
- *The Grupo Inter-Ação's* contribution enabled the creation and strengthening of solidarity economic enterprises, exchanging traditional and academic- scientific knowledge.
- *Local Productive and Innovative Systems and Arrangements* structured in spaces where groups develop their productive activities, coordinating the set of enterprises and initiatives with Social Technologies, supporting distribution and marketing in rural and urban areas through participation in fairs and regional events, among others.
- *Partnerships* - public, private, and NGOs - agreements and contracts for technical, financial, educational/formative support for enterprises, product processing to add value, logistics for product transportation and marketing, and organization of exhibitions of agricultural products and handcrafted artifacts, among others.
- *Certification and Organizational Support* - for women's groups, notably the Jasmine Women's Association, for producing cosmetics using natural essences, supported by the Laboratório de Produtos Naturais/UFAM for certification of cosmetics with ANVISA, handicrafts using recycled materials, and sales at fairs and stores.
- *Meliponiculture* - Community Management of Beehives for Honey Production Using Stingless Bees for Food and Health Care in Domestic-Family Groups and for Income Generation.

→ *Collective Flour Production Systems* - this process is divided into five stages: cassava pulping, grinding, pressing, sieving, and roasting. It is characterized as a social technology for allowing participation, appropriation, and learning by the involved actors and for organized planning, application, and systematization of knowledge.

→ *Agroecological Chicken Coop (cabocla poultry farming)* - methods of management, maintenance, and organization of chicken coops in communities through collective management, reuse of by-products from the flour house and other organic materials for sustainable poultry management.

→ *Replicability and Dissemination of Agroecological Practices* - such as composting, biofertilizers, organic fertilization, through lectures and workshops so that producers are equipped to become instructors and monitors in other communities.

→ *Slash-and-Burn Agriculture (Land Cultivation Methods)* - this planting method combines traditional and scientific knowledge, aiming to apply appropriate techniques that enhance the regeneration of natural resources, with a fallow period of about 3 years for replanting in the managed area, where land rest increases fertility and thus the sustainability of the slash-and-burn method.

→ *Solidarity Recycling* - for management and processing of solid waste, constituting a self-management practice based on solidary economy in an eco-political conception adapted to the socio-political organization of the recycling group, starting from socio-educational actions and instrumentalization for political strengthening of the category. The process begins with a diagnosis of living and working conditions; promotes discussion of strategies for creating public policies for the worker category; advances in the diffusion of good environmental practices among the population in a perspective of sensitization to selective collection and the realization of actions and policies that can contribute efficiently in solving environmental issues causing vulnerabilities. This process involves generating income for families of Collectors, some of whom rely solely on collection as their only source of income to support their family. This ST has three main axes of action: the study and constitution of a ST for the management of the socio-political organization of collectors; attending to demands in access to social goods and services; and the development of techniques and equipment for processing solid waste, producing information for the State Committee of Collectors of Amazonas.

→ *Integrated Sustainable Demonstration Units (UDIS)* - cultivating domestic and school gardens, with technical monitoring of bird and stingless bee farming processes.

→ *Strengthening Formal and Informal Sociopolitical Organizations* - involving community members in the decision-making process about enterprises, through workshops, courses, lectures, and development of booklets on topics such as associativism, cooperativism, human relations, sociopolitical organization, presentation of a public social policy claim letter to responsible institutions. Knowledge on how to access social goods and services through lectures, workshops, and services of Social Security and Assistance, Health, Family Rights, Legal Assistance, Women's Health.

It's important to highlight that these Social Technologies are being enhanced with the aim of expanding production for income generation, improving the quality of life of the involved social agents, as well as recognizing and reclaiming sustainable traditional practices and techniques. These are learned, disseminated, and replicated by various generations of Amazonian populations.

Craftsmanship, as an activity, can be studied in its historical, economic, social, cultural, and environmental dimensions. It holds significant potential for occupation and income generation in the country, enriched by cultural diversity and strong connections to the tourism sector. This activity is in line with the conceptual proposals of local development, emerging as a sustainable and even strategic alternative for economic growth in certain localities. Craftsmanship is deeply intertwined with local culture, especially for traditional populations, where it is rooted in experience and handed down from one generation to the next. Family tradition plays a crucial role in this process, as according to Dias (2007), it's a way not only to "continue the category", but also to maintain memory, symbolic exchanges, and the bonds of solidarity and gift that are essential in the daily life of each artisan.

The process of artisanal production facilitates the revival of human values such as personal skills, subjectivity, creativity, freedom of production, autonomy, and beauty, which stand in contrast to the mechanization and automation typical of industrial processes. For popular segments, craftsmanship is rooted in lived experience and transmitted across generations.

The development of innovation proposals from the perspective of sustainability, through the enhancement of social and traditional technologies, represents an important alternative for supporting socio-environmental sustainability. In this perspective, the Grupo Interaçãodevelops research-action activities, university and technological extension, supporting the creation of new technologies from the perspective of sustainability. This involves a participative social process and mobilization of community social agents to enhance existing traditional social technologies, presenting an alternative to improve the quality of life.

In these studies, the Grupo Interação not only aims to understand the reality and survey social technologies but also develops training and instrumentation activities for rural producers, artisans of riverside communities, and collectors. This includes a range of services that enhance traditional practices of natural resource use and management, food security, and agroecological techniques to strengthen and enhance family agriculture. The Grupo Interação comprised of researchers (faculty, students, technicians, doctors, masters, specialists, and academics) from academic and scientific fields, dedicated intensely to producing new knowledge in socio-environmental, political, cultural, economic, and technological areas.

The data reveals that social technologies in communities are characterized by features based on the sociocultural identity of traditional peoples. They are developed in specific ways, marked by the adoption of a democratic character in decision-making and collective participation; assuming participation, appropriation, and learning by the involved actors as a fundamental condition in the entire process of technology creation; aiming for economic, social, and environmental sustainability; generating learnings that serve as a reference for new experiences; recognizing the planning and systematization of knowledge in all work processes; and centering actions on solving concrete social demands experienced and identified by local populations (Chaves, 2008, 2021).

It is important to emphasize that Social Technology (ST) preserve a notable socio-educational character and are defined by the creation of a creative space for production and by the collective nature of activity development. Identifying and characterizing STs are crucial for promoting social inclusion. As indicated, the study and qualification of STs used in Amazonian communities contribute to the discussion around the theme and enable the development of educational and productive strategies to meet demands for access to social goods and services in these areas, in addition to providing subsidies for the creation of public policies.

FINAL CONSIDERATIONS

This study is committed to supporting the diffusion of social and traditional technologies, emphasizing the importance of enhancing innovative goods and services as a key strategy for sustainable development and social inclusion in urban and riverside communities of the Amazon region.

The Innovations and Social Technologies, encompassing experiences of interactions and living experiences (Living Labs) conducted by the Grupo Interação in traditional communities, aim to foster the creation of mechanisms for solving social problems.

These include organizing new opportunities arising from the protection of intellectual property with benefit sharing, licensing (open innovation) based on the replicability of knowledge, techniques, and technologies, and forming arrangements and local productive and innovative systems. This approach involves various public and private partnerships, with the use and processing of products based on sustainable practices to reach fair markets.

It is worth emphasizing that the set of related initiatives adopts the character of affirmative and socio-educational actions of citizenship as a way to confront prevailing social inequalities. This involves establishing innovative and creative practices linked to culture (Creative Economy and Culture Economy).

In the context of academic and professional training, university outreach actions, research, and innovation are enhancing the development of technical and scientific competencies to act in the Amazonian reality. This includes enabling the realization of undergraduated monographs, scientific initiation projects, theses and dissertations, production of scientific papers, and presentation of research findings in regional, national, and international academic events. This also constitutes a field of training and provides subsidies for the formulation of public and social policies.

The research group aligns itself with various social and academic scientific movements in the region, encompassing actions of resistance and struggle in pursuit of proposing political and institutional strategies. These strategies aim to foster advancements in Science, Technology, and Innovation, involving intersectoral actions undertaken by both public and private institutions in the region. This collaborative effort is dedicated to finding solutions for major bottlenecks in the regions, thereby contributing to social inclusion.

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