

UN Women

Expert Group Meeting

‘Achieving gender equality and the empowerment of all women and girls in the context of climate change, environmental and disaster risk reduction policies and programmes’

11 – 14 October 2021

Indigenous women’s rights in biodiversity conservation and sustainable use

Expert paper prepared by:

Georgina M. Catacora-Vargas*

Academic Peasant Unit “Tiahuanacu”, Bolivian Catholic University
Centre for Development and Environment, University of Bern

*The views expressed in this paper are those of the authors and do not necessarily represent those of the United Nations.

Indigenous women's rights in biodiversity conservation and sustainable use

Georgina M. Catacora-Vargas

Academic Peasant Unit "Tiahuanacu", Bolivian Catholic University
Centre for Development and Environment, University of Bern

Prepared to the UN Women Expert Group Meeting 'Achieving gender equality and the empowerment of all women and girls in the context of climate change, environmental and disaster risk reduction policies and programmes' 11–14 October 2021 (held on line)

A brief introduction

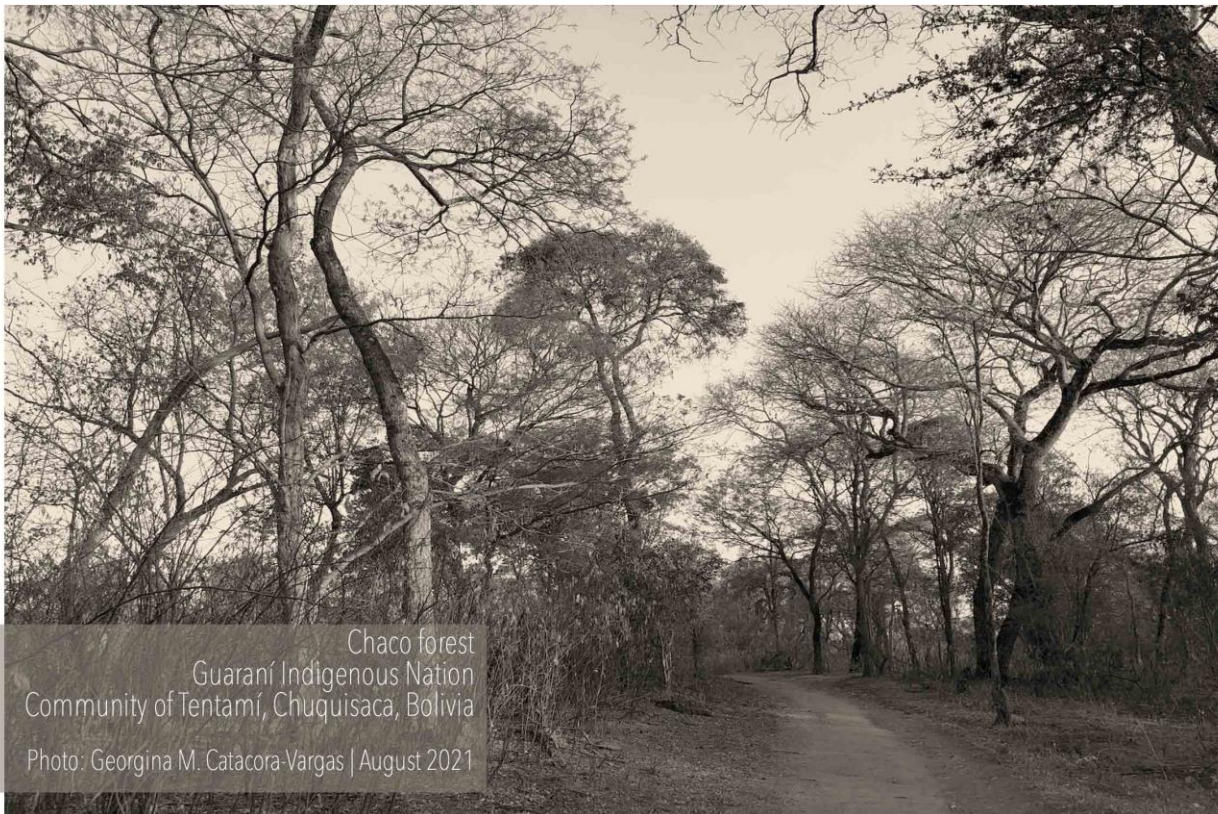
In the preface of the book "Women and plants", edited by Patricia Howard (2003, p. xvi), she mentions that "it [is] not an easy task to demonstrate women's importance in plant biodiversity management and conservation, since the literature dealing with this topic is highly dispersed and fragmented.". An earlier scholarly piece by Dianne Rocheleau (1995, p. 9), affirms that "Women's work, women's resources (including complex assemblages of plant and animal species), and women's land use are often invisible to the technocratic lens of the forester, the agronomist, the economic planner, the land surveyor, the conservation biologist and the environmentalist". With this statement, the author reveals that regardless of the sector or the discipline, women's roles, knowledge and spaces of action are often simply ignored. Despite many significant advances, the same challenges persist eighteen years after Howard's assertion and twenty-six years after Rocheleau's analysis, particularly the invisibility of women's roles. Gloria Zuluaga (*work in progress*), the latter as "invisible ecologies and economies", primarily in rural settings.

In this context of invisibilization, the long-standing ties between women and biodiversity persist and are re-created on a daily basis in the productive and care processes that they perform. From there emerge the rights of women to biodiversity conservation and sustainable use, as does biodiversity as a fundamental medium for the realization of a myriad of women's rights, particularly those of indigenous and peasant communities. Some of these ties are addressed in this paper through the case of women from the Guaraní Indigenous Nation in the Department of Chuquisaca, Bolivia. The elements in the following section are presented in a narrative manner and illustrated by some pictures¹ from four Bolivian indigenous Guaraní communities. Other than being presented in black and white, the images have received no aesthetic editing. The goal of this method is to share field observations and depict scenarios as they might be seen by a regular viewer. This is an attempt to highlight the significance of women's activities and use of biodiversity in everyday and common situations.

¹ Permission to take pictures and place them in this document was granted by the Group of Women of Tentamí, the authorities of the Council of Guaraní Captains of Chuquisaca, and the authorities of the Communitarian Economic Organization Guaraní Amandiya – Monteagudo.

Biodiversity and indigenous women's rights

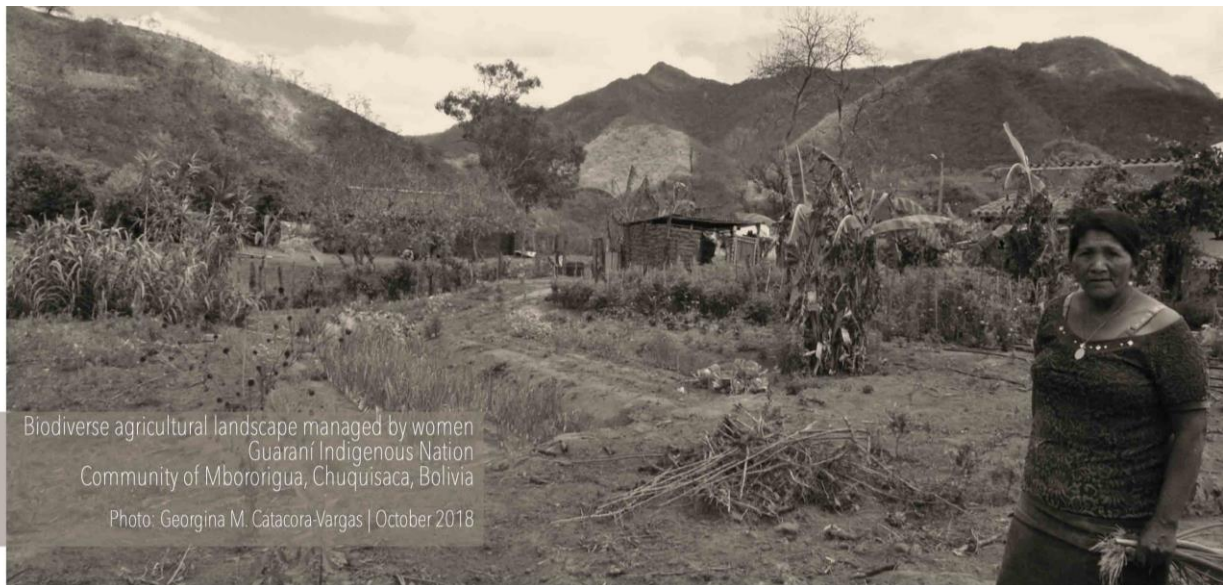
Indigenous women, landscapes, and the invisibility of their roles. Indigenous peoples' productive activities extend beyond the confines of the production plot and include more than just agriculture, animal husbandry, and forestry (either individual or communal). They have an impact on the landscape by managing the ecosystems that exist in their territories, which reflects their cosmovision and results in the creation of cultural landscapes for a variety of social-ecological purposes (e.g., food production, water conservation and management, plant varieties or animal breed selection, traditional knowledge re-creation and sharing, etc.). Simultaneously, they are fostered by social and institutional organizations and norms that are congruent with and supportive of these biocultural goals (Pilgrim & Pretty, 2010; Toledo & Barrera-Bassols, 2008).



Because biodiversity conservation and sustainable use are important components of indigenous peoples' landscape management, they typically have better conservation status than other territories, according to the Global Assessment Report on Biodiversity and Ecosystem Services' summary for policymakers (IPBES, 2019). The role of indigenous women in this outcome is not addressed in this landmark report. This, however, is not an isolated occurrence. A recent review of the literature on the role of women in terrestrial ecosystem management in the Andes found that, while academic research refers to women's activities primarily at the species and ecosystem levels, the corresponding reported effects are mostly limited to household or community realms, with no consideration of larger scales of women's management, such as ecosystems or landscapes. Furthermore, a significant portion of the research on women's approaches to

biodiversity is ambiguous, making it difficult to determine where, how, and at what scales women manage and have positive impacts on terrestrial ecosystems (Catacora-Vargas et al., *work in process*). As mentioned in the introduction, this is part of the widespread invisibilization of women in their roles of biodiversity conservation and sustainable use; the “invisible ecologies” as described by Gloria Zuluaga and referred to above.

Indigenous women carry out multiple tasks related to landscape and ecosystem management. Guaraní indigenous women, for instance, perform them in three scenarios: (i) the forest, through seasonal sustainable harvesting of wild fruits, medicinal plants, and other non-timber forest products; (ii) communal production lands, where, together with men, landraces of maize are sown in different association patterns with native varieties of beans and cucurbits; and (iii) horticultural gardens close to their homes, where a mixture of vegetables and herbs are produced by women. These activities are frequently overlooked when analyzing large-scale biodiversity management; they are not reflected in official agricultural production and economic statistics, nor are they reflected in policy-making. This, and other forms of women's invisibilization, constitute a type of discrimination and, as a result, a form of violence. Its recognition as such is underrepresented in global biodiversity discussions. To properly address the rights of women whose livelihoods are directly dependent on biodiversity—e.g., indigenous, peasant, small-scale farmer, pastoralist, fisher, beekeepers, and harvester women—a key action is to make them visible by acknowledging their positive roles in ecosystem and landscape management. This is associated with the need to recognize the situations of vulnerability they face when the social-ecological integrity of ecosystems and landscapes is hampered, e.g., by the encroachment of commercial monocrops into ecosystems managed by women in their productive and care activities (as an illustration see Paulson 2003 and Valdivia 2001).



Right to land. In general, rural women have very limited rights to own, access, and use land. Land tenure is still primarily a male prerogative, and in many cases, such a possibility for women is conditional on their marital status, which means that single women (including single mothers)

and widows are unable to exercise this right. A study conducted by Nobre et al. (2017) indicates that in the Latin American region, the country-level percentage of rural women with agricultural land entitlements ranges from 7.8 (in Guatemala) to 30.8 (in Peru). A significant portion of such entitlements are self-declarations of ownership, with only a minority having corresponding legal documentation.

Rural women who do not own land face limitations in deciding how to manage it, which is a disadvantage in terms of short- and long-term planning for more biodiverse and climate resilient agriculture. Because women conceive ecosystems and landscapes differently than men (due to their relationship with them through their productive and care activities), they are more inclined to implement biodiverse production systems (Arias Toledo & Trillo, 2018). In relation to this, and taking into account the ecological functions and services derived from biodiversity—such as its role in social-ecological resilience to climate change and pandemic prevention (IPBES 2019, 2020)—different economic, social, cultural, and ecological rights are hindered by not granting women land rights. However, securing land tenure is necessary but not sufficient. Considering Catacora-Vargas et al. (*work in progress*); Saldías et al. (2011); Velarde Ponce de León & Catacora-Vargas (2021) and Zuluaga-Sánchez & Arango-Vargas (2013), at least four other aspects need to be addressed to advance the realization of women's economic, social, and political rights related to land access, use, and tenure, as well as biodiversity conservation and sustainable use:

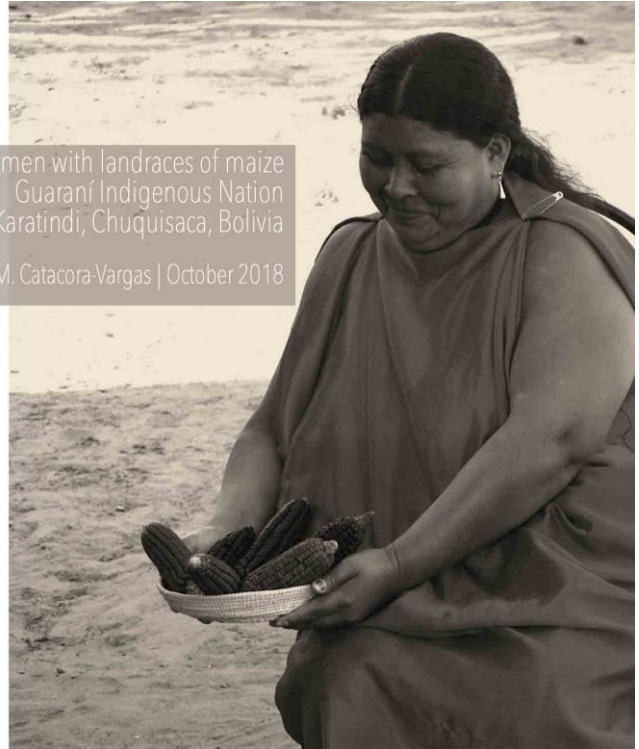
- (i) Social and institutional contextual factors, for example, infrastructure and services adapted to women's needs, possibilities, and priorities.
- (ii) Socio-ecological considerations, where access to water is one of the most salient.
- (iii) Socio-economic dynamics like migration, aging of the rural population, and the resulting feminization of agriculture increasing women's work burdens while decreasing their opportunities for participation in decision-making and other organizational and policy-relevant processes.
- (iv) Socio-cultural aspects in the realization of women's right to land to foster constructive and respectful territorial and biocultural approaches in indigenous communities, particularly in relation to the governance of the commons. According to Zimmerer (2002), communal land schemes provide more opportunities for equal access and use of land, particularly for women, whereas private property regimes are associated with unequal land distribution and the resulting economic inequality.

Agroecology, biodiversity, and indigenous women's productive and care activities. Traditional agriculture is one of the most important and resilient biocultural expressions of landscape and ecosystem management (Santiago Vera et al., 2021; Santiago-Vera et al., 2021). Based on complex, biodiverse, and locally adapted designs, indigenous peoples have developed sophisticated knowledge systems and domesticated and protected biological diversity (Altieri, 2021). Such traditional knowledge is one of the most important pillars of agroecological practice (Rosset & Altieri, 2017). Furthermore, agroecology is closely linked to rural women's productive

activities (see Siliprandi, 2015; Siliprandi & Zuluaga, 2014; Zuluaga Sánchez et al., 2018). The following are the main reasons for this interconnection in the communities of the Guaraní Indigenous Nation in the Department of Chuquisaca:

- (i) Agroecological production and food systems are dependent on the knowledge and resources that women possess and recreate. A key component is (agro)biodiversity, such as seeds of landraces reproduced by women in the horticultural gardens they manage and those exchanged among them. For example, in the case of maize, the number of varieties produced and used ranges from seven to twenty-six ecotypes (Nogales-Azcarrunz, 2021).

Guaraní women with landraces of maize
Guaraní Indigenous Nation
Community of Karatindi, Chuquisaca, Bolivia
Photo: Georgina M. Catacora-Vargas | October 2018



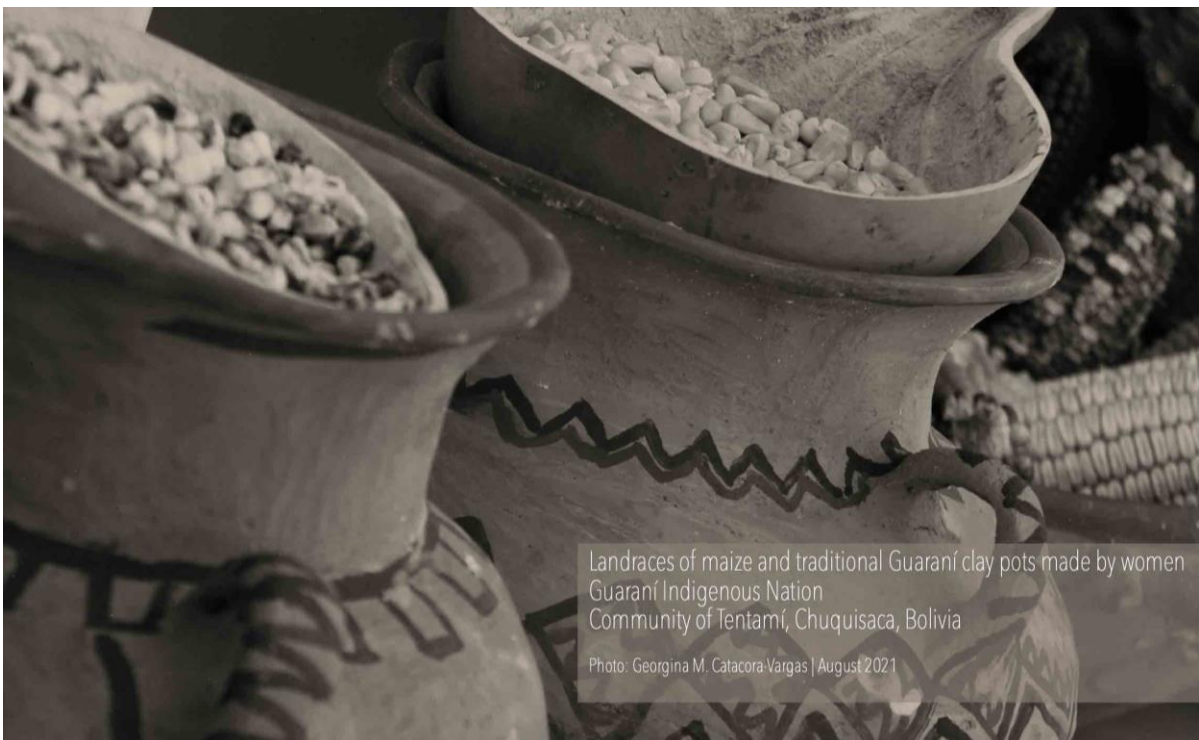
Guaraní women with landraces of maize
Guaraní Indigenous Nation
Municipality of Monteagudo, Chuquisaca, Bolivia
Photo: OECOM Guaraní Amandiya – Monteagudo
September 2021

Indigenous women cultivate (agro)biodiversity in agroecological horticultural gardens as part of their care and productive activities (including monetary and non-monetary local economic dynamics). In terms of care, this refers not just to the domestic space, but to seed reproduction.



Seed exchange among women
Guaraní Indigenous Nation
Community of Tentamí, Chuquisaca, Bolivia

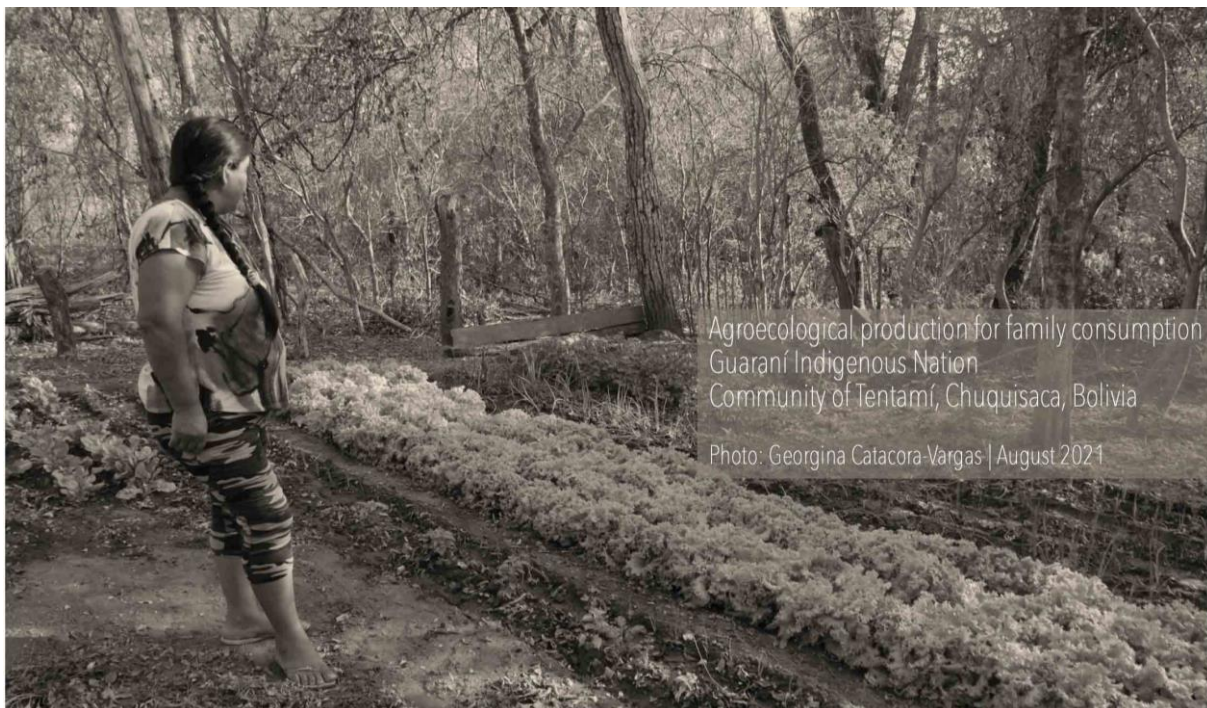
Photo: Georgina M. Catacora-Vargas | August 2021

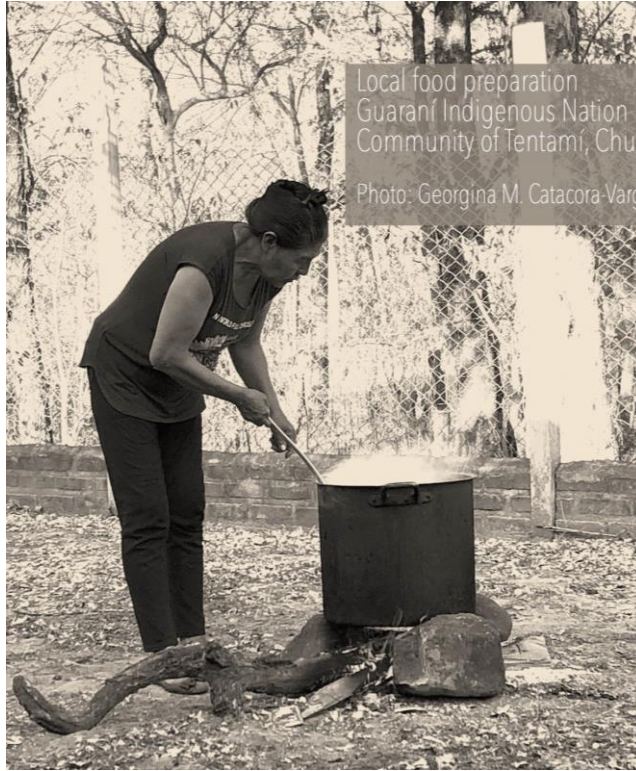


Landraces of maize and traditional Guaraní clay pots made by women
Guaraní Indigenous Nation
Community of Tentamí, Chuquisaca, Bolivia

Photo: Georgina M. Catacora-Vargas | August 2021

- (ii) Agroecology enables indigenous women to continue with traditional biodiverse farming, resulting in the restoration and maintenance of ecosystem functions such as soil fertility and pest control (Altieri & Nicholls, 2007; Rosset & Altieri, 2017; Sánchez De P. et al., 2012), without depending on external, synthetic, and costly inputs. Moreover, soil restoration through biodiverse plots managed agroecologically leads to increased soil organic matter, which, among other benefits, contributes to carbon sequestration and water retention, both of which are critical in the face of climate change (Altieri & Koohafkan, 2008).
- (iii) Traditional knowledge and local resources, as well as the restoration of ecosystem functions through agroecological management, reduce certain forms of violence, such as "technological discrimination" and agrochemical contamination of ecosystems, foods, and human bodies. Women face "technological discrimination" as a result of conventional-agriculture technological packages that require capital investment, to which indigenous women do not have access. Thus, agroecological production—beyond its technical features but also taking into account its social, economic, cultural, and broader ecological characteristics— helps to reduce production, technological, and economic discrimination against women, while also lowering ecosystem and human health risks.
- (iv) The biodiversity that characterizes agroecological systems enables the autonomous development of a wide range of healthy foods. This is supplemented by a variety of forest fruits, resulting in healthy diets. Such biodiversity, both cultivated and collected from the wild, alleviates the socially imposed care activities on women, such as food provision.





Local food preparation
Guaraní Indigenous Nation
Community of Tentamí, Chuquisaca, Bolivia
Photo: Georgina M. Catacora-Vargas | August 2021

In summary, the various roles of agroecology in the productive and care endeavors of rural (including indigenous) women contribute to the realization of their social, cultural, and economic rights, as well as the right to food; the right to a safe, clean, healthy, and sustainable environment; and the right to leave without discrimination or violence. The realization of such rights is embedded in the right to biodiversity conservation and sustainable use, which is related to the right to access, use, and own land (individually or collectively). These interconnections demonstrate the interdependence of a wide range of indigenous women's rights and biodiversity.



Local food preparation
Guaraní Indigenous Nation
Community of Cañadillas, Chuquisaca, Bolivia
Photo: Georgina M. Catacora-Vargas | August 2021

Shelling dried maize cobs
Guaraní Indigenous Nation
Community of Cañadillas, Chuquisaca, Bolivia

Photo: Georgina M. Catacora-Vargas | August 2021



Concluding remarks

The relationship between indigenous women and biodiversity is twofold in terms of human rights: women have the right to conserve and sustainably use biodiversity, and once that right is realized, they are able to realize other social, cultural, economic, and even political rights. Because agroecological production and agroecological local food systems are based on biodiverse agriculture, they help to realize human rights by restoring ecosystem functions and services. Both are simultaneously relevant to adaptation to climate change (Rosset & Altieri, 2017; Santiago Vera et al., 2021; Santiago-Vera et al., 2021). Agroecology also contributes to the realization of other rights related to healthy food and healthy environment, as well as the reduction of socio-technical discrimination and violence against women (e.g., agrochemical contamination). These virtuous cycles at the women-biodiversity interface can be boosted by reversing the invisibilization of women's roles —particularly indigenous ones— in sustainable biodiversity management.

Based on the foregoing, it is critical to recognize that: (i) indigenous women's roles in biodiversity conservation and sustainable use contribute to healthy food production, ecosystem restoration, and climate change adaptation. (ii) Such roles necessitate supportive contexts, which begin with acknowledging women's positive effects on biodiversity at scales beyond households and communities. (iii) Indigenous women's rights related to and derived from biodiversity conservation and sustainable use are interconnected; thus, addressing them in isolation or selectively may result in more hindrances than advancements in women's welfare and biodiversity protection. And (iv) The food, ecological, social, and climate vulnerabilities that

surround indigenous and other rural women are not inherent in them, but rather result from their current generalized status of invisibility, discrimination, and violence on social, ecological, economic, and political levels. The right to biodiversity conservation and sustainable use through agroecology, as well as secure land tenure, has the potential to help reverse this situation.

Acknowledgements

These reflections are the result of fieldwork conducted as part of the project "Towards food sustainability: rebuilding the coexistence of different food systems in South America and Africa," which identified and promoted Transformative Pilot Actions (APT) in food systems. The Swiss National Science Fund (SNSF) funded the project, which is being carried out by the University of Bern's Center for Environment and Development (CDE) and the Andean-Amazonian Pluricultural Community for Sustainability (COMPAS- Bolivia). The Group of Women of Tentamí, the authorities of the Council of Guaraní Captains of Chuquisaca, and the authorities of the Communitarian Economic Organization Guaraní Amandiya – Monteagudo deserve our deepest gratitude for allowing us to learn from and collaborate with them. Peter Rosset provided some useful references and proofread this paper.

Bibliography

- Altieri, M. A. (2021). La agricultura tradicional como legado agroecológico para la humanidad. *Revista PH*, 104, 180–197.
- Altieri, M. A., & Nicholls, C. I. (2007). *Biodiversidad y manejo de plagas en agroecosistemas*. Icaria Editorial S.A.
- Altieri, M., & Koohafkan, P. (2008). Enduring Farms: Climate Change, Smallholders and Traditional Farming Communities. Environment and Development Series 6. In *Third World Network Penang, Malaysia*. TWN.
- Arias Toledo, B., & Trillo, C. (2018). Practices and spaces by gender: landscapes and rural tasks of livestock producers of the Sierras Chicas from Córdoba, Argentina. *Ethnobiology and Conservation*, 7(8), 1–24.
- Catacora-Vargas, G., Llanque-Zonta, A., & Jacobi, J. (work in progress). *Women, sustainable ecosystems management, and adaptation to climate change in the Andean region. A review for SDG-oriented policies*. CONDESAN / MRI / U. Zurich.
- Howard, P. (Ed.). (2003). *Women and plants. Gender relations in biodiversity management and conservation*. Zed Books / GTZ / IDRC-CRDI.
- IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services). (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services*. IPBES.
- IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services). (2020). *IPBES Workshop Report on Biodiversity and Pandemics*. IPBES.
- Nobre, M., Hora, K., Brito, C., & Parada, S. (2017). *Atlas de las mujeres rurales de América Latina y El Caribe "Al tiempo de la vida y los hechos"*. FAO.
- Nogales-Azcarrunz, P. (2021). Usos de ecotipos y variedades de maíz por departamento. In P. Nogales-Azcarrunz, E. Aliaga-Rossel, & R. Murillo García (Eds.), *La diversidad del maíz nativo en Bolivia* (pp. 93–114). MMAyA / FAO.
- Paulson, S. (2003). Gendered practices and landscapes in the Andes: The shape of asymmetrical exchanges. *Human Organization*, 62(3), 174–195.
- Pilgrim, S., & Pretty, J. (2010). Nature and Culture: An Introduction. In S. Pilgrim & J. Pretty (Eds.), *Nature and Culture. Rebuilding Lost Connections* (pp. 1–20). Earthscan.
- Rocheleau, D. E. (1995). Gender and biodiversity: A feminist political ecology perspective. *IDS Bulletin*, 26(1), 9–16.
- Rosset, P., & Altieri, M. (2017). *Agroecology: Science and Politics*. Practical Action / Fernwood.
- Saldías, C., Speelman, S., & van Huylbroeck, G. (2011). A source of conflict? Distribution of water rights in Abanico Punata, Bolivia. *WIT Transactions on Ecology and the Environment*, 145, 473–484.
- Sánchez De P., M., Prager, M., Naranjo, R. E., & Sanclemente, O. E. (2012). El suelo, su metabolismo, ciclaje de nutrientes y prácticas agroecológicas. *Agroecología*, 7, 19–34.
- Santiago Vera, T., Rosset, P. M., Saldivar Moreno, A., Méndez, V. E., & Ferguson, B. G. (2021). La milpa: sistema de resiliencia campesina. Estudio de dos organizaciones campesinas en Chiapas. *Región y Sociedad*, 33(1432), e1432.
- Santiago-Vera, T., Rosset, P. M., Saldivar, A., Ferguson, B. G., & Méndez, V. E. (2021). Re-conceptualizing and decolonizing resilience from a peasant perspective. *Agroecology and Sustainable Food Systems*, 1422–1440.

- Siliprandi, E. (2015). *Mulheres e agroecología. Transformando o campo, as florestas e as pessoas*. UFRJ.
- Siliprandi, E., & Zuluaga, G. (2014). *Género, agroecología y soberanía alimentaria*. ICARIA.
- Toledo, V. M., & Barrera-Bassols, N. (2008). *La memoria biocultural. La importancia ecológica de las sabidurías tradicionales*. Icaria Editorial. S.A.
- Valdivia, C. (2001). Gender, livestock assets, resource management, and food security: Lessons from the SR-CRSP. *Agriculture and Human Values*, 18, 27–39.
- Velarde Ponde de León, C.; Catacora-Vargas, G.M. (2021). Historias de maíz. Una aproximación a la relevancia biocultural del maíz entre las mujeres campesinas en el Valle Alto de Cochabamba, Bolivia. In K. Bidaseca y P. Vommaro (Coord.). *Agroecología en los Sistemas Andinos*. CLACSO / Fundación McKnight. p. 197 - 241.
- Zimmerer, K. S. (2002). Common Field Agriculture as a Cultural Landscape of Latin America: Development and History in the Geographical Customs of Resource Use. *Journal of Cultural Geograph*, 19(2), 37–63.
- Zuluaga, G. (*work in progress*). *Mujeres campesinas construyen ecologías y economías invisibles*.
- Zuluaga Sánchez, G., Catacora-Vargas, G., & Siliprandi, E. (Coord). (2018). *Agroecología en femenino: Reflexiones a partir de nuestras experiencias*. SOCLA-CLACSO.
- Zuluaga-Sánchez, G.-P., & Arango-Vargas, C. (2013). Mujeres campesinas: resistencia, organización y agroecología en medio del conflicto armado. *Cuadernos de Desarrollo Rural*, 10(72), 159–180.