

# AGROECOLOGY, FOOD SOVEREIGNTY & WELL-BEING

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# AGRO ECO LOGÍA



construyendo caminos



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# INTRODUCTION

Traditionally, Indigenous and local communities around the world have grown healthy and traditional foods to sustain themselves in harmony with nature. However, the expansion of industrial agriculture has led to multiple and overlapping sustainability crises related to climate change, biodiversity loss, food insecurity, and social inequity.

This confluence of crises requires closer attention to socially and ecologically just methods to cultivate and distribute food to support holistic **well-being** for people and nature. Influenced by Indigenous “good living” philosophies (e.g., the Kichwa concept Sumak Kawsay) and Latin American post-development movements (e.g., buen vivir) (Huambachano 2019), food sovereignty and agroecology have been proposed as alternatives to the industrial food system due to their potential to support food security, environmental sustainability, social equity, and human health.

According to the transnational agrarian movement La Via Campesina, food sovereignty can be described as:

*the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems.*

*It puts those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations...Food sovereignty implies new social relations free of oppression and inequality between men and women, peoples, racial groups, social classes and generations (Nyéléni 2007).*

A crucial component of food sovereignty is agroecology, an approach to agriculture which entails designing and managing farms and landscapes according to ecological and social justice principles such as reciprocity and the solidarity economy. Agroecological farms can promote agrobiodiversity through practices like intercropping and agroforestry; support dignified livelihoods by providing farmers and farmworkers with meaningful work; and improve local food security by growing healthy and culturally-appropriate foods for nearby communities. Yet, the practice of agroecology, the particular pathways to food sovereignty, and socio-cultural differences in the conceptualization of well-being are all highly context-dependent.

**Given this diversity, how can farming communities practice self-evaluation of programs and practices related to how agroecology and food sovereignty affect well-being?**

Many organizations and social movements working on agroecological transitions globally are seeking new methods to share information - from farmer-to-farmer, from networks to social movements, and from farmers to consumers and policymakers - about the diverse ways that agroecology and food sovereignty can enhance the well-being of individuals, communities, and nature.

For example, as part of participatory agroecological certification processes, farmers are working together to define context-specific indicators to assess and evaluate their collective agroecological transitions. This process of evaluation can help identify potential mechanisms for improving well-being through the practice of agroecology, as well as factors that limit or constrain agroecological transitions.



Indicators represent quantitative and qualitative pieces of information, or data, that can be used to measure and monitor changes over time. Indicators can consider structural factors (e.g., political, social, economic context) and factors related to individual agency, behaviors, and choices.

## **But how do we choose what to evaluate?**

Tracking selected indicators over time can help communities evaluate actions and programs designed to support agroecological transitions, and can highlight areas that are working well and areas that might need additional attention. According to Patton (2021), evaluation involves four steps:

1. Define the criteria that will be used
2. Set standards of performance on those criteria (e.g., a baseline)
3. Measure the actual performance
4. Synthesize the results

According to researchers Garrett & Latawiec (2015) viable indicators are:

- **Simple:** easily understood and communicated.
- **Measurable:** can be quantified. Even if the indicators are more qualitative in nature (e.g., aim to measure “empowerment”) they could be quantified according to a scale of, for example, 1-10.

- **Feasible:** can be realistically collected considering time, cost, etc.
- **Flexible:** can be replaced or updated with new data.
- **Dynamic:** can record changes or differences over time, and possibly across contexts if relevant.
- **User-inspired:** are co-developed and/or in alignment with the needs of participants/users.

It's also important to consider the ways that components of agroecology and food sovereignty work together, as indicators can represent both processes and outcomes. For example, Table 1 demonstrates the relationships between several aspects of agroecology that can provide insight into both processes and outcomes that relate to well-being.





**Table 1.** Examples of process and outcome indicators related to agroecology.

| Process Indicators                                      | Outcome/Process Indicators                            | Outcome Indicators   |
|---|---|--|
| Level of agrobiodiversity (e.g., n° of crop varieties)  | Income resilience<br>Soil health<br>Dietary diversity | Food security<br>Food sovereignty<br>Sustainable Livelihood  |
| Percent of farm in natural area                         | Habitat protection<br>Protection of water source      | Biodiversity conservation<br>Water security<br>Water quality |
| Degree of women's input in agricultural decision-making | Women's empowerment<br>Gender equity                  | Health equity  |

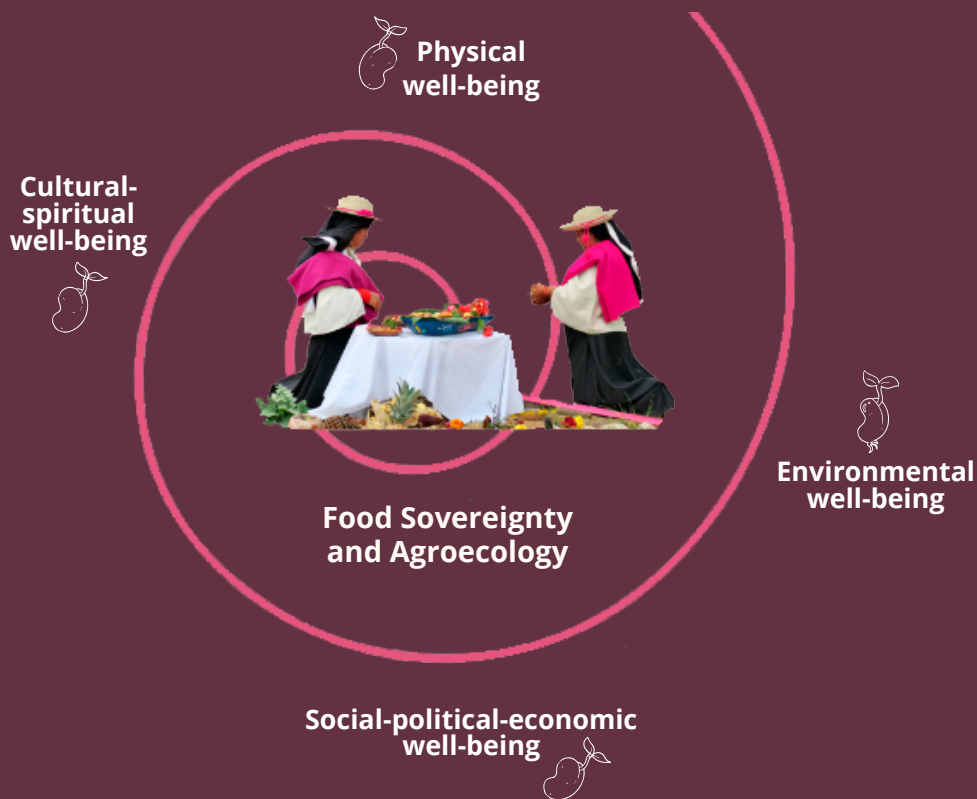


# METHODS

We undertook a literature review (in English, Spanish, and Portuguese) to identify a wide range of potential ways to measure and monitor processes and outcomes related to food sovereignty, agroecology, and well-being. We also engaged in discussions with agroecology movements and organizations from diverse contexts in Latin America about their interest in measuring indicators of agroecology and well-being. This iterative process guided our understanding of the kinds of indicators that could be viable and useful to measure at different scales. In what follows, we share a range of potential indicators that could be used by farmer groups and social movements to evaluate how their own food sovereignty and agroecology practices influence well-being. Variables and means of measurement for well-being indicators will vary based on cultural context and should be developed in collaboration with community members. The indicators are organized across four thematic areas:

- Physical well-being
- Environmental well-being
- Social-political-economic well-being
- Cultural-spiritual well-being

# 4 ASPECTS OF WELL-BEING RELATED TO AGROECOLOGY





# PHYSICAL WELL-BEING

**Focuses on how agricultural management practices and processes link human health and well-being with broader agroecosystem functioning.**

While industrial agriculture has increased the number of calories available in the world today, the literature also documents how industrial agriculture has undermined the well-being of both people and nature due to the increased prevalence of agrochemicals; the reduction in local dietary diversity; and the replacement of traditional foods with calorically dense but highly processed and less nutritious foods. The replacement of traditional foods with processed foods can also have negative mental health impacts due to the loss of culturally important foodways.

In contrast to industrial agriculture, alternatives like agroecology can maintain or improve health in conjunction with promoting the well-being of nature. For example, industrial management practices rely on pesticides that can cause health problems, while agroecological management practices reduce exposure of workers and consumers to toxic chemicals. Because

agrobiodiversity is key to agroecology, the maintenance or enhancement of on-farm diversity can improve local diets and support local cultures.

**Table 2.** Examples of physical well-being indicators, variables and measurement options.

| Indicators                         | Variables  | How to measure in interviews or surveys  |
|------------------------------------|--|--|
| Food quality;<br>Dietary diversity | <ul style="list-style-type: none"> <li>• Grower, eater and/or intermediary satisfaction with product flavor, size, condition and price.</li> </ul>   | <p><b>Example question</b><br/> <i>Are you and/or your consumer or intermediary satisfied with the quality of your [grains, fruits, vegetables, dairy products, etc.]?</i><br/> <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>See more examples at: <a href="#">Kennedy et al 2017 (FAO)</a></p> |
| Access to food                     | <ul style="list-style-type: none"> <li>• Regular access to desirable foods via growing, trading and/or purchasing.</li> </ul>  | <p><b>Example question</b><br/>           Do you have regular access to desirable foods via growing, trading and/or purchasing foods?<br/> <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>More examples at: <a href="#">Food Insecurity Experience Scale (FAO)</a></p>                            |
| Occupational health                | <ul style="list-style-type: none"> <li>• Satisfaction with physical working conditions;</li> <li>• Sense of purpose, dignity and connection to work.</li> </ul>                                    | <p><b>Example question</b><br/> <i>On a scale of 1-5 (extremely dissatisfied to extremely satisfied), how satisfied are you with the physical conditions of your work (in terms of safety, comfort, accessibility, etc.)?</i></p> <p>More examples: <a href="#">Safety and Health in Agriculture (ILO)</a></p>     |
| Access to health services          | <ul style="list-style-type: none"> <li>• Health citizenship (legal);</li> <li>• Time and means of access (distance and transportation);</li> <li>• Quality of service;</li> <li>• Cost.</li> </ul> | <p><b>Example question</b><br/> <i>On a scale of 1-5 (very difficult/impossible to very easy), how difficult is it for you to access health services (enough time in the day, transportation to health centers)?</i></p> <p>More examples at: <a href="#">SCORE (WHO)</a></p>                                      |



# ENVIRONMENTAL WELL-BEING

**Highlights the ways that agricultural management practices affect nature.**

Around the world, industrial agriculture has contributed to deforestation and desertification; soil degradation and erosion; water pollution; unbalanced nutrient cycles; climate change and biodiversity loss, in addition to overreliance on greenhouse gas-intensive fertilizers and pesticides.

Agroecology entails working in harmony with nature by improving soil health through compost, manure, and cover crops; protecting waterways from agrochemical and nutrient runoff; and working with local biodiversity by incorporating trees, hedges, and flowers into agricultural landscapes. Agroecology can build soil health, increase agrobiodiversity, and potentially help farmers adapt to or mitigate climate change through diversification practices including intercropping and agroforestry.

**Table 3.** Examples of environmental well-being indicators, variables and measurement options.

| Indicators                         | Variables  | How to measure in interviews or surveys  |
|------------------------------------|--|--|
| Access to seeds / seed sovereignty | <ul style="list-style-type: none"> <li>• Availability of desired crop varieties (including native seeds, organic/non-treated seeds, culturally-important seeds, etc.).</li> </ul>  | <p><b>Example question</b><br/> <i>On a scale of 1-5 (extremely difficult to extremely easy), how difficult is it for you to access native seed varieties?</i></p>                                 |
| Use of agrochemicals               | <ul style="list-style-type: none"> <li>• History of agrochemical use on land/soil;</li> <li>• Current use of agrochemicals on farm;</li> <li>• Perceived risk of agrochemical contamination via air and water (e.g., from neighbors).</li> </ul> | <p><b>Example question</b><br/> <i>Where on your farm do you use agrochemicals (synthetic fertilizers or pesticides)?</i></p>  |
| Agrobiodiversity                   | <ul style="list-style-type: none"> <li>• Number of annual crop varieties;</li> <li>• Number of perennial crop varieties.</li> </ul>  | <p><b>Example question</b><br/> <i>How many annual and perennial crop varieties do you currently grow?</i><br/> <i>See more examples at: <a href="#"><u>The Agrobiodiversity Index</u></a></i></p> |
| Crop-livestock integration         | <ul style="list-style-type: none"> <li>• Presence/absence and diversity of livestock species on-farm;</li> <li>• Significance of livestock for on-farm agroecological processes.</li> </ul>  | <p><b>Example question</b><br/> <i>Which of these agroecological processes are your livestock involved in? [integrated pest management, fertilizer production, etc.]</i></p>                       |



# SOCIAL, POLITICAL AND ECONOMIC WELL-BEING

**Involves a political economy based on reciprocity and respect between humans and nature.**

It can involve having healthy relationships with community members, being politically engaged, and having financial security and stability. Social-political-economic well-being is shaped by an array of individual and structural factors, including household and societal gender norms, laws and regulations, governance, and more. In the literature review, key factors that emerged as important to improving socio-political-economic well-being included agency over land and food systems, including political agency for Indigenous Peoples; gender equity in the distribution of labor and decision-making; and community support networks, solidarity initiatives, and farmer associations.

For example, researchers have noted how industrial and capitalist forms of agriculture have fueled farmer individualism and the commodification of land (as private property) and food. Agroecology focuses on building and nurturing relationships with people and nature for the collective good.



**Table 4.** Examples of social-political-economic well-being indicators, variables and measurement options.

| Indicators   | Variables  | How to measure in interviews or surveys   |
|--|--|---|
| Support for producers  | <ul style="list-style-type: none"> <li>• Number of support organizations (e.g., NGOs, producers' associations, extension groups) accessed.</li> </ul>  | <p><b>Example question</b><br/> <i>How many support organizations are you involved with or supported by?</i></p>  |
| Market access  | <ul style="list-style-type: none"> <li>• Number of different marketing channels;</li> <li>• Ease of access to markets.</li> </ul>  | <p><b>Example question</b><br/> <i>On a scale of 1-5 (extremely difficult to extremely easy), how difficult is it to access markets? And why?</i></p>   |
| Gender equity  | <ul style="list-style-type: none"> <li>• Control over farm income and expenses;</li> <li>• Control over health and alimentation;</li> <li>• Control over time;</li> <li>• Decision-making over agricultural activities;</li> <li>• Household decision-making.</li> </ul> | <p><b>Example question</b><br/> <i>On your farm, who is more likely to decide which crops to plant: exclusively men, mostly men, joint, mostly women, exclusively women?</i><br/> <i>See more examples at: <a href="#"><u>International Food Policy Research Institute</u></a></i></p>                |
| Community control of decision-making (or political sovereignty) in the food system | <ul style="list-style-type: none"> <li>• Government scope and efficacy;</li> <li>• Ability to participate in political processes;</li> <li>• Land tenure;</li> <li>• Resource tenure (water, etc.);</li> <li>• Citizenship status.</li> </ul>                            | <p><b>Example of a land tenure question:</b><br/> <i>On a scale of 1-5 (not at all secure [e.g., landless] to very secure [e.g., ownership or protected status]), how secure is your access to land?</i><br/> <i>More examples at: <a href="#"><u>Measuring SDG Indicator 5.a.1 (FAO)</u></a></i></p> |



# CULTURAL AND SPIRITUAL WELL-BEING

**Represents the holistic connection between humans and the environment.**

It includes being able to practice cultural and religious traditions and being able to access lands that are spiritually important. The degree to which food sovereignty and agroecology enhance cultural-spiritual well-being is influenced by cultural continuity, the well-being of spiritual entities or deities connected to the natural world, and whether and how people are able to connect to their belief systems and have those belief systems respected.

In the literature, scholars and activists have documented the ways in which industrial forms of agriculture have undermined cultural-spiritual well-being of diverse peoples around the world. For example, industrial agriculture has encroached upon Indigenous Peoples' lands and dispossessed them of places of cultural and spiritual importance. Industrial agricultural practices have also displaced native foods and medicines and marginalized them within dominant food and health systems. These forces have in turn contributed to the loss of Indigenous knowledges and languages. In contrast, food sovereignty and agroecology place an emphasis on

renewing place-based knowledges and languages, and on respecting local diversity and traditions.

**Table 5.** Examples of cultural-spiritual well-being indicators, variables and measurement options.

| Indicators   | Variables  | How to measure in interviews or surveys  |
|--|--|--|
| Ability to hunt, fish, or forage on traditional lands or territories | <ul style="list-style-type: none"> <li>• Ability to access traditional lands;</li> <li>• Ability to use traditional food gathering practices (can include knowledge &amp; legality of practices, availability of species, etc.).</li> </ul>                              | <p><b>Example question</b><br/> <i>Are you able to access traditional lands regularly, safely and at your volition? Why or why not?</i></p> <p><input type="checkbox"/> yes <input type="checkbox"/> no</p>                  |
| Access to traditional foods  | <ul style="list-style-type: none"> <li>• Regular access to traditional foods and/or medicines;</li> <li>• Access to culturally-important recipes.</li> </ul>   | <p><b>Example question</b><br/> <i>Are you able to access traditional foods and/or medicines regularly, safely and at your volition? Why or why not?</i></p> <p><input type="checkbox"/> yes <input type="checkbox"/> no</p> |
| Practice of traditional languages*                                   | <ul style="list-style-type: none"> <li>• Availability of revitalization programs;</li> <li>• Capacity to learn, speak, and share the language;</li> <li>• Percentage of elders who speak the language;</li> <li>• Percentage of youth who speak the language.</li> </ul> | <p><b>Example question</b><br/> <i>Do you have regular and safe access to spaces where you can speak the language with others in daily life?</i></p> <p><input type="checkbox"/> yes <input type="checkbox"/> no</p>         |
| Ceremonial practices*  | <ul style="list-style-type: none"> <li>• Access to traditional ceremonial grounds;</li> <li>• Ability to practice ceremonies (e.g., legality, ceremonial knowledge, timing, etc.).</li> </ul>  | <p><b>Example question</b><br/> <i>Are you able to practice ceremonies safely and according to your cultural protocols?</i></p> <p><input type="checkbox"/> yes <input type="checkbox"/> no</p>                              |

\* Variables and means of measurement for this indicator will vary based on cultural context and should be developed in collaboration with community members.

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