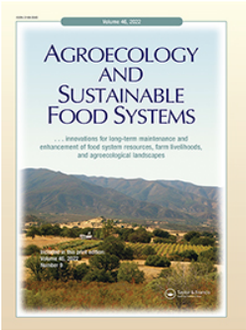

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"First we eat and then we sell": participatory guarantee systems for alternative sustainability certification of Bolivian agri-food products

Johanna Jacobi[a,b], Daniela G. Toledo Vásquez[c], Jimena M. Solar Alvarez[b], and Elisabeth Bürgi Bonanomi[b]

[a]Department of Environmental Systems Science, Institute of Agricultural Sciences, ETH Zurich, Switzerland; [b]Centre for Development and Environment (CDE), University of Ben, Bern, Switzerland; [c]Instituto de Antropología Y Arqueología, Universidad Mayor de San Andrés, La Paz, Bolivia

ABSTRACT

Expectations and interest are high in participatory guarantee systems (PGS) as a context-specific alternative to third-party sustainability certification. Self-defined criteria, transparency, trust, and accessibility have made PGS an attractive alternative to exogenous certification in local markets in over 70 countries. There is also increasing interest in the possibilities for participatory certification in international trade for family farm-based products such as cocoa or coffee. Bolivia's PGS was established in 2012. By 2017, the country ranked second (after India) in number of PGS farmers. Since 2019, however, its numbers are declining. Visiting six PGS initiatives, we interviewed 38 persons from production, processing, distribution, support networks, and policymaking on the current situation of PGS in Bolivia; its challenges; its prospects in local, national, and international trade; and the role of Bolivia's governmental PGS support. While PGS certification in Bolivia faces challenges – including high fees, weak consumer demand, and insufficient links to broader value chains – it displays strong potential to make locally managed sustainability certification more accessible. We recommend that decision-makers ensure accessibility and help promote PGS with consumers. Importing countries could support PGS, in particular by incentivizing access of PGS-certified products to their national markets by recognizing them as organic via peer-to-peer certification.

KEYWORDS
Sustainable trade; participatory certification; food sovereignty; Bolivia; Switzerland

Introduction

Certification schemes for eco-friendlier, socially just agriculture and trade are increasingly discussed and applied in both the global North and the global South. Organic and fair-trade schemes, for example, have been linked to environmental benefits on coffee farms (Ibanez and Blackman 2016), and positive social-ecological outcomes on cocoa farms (Jacobi et al. 2015b). However, meta-analyses and reviews of different voluntary sustainability certifications of tropical

CONTACT Johanna Jacobi Johanna.jacobi@usys.ethz.ch ETH Zürich, Universitätsstr 2, 8092 Zürich, Switzerland

agricultural goods found limited or mixed sustainability outcomes (Blackman and Rivera 2011; DeFries et al. 2017; Meemken et al. 2021; Oya, Schaefer, and Skalidou 2018; Schleifer and Sun 2020). Sustainability certification schemes have shortcomings, including their exclusion of resource-poor farmers who often simply cannot afford certification, even when they already fulfil or would gladly strive to fulfil the prescribed sustainability criteria (Fouilleux and Loconto 2017). Another core critique is that sustainability rules tend to be exogenous, that is, they are largely defined by actors in industrialized countries and rarely adapted to specific contexts (Bara et al. 2018; Hatanaka, Bain, and Busch 2005). Further, sustainability certification tends to place responsibility on individuals rather than communities, and to certify one specific (cash) crop rather than rewarding diversified farming systems and communities more broadly (Loconto and Hatanaka 2017).

In tropical agricultural systems such as those providing coffee and cocoa, most producers are smallholder farming families who often struggle to participate in third-party certification schemes (Meemken et al. 2021; Schleifer and Sun 2020). These food producers require alternatives to communicate and support their existing or potential sustainability practices, and require recognition mechanisms tailored to their community organizational structures and their particular cultural and social features. Alternative food markets, often featuring some sort of certification, can enable farmers and consumers to shape and defend their own food systems (Nigh and González Cabañas 2015). In many local food systems, agricultural production for subsistence and/or local markets, on the one hand, and agricultural production for export, on the other, exist side by side and can be vital for economic diversification. Against this background, there is a need for better differentiation of more sustainable goods in local or regional food markets, in addition to potential international markets.

Participatory Guarantee Systems (PGS) are community-organized, peer-to-peer certification mechanisms for organic products. PGS are organized locally, for example by producer organizations or by producer–consumer networks. PGS have been expanding considerably, as evidenced by the global number of PGS producers growing from 496,104 in 2019 to 1,110,964 in 2020 worldwide (Willer et al. 2021). PGS bring together crucial elements and features in a well-founded alternative approach to sustainability governance in the food sector, in particular by striving to be democratic and locally based as well as incorporating social and cultural aspects that go beyond most other sustainability certification schemes (Bara et al. 2018; Bezner Kerr et al. 2022; Chaparro-Africano and Naranjo 2020; Nelson et al. 2016). In addition, PGS usually certify producers' communities and entire farms, rather than just one crop or product. Studies from Brazil showed that farmers with participatory certification had increased social-ecological resilience scores (Blesh and Whitmann, 2015), and more resilient agroecosystems, for example, by adopting agroforestry (Rodriguez Hirata et al. 2019). At the same time, however, PGS are

frequently jeopardized by national legislation (Kaufmann and Vogl 2018) and tend to lack international recognition, such that, to date, most PGS have been created for, and supported by, local or national-level domestic markets.

Recent studies of the characteristics and effects of PGS on farming communities point to positive ecological outcomes (Rodrigues Hirata et al., 2019; Zanasi et al. 2009), while linking producers and consumers in a more accessible and inclusive way than third-party certification (Cuéllar-Padilla and Ganuza-Fernandez 2018; Home et al. 2017; Loconto and Hatanaka 2017). Observers view PGS as a viable alternative to dominant sustainability certification schemes, highlighting the democratic principles (Loconto and Hatanaka 2017) and local anchoring of PGS (Cuéllar-Padilla and Ganuza-Fernandez 2018). PGS can also inspire more sustainable agricultural practices than, for instance, organic certification: PGS farmers in Minas Gerais, Brazil, successfully implemented agroecological principles in areas where other farmers (including organic-certified farmers) were still implementing monocultures. These PGS farmers displayed more diversified fields and used more heirloom seeds than even organic farmers (Rodriguez Hirata et al. 2019). A study by Lemeilleur and Allaire (2019) showed that the rules of PGS typically align with Elinor Ostrom's design principles for sustainable common-pool resource management. Taken together, the positive sustainability impacts of PGS appear greater than those of other sustainability certification schemes (Bezner-Kerr et al., 2022; Lemeilleur and Allaire 2019; Loconto and Hatanaka 2018).

While the prospects of peer-to-peer certification systems such as PGS have been investigated and debated for local markets and perishable crops, their potential role in enhancing the participation of more sustainably produced, "territorialized" goods in international markets and trade has, to our knowledge, not been investigated. This study aims, therefore, to shed light on whether and how local, territorialized, and sovereign (in the sense of self-defined) production systems can link to international markets with the support of PGS.[1] To evaluate these possibilities, we examine the case of PGS in Bolivia and strive to link two much-discussed fields – i.e. food sovereignty (Patel 2009) and sustainable trade (Bürgi Bonanomi 2015; De Schutter 2015) – through peer-to-peer-certification with PGS and corresponding international recognition. Our specific research questions are:

(1) What is the current situation, including achievements and challenges of PGS in Bolivia?

(2) What are the potential pathways of PGS between food sovereignty and trade according to different involved actors?

(3) What is the role and need for institutional PGS support in Bolivia?

Our study focuses on the context of PGS in Bolivia and highlights the Swiss market as an example target market for Bolivia's PGS products. This is rooted in the idea that food systems in the global North and global South are potentially complementary in establishing and recognizing sustainability

standards, in particular by purposefully shaping their trade relations to catalyze more sustainable trade (Bürgi Bonanomi et al. 2018). From a food sovereignty perspective, the meaning of "sustainable production" should be locally defined by food producers themselves rather than using an exogenous concept (La Via Campesina, 2007).

Concepts and theoretical framework

Third-party and peer-to-peer certification

Sustainability certification comprises many different standards, and often refers to market-based approaches, in which an external agency compares observed procedures with predefined standards and assigns a certificate ostensibly to improve the environmental and social performance of farming (Ibanez and Blackman 2016). Such certification schemes referred to as *third-party certification* or *external certification* schemes are frequently arranged and governed by organizations located outside of the respective production area, largely in industrialized countries (Hatanaka, Bain, and Busch 2005). Third-party certification is sometimes seen as reflecting the rising power of supermarkets even in alternative food system governance: By contracting private actors for sustainability certification, they hope to increase consumer trust while actually limiting their own liability (Hatanaka, Bain, and Busch 2005). In the context of such schemes, farmers in developing countries may face challenging, compounding demands and are simultaneously required to pay the travel costs and fees of certification experts (Hatanaka, Bain, and Busch 2005). Internal control systems, where groups of organic farmers organize certification internally, and individual farmers of the group are randomly re-inspected by third-party certifiers, have been successfully implemented to reduce certification-related bureaucracy and costs (Solfanelli et al. 2021). Such internal control systems have increased local participation in certification, but remain subject to third-party certification dynamics. In this sense, PGS relying on *peer-to-peer certification* have been described as a viable alternative to third-party sustainability certification (Bara et al. 2018).

Sustainability certification, trade, and claims for food sovereignty

In recent years, sustainability standards and certification have been critically analyzed regarding trends of conventionalization (Fouilleux and Loconto 2017), also referred to as "supermarketization," reflecting many of the same practical constraints found with conventional food products. For instance, organic farming has been described as having changed substantially in recent decades, transforming from a counter-movement to hegemonic conventional agriculture (Carvalho Costas, 2021) into an institutionalized billion-dollar

sector, sometimes associated with expanding monocultures, input substitution (Altieri and Nicholls 2019), and corporate capture of its contents (Jaffee and Howard 2010). Indeed, the very meaning of the concept of "sustainability" has been called into question, in particular regarding the certification schemes and "sustainable" investments of hegemonic transnational actors in the global food system (Clapp, 2021).

The global *food sovereignty* movement represents a growing coalition between different food system actors to resist the dominant food regime (McMichael 2009). Food sovereignty has emerged as an emancipatory concept against the background of ongoing concentration of corporate power in food systems and unfair trade regimes. Food sovereignty has been defined 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*" (La Via 2007). While the food sovereignty movement focuses on local agri-food systems (e.g. promotion of local products over imports), it is not trade *per se* that is rejected by proponents, but rather the global neoliberal organization of agri-food markets (Grey and Patel 2015; Patel 2009). Most explicitly, the movement rejects the World Trade Organization (WTO) as a legitimate governance unit for agricultural trade (Burnett and Murphy 2014). La Via Campesina has stated: "*Food sovereignty promotes transparent trade that guarantees just income to all peoples and the rights of consumers to control their food and nutrition*" (La Via 2007). Indeed, markets play an important role in sustainable farming communities (Bürgi Bonanomi 2015; Loconto 2020). Applied to sustainability certification systems, the role of trade in the pursuit of food sovereignty means exploring pathways toward more responsible trade that rewards sustainable production and respects local food systems, especially taking into account the voices of hitherto marginalized food system actors and their right to participate in shaping trade policies (Burnett and Murphy 2014).

Millions of small-scale farmers in the tropics are linked to export markets, and their interest in improving their position in relevant trade regimes is often high (Burnett and Murphy 2014). According to Bürgi Bonanomi (2018), sustainable food systems do not constitute an "either/or" proposition regarding export markets versus local markets – instead, the former can complement the latter. OECD countries such as Switzerland might even be seen as possessing an underexplored lever to foster more sustainable food systems by creating incentives and better market options for sustainable produced goods from the global South, if local markets and local food systems are the priority (Bürgi Bonanomi, 2018). Trade relations between Bolivia and Switzerland are regulated by the WTO agreement on agriculture, as well as the SPS, TBT, and TRIPS agreements. While Bolivia has no bilateral trade agreement with Switzerland, it is part of the Generalized System of Preferences; however, this affords no particular space for sustainable food and agriculture (See

Bürgi Bonanomi, Jacobi, and Scharrer 2018 for a more detailed review of applicable trade legislation). At the same time, different international agreements that Switzerland and Bolivia have ratified require that they respect labor standards (ILO Convention), protection of biodiversity (CBD), agrobiodiversity (ITPGRFA), cultural diversity (UNESCO), the implications of the Paris Agreement on Climate Change, as well as combat desertification (UNCCD).

Returning to our overarching question of how to link trade with sovereign food systems, PGS might provide a way of incorporating the original ideas of organic farming – today arguably the most successful example of sustainability certification – by integrating, for example, links with specific territories or claims for participation (Carvalho Costa et al., 2021; Loconto 2020). Indeed, this would be consistent with the founding principles of organic farming, which were initially more oriented toward food sovereignty. At the same time, PGS can also be seen as bearing the potential to incorporate core principles of *agroecology* – as a localized food producers' movement – into wider (e.g. European export) markets, by emphasizing local food producers' rights to self-determination as well as increased national and international legitimacy (Grey and Patel 2015).

The development of participatory guarantee systems (PGS)

PGS-like systems have been developed in many different contexts simultaneously, and currently encompass over 1.1 million farmers in 77 countries (Willer et al. 2021), as seen in Figure 1. In 2020, countries featuring government-supported PGS recognition schemes included Madagascar, India,

Figure 1. Global distribution of PGS in 2020. Yellow means self-managed, green means governmental, and blue means officially recognized by IFOAM. Source: IFOAM 2021.

Mongolia, the Philippines, Bolivia, Brazil, Chile, Costa Rica, Ecuador, Mexico, Paraguay, Peru, and Uruguay (Willer et al. 2021). PGS models differ from country to country, for example between government recognition and provision of a nationwide label, government recognition and independent labeling, and no official recognition.

The International Federation of Organic Agriculture Movements (IFOAM) collects information on PGS from all over the world. It has founded its own PGS Committee, which has launched a "PGS Recognition Programme" that reviews and accredits the PGS organic standards of IFOAM members. IFOAM describes PGS as a set of rules that demonstrate small-scale producers' compliance with "organic" standards of production, processing, consumption, and deliberation. These participatory rules or key elements – shared vision, participation, transparency, trust, horizontality, and learning processes – involve all relevant stakeholders and should be adapted to the local food system (IFOAM 2019). Even though many different forms of PGS have emerged in several geographic areas, most of them share the following features: (1) norms and standards; (2) seals and labels; (3) documented management procedures; (4) pledges; (5) defined consequences for noncompliance; and (6) mechanisms to verify producer compliance (IFOAM 2021). One example is Vietnam's PGS Standard, which not only provides guidance for retailers and producers on general principles, recommended practices, and basic requirements for participatory certification. It also addresses topics such as whole farm conversion, organic crop production, organic animal husbandry, processing and handling, and social justice (Vietnam Organic 2012, 18). Their rules stipulate, for example, that

> "*[A]ll workers and their families shall have access to potable water, food, housing, education, transportation and health services*" . . . "*Operators shall not use forced or involuntary labour. Where this occurs, or where there is social injustice, or where production is based on the violation of basic human rights, the resulting product cannot be declared organic by the Vietnam PGS*" (ibid.).

In addition to being self-organized, another important characteristic of PGS – in contrast to other certifications – is that they tend to be applied in a specific territory. This means that they are associated with a specific place or region and the communities there. It implies place-attachment and a territorial identity that are often also communicated by means of a common label. An illustrative and inspiring local-level example of organic production and PGS certification is provided by the Mapuche people in southern Chile (Loconto and Hatanaka 2017, 8):

> *"Sustainable agriculture is therefore measured according to the extent to which it is: (1) Produced within the limits of the Mapuche territory, so as to ensure that any products are easily identified as Mapuche products; (2) produced by small-scale family farmers, which ensures that they can maintain their culture of family farming; (3) produced using*

agroecological practices. These are defined in relation to the national organic (ecologic) law, but there are no scientific tests (e.g. maximum residue limits) required for most products, except for Quinoa because of the classification of the Mapuche Quinoa as a unique, native variety; 4) produced from native/indigenous seeds and livestock breeds. The main crops that this applies to are: quinoa, potatoes, beans, chickens, and tree species from the wild, collected crops; and finally, (5) traded on fair trade principles. This means that not only must the producers be conscientious producers, but consumers must also be conscientious consumers."

Methods

Context

As Bolivia is home to exceptionally high biocultural diversity, it also represents an ideal setting for exploration of the prospects and challenges of PGS as a potential alternative to third-party sustainability certification, locally as well as internationally. The link to Switzerland is quite relevant in this context, in particular considering recent developments in their respective agricultural policies. In 2017, Switzerland incorporated Article 104a lit. d into the Swiss Constitution, which establishes a mandate to create the conditions for *cross-border trade relations that contribute to the sustainable development of the agriculture and food sector* (Bürgi Bonanomi, Jacobi, and Scharrer 2018). Meanwhile, Bolivia's 2009 Constitution includes far-ranging legal reforms including peasant, native, indigenous, and community-based organizations as well as ongoing public policies aiming to strengthen sustainable and community-oriented family farming (FAO 2021, Family Farming Knowledge Platform, Bolivia).

Organic farming and sustainability certification have a long tradition in Bolivia. For instance, the umbrella organization of cocoa cooperatives El Ceibo was the first worldwide to export organic cocoa (Jacobi et al., 2013). In the first few years of the Evo Morales administration, several legal frameworks were established that paved the way for food sovereignty by including the concept in Bolivia's 2009 constitution, and, most prominently, with the 2012 Framework Law on the Rights of Mother Earth. This framework law emphasizes the concept of *vivir bien* as an alternative to Western-centered understandings of sustainable development, and focuses on family farming and locally adapted, ancestral knowledge as well as regeneration of ecosystems. The 2006 law 3525 on organic production also stresses food sovereignty alongside food security, establishing the foundation upon which Bolivia subsequently built a national legal framework for PGS in 2012, which was – in line with the orientation of the Morales administration at the time – strongly oriented toward domestic production and consumption. Based on this legal embedding of PGS in Bolivia, the government authority SENASAG (*Servicio Nacional de Sanidad Agropecuaria e Inocuidad Alimentaria*) is tasked with management

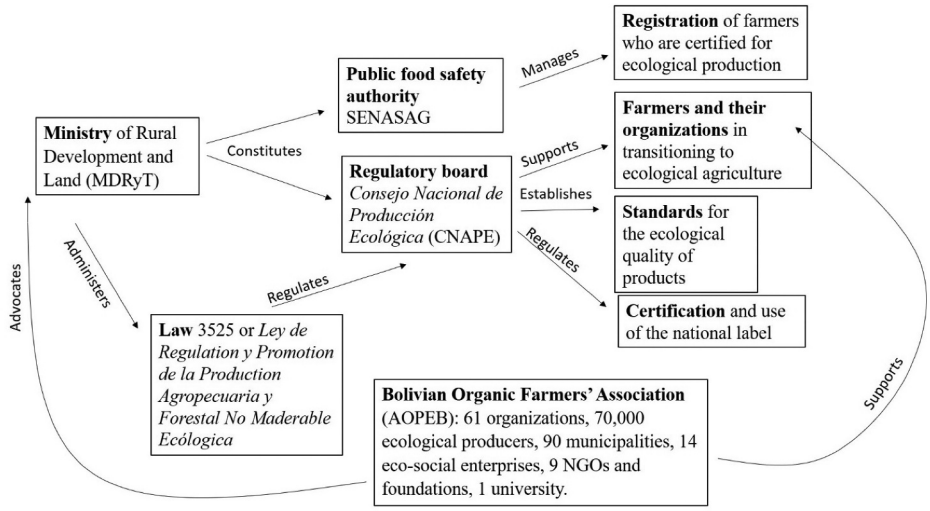

Figure 2. Schematic functioning of the Bolivian state PGS system (based on the description of Loconto 2020).

while CNAPE (*Consejo Nacional de la Producción Ecológica*) oversees support of the country's official PGS, which carries the label "Producto Ecológico" (see Figure 2).

Government-supported PGS in Bolivia encompasses two forms of certification: "ecological" and "in transition" (Figure 3). Established markets for PGS-certified products include ecological fairs and a school-food programme that

Figure 3. The two governmental PGS certifications in Bolivia: "ecological" and "in transition" (Fundación Agrecol Andes 2021).

prioritizes PGS products in its public procurement calls. Registration is a procedure that involves several steps, in which farmers or other groups that wish to obtain a PGS for their products have to form a committee, draft their rules in line with the basic rules provided by the state, and apply as a group.

Bolivia's government-approved PGS evaluates four dimensions when certifying agricultural and non-timber forest products: (1) *ecological* (nonuse of pesticides, environmentally friendly agricultural practices); (2) *social* (inclusiveness, mutual/participatory certification and recognition of ancestral knowledge); (3) *economic* (short value chains in terms of actors, direct trade, fair incomes); and (4) *political* (organization, participation, and women's leadership). There are also other PGS-like peer-to-peer certification groups in Bolivia, for instance the *Plataforma Agroecologica* in and around Santa Cruz de la Sierra (Jacobi et al. 2018). This producer–consumer network has about 30 members and features a self-organized "identity label." The rules are community made and regularly revised at assemblies within the network. In 2017, Bolivia ranked second in the world in terms of PGS-certified farmers at 8,164 (Willer and Lernoud 2018). By 2020, however, only 1,287 such farmers remained (Willer et al. 2021). This apparent initial success and subsequent decline of Bolivia's government-led PGS may be linked to a fee that was introduced in 2019 after a severe budget cut for the respective governmental unit. These developments make the Bolivian PGS an interesting case to study the prospects and challenges of PGS.

Data sampling

We carried out purposeful sampling according to a snowball sampling design (Patton 2014). Specifically, we searched for known PGS initiatives (Table 1) with the help of key informants and then contacted and visited them, asking actors in different roles to participate in an interview (Table 2). We identified and visited six different PGS groups in four different climatic zones of Bolivia (Altiplano/highlands, inter-Andean valleys, Yungas/Andean foothills, and the

Table 1. The PGS groups interviewed for the study.

PGS place	Climatic zone	Principal products	Interviews
PGS Palos Blancos	Tropical zone	Cocoa, cupuazu, mango, avocado, citrus fruit	3
PGS Coroico	Yungas (Andean foothills)	Coffee, honey, banana, avocado, citrus fruit	2
PGS Sucre	Inter-Andean valleys	Lettuce, chard, aromatic herbs, tomatoes, peach, flowers, tree tomatoes	3
PGS Samaipata	Inter-Andean valleys	Aromatic herbs, lettuce, chard, cucumbers, zucchini, tomatoes, apples	2
PGS Sorata	Inter-Andean valleys	Maize, potatoes, chirimoya, avocados, other fruit	3
PGS Achocalla	Altiplano/highlands	Potatoes, onions, beans, chard, celery, aromatic herbs	3

Table 2. Number, organization, and roles of interviewees.

Interviewees	Organization	Role
1	UC-CNAPE	Support
1	Agrobolsas	Retail
1	Ecotambo	Retail
1	AOPEB	Support
1	PGS Palos Blancos	Production
1	AOPEB	Support
1	Ecoferia Cochabamba	Retail
2	Casa Harmonia	Production, processing, retail
2	Las Orquídeas, SPG Coroico	Production
1	Harmonia, SPG Achocalla	Production
1	SPG Achocalla	Production
1	Rurrenabaque (Asociación El Progreso)	Production
1	Rurrenabaque (Asociación El Progreso)	Production
1	Rurrenabaque (Asociación APAI)	Production
1	Municipio Rurrenabaque	Policies, support
1	SPG Sucre (AMPUS)	Production
2	AMPUS, SPG Sucre	Production, policy, support
1	AMPUS, SPG Sucre	Production
1	ASOCAFE Caranavi	Production
1	Café Arabica, Caranavi	Production, processing
1	Café Geisha, Caranavi	Retail
1	APISACRUZ, Santa Cruz	Production
1	Porongo	Production
1	SPG Samaipata	Production
1	SPG Samaipata	Production
1	Caranavi	Production
2	Municipio Vallegrande	Support
2	Villa el Carmen, Sapecho	Production
2	El Ceibo, PGS Palos Blancos	Processing
1	SPG Sorata	Production
2	SPG Sorata	Support

tropics; see Table 1). In guided interviews following a site visit (Patton 2014), we identified the PGS-certified products, asked about the current situation of the local PGS, prospects for sales, and farmers' visions of ways to link their value chains with domestic and export markets. In addition, we conducted interviews with representatives of supporting organizations and marketing experts to achieve insight into the experiences and potential of PGS to be recognized and used in international trade with a view to improving accessibility for small farmers and fair diversified, sustainable, food products.

We conducted 31 guided interviews with 38 interviewees (sometimes two people participated in one interview). Twenty interviewees were farmers; five were policymakers (one at the national level, four from municipal governments); two were from the national organic farmers' organization (AOPEB); two were from supporting non-governmental organizations (NGOs); six were active in the commercialization of products (e.g. organizing farmers' markets), and three were involved in processing the products. Several interviewees had dual roles, e.g. as both a producer and a municipal representative (Table 2). The interview guide included the following aspects:

(1) people's impressions of past and current benefits and difficulties of the PGS scheme in Bolivia, especially regarding market access, the local food

system, and sustainability achievements; (2) opportunities for PGS-certified Bolivian products in international trade markets; (3) the role of the Bolivian state and particularly CNAPE in the development and support of PGS in Bolivia. We complemented these guided interviews with one narrative interview, conducted with one of the founders of the Bolivian PGS scheme, discussing the history of PGS in Bolivia.

Data analysis

We transcribed the interviews and coded them in the program MAXQDA (Version 22.1) according to the main topics of the three research questions (situation of the PGS in Bolivia; pathways; and institutional support, see also Figure 4). We complemented this deductive coding with an inductive subcoding. Here, we identified the main topics of people's responses by coding the theme(s) around which their arguments revolved to obtain an overview of the respondents' concerns regarding PGS. This enabled generation of inductive codes based on each of the three main topics from the research questions (situation, pathways, and support needs). Inductive elements derived from the material included answers on diversified production, motivations and experiences regarding PGS, trust, production and transport costs, certification costs, farm gate prices, household consumption of the production, markets, export, the government, and specific suggestions for support (Table 3). The codes were then further processed by means of a category-based evaluation (Kuckartz 2014), emphasizing the most-mentioned topics and also relating diverging statements to interrelated segments.

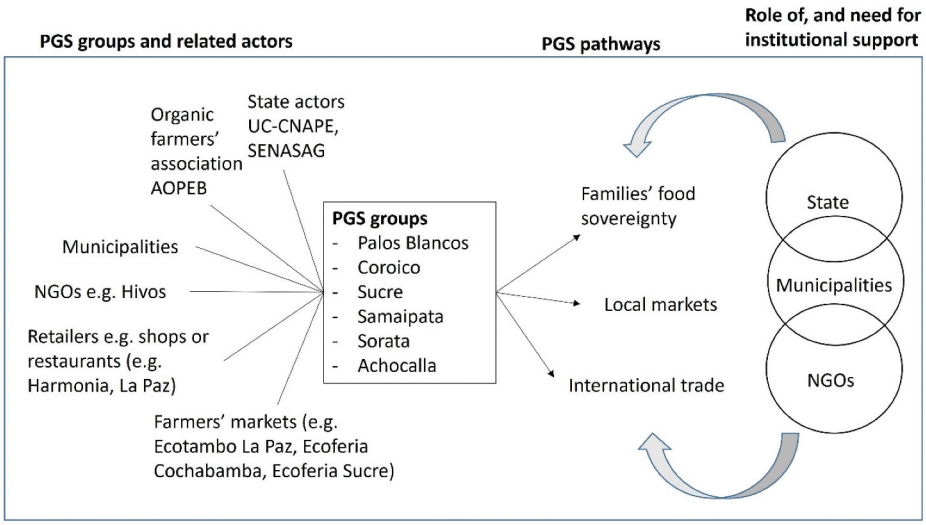

Figure 4. Conceptual framework bringing together actors, potential pathways, and institutional support.

Table 3. Coding system. Deductive codes were derived from the research questions; inductive codes were derived from the material and were added based on data analysis.

Deductive codes	Inductive codes
Situation of PGS	Development of the PGS
	What sustainability means to them
	Products/production
	Processing/distribution
	Consumption
	Price differentiation
PGS pathways	How to improve
	Food sovereignty
	International trade
	Local markets, eco-ferias
Institutional support	Role of NGOs
	Transparency and trust
	Municipality support
	Role of the state

The analysis of the interviews was complemented by a desk review of applicable legislation on PGS in Bolivia as well as in Switzerland – the latter as an example of a consumer country – in order to generate interdisciplinary knowledge on behalf of constructive policy recommendations for sustainable development in agriculture and food systems.

Results and discussion

Before engaging with the answers to the research questions, we begin by characterizing the interviews and the most-discussed topics, i.e. how people regarded PGS, what they produced, and what sustainability meant for them, as well interconnections between codes (i.e. which codes were most-often related with others).

Most-mentioned topics

Since the interviews were structured according to the research questions, the frequency of categories mentioned reflected the main topics. The development and current state of Bolivia's PGS was the most-discussed topic (in 26 interviews), along with suggestions of how to improve it (in 23 interviews, see below for the suggestions). This was followed by descriptions of what they produced, and what sustainability meant to them (each in 22 interviews). Both of these topics were not explicitly cited in our interview questions, which suggests they were among the most-important issues for the interviewees to discuss. The next most-discussed categories involved operationalization of the PGS: processing and distribution (18 interviews), local markets and farmers' markets (18 interviews, the so-called "ferias"), the – sometimes positive, sometimes mixed, or insufficient – support of the municipality (18 interviews),

the lack of price differentiation (17 interviews), and the still lacking awareness of consumers (16 interviews). The topic of international trade in relation to sustainability certification and PGS was discussed in 16 interviews. The role of the state was discussed in 15 interviews. These last two topics were explicitly cited in our interview questions, yet were not answered or discussed in about half of the interviews, suggesting that they were not among the most-important issues or did not play a very central role for many interviewees. Instead, interviewees repeatedly voiced their commitment to ecological production and agrobiodiversity, as illustrated by the following quote:

> "*I have, without any doubt, about 49 different varieties [of vegetables] in my greenhouse. Only for chard, I have five different varieties, of course with their seasonal lows and highs*" (Producer, PGS Achocalla).

Notably, as emerged from many interview responses, agricultural productivity was not seen as a challenge, however selling the resulting goods and covering production costs were seen as major challenges. Reasons given included competition with "conventional" agricultural goods (including imported products), lack of transport possibilities, and lack of access to markets.

There were 44 statements from 22 interviews and from all four actor groups that referred to the meaning of sustainability in PGS. Roughly subdividing them between the three main sustainability domains (ecological, social, and economic), the most-frequently mentioned sustainability aspects belonged to the environmental domain (respecting nature; "Mother Earth"; and preserving flora and fauna and related ecosystem functions such as pollination). Next most mentioned were "no-goes" (12 times the nonuse or restricted use of agrochemicals; three times the nonuse of genetically modified crops; and once each not to contaminate with waste and to avoid deforestation). The social domain was mentioned much more often than the economic domain. Social issues cited ranged from ancestral knowledge use to education, reciprocity, and trust.

PGS history and the development of PGS were closely related in interviewees' statements regarding farmers' markets, including saying that market demand for organic products was not very high and that they often had to sell their products in the conventional market, thus competing with cheap and unsustainable imported products.

Responses on the role of the state were often connected to answers related to production, for instance regarding the promotion and goal of increasing organic production enshrined in the law 3525 on ecological production. Even more often, however, interviewees cited the need for organic production to be taken up in public procurement. In this sense, several related segments dealt with suggestions for improving PGS that involved the role of the state, including the perceived need to lower the high fees. Four statements dealt with the failure of PGS to fetch higher prices and the challenge of local markets in

which consumers did not recognize the higher production costs and quality of many organic products.

Statements on the meaning of sustainability were often related to food sovereignty, including the need to for producers to self-organize certification, to develop their own criteria, to develop their own governance structures (so emancipating themselves from the "certification mafia," as described by one interviewee), and to ensure family food security first and then engage in different markets (including international). One producer said that pursuing these ideals enabled family farmers to continue producing, rather than being forced to abandon agriculture.

Support by different actors was sometimes related in terms of a complementary relationship of the organic farmers' association AOPEB and the governmental unit UC-CNAPE. Support from NGOs was sometimes perceived as functioning in a complementary way with municipal support. However, state support and municipal support were sometimes seen as uncoordinated or pursuing divergent understandings and goals (e.g. in Caranavi, Rurrenabaque, and Sorata). While some coordinated support was perceived in Palos Blancos and Vallegrande, respondents were unsatisfied with municipal and state support – with the exception of Samaipata and Sucre (both technical support and payments).

Current situation of PGS in Bolivia

Government recognition of PGS in Bolivia can be linked to historical struggles for autonomy in governance, which also find their expression in certification mechanisms. At the same time, many Bolivian farmers are already organized in cooperatives or other interest groups. Our expert respondent revealed that AOPEB made use of existing local groups to promote PGS certification and markets in 2012, when the PGS regulation was first introduced. We found enthusiasm and commitment to ecological production among all but one of our interviewees, the majority of whom also embraced the government-run PGS because, according to an exemplary statement, "*It will open doors for us*" (interview with two producers of honey and coffee in Coroico).

As expected, one central topic concerned the comparatively high official certification fee for PGS, which at the time of our research (August–November 2020) amounted to BOB 4,800 (about USD 678). Despite being shared by the members of any given PGS group, the certification fee was seen by multiple interviewees as a substantial obstacle and was cited as the main reason why smallholder producers failed to renew their participatory certification in 2019–2020 (often in connection with their inability to access markets and fetch better prices). Even though the amount was significantly less than what farmers or their organizations had to pay for external organic certification (one interviewee mentioned an annual cost of around USD 2,000 for

organic certification), some interviewees regarded it is "prohibitively" high and inaccessible for them. PGS certification in Bolivia must be renewed every five years, and the fee is applied without differentiating costs between targeted actors (e.g. association, cooperative, or individual farm). Two participants further highlighted bureaucratic processes as a major concern or obstacle to obtaining or renewing PGS certification. They described the requirement of obtaining legal recognition for their organization first – a lengthy process with considerable costs attached to the required paperwork – as another significant obstacle to PGS success. Interviewees also noted that the Bolivian state had systematically reduced their support to CNAPE, who, after becoming self-financed, raised certification costs to levels perceived as very high.

Another issue mentioned by both producers and other experts was the lack of well-functioning markets for PGS-certified products. At the national level, the PGS label "*producto ecologico*" remains relatively unknown among Bolivian consumers and, as a result, fair price differentiation has not occurred. However, some interviewees confirmed that demand for certain foods increased considerably during the COVID-19 crisis, in particular foods that certain populations in Bolivia associate with positive health outcomes, such as honey from the PGS group in Coroico, (Figure 4).

A fourth topic to emerge, including in the expert interview, was a lack of opportunities to add value to PGS products. Two interviewees highlighted this point in relation to the government-supported school meal programme, which was originally intended to be supplied with PGS-certified, locally processed products. However, this intention was not realized in line with the interviewees' expectations for a variety of reasons, which we were not able to explore further in the context of this study.

Going beyond the question on the functioning and current situation of PGS in Bolivia, some interviewees strongly emphasized social and environmental justice issues related to the functioning of Bolivia's PGS, but also to the sustainable agriculture sector in general. For instance, with the following statement, one interviewee highlighted the problem of trying to tackle sustainability with isolated solutions: "*Nothing is ecological if [your] neighbours pollute*." Indeed, this points to the need to strengthen the sustainability criteria of the country's entire agricultural sector, not merely the few producers or farms with third-party sustainability certification or PGS certification. Further, two interviewees stated:

> *"Those who make the effort to do something good in ecological terms have to pay the extra costs to bring it to market – as opposed to demanding that others declare what substances they use, which authorized insecticides they use, which prohibited insecticides they use, and even a certification to the contrary [of sustainable agriculture]"* (restaurant owner, La Paz)

> *"PGS as a public policy is obsolete as long as conventional food is authorized and Coca Cola and Nestlé don't have to worry"* (organic food vendor, La Paz)

Finally, interviewees pointed to PGS-related benefits in terms of higher levels of food sovereignty and independence, as well as food security. In the words of one respondent: "*First, we eat – and only what is left is taken to the market*" (PGS producer, Sucre). Even though the governmental PGS rules have no requirement on household food security over commercialization, it became clear during our research that PGS farmers have a strong focus on their families' nutrition. Another statement that underscored the mixing of crops for subsistence, local markets, and international markets was as follows:

> "*We have a bit of everything . . . plantains, bananas, mandarins, lemons, so [the PGS] helps motivate consumers to consume our products. And we also have plots where we have mainly cocoa. The PGS covers the whole farm . . . we also have avocados . . . this is the advantage, we can have a bit of everything*" (PGS producer, Palos Blancos).

In summary, the results point to motivation and high hopes among interviewees regarding use of PGS to differentiate sustainably produced goods in the markets. However, they also point to challenges concerning certification costs, markets, and skills in organic production. In terms of food sovereignty, the results indicate a potential for recognition or even strengthening of PGS regarding diversified production not only for the markets, but also for the subsistence of farming families.

Prospects for Bolivian PGS products in international trade, and as an alternative to third-party certification

Concerning the prospects of PGS in international markets and as a replacement for external certification schemes, most of the interviewees viewed PGS as suitable for small-scale producers rather than for large farms or enterprises. They also framed PGS as appropriate for local or national markets, but not international markets. One expert stated, for example, "*We cannot export lettuce*," stressing that current PGS are mainly for fresh vegetables and thus aimed at local markets. Another difficulty is the PGS certification requirement that consumers be included in the PGS group – something that would be decidedly more difficult, but not unthinkable to organize in connection with international trade. For instance, many roasters regularly visit coffee farms and could also participate remotely. Finally, consumer representatives could also come from the local food system, since the goal is not to promote a completely export-oriented PGS system.

Among the producers we interviewed, mainly those from the Coroico PGS group expressed hopes of selling their processed goods, such as honey and coffee, in more distant markets, including larger cities or even abroad. Indeed, they viewed PGS certification as having potential to help access these wider markets. Bolivian coffee originating from the Yungas region is sought after in international markets due to its high quality (Estevez, Bhat, and Barton 2018),

including specific flavor profiles, potential sustainability in production and processing, as well as the existence of varieties such as *Typica*, which neighboring countries have mostly replaced with "high productivity" varieties that often display lower cup quality. High-quality coffee can support and be supported by more sustainable production methods (Hernandez-Aguilera et al. 2017). At the moment, the cooperatives and associations in the Yungas region feature external certifications such as "organic" from the European Union or "fairtrade." As a result, the coffee produced by several of our interviewees already carried at least two certifications – third party certifications (including internal control systems) and PGS.

In addition, one PGS farmer from Sorata perceived trade opportunities from increasing international demand for organic products (e.g. Bolivian banana), but she observed that her production volumes and those of other PGS farmers were relatively small. Nevertheless, among coffee farmers, PGS were considered a promising possible replacement for third-party organic certification schemes, which for them constituted a major expense every year:

> "*Normally, in specialty coffee we are not interested whether it is ecological or not. The most important thing are the points and the characteristics of the specialty coffee . . . those who have organic certification normally pay around USD 2,000 per year just for the certification*" (coffee farmer and specialty coffee shop owner, La Paz)

Similar to Yungas coffee, several other PGS-suitable products have potential in both national markets and international (export) markets, including for quinoa, Brazil nuts, and cocoa, which already make use of third-party organic certification. Alternative schemes like PGS are especially important given the reality that cooperatives, producer associations, and other local organizations frequently struggle to cover the costs of third-party certification, for example, due to the low international prices for coffee.

When asked what would be needed to enable PGS products to enter international markets, the interviewees emphasized that importing countries currently do not consider PGS certification equivalent to organic certification. The statements indicate that a potential expansion in the Swiss market of Bolivian PGS-certified products depends to a large extent on joint actions aimed to promote sustainably produced and processed agricultural products from smallholder farmers and local business.

Perhaps the greatest challenge concerns the prevailing large trade costs for agricultural products. A recent World Bank study finds that trade costs are especially high in emerging market and developing countries, and that these could be lowered through mutual recognition of standards (World Bank 2021). Moreover, sustainability certification costs for smallholder farmers can be disproportionately high. For instance, certification costs per hectare for the EurepGAP quality control of exported Kenyan fresh fruits and vegetables were up to eleven times higher for smallholder farmers than for

exporter-owned farms as a result of structural factors and related transaction costs (Mausch et al. 2009). This lends support to the idea that PGS, as a community-organized alternative certification, could play a critical role in integrating smallholder farmers into international agricultural value chains by helping overcome the high costs of other quality control schemes, and by dividing the costs between several farms.

In terms of export markets, Switzerland, for example, could improve market access for Bolivian PGS-certified products by recognizing the equivalence of PGS certification with established organic and/or fair-trade certification, provided basic criteria of sustainability are complied with. Trustworthiness could be established via mutual visits, where possible, and increased transparency and communication regarding PGS rules and processes as described in Rodrigues-Hirata et al. (2020). Switzerland and other importing countries could implement innovative policy measures such as tariff preferences for sustainably produced agricultural products, including those that are PGS certified (Bürgi Bonanomi, Jacobi, and Scharrer 2018).[2] Such policy innovations could support the interests of agroecological producers in Bolivia who seek better opportunities for PGS-certified products in international markets (Jacobi et al. 2019). At the same time, the Bolivian Ministry for Foreign Trade and Integration could proactively engage in international trade negotiations to obtain broader preferential market access conditions for Bolivian PGS-certified products based on its sustainable methods of process and production, and the democratic organization of its rules.

According to Bürgi Bonanomi, Jacobi, and Scharrer (2018), under existing (e.g. WTO) conditions, there remains significant policy space to shape international trade of agricultural goods in a more sustainable way. For instance, importing countries could elaborate a positive list with core elements of sustainability and fairness, and accredit certification schemes – including PGS – that comply with these elements. Such an accreditation scheme could be combined with benefits, including facilitation of market access procedures, engagement with retailers for the promotion of PGS products, reduction of import tariffs, and exemption of these products from other market fees (Bürgi Bonanomi, Jacobi, and Scharrer 2018). If such a policy improves access to Swiss markets for fair and sustainably produced goods from other countries, it would likely not be deemed discriminatory by international trade law (Bürgi Bonanomi, Jacobi, and Scharrer 2018). The need and possible mechanisms for control of compliance in a system based on participation and trust requires and merits further research.

With regard to regional markets for Bolivian PGS products, one interviewee highlighted a promising example: "*Brazil and Chile trade with PGS products – but we have to make our national system work, first*" (AOPEB representative, La Paz). Indeed, a memorandum of understanding was signed in 2020 between Brazil and Chile, titled "Mutual Recognition of Analogies and Similarities in

Organic Production and Quality Control Mechanisms in Both Countries" (Ruella, Portilho, and Yamaguchi 2020, 4). Both countries recognize participatory certification or PGS in the same way as third-party certification. Moreover, the agreement aims to increase organic trade between Brazil and Chile without requiring third-party certification of the respective exported/imported products.

As suggested above, third-party certification is usually provided by companies, which charge fees to small-scale producers and their organizations to grant them access to global markets. As a result, mainly large-scale organic producers or producers' organizations – not necessarily sustainable, fair, or diversified ones – are in a position to fulfil and pay for the external certifications. By contrast, in the framework of their new Memorandum of Understanding, PGS farmers in Brazil and Chile no longer need to hire external certifiers to accredit their products, and instead share a common label indicating the authenticity of the products. It is valid for five years and automatically renewed for equal periods. The list of products covered by this trade agreement – initially wine and fruit – is currently being reviewed and broadened by the relevant health authorities. As a result of the agreement, experts predict that bilateral trade of Brazilian and Chilean organic products will rapidly increase, as well as the added value of sustainable agricultural production, thereby boosting the relevant social results of the farming sector in both countries (Ruella, Portilho, and Yamaguchi 2020).

Bürgi Bonanomi (2014) argues that a cooperative element needs to be added in assessments of contributions to food sovereignty. This means that food and agricultural systems need to be sustainable and fair not only from a local perspective, but also from a global perspective. For a country like Switzerland that imports roughly half of its food, this would mean that its purchases need to contribute to food sovereignty wherever the food or raw materials originate. With regards to its own producers, Switzerland would have the right of protecting them from lower world market prices to the extent that the system is not detrimental to ecosystems and foreign producers (Bürgi Bonanomi 2014).

Going forward, a key next step for research and evidence-based policymaking would be to examine the environmental, social, and economic effects of implementing the Brazil–Chile agreement, as well to evaluate similar mechanisms or tools in other contexts, including a broader basket of food products.

The role of the Bolivian state in supporting PGS

Bolivia is among the few countries with a government-organized PGS. Government-led PGS schemes benefit certified farmers by enabling them to use an established national organic label for identification in markets. By contrast, non-government PGS-certified producers must create their own labels and are prohibited from using protected terms such as "organic" (Lemeilleur

and Allaire 2019). In addition, the Bolivian Ministry of Rural Development and Land (MDRyT) has broadcast advertisements on public television explaining what PGS is and what the label looks like. CNAPE and AOPEB have also supported farmers and local food-processing firms in organizing ecological fairs and farmers' markets. To date, however, these activities do not appear to have given rise to substantial consumer demand for PGS-certified products.

The producers interviewed for the present study felt that the COVID-19 crisis had adversely affected state and non-governmental support for PGS. They claimed that CNAPE had suspended its in-cash and in-kind contributions, and was now "*only organizing some workshops*." The producers considered this insufficient to advance PGS certification in their markets. In addition to poorly developed market access, the government's registration process was perceived by some interviewees as "*excessively bureaucratic*." At the same time, the lack of systematic price differentiation of Bolivian PGS products – in part because the concept and the PGS label are not widely known – has forced PGS producers to compete with lower-cost goods produced or imported under unsustainable and/or unfair conditions, as illustrated in the following statement:

> "*Until now, we have not seen many benefits, and people have stepped back from PGS . . . as long as there is no price differentiation in the markets, as long as there is no public incentive for farmers, it will not work*" (PGS farmer Sorata).

In addition to insufficient national government support for PGS, municipal-level support did not appear to function properly. For instance, one farmer with PGS certification stated the following:

> "*They [officials from the municipal government] have offered that they would do all the paperwork, [saying] 'we will do it, we will obtain the registration for you'. But in the end, they have not moved a single finger, and we missed the deadline for registration . . . we believed them, [but] due to the fault of the municipal government, we lost the state support*" (PGS farmer, Sorata).

An interview with the representative of agricultural production of the municipal government of Rurrenabaque confirmed this perception of low PGS support. When asked about the potential he saw for sustainability-oriented PGS in Bolivia and international exports, he stated: "*No. This [organic] is not the way things are done here. El Beni is an intensive production area, where the farmer wants to optimize the results*" (municipal official, Rurrenabaque). Nevertheless, despite such views among certain local officials, Bolivian PGS farmers have had some success with public procurement of PGS-certified products at the municipal level, for example, for school meals partly sourced from local PGS groups.

Our case study suggests that the Bolivian government seems to have undermined the potential of PGS certification by setting a "prohibitively" high fee

(in the words of an interviewee) for registration. In terms of costs to farmers, this puts government-led PGS in a similar category with third-party certification, possibly working against core aims of PGS such as greater accessibility and self-management among smallholding family farmers. Also Anselmi and Vignola (2021) describe the risk of compromising the core principles of PGS – such as trust and participation – by institutionalizing PGS into national law as a challenge observed in their study in Costa Rica. Trust in PGS compliance was observed in Minas Gerais, Brazil, to emerge from contact with farmers and "being close" to consumers through personal interaction and visits (Rodrigues Hirata et al. 2021). In this state-recognized PGS, trust and credibility were also generated through its control mechanism which, beyond guaranteeing quality, provided for extension support, mutual support, and increased participation in decision-making on the part of members. These authors conclude that trust can also be built on the basis of reliable processes, a topic that should be further explored for its use also in international trade. For instance, organic producers in Costa Rica can obtain certification through a third-party audit or peer-to-peer certification. In Brazil, the type of certification (third-party or peer-to-peer) is indicated together with the organic label. In order to not increase the risks of losing core principles or imposing non-flexible standards (Anselmi and Vignola, 2021), this certification convergence should be a co-created process.

Regarding the costs of PGS, Lemellieur and Allaire (2019) found PGS schemes to be up to five times less costly than third-party certification. However, the costs can still be a high barrier vis-à-vis notoriously low product prices and farmers' incomes. Loconto (2020) describes the PGS situation in Bolivia as one in which legislation appears to promote purchase of PGS-certified products, e.g. by requiring contracting of local providers and the purchase of sustainably produced goods from smallholder farmers' organizations or indigenous organizations (article 6 of the school meal law No. 622 from 2014). Nevertheless, as these authors also describe, there is a lack of regulations concerning the amount that public agencies should pay for specific goods, and the allocated budget for public procurement is very low. The result is that municipalities purchase based on price competition, with PGS-certified products forced to compete directly in markets with (under-priced) conventional, uncertified products whose real (e.g. ecological) costs are externalized or hidden.

Considering the Bolivian government's insufficient support for PGS – a problem for instance also documented in Mexico (Bara et al. 2018), we argue that other supportive measures should be explored, including increased public procurement for PGS-certified products – also at the international level by importing countries such as Switzerland. In this respect, we want to point to an existing policy recommendation, namely, that of acquiring food for government-sponsored social programmes, which can create international

markets for smallholder family farmers as well as integrate and embed their sustainability practices (Bulman et al. 2021). At the same time, governments could adopt a proactive, constructive role in negotiating agreements for preferential treatment of PGS products in international trade (Bürgi Bonanomi, Jacobi, and Scharrer 2018).

Finally, there is a need to develop a long-term vision of sustainable, fair food systems at the national and global level, going beyond certifications toward more autonomy and democracy in localized food systems. This is especially important given the potential "conventionalization" of sustainability certifications (Fouilleux and Loconto 2017). On this path of developing a long-term vision, PGS groups should become more visible in leading the transition, in helping to establish accurate standards of what "sustainable" and "fair" means in a specific context, and in making links to food sovereignty, as indicated by examples from Mexico (Bara et al. 2018; Nelson et al. 2016). Our interviewees' understandings of "sustainability" in food production, and the role of PGS in this, could provide a comprehensive basis for a broader vision of sustainability and fairness in the Bolivian agri-food system.

Conclusions

Our study showed that despite the organizational challenges of PGS in Bolivia, people's expectations and commitment to produce in harmony with Mother Earth (as stated in the Bolivian constitution), remained high. Indeed, there is significant potential for more democratic, self-defined, and less costly PGS differentiation in agricultural markets that could be "more than organic" due to their locally adapted sustainability criteria and social organization. Being especially strong in the community and political domain – in addition to working without pesticides, antibiotics etc. – we believe that PGS is not incompatible but even a further development or at least complementary to organic certification. To enhance the access of PGS-certified products to various markets – including export/import markets – governments could explore the possibilities of recognizing PGS labels domestically as well as reducing import tariffs on PGS goods from abroad, based on the example of the agreement between Chile and Brazil, whose effects, however, still remain to be evaluated.

Our study also showed that the Bolivian PGS system, institutionalized by the state beginning in 2012, might be seen as in crisis based on a variety of shortcomings – in combination with other social-ecological crises occurring in the last few years. The most-frequently cited problems were the relatively high PGS registration costs for farmers as well as the high levels of bureaucracy. While a certain degree of formalization is necessary to ensure governmental support, the relatively high fees and other administrative burdens weaken the community certification of sustainable and fair products that PGS is meant to

facilitate. Indeed, the existing fees and bureaucratic hurdles can turn away potentially interested family farmers and/or smallholder organizations and discourage PGS renewals among farmers who already worked to obtain the certification.

In this way, certain government-led PGS policies that were recently applied in Bolivia undermined some of the key original principles and features of PGS, in particular accessibility and self-managed certification. However, with appropriate adaptations, the system could be improved. Indeed, there is still adequate potential to restore the originally intended path, including state measures to provide effective support and protection to smallholder family farmers in Bolivia. Emerging national and international markets can expand the horizons of participatory certification – including ambitious efforts to replace externally driven certifications in the long-term, thereby taking a substantial step in the direction of food sovereignty based on trust, transparency, and reciprocity, as described in our interviews.

Finally, regarding the potential of PGS in international trade, we see evidence of promise – even though some of our interviewees remained uncertain about the prospects for beneficial differentiation of their sustainable products in wider markets. Indeed, the recent agreement between Chile and Brazil shows that when governments aim to make food systems fairer and more sustainable while strengthening local production and consumption, PGS can become a viable alternative to exogenous third-party certification schemes. Importing countries such as Switzerland could recognize PGS where it complies with their criteria of sustainability, unilaterally establish preferential market access for such products, and opt to negotiate international trade agreements – or related clauses in existing agreements – that incorporate PGS and link them to trade preferences. In this sense, PGS are not an open system for everyone to interpret freely, but could rather be used to maintain endogenous, locally rooted sets of rules on sustainable production, processing, consumption, and collective decision-making.

Notes

1. The present work was carried out as part of the interdisciplinary research project Sustainable Trade Relations for Diversified Food Systems, within the Swiss National Research Programme "Sustainable Economy: resource-friendly, future-oriented, innovative" (NRP 73).
2. Art. 104a lit d of the Swiss Constitution, titled Food security, requires the Swiss government to provide for "trade relations that contribute to the sustainable development of the agriculture and food sector". Added to the Swiss Constitution in 2017, this article explicitly states – for the first time – that Switzerland's trade negotiations should pursue particular objectives with respect to impacts on the food systems of Switzerland and its partner countries.

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