Lessons from Ostrom & Hess theory of Commons: Participatory Guarantee Systems, a new form of governance for assessing the sustainable built environment

J Cazas¹, V Hamon², M Berchtold³, R Lohe⁴, W Küchler⁵, E Vienot⁶

¹ Sustainable planning and European projects manager, envirobatBDM, Marseilles, France
² Sustainable development anthropologist, France
³ Senior project manager, heimaten, Schwarzenberg, Austria
⁴ Consultant & Project Manager, CESBA association, Berlin, Germany
⁵ President of CESBA association, Analysen ! Beratung ! Coaching, Kriens, Switzerland
⁶ Project manager European and International Affairs, Auvergne Rhône-Alpes Energie Environnement, Lyon, France

E-mails:
¹ jcazas@envirobatbdm.eu
² vivianehamonconseil@orange.fr
³ markus.berchtold@heimaten.com
⁴ rene.lohe@googlemail.com
⁵ willykuechler@gmail.com
⁶ etienne.vienot@auvergnerhonealpes-ee.fr

Abstract.

Third-party certification is the mainstream method for assessing the built environment. Independent accredited external experts evaluate the built environment according to standards generally decided upon at a broad level (national, international).

Yet, assessment tools and certification methods should be contextualized to be consistent with local practices and have a broad impact among stakeholders in the local society. This is the case of Participative Guarantee Systems (PGS), which can be considered as knowledge Commons, in the sense of Hess and Ostrom (2007), proposing a new governance approach for designing, implementing and assessing the sustainable built environment.

A participative study at European level, under the direction of the CESBA (Common European Sustainable Built Environment) association, explored how the PGS principles could be applied to approaches assessing the sustainability of the built environment. A benchmark has been made of the PGS which is in use worldwide for certifying organic farming, as an alternative to third-party certification, creating a new form of local governance by the Commons.

The principles identified through the benchmark were then compared with the actual practices of envirobatBDM, association set in southern France, for certifying sustainable buildings and neighbourhoods. EnvirobatBDM approach is in many ways similar to PGS. The system gives much place to the active participation of the association's members throughout the evaluation process: co-development of the framework and criteria, support for projects, open evaluation by peers in public events. This assessment process helps to offer a three-loop learning process to generally enhance the quality of decision making, planning, implementation and usage.

This comparison raises the question of whether, as for organic farming, this participatory evaluation could challenge third-party certification offering a path for new forms of locally responsible governance. PGS helps to involve users, raises their capacity to act (empowerment) while being totally focused on local needs. PGS initiates a learning process, diffuses and
upgrades knowledge of stakeholders. Interviews with stakeholders in Europe show a rising interest. Could it be a desirable future for sustainability assessment of the built environment?

Topics: New governance approaches for a sustainable built environment

1. Introduction to Participatory Guarantee Systems, rediscovering a pioneer assessment system

The first official definition of participatory guarantee systems (PGS) was given by the International Federation of Organic Agriculture Movements (IFOAM – Organics International) in 2008:

"Participatory Guarantee Systems (PGS) are locally focused quality assurance systems. They certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange."

Indeed, the historical background development of PGS is organic farming. In the early seventies, Participatory Guarantee Systems (PGS) emerged at a moment when third party certification systems for organic agriculture were not available. In 1972, the French organization Nature & Progrès operated the first PGS-initiatives which have since been transferred to more than 65 countries till 2017 (IFOAM, 2017). The Nature & Progrès PGS initiative led to the very first definition of organic farming standards. At the time, the goal was to define the production standards but also to build a supportive system for producers through exchanges and coaching between peers. Third party certifications (TPC) appeared later, as a consequence of a globally growing demand for ecological farming that came along with changing regulatory frameworks, newly defined standards and new labelling systems. In Europe, third party certification took the lead in the nineties after the vote of the directive defining organic farming standards and linking their recognition to a third-party certification process.

Both systems, PGS and third-party certification, now coexist. There are various reasons for PGS remaining and even developing. Most third-party certification systems are operated at cost-intensive frameworks with high applicative barriers for farmers in smaller and less developed regions. Apart from high costs, third party certification systems have the risk of drifting towards homogenized and standardized evaluation criteria that do not take into account local circumstances and specific particularities. Consequently, it might not account for valuable practices, and lack the supportive framework for smaller local farmers/producers. Therefore, new approaches of guarantee systems are still tested in which relevant stakeholders of the value-supply-chain in agricultural products would participate in the quality control process of these products. PGS therefore proves relevant in tackling issues such as capacity building, stakeholders support and innovation spread in organic farming.

2 Method: A participatory study for a participatory system

In 2018, envirobatBDM, associated with CESBA (Common European Sustainable Built Environment), led a participatory study to investigate the possibility and opportunity to develop and advocate PGS as a legitimate assessment process in the sustainable built environment. CESBA is a collective European bottom-up initiative that provides knowledge and harmonization on built environment assessment. CESBA's mission is to facilitate the diffusion and adoption of sustainable built environment principles through the use of harmonized assessment systems in the whole life cycle of the built environment. CESBA's core principles of assessment are: user first, sustainability, territorial contextualization, comparability, mass-orientated, simple to use, open source, co-creation, transparency. It gathers entities and professionals of sustainable building assessment.

EnvirobatBDM is one of the founding member. It is an association based in south east France aiming at the development and the assessment of the sustainable built environment. It manages a participatory certification initiative called BDM (Bâtiments Durables Méditerranéens or sustainable Mediterranean buildings in english)
which shares many common features with PGSs. Since 2008, this initiative has certified more than five hundred buildings in the region and experienced a growing demand, including outside its territorial borders.

The common proposal of CESBA members under the umbrella of envirobatBDM was to investigate a new field for the association. So far most of the common works focused on technical aspects, indicators, calculation methods. This work is and remain of great importance, however the partners wanted to investigate another aspect that is the model of certification itself. It questions the legitimacy and interest of participatory approach such as the BDM one to reach better sustainability in the built environment. The plurality of the study team including professional of different backgrounds from architecture, engineering or anthropology allowed a cross cutting analysis of the different issues.

The work started with a desk study of the available academic literature about PGSs, mainly in the organic agriculture field. IFOAM’s official definition of PGS and of its core principles were the starting point. Indeed the IFOAM is the first institution that worked on the field producing a definition through a collective international work. It is also the only institution that created PGS recognition program, acting like an accreditation body. The following general core principles of PGS listed and defined by the IFOAM working group were discussed with regards to their application in the built environment:
- Participation
- Horizontality/dialogue
- Shared vision
- Transparency
- Trust integrity-based approach
- Continuous learning process
- Assurance

The recent work of the CIRAD researchers Lemeilleur and Allaire was also used to make a link with the Nobel prize Elinor Ostrom work on Commons. In a second step, BDM’s practices have been audited through the Ostrom governance grid on Commons management. A workshop with a researcher from the CIRAD institute specialised in PGS, Mrs Claire Dorville, was organised in February 2019; it allowed participants to actually map the governance and functioning of the sustainable built environment assessment approach BDM.

In a second part, the process of official recognition was investigated through a comparison with third party certification procedure. A final step consisted in interviewing 6 professionals involved in sustainable building and neighbourhoods in several European countries (Austria, Germany, Italy, Switzerland, Greece, Croatia) so as to investigate their interest in adopting PGS.

3. Main results of the study

3.1 Developing an extended definition

An extended definition of PGS has been developed through the study to further define PGS:

“Participatory Guarantee Systems (PGS) are locally focused, real time quality assurance systems for particularly defined markets and associated goods, products or services. PGSs certify goods, products or services based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange. PGSs are based on the direct participation of producers, consumers and other stakeholders in:

- the choice and definition of the standards (e.g. in line with, or even more ambitious than existing regulatory standards)
- the development and implementation of certification procedures (e.g. by defining and monitoring compulsory process steps)
- the certification decisions through peer review (e.g. by a PGS committee that includes various stakeholders of the PGS)
● the decision-making process
   (not only on the certification of projects/goods but on the way the approach functions and how decisions are made)."

PGS have standard settings, verification procedures and/or auditing based on local circumstances and needs. Stakeholders are actively involved and gain a sense of ownership, responsibility and loyalty to the initiative.

PGS certification (or participatory certification) can be seen as complementary to third-party certifications. Whereas prevalent third-party certification are top-down systems, PGS are bottom-up allowing for more flexibility, reactivity, actual support of professionals, and the recognition of local circumstances and needs. It therefore supports 3 UN sustainable development goals (SDG) for building sustainable cities and communities (SDG11), for responsible consumption and production (SDG12), for climate action (SDG13).

3.2 Adapting the core principles of Participatory Guarantee Systems to the built environment

The general core principles of PGS are:
- Participation
- Horizontality/dialogue
- Shared vision
- Transparency
- Trust integrity-based approach
- Continuous learning process
- Assurance

All these principles are highly intertwined and interdependent to build a consistent system. The study helped adjusting and defining these principles in the context of the built environment.

3.2.1 Participation.

Participation and active commitment of relevant stakeholders is a fundamental dynamic in the design and operation of a PGS. In the context of buildings and built environment, multiple interest groups such as building users, owners, investors, citizens, technicians, architects, building companies, urban planners, local authorities (politician, administration) are at stake. While operating a PGS, these stakeholders are part of an ongoing learning process in which knowledge about planning, design, materials, production, construction, operation etc. is shared. Such processes of mutual learning are increasing the level of knowledge among the group. Examples for learning processes are the participative definition of the PGS framework and criteria, support through the actual project assessment, peer review which is the basis of certification and the exchange of feedback.

Participation comes along with a collective responsibility and is reflected through:
● Shared ownership of the PGS,
● Stakeholders’ involvement in the development process,
● Understanding on how the system works,
● Direct communication between stakeholders such as owners, technicians, local authorities.

This collective responsibility helps to shape an integrity-based approach and a formula of trust (see PGS principle “Trust”) and should be promoted through a transparent (see PGS principle “Transparency”) operational process. This transparency should include transparent decision-making processes and easy access to information about the way the system works, databases or to buildings/built environments.
3.2.2 Horizontality and dialogue

Another principle of PGS is horizontality. It means that all members have a right to participate in the governance of the assessment system. It intends to be non-hierarchical and to prevent any stakeholder from having too great a power.

An open and horizontal dialogue between stakeholders is crucial to set the shared vision that will constitute the basis of the PGS standards. It leads to collaborative decisions, collective responsibility and shared ownership.

This principle is reflected in the general governance of the PGS that can define representative bodies and responsibilities as well as decision-making processes. With respect to the transparency principle, this governance, its functioning including access to decision-making should be clear, documented and available. It means that conditions of access to membership, to the different bodies and responsibilities are clearly defined. Responsibilities have to be shared and therefore stakeholders should assume the various roles and missions, each in turn.

3.2.3 Shared vision

Stakeholders collectively support the PGS principles as core values and a definition of sustainable built environment: this is the shared vision between all.

Such principles form the baseline to link legislative building standards with the standards and requirements of the people that design, build, live in or use these buildings or neighbourhoods. The shared vision of the PGS can incorporate goals relating to official standards, social justice, environmental protection, energy efficiency, use of renewable energies, resilience to climate change, cultural differences etc.

3.2.4 Transparency

All stakeholders have open access to the information on the participatory guarantee system. This includes access to commonly defined standards reflected in the assessment framework, criteria and indicators and information on decision making processes. Transparency on decision making processes includes transparency on the way the framework is implemented as well as on certification decisions. This does not mean that every detail is known by everyone but rather that participants of the PGS have at least a basic understanding of how the system functions or have a way to find out.

3.2.5 Trust “integrity-based-approach”

The integrity base upon which PGSs are built is ensuring the trustworthiness of the guarantee system. This trust is rooted in the idea that stakeholders collectively develop their shared vision (see PGS principle “Shared Vision”) which is collectively enhanced and reinforced through the PGS. How this trust is generated might rely on regional or cultural specifics of the PGS group.

The process of creating trustworthiness should be defined and agreed upon by and with the stakeholders of the PGS and can be changed or adapted like any other formal record or arrangement in case all parties agree. Since the PGS and the process is handled transparently, parties put at stake their reputation in public which enforces trust and integrity. Trust is therefore supported by stakeholders’ participation and their search for credibility.

Indeed, it is in the interest of none of the involved stakeholders to have the “wrong” projects certified as it harms the credibility and reputation of the whole community. On the other hand, it seems rather complicated for an applicant to fool peers that know the job, and that one may meet on different occasions as part of one’s work. The combination of participation, peer assessment and transparency to reach trust and credibility results in a form of social control among stakeholders.
3.2.6 Continuous learning process

One of the characteristics of PGS is that the learning process is going on continuously for each stakeholder, at different stages and through different means. To allow a steady learning process, a knowledge net between all stakeholders of the PGS has to be set up. It is up to each single PGS to define communication means among its participants. In general, those networks are not institutionalized but are set up through local self-organization of the PGS members. Because of this, knowledge and practices can be disseminated much faster (IFOAM, “Participatory Guarantee Systems”, “Shared Vision, Shared Ideals”, Bonn, 2007). It is also found that for most stakeholders it is more important to learn from their peers through informal conversations rather than through formal scientific recommendations (Hofstadler, 2013); thanks to this, new knowledge can also be implemented much faster.

In a PGS, learning happens for applicants during the assessment process through the interaction with peers who assess the project. Their feedback and advices on practices participate to the capacity building of the applicant. Assessment is held as a decision-making support tool. Exchanges also benefit to peers assessing the project. Both parties can actually learn from one another. At a macro scale, the whole community benefits from the knowledge capitalized through all projects and peers’ exchanges, which feeds the evolution of the framework and related standards. Sometimes, the feedback is also made available to the community through different media like workshops on dedicated topics, site visits, best practices report review etc.

For the built environment sector, it is important to emphasize that the learning process can take place in the three different stages of the building process lifecycle: “design phase”, “building phase” and “in-use phase”. At each stage of the lifecycle, learning takes place and this newly gained knowledge can influence the rules and regulations of the other phases as well (virtuous circle).

Moreover, PGS allows a learning process in three loops. Sustainable development is a complex challenge. The solutions must lead to improvements in the overall system. For obtaining the highest level of sustainability, conditions must be provided so that each human being has the chance to contribute according to his talent. The right environment must be created in which talents are used to enhance the system rather than wasted because everyone is doing the same thing again and again. The system should be networked into a "collective intelligence organization" and methods and tools for dealing well with complexity should be learned and implemented. The Argyris learning concept (organizational theory) shows the possibilities of learning. It is essential not only to think in terms of incremental improvements, but also to consider the wider space of thought and action as well as the organizational transformation: the system to be developed should promote single-, double- and triple-loop learning.

Single loop learning: the assessment applicants (i.e the projects stakeholders applying for certification) recognize their need for action; along the process, concrete suggestions for improving the project are made.

Double loop learning: based on previous assessment experiences (or new needs, new solutions, new materials or technologies...) the set of indicators will be improved. This results in new values and goals for the project applicants. The overall framework remains.

Triple-loop learning: the overall framework changes. The project applicants face a new assessment process. E.g. regional or national governments implement the PGS assessment criteria into their building / planning laws or use it for the distribution of subsidies. And therefore, a change of the whole process of the PGS assessment will happen.

3.2.7 Assurance

It has to be assured that the commonly set goals of the PGS (assessment framework, assessment process and quality of the project) are met. To achieve this, the active involvement of all key stakeholders is necessary. The quality of relationships among stakeholders is important. Persons who know each other and who get along with each other are more motivated to work constructively on the project. All stakeholders together encourage social control so that the set rules and regulations of the PGS are respected.

Techniques to maintain the set quality standards (within a legal framework) are established through guidelines, where all stakeholders elaborate rules for each phase of the project life cycle. Another instrument can be a field
visit where peers check if the current situation of the project meets the assessment guidelines. Such visits are also an important moment of exchange between professionals. Peers visiting the project discuss solutions and the way to implement them. They can provide advices to support the applicant in getting a certificate i.e. reaching the quality standards wanted.

Assessment system is set to support clients and professionals throughout the production process rather than to give – or refuse – a recognition at the very end. If the project meets the guidelines, it can apply for certification. A certificate in form of a certification document, a public report, a listing on the website of the PGS or an article about the certification in a newspaper can then enhance the credibility of the quality of the PGS.

The participatory process, combined with horizontality, is also an assurance of collective ownership that prevents one interest group from taking over the definition of standards and the process of validation.

The PGS can furthermore have a positive impact on the building sector as the findings of the certification process can influence and change the political and legal framework for the built environment sector.

4. Conclusion: Participatory Guarantee Systems as intellectual commons, a desirable future for the sustainable built environment?

4.1 Participatory Guarantee Systems as an intellectual common

It appears that PGSs as associative forms of collective labels management, embody a principle of common resource management. The concept of Commons arose to define resources shared and managed collectively through a set of rules and rights regime, by a community, in order to manage or add value to that resource, while ensuring its viability and reproduction.

The concept of Commons initially set for natural resources was then extended to intellectual resources including informational and knowledge commons. The goal of governing such commons deals moreover with its improvement and extension (Coriat, 2015). Their deterioration lead to their inadequacy, putting forward the question of their renewing. For sustainable built environment assessment systems, it means that a lack of scalability will eventually lead to its obsolescence.

The threats for common immaterial resources are knowledge, ideas and methods privatisation, and the replacement of cooperative organisation by mercantile ones (Hess and Ostrom, 2007).

Intrinsic PGS goals of knowledge sharing, contextualisation, collective support among stakeholders in an evolutive system aiming at spreading good practices and innovation among a community appear to meet the definition of intellectual commons (Lemeilleur and Allaire, 2018).

4.2 Intellectual Common, a framework for consolidating Participatory Guarantee System

Considering PGS as intellectual commons offers a framework to analyse and strengthen their efficiency. Indeed, Ostrom put together a set of principles related to the conditions of success for governing the Commons (Ostrom, 1990). Ostrom identified eight design principles of stable local common pool resource management:

- Clearly defined limits (clear definition of the contents of the common pool resource and effective exclusion of external un-entitled parties);
- The appropriation and provision of common resources that are adapted to local context;
- Collective choice arrangements that allow most resource appropriators to participate in the decision-making process;
- Effective monitoring by monitors who are part of or accountable to the appropriators;
- A scale of graduated sanctions for resource appropriators who violate community rules;
- Mechanisms of conflict resolution that are not expensive and of easy access;
- Self-determination of the community recognized by higher-level authorities;
- In the case of larger common-pool resources, organization in the form of multiple layers of nested enterprises.
The conclusions of the auditing workshop held in February 2019 highlighted that the BDM PGS approach was effectively tackled as an intellectual Commons. The comparison with Ostrom design principles underlined the issues for the BDM community to sustain and improve its common resource. The demonstration of the efficiency of such a rationale to support PGS implementation is of major importance as PGS in sustainable built environment proves a relevant complementarity to third party certification for supporting sustainable built environment.

The current political and economic trend tends towards rising revendication of the civil society and economic stakeholders towards Commons and shows openness to such a takeover on decision of direct interest. This can be witnessed in the emerging PGS initiatives that now address various actors of the economic life, including social finance or renewable energy production. Indeed, in France in the recent years, following the success of BDM in the PACA region, three major regions including Paris have taken over BDM PGS approach, adapted it to their local context and now run the system. This trend seems to be shared among Europe. Indeed, interviews conducted in Europe during the study show the real interest of most stakeholders, for whom it seems that the informality of local organisation and peer evaluation sounds more promising than the formality of international standards and inherent dichotomic position. The hereby study identified and put forward tools and concepts to support efficient implementation of PGS in the built environment assessment.

References
[1] CORIAT B, 2015, Communs fonciers, communs intellectuels. Comment définir un commun ? in Coriat B (dir) Le retour des communs. La crise de l’idéologie propriétaire, Paris, Les liens qui libèrent
[2] HESS C et OSTROM E (eds) 2007, Understanding Knowledge as a Commons: from theory to practice, The MIT Press, Cambridge (Mass.) and London
[3] HOFSTADLER C, 2013, The perfomance of Participatory Guarantee Systems in organic farming in South of Brazil, Case study : “Ecovida Agroecology” – network in Vale do Cai, Rio Grande do Sul, Master thesis, University of Natural Resources and Life Sciences, Vienna
[4] IFOAM, 2007, Participatory Guarantee Systems, Shared Vision, Shared Ideals, Bonn, Germany
[5] KALLANDER I, 2008 Participatory Guarantee Systems – PGS, Swedish Society for Nature Conservation, 25p
[6] LEMEILLEUR S, ALLAIRE G, 2018, Système participatif de garantie dans les labels du mouvement de l’agriculture biologique. Une réappropriation des communs intellectuels, Economie rurale 2018/3 (n°365), p 7 à 27
[7] MAY C for IFOAM, 2008, PGS guidelines – How participatory guarantee systems can develop and function, 26p
[8] Fondation Nicolas Hulot pour la nature et l’homme, Les systèmes participatifs de garantie, Veille et propositions n°21, 2015, 28p