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NEWS AND VIEWS

From farmers' rights to the rights of peasants: seeds and the biocultural turn

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Abstract

In light of the ongoing agrobiodiversity erosion process, we delve into the history of crop genetic resources governing instruments to show how the international agrobiodiversity regime has evolved from a limited appreciation of the contribution of farmers/peasants to a broader recognition of the critical role indigenous peoples, local communities, and farmers play in shaping and cultivating agrobiodiversity. We explore the genesis and development of various international soft and hard law instruments that make up this international agrobiodiversity regime. We focus on the period stretching from the 1983 Food and Agriculture Organization's International Undertaking on Plant Genetic Resources, to the 2018 United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas. The reflexion is organised around three lines. First, we show the advent of the concept of "farmers' rights" and underline its initial indeterminacy. Then, we move on to the issue of farmers/peasants in the aftermath of the Convention on Biological Diversity and analyse the crystallisation of debates around incentivising and driving on-farm maintenance of crop genetic resources. Finally, we conclude by outlining the new framework offered by biocultural approaches to rethink peasants' rights.

Keywords Agrobiodiversity conservation · International regime on access and benefit sharing · Biocultural protocols · Farmer's rights · United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas

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Introduction

History often sheds light on the present and paves the way for the future. In light of the ongoing process of agrobiodiversity erosion, there is an urgent need to rethink the flaws in current biodiversity conservation instruments. In this paper, we delve into the history of agrobiodiversity and instruments governing crop genetic resources to show how the international regime on (agro)biodiversity conservation has evolved from a limited appreciation of the contribution that farmers/peasants make to a broader recognition of the critical role that Indigenous peoples, local communities, and farmers play in shaping and cultivating agrobiodiversity (IPBES, 2019, p. 42; McGuire & Sperling, 2016). We explore the genesis and development of various international soft and hard law instruments that make up the international regime on access to genetic resources and benefit sharing (ABS).[1] We focus on the period stretching from the 1983 Food and Agriculture Organization (FAO) Resolution 8/83,[2] explored below, which saw the adoption of the International Undertaking (IU) on Plant Genetic Resources, to the recent United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP), adopted by the Human Rights Council on 28 September 2018[3] and by the UN General Assembly on 17 December 2018.[4]

These two (non-binding) legal instruments were adopted forty years apart. As the first studies on the UNDROP are beginning to be published (e.g. Haugen, 2020), it seems timely to take stock of how the role(s) of farmers/peasants, as well as their legal status and rights, have been progressively recognised, defined, and transformed in light of global environmental changes, and within a context marked by the recognition and implementation of Indigenous peoples' rights, as well as the continuous expansion of industrial property rights. This rich and complex history has various dimensions: the epistemic framework of agricultural modernisation in the West (Bonneuil, 2019); geopolitical tensions across the North–South divide; the related question of equity in the global flow of genetic resources; the relevance of conceptions of rationality used in economic theory to make sense of farmers' decisions on crops; local and international struggles for Indigenous peoples, local communities, and peasants' rights; and the series of global alerts about the fate of our ecosystems threatened by large-scale land conversion to intensive agriculture, monocropping, and the spread of homogenous elite cultivars which guarantee yield stability but have a narrow genetic base (Juma, 1989; Kloppenburg, 2005).

An emerging consensus highlights the need to maintain the holistic interconnectedness of farmers/peasants, Indigenous peoples, and local communities, with ecosystems as a solution. For this reason, we make the case that the notion of "peasants' rights"—as now embodied in the UNDROP—holds promise within a conservation framework that is being renewed by the rapid development of the concept of

[1] UNEP/CBD/COP/DEC/X/1, preambular para. 6.
[2] FAO, 22nd Session of the Conference (Rome, 5–23 November 1983).
[3] HRC, Resolution 39/12, A/HRC/RES/39/12.
[4] UNGA, Resolution A/RES/73/165.

"biocultural diversity" (Bridgewater & Rotherham, 2019). This so-called biocultural turn (Buergin, 2013) has brought to light the co-occurrence of biological diversity and cultural diversity and stimulated new approaches to conservation. However, these new approaches, constantly enriched by burgeoning community-based, biocultural-based initiatives, continue to be overshadowed by an economistic approach, largely neo-institutionalist-inspired, positioning farmers as rational agents whose actions are controllable and amenable to "optimal" conservation-prone practices through adequate incentives. This, it is argued, continues to hamper the full recognition of the biocultural dimension and environmental importance of crop genetic diversity on farms.

Our reflection is organised around three lines: first, we show the advent of the concept of "farmers' rights" (FRs) and underline its initial indeterminacy (2); we then move on to the issue of farmers/peasants in the aftermath of the Convention on Biological Diversity (CDB) and analyse the crystallisation of debates around incentivising and driving on-farm maintenance of crop genetic resources (3); and finally, we conclude by outlining the new framework offered by biocultural approaches to rethinking peasants' rights (4).

The advent of farmers' rights: the initial indeterminacy

An abundant body of literature exists on farmers' rights, enriched by the invaluable work of the ten-year "Farmers' Rights Project" initiated by the Fridtjof Nansen Institute (Norway).[5] However, there remains a gap in the historical literature as regards the conceptual indeterminacy surrounding FRs. This indeterminacy did not only result from a lack of clarity as to their content—something which is clearly reflected in the ongoing and laborious work of the Ad Hoc Technical Expert Group on Farmers' Rights[6]; it also resulted from a more fundamental blurriness as to the definition and understanding of the holders and functions of these rights.

We argue that, until relatively recently, "farmers' rights" had little to do with farmers/peasants themselves. Indeed, the modernist framework within which the governance regime for crop genetic resources is being discussed still largely ignores the role of farmers in the conservation of plant genetic resources for food and agriculture (PGRFA), let alone their role in global food security and the maintenance of agricultural ecosystems. This does not mean that, at times, there is no recognition of the contribution that farmers, Indigenous peoples, and local communities (IPLCs) make to the provision of the rich reservoir of landraces into which modern breeding rests and can tap. Similarly, this does not mean that NGOs are not increasingly vocal in their campaign in support of farmers and IPLCs (Fowler, 1994; Mooney, 1983). However, we make the case that, for a very long time, FRs remained trapped within a restrictive view of farmers as passive users of improved seeds to be grown in highly controlled environments (mechanisation, irrigation, use of inputs).

[5] http://www.farmersrights.org/fr-project/index.html

[6] FAO, Ad Hoc Technical Expert Group on Farmers' Rights, June 2020, IT/GB-9/AHTEG-FR-3/20/2.

The historical background to the emergence of FRs is key to understanding the initial framing of the concept. At the twenty-first session of the FAO Conference in 1981 (Rome, 7–25 November 1981) (see Andersen, 2016, p. 90 seq.), the Group of 77 supported a Mexican resolution calling for a draft international agreement whereby global crop genetic resources would be conserved and used without restriction for the benefit of all human beings (Resolution 6/81, point 1). The resolution further requested a new gene bank system, independent from the Consultative Group on International Agricultural Research (CGIAR), that would bring the International Board for Plant Genetic Resources (IBPGR)[7] back under the control of the FAO (ibid., point 2) (Kloppenburg, 2005).

The discussions initiated by the resolution resulted in the International Undertaking (IU) on Plant Genetic Resources, formally adopted at the twenty-second session of the FAO Conference as Resolution 8/83. The text of the resolution opens with the oft-quoted statement that "[…] (a) plant genetic resources are a heritage of mankind to be preserved, and to be freely available for use, for the benefit of present and future generations". For different reasons which cannot be explored here, the "heritage of mankind" principle was likely to achieve political acceptance both from industrialised and industrialising countries. In addition, the zeitgeist was "common heritage", and the harnessing of the concept a natural unfolding of discussions on global public goods. Unsurprisingly, therefore, Article 1 of the IU itself also proclaimed the "universally accepted principle that plant genetic resources [PGRs] are a heritage of mankind" to be "available without restriction". Much more controversial, however, was the definition of PGRs as including not only obsolete cultivars and landraces, but also "cultivated varieties in current use and newly developed varieties" and "special genetic stocks (including elite and current breeders' lines and mutants)" (Art. 2.1), i.e. commercial high-yielding varieties and breeding lines potentially protected by plant breeders' rights (PBRs) or trade secrets. From the perspective of developing countries, this provision, albeit non-legally binding, was a clear message to technologically advanced states that "business-as-usual"—i.e. the idea that genetic resources of the Global South are "open access" resources available on a "first come, first served" basis (Schroeder & Pogge, 2009, pp. 268–269)—was no longer an option. For their part, industrialised countries were adamant that they would not permit intellectual property regimes to be dismantled, and a compromise had to be sought.

This compromise was reached through two "interpretative" resolutions to the IU adopted by consensus on 29 November 1989: Resolution 4/89 entitled "Agreed Interpretation of the International Undertaking", taking plant varieties protected by PBRs out of the ambit of the "common heritage" principle, thereby addressing

[7] The IBPGR was an international scientific organisation established in 1974 as integral part of the FAO and under the aegis of the CGIAR, which aimed to coordinate existing national, regional, and international efforts in the conservation of crop genetic resources. In 1991, it cut its ties to the FAO to become the International Plant Genetic Resources Institute (IPGRI), an entirely independent organisation, which merged with the International Network for the Improvement of Banana and Plantain (INIBAP) to become Bioversity International in 2006.

the concerns raised by industrialised countries,[8] and Resolution 5/89 on "Farmers' rights",[9] a label clearly modelled after PBRs in an effort to reassure the Global South through the granting of certain parallel rights. However, contrary to what the simultaneous adoption of the two texts[10] might suggest, there is still no intention to bestow upon farmers intellectual property-style (*sui generis*) rights along the lines, for instance, of the Indian Protection of Plant Varieties and Farmers' Rights Act (PPVFR Act), 2001 (Srinivasan, 2016).

At that time, the main concern of provider countries—mainly located in the tropics—was to be given the opportunity "to demand a reciprocal flow of benefits in exchange for [their] largesse" (Kloppenburg, 2005, p. 188). This is in the hope that the stream of "benefits" would help developing countries establish or strengthen their plant breeding and seed production capacities, thereby taking the path of modern agriculture.[11] In doing so, the two resolutions reflect the narrow array of options explored from Resolution 8/83 onwards,[12] which were clearly geared towards countries providing PGRs (not farmers) with a view to helping them achieve the "benefits of development" and enhance their "capacity to produce their own varieties".[13]

Unsurprisingly, farmers sit rather uncomfortably in this framework which places much emphasis on fostering developing countries' breeding capacities. Admittedly, in Resolution 4/89, talks already envisage using the new-born International Fund for Plant Genetic Resources[14] to *compensate* farmers in developing countries whose "contribution" "has not been sufficiently recognized or rewarded" (compensation, linked to past, but also to ongoing activities of creation, conservation, and exchanges of germplasm – Resolution 5/89).

At the same time, although there was a growing consensus to supplement ex situ conservation with in situ programmes, there was little, if any, disagreement around the fact that "[…] on-farm conservation is incompatible with agricultural development. Because genetic diversity in crops is associated with traditional agricultural practices, it is also linked to underdevelopment, low production, and poverty." (Brush, 2004, p. 197).

In sum, while nascent ideas about the requirement to preserve complex evolutionary interactions between farmers and cultivated plants in the field and on the farm are taking hold among conservation experts, there is no deviation from the blueprint established at the onset of the Green Revolution and intended to convert all

[8] Resolution 4/89: "(a) Plant breeders' rights as provided for under UPOV are not incompatible with the International Undertaking".

[9] FAO (1989), FAO C 1989/REP.

[10] See FAO (1986), CPGR/87/3, paras. 14 and 21.

[11] See Resolution 8/83.

[12] First and Second Meetings of the Working Group of the Commission on Plant Genetic Resources, 1986; Second Session of the Commission on Plant Genetic Resources, 1987; and the Meeting of the Contact Group, 1987.

[13] FAO (1987), CL 91/14, Appendix F, paras. 8–9.

[14] Solution formally adopted by FAO Conference Resolution 3/91 (FAO (1991), Report C 1991/REP) as a new annex to the IU. The Keystone International Dialogue series on PGR were decisive on this issue (Keystone Center, 1990, p. 25, 1991, p. 13).

farmers to elite varieties. This is further articulated in the resolution itself which concludes on the need to "allow farmers, their communities, and countries in all regions, to participate fully in the benefits derived, at present and in the future, from the improved use of [PGRs], *through plant breeding and other scientific methods*".[15] Against this backdrop, farmers' rights are at best *retrospective* in nature and nothing more than "[…] a moral acceptance of the social and economic value of genetic resources in landraces developed by farmers in past millennia" (Pistorius, 1997, p. 90).[16] This only began to change with the onset of the work on the United Nations Conference on Environment and Development (UNCED) and the Convention on Biological Diversity (CBD).

Farmers' rights through the CBD: incentivising farmers' participation in the conservation of crop genetic resources

To unearth the progressive change in meaning of the concept of farmers' rights, one has to turn the clock back prior to Resolutions 4/89 and 5/89. In the late 1980s, two parallel fora, the work of which would culminate at the Rio Earth Summit in 1992 (McGraw, 2017, pp. 14–17), were working towards a global regime for biodiversity conservation: the Ad Hoc Working Group of Experts on Biological Diversity set up in 1987 and tasked by the Governing Council of the UNEP to prepare a convention on biological diversity (UNEP/GC/DEC/14/26), and the preparatory meetings for the UNCED initiated by UN General Assembly Resolution 43/196 (A/43/PV.83 20 Dec. 1988).

Formally launched after the 1987 Brundtland Report (Brundtland & World Commission on Environment and Development, 1987) and with a view to commemorating the 1972 Stockholm Declaration (A/CONF.48/14/Rev.1), the work of these two fora is steeped in a political and intellectual environment dominated by the concept of "sustainable development" (Rosendal, 1991, p. 28). This background is important when it comes to shedding light on the balance that the CBD strives to strike between environmental interests (preserving endangered species) and utilitarian interests (in particular agricultural interests) (Pistorius, 1997, p. 95). However, it is even more important in that it allows us to understand why the international instrument leans towards the latter. In reality, conservation is premised on utilisation; i.e. conservation is linked to "economic and social development and poverty eradication" that are perceived as "the first and overriding priorities of developing countries" (CBD, Preamble). Early drafts of the Rio Declaration[17] betray the notion that preserving biodiversity first and foremost means preserving "optimum sustainable yield" or "optimum sustainable productivity" (Robinson, 1992, p. ci), in what under Ostrom's pen would come to be known as the "long-term economic viability" (Ostrom, 1990, p. 31).

[15] Our emphasis.

[16] See FAO (1986), CPGR/87/3, para. 41; FAO (1987), CL 91/14, para. 40.

[17] UN Doc. A/CONF.151/PC/78 of 26 July 1991.

Access and benefit sharing (ABS) naturally became a key component of the new regime and represents the legal embodiment of the underlying philosophy of conservation just described, in other words, the "Grand Bargain" (Boisvert & Vivien, 2012). Once value is assigned to biological diversity, the ABS process is expected to deliver "win–win" outcomes (see Eisner, 1989)[18]: while the "gene-poor" North retains access to the remarkable wealth of genetic resources located in the tropics, the Global South, able to capture part of the benefits arising out of intellectual property rights (IPRs), is deemed to be better equipped and, above all, *incentivised* to tackle biodiversity erosion (Sedjo, 1992).[19]

As shall be seen below, this initial focus was significantly altered by a nascent human rights-based approach that found its way into the UNCED negotiations (Halewood, 1999, p. 955). Principally for advocates of Indigenous peoples, the impending strengthening of IPRs (the context is that of the Uruguay Round Negotiations) made it indeed more pressing to reinforce communities' control over the use of their knowledge and innovations and secure some form of benefit sharing. Here, farmers' rights were taken back into the purview of IPRs and provided input for pushing *sui generis* rights for farmers and IPLCs forward (see in India, Swaminathan & Keystone International Dialogue Series on Plant Genetic Resources, 1995). In more radical terms, some proponents advocated land rights and the right to self-determination[20] for IPLCs.

However, none of the above was really translated into the provisions of the CDB. Admittedly, Article 10(c) of the CBD (like Article 8(j)) voluntarily retained an open-textured nature (Halewood, 1999, p. 978; Posey, 2004, p. 163), leading to a twofold obligation being placed on Contracting Parties, namely to "[p]rotect and encourage customary use of biological resources […]". In reality, however, there is an almost exclusive focus throughout the negotiations on "encouraging", i.e. on making IPLCs and farmers "participate"[21] in conservation activities, and the few inroads made into "protection" are primarily concerned with incentivising traditional resource management systems,[22] rather than with shielding against the unauthorised commercial use of biological resources and associated traditional knowledge (TK) (Hamilton, 2008). As there is a growing recognition that IPLCs "have a vital role in environmental management and development because of their knowledge and traditional practices" (Rio Declaration, Principle 22 – UNCED, 1992), the main challenge and concern is to harness this potential and channel it towards conservation and rural development.

Against this backdrop, much emphasis is put on designing appropriate incentives, i.e. on ways to change how "[…] humans interact with their environment and how they use natural resources", and this "[…] often requires changing patterns of

[18] UNEP/Bio. Div. 3/12, 13 August 1990, para. 7.

[19] UNEP, Governing Council, Decision 15/34 of 25 May 1989, (A/44/25), p. 161.

[20] A/CONF.151/PC/100/Add.21, para. 93 h; A/CONF.151/PC/104, para. 59.

[21] UNEP/Bio.Div.3/3, 12 June 1990, para. 9, ii; UNEP/Bio. Div. 3/12, 13 August 1990, Annex I, para. 8; UNEP/Bio.Div/WG.2/1/4), 28 November 1990, p. 39; A/CONF.151/PC/100/Add.13, paras 41, 138, 141, 143, 144. "Participation" was the new buzzword for international financial institutions (World Bank, 1989, p. 37) and intergovernmental organisations (see Peet & Watts, 1996, p. 25).

[22] UNEP/Bio.Div.3/6 20 June 1990, paras 1–2; also see Barton & Christensen (1988); Wood (1988)

behaviour and traditions that have emerged over long periods of time, and have, as a result, become enshrined in law or social custom and have the support of powerful groups in society".[23] This offers a glimpse into the extensive definition which has gradually been granted to incentives in the work of the CBD. Based on North's (1990) work on institutional change, incentives are designed as a blend of "formal constraints" (economic and legal instruments, regulations, and public investment), "social constraints" (e.g. cultural norms, social conventions, mores, etiquette, traditions, taboos), and "levels of compliance"—all of which make up "institutional incentives". Therefore, incentives are not so much about fine-tuned property rights over resources or knowledge[24] or Coasean contracts (Sedjo, 1992, p. 204),[25] but rather about creating tools for action on local institutions and social norms in order to reinforce enabling social constraints and drive necessary changes.[26]

By and large, this can be said to summarise the background discussions on FRs since the CBD. Linkages between "participation" and "incentives" are made through in situ conservation and the incipient, yet still elusive, subcategory of "on-farm" conservation. Significant progress in this field was achieved in the previous decade (Altieri et al., 1987; Nabhan, 1985; Oldfield & Alcorn, 1987), with mounting evidence that the "maintenance of traditional agroecosystems is the only sensible strategy to preserve in situ repositories of crop germplasm", without this leading to rural populations foregoing development opportunities (Jarvis & Hodgkin, 2008, p. 25).

While the idea of on-farm conservation progressed, including within the FAO, attention continued to focus on incentives. Swanson (economist) and Brush (anthropologist) lead the debates with the FAO, by publishing the first two influential background study papers commissioned by the Commission on Plant Genetic Resources from 1994 onward. Due to their nature as a "public good", landraces pose a specific challenge: there is a major global interest in conserving as large a pool as possible of local varieties, but farmers cannot appropriate any of the global benefits connected with maintaining this large pool (Cooper et al., 1994, p. 14). And while there used to be "in-built forces for the maintenance of diverse resources within individual farmer's portfolios", there is now "inefficient bias against diversity", hence the need for governance responses to build "incentives to supply diversity" (Swanson et al., 1994, pp. 35–36). Brush picks up the analysis in terms of the "public good" (Brush, 1994, p. 23), but he also recognises that heirloom varieties have not been largely displaced by modern varieties, contrary to the professions of generations of breeders and geneticists (Brush et al., 1981). Therefore, he asserts that "direct incentives" such as markets or IPRs play a secondary role, while institutional strengthening and community-based conservation programmes must be prioritised (Brush, 1994, pp. 14–18). The key is that there is no intention of depriving farmers of the benefits of agricultural modernisation. As he says: "This vision is one of islands of crop conservation surrounded by other regions where modern varieties predominate" (ibid., p. 8). What matters is to make sure that what takes place on these small and preserved portions of

[23] UNEP/CBD/COP/3/7, para. 7.
[24] UNEP/CBD/COP/3/24 20 September 1996, para. 68.
[25] UNEP/CBD/SBSTTA/5/13, 12 November 1999, para. 5.
[26] UNEP/CBD/COP/3/24, paras 13, 68–69.

a total farming system dominated by elite cultivars takes place properly, i.e. according to standards and methods set by scientists (Keystone Center, 1991, pp. 20, 26).

In the following years, as the concept of "biocultural diversity" gained traction in the field of conservation (Baer, 1989; Maffi, 2001), a new set of ideas was able to emerge: the on-farm conservation of crop genetic resources is a collective activity (Badstue et al., 2006; Jarvis et al., 2016, p. 191), which "[…] cannot be achieved isolated from maintenance of the socio-cultural organization of the local people" (Altieri et al., 1987, p. 93). Thus, proposals around IPLCs' rights to land and territories, self-governance, respect for their cultural heritage, and traditional institutions began to resurface and take hold due to a more favourable climate.[27] At the FAO, the three cornerstone documents published from the mid-1990s onwards reflect these changes. The 1996 Leipzig Declaration and the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture (FAO, 1997), as well as the Report on the State of the World's Plant Genetic Resources from the same year (FAO, 1998), are replete with fresh concerns about *supporting* and *maintaining* "[…] the social, economic and cultural values of local and indigenous communities and improve the quality of life" (FAO, 1997, para. 34).

Nevertheless, even within this new framework, suffused with ideas about farmers' "collective action" (Badstue et al., 2006; Eyzaguirre et al., 2007), farmers' seed networks (Coomes et al., 2015), or the importance of cultural values, there was no shift away from the logic of control that permeated the decade. The ambition persisted to delimitate and construe "spheres of activity that are measurable and manageable" (Bresnihan, 2016, p. 127) using an adequate grammar of institutions (Ostrom, 2009, p. 67) and a battery of well-tailored measures (participatory variety selection, increased access to germplasm, training, etc.) (see Jarvis et al., 2011) to drive individual economic behaviour towards "co-operative equilibrium outcomes" (Mosse, 1997, p. 469). Even as the debate on FRs was brought back within the ambit of "benefit sharing", and the idea of having an international fund was rekindled, the emphasis on a project-based approach testifies to a firm foothold in institutional control both in terms of yields (development) and on-farm diversity (sustainability) (FAO, 1998, pp. 359, 361), in any event far from direct considerations of justice and equity (FAO, 1998, p. 275) and the idea of self-management (Thrupp, 1989, p. 21).

A concluding note on biocultural approaches: giving shape to the rights of peasants

As the preceding paragraphs testify, the past decade has seen a marked change in the way crop genetic diversity on the farm and in the field is approached. With the popularisation of people-centred conservation (Peet & Watts, 1996) and the growing

[27] See, in particular, The Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples, June 1993, E/CN.4/Sub.2/AC.4/1993/CRP; The Bellagio Declaration from the 1993 Rockefeller Conference "Cultural Agency/Cultural Authority: Politics and Poetics of Intellectual Property in the Post-Colonial Era", https://case.edu/affil/sce/BellagioDec.html

body of research on community-based natural resource management, researchers and extensionists have investigated on-farm conservation against the backdrop of collective action and the commons theory, with a clear focus on farmers' seed networks (Mazé et al., 2020; Sievers-Glotzbach, et al., 2020a, b). An exemplar is one of the papers initiating the stream of research (Badstue et al., 2006), where it was posited "that individual farmers participate in some form of collective action to ensure their access to a larger base of maize genetic diversity than they would be able to manage or maintain individually" (ibid., p. 251). The premise is that on-farm conservation reflects the capacity of individual farmers, as rational economic agents, to partake in collective efforts—i.e. to give themselves and comply with a set of rules which distribute rights and responsibilities with a view to a shared interest (such as maintaining broad diversity). That farmers' rationality and autonomy notwithstanding, expert views are that there is always something to be gained from acting on local institutions and traditional rules. The views lie indeed in a sense of crisis which, in turn, feeds the idea of an ongoing necessity to accelerate changes (Sievers-Glotzbach et al., 2020a, b), if only to maintain or increase resilience. Hence, the tendency to reduce "farmers' rights" to a range of institutional engineering devices aimed to strengthen the collective action of farmers (Jarvis et al., 2011), a trend which can also be seen on the national scale, as shown by the first national inventory of options for guiding the implementation of farmers' rights.[28]

This intellectual framework, which now serves to address on-farm conservation and farmers' rights, may be seen as doubly problematic:

First, the vision that these studies portray of farmers' rationality lacks nuance. Assuming that they take decisions on maintaining diversity according to criteria of utility (formal rationality) and maximisation (to increase yield, limit fluctuations, absorb shocks, etc.) alone is problematic (Toledo, 2001, p. 459; also see Eyzaguirre & Dennis, 2007, p. 3). In fact, along a continuum ranging from "intentionality by default" to "conscious intentionality" (Almekinders et al., 2019, p. 122), small-scale farmers "do not typically choose agrobiodiversity for its own sake but rather because it fits with underlying farming rationales or trait preferences" (ibid.). Intentionality is more visible at the natural landscape level where subsistence farmers, driven by their needs, operate as "multiuse strategists" and seem to "play the game of subsistence through the manipulation of ecological components and processes (including forest succession, life cycles, and movement of materials)" (Toledo, 1990, pp. 55–56, 2001, p. 460). Secondly, this was clearly one of the main findings of the first study to engage with collective action in farmer seed networks, while farmers' seed networks exist, in contrast there are no institutions dedicated specifically to the circulation of seeds (Badstue et al., 2006, p. 268). At most, one finds "more informal institutions with rules that are not predetermined and that adjust to contingencies" or "'fuzzy' rules" (ibid.) (also see Eyzaguirre & Dennis, 2007; Garine et al., 2018). Beyond ethnicity, language, and kinship, an abundant body of literature has established that several socio-economic factors such as age, gender, wealth and income status, education, or social status can act on seed circulation (for an overview, see Jarvis et al., 2016, p. 191 seq.).

[28] See IT/GB-9/AHTEG-FR-3/20/2 (June 2020).

To be sure, some farmers and farming communities may need to be helped to "protect themselves against environmental volatility" (Jarvis et al., 2016, p. 325), not to mention those who are faced with extreme climate events (FAO et al., 2018), wars and conflicts (FAO et al., 2020, p. 9), natural disasters, cultural and linguistic assimilation (Maffi, 2001), migration patterns (FAO et al., 2017), and for whom the entire seed system may need to be recreated from scratch. However, this should be done bearing in mind the fact that biodiversity conservation at the local level is underwritten by non-naturalistic ontologies, embedded in cultural norms (Howard, 2010) and governed by forms of rationality (e.g. "mutuality" for Gudeman (2012, p. 13) and "ecological rationality" for Toledo (1990, p. 57)) which are unintelligible without a deep look into, and understanding of, cultural identity, cosmology, and religious beliefs.

Most recent "biocultural approaches" to conservation build this complexity into their theoretical basis and therefore take a radically different starting point, i.e. "the interdependence of biological and cultural diversity via coevolution processes" (Gavin et al., 2015). This, in turn, gives prominence to the support of cultural heritage and vernacular law (in particular all those rules governing the exchange of seeds and the kind of crops sown and bred), and all that upon which culture is based, namely the land/territory, along with community's traditional institutions governing most facets of individual and collective life.

These new underpinnings are reflected in bottom-up, biocultural-based, and NGO-driven initiatives helping farmers/peasants to regain political and legal space to control their territory, protect their cultural heritage, and continue to use, trade in, and access traditional crop varieties, semi-domesticated varieties, and wild relatives. The list is broadening rapidly: Biocultural Community Protocols (Halewood et al., 2021; Rakotondrabe & Girard 2021)[29] promoted in the wake of the Inter-Community Agreement for Equitable Benefit Sharing (ICABS) in the Potato Park (Peru), which was developed and entered into by six Quechua communities, with the support of the association ANDES (ANDES et al., 2012); Indigenous Conservation Territories and other Indigenous Peoples' and Community Conserved Areas based on the "territories and areas conserved by Indigenous peoples and local communities" (ICCAs) developed by the ICCA Consortium (Kothari et al., 2012)[30]; the Globally Important Agricultural Heritage Systems of the FAO (Harrop, 2009; Santilli, 2016, pp. 289–294); or the recent "other effective area-based conservation measures" discussed in the CBD.[31] These initiatives—which are gaining high-profile attention and even support in international fora—share their emphasis on culturally important practices relevant to the maintenance of genetic resources, social organisation, and self-governance through community-level decision-making processes, attachment to land and territories grounding an "ethic of stewardship" (Bavikatte & Bennett, 2015;

[29] See the Nagoya Protocol, Art. 12(1), 12(3)(a) & 21(i).

[30] Now endorsed by the IUCN and the CBD: Recommendation V.26 (IUCN & The World Conservation Union, 2005); Resolution 3.049 (IUCN & World Conservation Congress, 2005); (IUCN & World Commission on Protected Areas (WCPA), 2019); UNEP/CBD/COP/DEC/XI/24; CBD/COP/DEC/XIII/2, para. 7; CBD/COP/DEC/14/8 Annexe II.

[31] CBD/COP/DEC/14/8, para. 2; (IUCN & World Commission on Protected Areas (WCPA), 2019).

Mulrennan & Bussières, 2020) defining a set of rights and duties between community members and towards non-humans. In sum, they build on the idea that "[…] the conservation of Nature is a result of a holistic way of life" (Bavikatte, 2014, p. 233).

These set of rights and duties have materialised with the concept of "peasant rights" under the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (Hubert, 2019)[32] and support the above mentioned initiatives. According to its article 20, States shall take appropriate measures "to prevent the depletion and ensure the conservation and sustainable use of biodiversity" (§1) and "to promote and protect the traditional knowledge, innovation and practices of peasants […]" (§2). Although part of a non-legally binding international declaration, the right to seeds (art. 19), to food (art. 15), to land—individually and/or collectively as communities (art. 17)—and to their own culture (art. 26), embodies the many different facets of "[…] the total mosaic of a community life that is fragmented under different laws and policies" (Bavikatte, 2014, p. 233). We concur that, with the UNDROP "[…] the value of small-scale peasants' social and ecological sustainable contribution to the food production [and to biodiversity conservation and sustainable use] in a concrete manner as well as their community rights to manage resources collectively" is recognised (Le Teno et al., forthcoming; Mcmichael, 2008). Indeed, UNDROP enables States to allow peasants and IPLCs to embody Kloppenburg's words: "resistance must be complemented by creative actions that are not just reactions to corporate/neoliberal depredations, but which are offensive, affirmative, positive, proactive undertakings designed to repossess and maintain alternative, (relatively) autonomous spaces" (Kloppenburg, 2010, p. 385).

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Declarations

Conflict of interest The authors declare no competing interests.

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