Small Farmers Cool the Planet - The Case for Rights-Based International Agroecological Law

Gabriela Steier*

“How sad to think that nature speaks and mankind doesn’t listen.”

- Victor Hugo, 1820

DOI: 10.21827/59db68c9328ac

Abstract

Agroecology and food sovereignty are vital for the functioning of food systems and should be legally protected through the Right to Food in international trade. As an emerged legal discipline, agroecological protection severed from economic goals and in line with the SDGs should be at the forefront of RTA negotiations. Trade distortions create more universal problems, such as food insecurity, social unrest, unsustainable food production, environmentally harmful farming, and political uncertainty. Some of the trade distortions could be addressed by combining food security and agroecology through a rights-based approach. For the reason that victims of food dumping need redressability for violations of their food security, whether in the past, present or future, international agroecological law may help to pave the way toward this rights-based approach by focusing on the aspect of sustainable food procurement.

I. Introduction

Sustainable food production should be a core value of international agricultural trade, but it is not. The goal to incorporate sustainability into trade seems lofty and overly ambitious. It should not be because this goal touches on the important rights-based

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* Gabriela Steier is Co-Founder of Food Law International (FLI) and Editor in Chief of the forthcoming textbooks International Food Law and Policy and International Farm Animal, Wildlife and Food Safety Law. She is an attorney and focuses on food safety, policy, animal welfare and GMO issues domestically and in the European Union. Gabriela worked as an LLM Fellow in Food and Agriculture Law at the Vermont Law School and is pursuing an LLM there. She also joined the Duquesne University School of Law as an Adjunct Professor teaching “food law and policy” and “climate change law.” As Visiting Professor at the University of Perugia, Italy, she also teaches EU-US comparative food law at the Department of Political Sciences. She holds a B.A. from Tufts University, a J.D. from Duquesne University and is pursuing a doctorate in comparative law at the University of Cologne in Germany. She worked as a Legal Fellow at the Centre for Food Safety on Capitol Hill in Washington, D.C. from 2013 until 2015.

Many thanks to Professors Nadia Lambek, Laurie Ristino from the Vermont Law School for sparking the idea to explore agroecology, and to Professor Jamie Renner. Special thanks go to Professor Massimo Monteduro from the University of Salento for his insights into the field and supportive e-mail exchanges. Most importantly, the author expresses heartfelt gratitude to Dr. Regina Steier, Morrice Nathenson Steier and Dr. Michael Nathenson for their support and patience during the drafting of this paper and to Prof. Dr. Liviu Steier for his loving encouragement. This paper is dedicated to Fany Sontag, the most loving, beautiful, and devoted grandmother whom I miss every moment.

The title of this Paper is based on Klein, N, This Changes Everything: Capitalism v. the Climate (Simon & Schuster, 2014), Kindle location 2466, citing La Via Campesina.

equality between trading partners. Its importance rests in the food trade, where developed countries often target developing countries in order to create a market for their surplus. The underlying trade-distorting measures that developed countries use to ensure the functioning of their domestic food supply and the sales of surplus production lead to food dumping, a practice describing the surplus sales of overproducing Western countries to weaker developing markets. Conversely, developing countries' markets are flooded with inexpensive commodity foods, often processed, input-intensive high-calorie and low nutrient-density snack foods. It follows that the agricultural market in developing countries is reoriented toward non-food crops, disturbing developing countries' agricultural exports, because farmers no longer produce food for their local markets.

Even though this problem is oversimplified here, the resulting trade distortions create more universal problems, such as food insecurity, social unrest, unsustainable food production, environmentally harmful farming, and political uncertainty. Scholars warn that “[c]urrent food insecurity is not caused by absolute food scarcity, but the consequences of ineffective global food distribution, which is the result of distorted international trade” facilitated by Regional Trade Agreements (RTAs). RTAs are “deep integration partnerships between countries or regions with a major share of world trade and foreign direct investments.” These RTAs often fail to address the inequalities of trading partners and miss the important goal of trading governments to ensure food security. Some of the trade distortions could be addressed by combining food security and agroecology through a rights-based approach.

The primacy of food for the survival of humans is a universal premise of this rights-based approach. It should be supported through food policies and legal frameworks. One method of ensuring food security is through the Right to Food, defined by the United Nations (UN) as:

“the right of every individual, alone or in community with others, to have physical and economic access at all times to sufficient, adequate and culturally acceptable food that is produced and consumed sustainably, preserving access to food for future generations.”

As Professor De Schutter from the University of Louvain and the former special Rapporteur on the Right to Food notes, “the right to food can be summarized by reference to the requirements of availability, accessibility, adequacy and sustainability, all of which must be built into legal entitlements and secured through accountability

2 Ibid.
3 Ibid.
4 Ibid.
6 Ibid.
8 Alabrese, M et al., 2016 AgLaw Colloquium (adapted from the call for papers), at <santannapisa.it/en/event/2016-aglaw-colloquium> (accessed on 13 December 2016).
9 Roberts, M in Chen, Y, supra nt 7, i.
mechanisms.”

This paper zooms in on the sustainability prong where the aforementioned legal entitlements and accountability mechanisms should be required elements of international trade agreements. For the reason that victims of food dumping need redressability for violations of their food security, whether in the past, present or future, international agroecological law may help to pave the way toward this rights-based approach by focusing on the aspect of sustainable food procurement.

Agriculture in tune with nature, so-called agroecology, has emerged as a more resilient and robust alternative to industrial food production. This agroecological alternative should be central to the legal entitlements and accountability mechanisms in international trade agreements. In the following sections, this paper explores the necessity of incorporating agroecology as an important aspect of the Right to Food. Specifically, this paper makes the case for a rights-based international agroecological legal framework that should guide RTAs to further the United Nation’s goals on food security. Part II introduces agroecology as an emerged legal discipline. Subsequently, Part III juxtaposes agricultural exceptionalism and the exceptionalism of agroecology. The paper continues to explore avenues through which agroecology could be integrated into international agricultural trade by awarding agroecology legal protection in Part IV and examines some points of critique in Part V.

II. Agroecology: An Emerged Discipline

Agroecology essentially applies ecology to agriculture and has the ability to change the common vision of both agriculture and society. Potentially capable of permeating various levels of society and environmental conservation, agroecology can be truly transformative for local economies and even international trade. According to the World Bank, a stakeholder in the economies of developing countries, “[G]ross Domestic Product (GDP) growth in agriculture has been shown to be at least twice as effective in reducing poverty as growth originating in other sectors.” Agroecology, understood through the lens of the rights-based approach and environmental law, can help people to achieve these goals.

Historically, agroecology links agriculture to both ecology and food systems. When agroecology first emerged as a discipline, it combined agronomy and ecology.
its second phase, as Professor Monteduro from the University of Salento in Italy, observes, “the interdisciplinary nature of agroecology extended to become inseparable from the problem of food.” This fundamental evolution integrated sociological, economic, political, historical and scientific aspects into the field of agroecology. As a result, agroecology now comprises organisation, management and development of agri-food systems, including production and consumption, thereby practically integrating agriculture into the concept of food systems. Now, in the third phase, agroecology has become “a fully-fledged transdisciplinary science,” according to Monteduro. By incorporating philosophical and bioethical sciences, and by “integrat[ing] … the theory of social systems applied to agricultural ecosystems, agroecotourism, social agriculture, urban and peri-urban agriculture, the rural landscape, the relations between rural communities and society, biotechnologies, [and] agroenergy,” this interdisciplinary field responds to the conventional model of industrial agriculture with an eco-centric, culturally aware approach. All of these nuances should be factored into agricultural trade in order to introduce agroecological principles into RTAs, feasibly achieved by separating agriculture from economics.

Economically advantaged countries regulate and protect their agricultural systems more than poorer countries, sometimes at the expense of the latter. Protective mechanisms range from subsidies and tariffs to other barriers that allow richer countries to overproduce and dump their surplus on poorer countries. It follows that existing “food policies and legal frameworks, as diverse, complex and globally scattered as they are, render it difficult to streamline food system regulation.” RTAs have consequently emerged as alternatives to this multilateralism in food systems. Complicating the complexity of these RTAs further, scholars observe that their “scale and scope … have been eclipsed by the level of ambition of some new ‘mega-regional’ negotiations … which have the potential to significantly reshape the global trade landscape.” At this level, the rights-based approach to agroecology should be factored into how RTAs may comply with global food systems. Especially because of the enormous potential of these RTAs to change food systems in developing nations, the Right to Food and its underlying legal entitlements and accountability mechanisms must be considered.

This regulatory compatibility, albeit fragmented and diverse around the globe, currently overlooks important aspects of sustainable food production and resilient food system regulation, whereby agricultural protectionism in international trade is facilitating food dumping in developing countries. As a result, developing countries experience nutrition shifts, causing a host of public health, food security and also environmental problems. De Schutter explains that:

“The increased reliance on food imports is a major cause of ‘nutrition transition’ in the developing world, by which nutritionists mean the shift to processed foods richer in salt,
sugar and saturated fats—foods that have a long shelf life and are attractive to urban populations and younger generations, but are often less nutritious and less healthy.”27

Moreover, food prices are highly volatile and foster social and political instability in many of the least developed countries.28 Consequently, “small-scale farming was not viable under these conditions, many rural households were relegated to subsistence farming, surviving only by diversifying their incomes.”29 However, farmers can only diversify their incomes by applying agroecological methods, such as intercropping, and essentially moving away from the industrial model of conventional farming. Accomplishing this shift requires regulatory compliance and compatibility, which, in turn, is affected by RTAs on a higher governance level.

It is this diversification by way of agroecology on which this paper focuses. If agroecology were protected as a branch of food security by way of the Right to Food, then agroecology as a legal subspecialty should, arguably, guide RTA negotiations and enactments. Although this idea is complex and daunting, this paper asks: How could the implications of this agroecological twist on RTAs be justified?

III. Agricultural Exceptionalism and the Exceptionalism of Agroecology

To-date, RTAs set agriculture apart. Agriculture has been the most protected sector in international trade because governments seek to feed their people and provide jobs through the ever-needed food sector.30 One possible justification is agricultural exceptionalism, “the use of legal exceptions to protect the agricultural industry.”31 This special status for agriculture as an industry “is evident throughout the law, with farmers protected from involuntary bankruptcy, exempted from many environmental regulations, and excepted from anti-trust restrictions.”32 Many exceptions for the agricultural sector occur in different countries, making exceptionalism a matter of international trade.33

Using this special status of agriculture, however, could also support special considerations to protect the continued supply, i.e. the sustainability aspects. An economically-removed aspect of food trade, the rights-based approach, for instance, could echo agricultural entitlements already resting on food’s primacy. Thus, the successful interaction of such goals will eventually reconnect to development in a more uniform and equal manner, promising fairness in global food trade. The UN has already begun this process through the Sustainable Development Goals (SDGs).

The SDGs are a plan of action for people, planet and prosperity, setting an aspirational agenda to transform the world by 2030 to eradicate poverty, an indispensable requirement for sustainable development.34 The UN declare that the SDGs “are integrated and indivisible and balance the three dimensions of sustainable development:

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28 Id.
29 Id.
30 Chen, supra nt 7, 74.
32 Id, 936.
33 Ibid.
the economic, social and environmental.” The German Federal Ministry for Economic Cooperation and Development Special unit ‘ONE WORLD – No Hunger’ (GIZ), a subdivision linking food security and sustainable agriculture, notes that “[s]everal SDGs touch the issue of conservation and sustainable use of agrobiodiversity” – in other words, agroecology. Especially goals 2, 14, 15, and 16 relate to agroecology within the food sovereignty framework:

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture;
Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development;
Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss;
Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

These selected goals are some aspects of what agroecology can and should accomplish in a rights-based approach. The second goal ties food sovereignty and food security together, while promoting sustainable agriculture in line with agroecology. Similarly, Goal 14 emphasizes environmental conservation, while Goal 15 even adds biodiversity into the equation, again relating back to agrobiodiversity in food production and, thereby, agroecology. Notably, Goal 16 raises all of these issues into a societal and political domain, acknowledging the links between peace and sustainable development. Accomplishing Goal 13, “[t]ake urgent action to combat climate change and its impacts” is implied in the agroecology approach described here, but a detailed analysis is beyond the scope of this paper. Nonetheless, the IPES report on the SDGs, albeit not making all the connections that this paper makes explicitly supports the agroecological principles.

From an environmental law perspective, agroecology and food sovereignty can be linked through the SDGs. De Schutter observes that “[a]griculture is at a crossroads” because “increasing food production to meet future needs, while necessary, is not sufficient” – only sustainable methods of food production can ensure a continued supply of food for the growing population of the future. SDGs are one UN model to accomplish just that while supporting the case for international agricultural law. Similarly, the Aichi Biodiversity Target 13 of the Convention on Biological Diversity (CBD), Strategic Plan for Biodiversity 2011-2020 also supports agroecologic goals and may benefit from strengthened agroecological advocacy in international trade. Target 13 provides:

35 Ibid.
38 UN, supra nt 1.
40 Ibid.
By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.41

Thus the SDGs and CBD illustrate how international goals may align with agroecology. As a counterpart to the forced and industry-dominated agricultural exceptionalism, agroecological exceptionalism lies in its nature by way of its harmonious coexistence with self-perpetuating biological processes. Notably, “[a]gricultural biodiversity provides environmental services (soil, water, habitat, and pollinators) and supports the sustainability and resilience of agricultural systems; it can provide a diverse and nutritious diet, contribute to health, and support the maintenance of traditional knowledge and cultural identity.”42 It follows that these traits of agroecology are certainly in line with the Right to Food and the principles of food sovereignty and food security embedded therein.

Investments are needed to promote a sustainable model of food production that will, in fact, feed the world. The UN Food and Agriculture Organization (FAO), however, estimates that “yearly investment in agriculture needs to rise by more than 50 percent,” thus USD 83 billion annually to meet the SDGs by 2030.43 These goals include concerns about how long-term gains in food production can be reconciled with environmental and resource conservation and ecosystem protection. Simply put, agroecology’s goals are evidently beyond economic gains because “short-term [economic] gains will be offset by long-term losses if it leads to further degradation of ecosystems, threatening [the] future ability to maintain current levels of production.”44 Recognizing these trends, De Schutter observes, governments are paying more attention to agriculture and that agri-food companies increased their investment in the long-term viability of supplies, with foreign average annual investments rising from USD 600 million in the 1990s to USD 3 billion in 2005-2007.45 Governments may, consequently, be receptive to consider the rights-based agroecological approach in RTA negotiations. Especially, as De Schutter explains, conventional agriculture, while supposedly producing a sufficient amount of food, will fail to produce nutritionally adequate, environmentally sustainable, and thereby, continuously available food. In other words, the current industrial model of food production will not feed the world in the future.

For instance, through the practice of agroecology, farmers can diversify their incomes by diversifying the crops they grow and variegating the methods they utilize to cultivate their land. Some governments already concede that “[a] rich diversity of native plant varieties and locally adapted animal breeds contributes to strengthening these farmers’ and herders’ resilience in the face of difficult climatic conditions and marginal

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44 De Schutter, supra nt 39, 3.
45 Ibid.
locations, e.g. in arid or upland regions. Traditional crops and livestock breeds can be utilized with minimum agricultural input, have quality characteristics that correspond to local needs and also often play an important role in the culture of the rural population."\textsuperscript{46} The diversification of agriculture with the goal to promote sustainable and climate change resilient farming practices is the backbone of this system – and this system is in dire need of legal protection.

**IV. Legal Protection for Agroecology's Infrastructure**

Implementing the rights-based approach to agroecology means strengthening the infrastructure of laws, treaties, and regulations that foster an agroecology-friendly trading environment. Promoting agroecological research and separating bio-cultural goals from economic drivers may be one method to change the legal landscape. For instance, Monteduro links the SDGs to agroecology by way of bio-cultural diversity, which he considers key.\textsuperscript{47} He explains that “[o]n the one hand, bio-cultural diversity is shared between food sovereignty and agroecology … on the other, many SDGs implicitly or explicitly refer to bio-cultural diversity.”\textsuperscript{48} These observations align with those of Belgian scholars, who found that agroecological research can help to:

\begin{quote}
“develop[ing] tools and methods for better understanding ecosystem services, evaluating their importance, optimizing natural processes, developing socioeconomic systems for paying their production, and integrating ecosystem services in the intrinsic mechanisms of the society of tomorrow.”\textsuperscript{49}
\end{quote}

For example, in Belgium, three quarters of plant production are used for animal feeding, fuelling meat consumption 40 percent higher than what nutritionists recommend.\textsuperscript{50} From an agroecological standpoint, this “means that part of the land could be devoted to crops other than annual crops for animal feeding, which creates opportunities for diversification and for a larger share of (permanent) grasslands in the agricultural area.”\textsuperscript{51} This diversification may halt overproduction and solve part of the dumping problem mentioned above.

Agroecology, as a cross-disciplinary field, has further reaching potential to improve nutritional outcomes by diversifying diets through a more varied food supply. In the US, an internal Food and Drug Administration (FDA) report titled 'The Nutrition Review Project' examined policies to actually result in healthier Americans, concluded that a complete reset is needed.\textsuperscript{52} Award-winning journalist, Naomi Klein, observes that the current debate about agriculture contrasts industrial agriculture's higher yields and

\begin{itemize}
\item E-mail correspondence with Prof. Massimo Monteduro (Jul. 7, 2016) (on file with author).
\item Ibid.
\item Id, 294-295.
\item Id, 295 (internal citations omitted).
\end{itemize}
local or organic farming’s lower chemical inputs and shorter supply chains. She considers agroecology “a less understood practice in which small-scale farmers use sustainable methods based on a combination of modern science and local knowledge.” A diversification of agrobiodiversity and the proliferation of agroecological practice could contribute to the systematic overhauls that are necessary, thereby returning local and high-quality nutrient-dense foods to society that the industrialisation of agriculture has artificially removed from our plates. After all, diversifying the food supply may help promote nutritional adequacy.

The implications of incorporating the rights-based approach, however, has been criticised for “impoverishing political discourse” because “[t]he absoluteness of human rights may promote unrealistic expectations, heighten social conflict and inhibit dialogue that might otherwise lead towards consensus, accommodation or at least discovery of common ground.” This is an argument from industry lobbyists. In 2008, the year the previous US Farm Bill passed, BigAg mega-corporation, Monsanto, for instance, spent $8.8 million in lobbying expenditures, $8 million in lobbying expenses in 2010, another $6.37 million in 2011, and nearly $6 million more in 2012. The Union of Concerned Scientists, a national non-profit organisation, reports that Monsanto’s reported lobbying in early 2011 succeeded at creating a so-called ‘modern agriculture’ caucus in Congress, which further evidences that the dialogue leaders in the agricultural policy are the stakeholders who could benefit most from RTAs. Monsanto is an example of a large international stakeholder that seeks to stifle honest dialogues advocating for agroecology because diversification would harm Monsanto’s bottom line. Multinational companies such as Monsanto, Dow, Syngenta and Bayer, have stakes in RTAs and hold the global system in a gridlock. This paper seeks to inspire the discourse for a legal framework in favor of agroecology that sets RTAs free from the unilateral economic orientation that, as previously described, leads to industrial agriculture, the consequential overproduction, dumping, and weakening of developing countries’ food security.

Sustainability, albeit a vague term, can better restore food security in an agroecological framework. Professor Laurie Ristino, Director of the Centre for Agriculture and Food Systems at the Vermont Law School writes that “nearly every step in the sustainable food chain requires law to support it. The policy work done to date is a fine start, but without the legal infrastructure to undergird policy, it will have limited traction in our rule of law society.” This observation expands through international agricultural trade, where diversification should be valued over uniformisation as is currently occurring. Thus, according to the IPES report, agroecological law can help to turn lock-ins into points for change, as illustrated by Figure 1.

53 Klein, N, This Changes Everything: Capitalism v. the Climate (Simon & Schuster, 2014), at Kindle location 2466.
54 Ibid.
55 Peeters, supra note 49, 287.
58 Ibid.
Programs that support these paradigm shifts toward agroecology in international food trade include the 2005 Millennium Ecosystem Assessment, 2009 International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) with over 400 cited supporting studies, FAO’s regional agroecology meetings and its training courses to build agroecology into its Farmer Field School systems in 2015 and 2016, and FAO and UNEP’s Sustainable Food Systems Programme (SFSP) as part of the UN 10 Year framework programme on sustainable consumption and production.\(^{61}\)

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\(^{61}\) Ibid.
V. Disconnecting Critiques

The rights-based legal protection for agroecology described herein is controversial. One of the main objections to grouping agroecology, food sovereignty and environmental law (through the SDGs) into the rights-based approach is their mismatched directionality. Simply put, food sovereignty, the grassroots movement initiated by La Via Campesina, takes a bottom-up approach, while both agroecology and the SDGs are top down approaches whereby scientists evaluate and abstract or governments legislate and regulate. Framing this another way, food sovereignty is a principle by the people, while agroecology and environmental law are for the people. Thus, from this directional perspective, the upward orientation of food sovereignty seems incompatible with any downward regulatory approach.

Although this mismatch seems logical, it is discredited by the essential alignment of all three parts: that of agroecology, environmental law, and food sovereignty. The mere fact that the former UN Special Rapporteur on the Right to Food put agroecology within the context of human rights, specifically the Right to Food, already provides an authoritative link between the three parts. The FAO and Professor De Schutter also provide a conclusive connection between food sovereignty and agroecology by linking the concepts in various publications, including the Nyéléni Declaration, which essentially describes agroecological goals under the food sovereignty umbrella.62

1. Focuses on food for people;
2. Values food providers;
3. Localises food systems;
4. Places control at the local level;
5. Builds knowledge and skills;
6. Works with nature.63

Another objection originates from the hegemonic monism of industrial agriculture, taking the position that “only a few changes are necessary to apply those tools to environmental problems…”64 As Figure 1 shows, one such change consists of decoupling agroecology and economic goals in food trade regulation.65 The objectivist (but not necessarily objective) view, links the “costs (loss of nutrients and biodiversity and environmental degradation) and benefits (production, generation of wealth, and maintaining the environment) of agriculture”66, but erroneously focuses on “the resources that enter and abandon the agricultural systems [which] are seen as finite capital measured in monetary or physical units”67 overlooking non-quantifiable aspects, such as biodiversity losses, soil depletion, and environmental degradation. A truly objective

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66 Gómez et al., supra nt, 64, 686.
67 Ibid. (internal citations omitted).
approach would also consider that “the capital that enters and exits agricultural systems is not measured only in physical units, but also includes cultural knowledge, human experience [and] potential for technological development.”  Alteringly,

“statutes that are putatively designed to protect the environment are often more honestly described as programs for boosting commodity prices and farm incomes by restricting output. For example, the Soil Conservation Act of 1936 described wheat as a “soil-eroding” crop and soybeans as a “soil-conserving” crop, in apparent defiance of agronomy but conveniently in accord with the income-support provisions of the invalidated Agricultural Adjustment Act of 1933.”

Another example is the Conservation Reserve Program (CRP) which “has failed to produc[e] benefits sufficient to cover its costs.” To be sure, neither the environmental benefits nor the fiscal costs of the CRP can be quantified with an absolute degree of confidence and the rights-based approach toward agroecology should prohibit the abuse of subsidies, as indirect bribes to farmers. Thus, “[i]f indeed farmers are “stewards” of the land, they are among the most richly bribed guardians of environmental integrity.”

Instead of shutting out the rights-based approach, “agroecological thought should open up to epistemological pluralism for production of agricultural knowledge.” This concept “goes beyond overcoming the disciplinary compartmentalization characteristic of conventional science, since it questions the hegemonic belief of the superiority of scientific practice.” Admitting that, there is no consensus in the literature on “whether said incorporation is instrumental (e.g., the use of cropping techniques or associations among species) or epistemological (i.e., the articulation of scientific discourse with forms of non-scientific knowledge, such as peasant, indigenous or afro knowledge).” There is, however, a general tendency that considers “agroecology… [to be] a scientific discipline that integrates different disciplines” and practices. The epistemological pluralism and interdisciplinary nature of agroecology within various climatic, cultural and economic contexts are the ultimate justification that neither conceptual depth nor discussion are necessary nor useful to advance the field. Agroecology is, after all, rooted in biodiversity, evolution and adaptability – virtues tackling the core problems of the current food system, where industrial agriculture has failed.

Groundswell International, a non-profit organisation with a mission of strengthening rural communities in order to build healthy farming and food systems from the ground up, reports that:

“over the past century industrial agriculture led to increases in global staple foods production through the use of pesticides and fertilizers, it has failed to eradicate world
hunger and instead contributed to increased poverty rates. It has shifted production from multitudes of farmers to few producers and reduced soil quality while bearing a heavy burden on our planet.”

Citing statistics from the most recent International Panel of Experts on Sustainable Food Systems (IPES) report:

- Crop yields failed to improve, stagnated or collapsed in 24-39% of the World’s maize, rice, wheat and soybean production zones over recent decades;
- Large-scale producers deprive farmers of their food sovereignty;
- Farmers constitute 50% of the World’s poor;
- Global food systems account for one-third of greenhouse gas emissions and is a primary polluter of water sources and depletor of water tables and forests.

In fact, IPES experts add that the “feedback loops or “lock-ins” built into the industrial agricultural system... keep us bound to it” and industrial agriculture “leads systematically to negative outcomes and vulnerabilities.”

VI. Conclusion

Agroecology and food sovereignty are vital for the functioning of food systems and should be legally protected through the Right to Food in international trade. As an emerged legal discipline, agroecological protection severed from economic goals and in line with the SDGs should be at the forefront of RTA negotiations. Sustainable development, climate change resilience and international trade, connected through food and agriculture, may point the way forward. Protecting these interests may require a streamlined approach to research and advocacy for these interrelated concepts on a broad global level. As this paper describes, small farmers using agroecology may cool the planet and feed the world.

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www.grojil.org

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81 IPES, supra nt 60.
83 IPES, supra 60, 3.