

10-1-2011

Trade Liberalization and Obstacles to Food Security: Toward a Sustainable Food Sovereignty

Peter Halewood

Follow this and additional works at: <http://repository.law.miami.edu/umialr>



Part of the [Comparative and Foreign Law Commons](#), and the [International Law Commons](#)

Recommended Citation

Peter Halewood, *Trade Liberalization and Obstacles to Food Security: Toward a Sustainable Food Sovereignty*, 43 U. Miami Inter-Am. L. Rev. 115 (2011)

Available at: <http://repository.law.miami.edu/umialr/vol43/iss1/7>

This Article is brought to you for free and open access by Institutional Repository. It has been accepted for inclusion in University of Miami Inter-American Law Review by an authorized administrator of Institutional Repository. For more information, please contact library@law.miami.edu.

Trade Liberalization and Obstacles to Food Security: Toward a Sustainable Food Sovereignty

Peter Halewood*

I. INTRODUCTION

Rising global food prices during 2010 and 2011 are thought to be partly responsible for the recent political uprisings and regime changes in the Middle East.¹ The 2008 global spikes in food prices and the consequent food riots around the world lent additional urgency to analysis of underlying structural problems in the global system of producing, trading, and delivering food.² Global food insecurity (hunger) is likely to increase again if population increase, climate change, biofuel production, agricultural commodity trading,³ and global trade imbalances persist or expand. Unfortunately, the internationally recognized human right to food has been to date relatively ineffective in stemming the tide of food insecurity in the Global South.⁴ This essay identifies and analyzes some of the major dynamics in trade law as they relate to food insecurity and argues that, while it does not replace the right to food, the concept of food sovereignty advances discussion of these issues both as domestic and international legal matters and, just as importantly, as a vehicle for building political coalition both domestically and transnationally. Food sovereignty can rally opposition and resistance to global capital's hegemonic construction of equality, markets, and food itself.

* Professor of Law, Albany Law School. Many thanks to the organizers of the LatCrit South-North Exchange, "The Global Politics of Food: Sustainability and Subordination," May 6-8, 2010 in Mexico City, where I gave a talk upon which this paper is based. I also want to thank Peter Apostol, Adam Staier, and Megan Thisse for research assistance, and the University of Miami Inter-American Law Review for editorial assistance.

1. *Soaring Food Prices Hit Poor Countries, Spur Farmers*, (NPR News Radio Broadcast February 27, 2011), available at <http://www.npr.org/2011/02/27/134069431/soaring-food-prices-hit-poor-countries-spur-farmers>.

2. See Frederick Kaugman, *The Food Bubble: How Wall Street Starved Millions and Got Away with It*, Harper's, July 2010, at 28.

3. *Id.* at 27; see also Neil MacFarquhar, *U.N. Raises Food Concerns As Global Food Prices Jump*, N.Y. Times, Sept. 4, 2010, at A4 (discussing the unrest already occurring in parts of the world due the current rise in global wheat prices).

4. See David Fazzino, *The Meaning and Relevance of Food Security in the Context of Current Globalization Trends*, 19 J. Land Use & Envtl. L. 435, 439 (2004).

Several issues recur in scholarly discussion of the right to food and food (in)security. The first is how/whether the international community recognizes, interprets, and enforces the right to food.⁵ The second is how international trade generally intersects with the right to food and food security.⁶ The third is quite distinct: how intellectual property rights affect the right to food security.⁷ Global investment in and production of biofuels is an additional vector in distorting global food prices as agricultural products ordinarily used primarily for food, such as corn and sugar, are converted to fuel. These issues play out against a larger conceptual and political backdrop: the neo-liberal contract-based investment/return model of trade versus the human rights-based sustainable, ecological model.⁸ There has been a collision – incompletely theorized – of human rights and biodiversity principles on one hand with extant trade law principles on the other.

My aim in this essay is to begin to theorize this intersection around the concept of food sovereignty so as to advance and contribute to critical discussion. Human rights law, particularly the right to food⁹, can be used to place checks on trade law either by express incorporation of human rights law in future trade negotiations or by interpreting existing trade law as requiring consistency with global human rights norms. Neither approach seems particularly likely to succeed. The food sovereignty movement suggests, among other things, that food and agriculture be removed from the purview of global trade law and institutions such as the WTO.¹⁰ While the human right to food is in a sense a negative, limiting right against states, food sovereignty suggests a broader, more expansive right: a robust right of nutritional and agricultural self-determination.

5. Anthony Paul Kearns III, *The Right to Food Exists via Customary International Law*, 22 *Suffolk Transnat'l L. Rev.* 223, 256 (1998).

6. Smita Narula, *The Right to Food: Holding Global Actors Accountable Under International Law*, 44 *Colum. J. Transnat'l L.* 691, 697 (2006).

7. See Fazzino, *supra* note 4, at 443.

8. See *id.* at 450.

9. See Steve Charnovitz, *The Boundaries of the WTO: Triangulating the World Trade Organization*, 96 *Am. J. Int'l. L.* 28, 30 (2002); Universal Declaration of Human Rights, G.A. Res. 217 (III) A, U.N. Doc. A/RES/217(III) (Dec. 10, 1948), available at <http://www.un.org/en/documents/udhr/> (“Everyone has the right to a standard of living adequate for the health and wellbeing of himself and his family, including food, clothing housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”).

10. See PETER ROSSET, *FOOD IS DIFFERENT: WHY WE MUST GET THE WTO OUT OF AGRICULTURE* xiv (Zed Books Ltd. 2006).

INTERNATIONAL ACKNOWLEDGMENT OF THE RIGHT TO FOOD

The universal right to food was first recognized in the Universal Declaration of Human Rights in 1948.¹¹ The right to food was then codified in Article 11 of the International Covenant on Economic, Social and Cultural Rights (ICESCR).¹² The Covenant has been accepted in 160 countries and reads in pertinent part:

The States Parties to the present covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent.¹³

The Committee on Economic, Social, and Cultural Rights is responsible for monitoring this covenant and in doing so has issued non-binding General Comments.¹⁴ General Comment 12 focuses on the broad interpretation of the right to food and the obligation of countries to make food both economically and physically accessible.¹⁵ As Wenonah Hauter explains:

General Comment 12 sets out a three-part typology detailing how states can meet their obligations: states have a duty to respect, protect, and fulfill. The obligation to respect requires that states avoid taking actions that deny or make it difficult to gain access and availability to adequate food. The obligation to protect requires that states act to ensure that other enterprises or individuals do not deprive individuals of their access to and the availability of adequate food. Finally, the obligation to fulfill incorporates both an obligation to facilitate and an obligation to provide. The obligation to facilitate means the state must proactively engage in activities to strengthen people's access to, and utilization of, resources and means to ensure their live-

11. See Universal Declaration of Human Rights, *supra* note 9, at Article 25.

12. Wenonah Hauter, *The Limits of International Human Rights Law and the Role of Food Sovereignty in Protecting People from Further Trade Liberalization Under the Doha Round Negotiations*, 40 Vand. J. Transnat'l L. 1071, 1083-84 (2007).

13. *Id.* at 1084 (citing International Covenant on Economic, Social and Cultural Rights [ICESCR], G.A. Res. 2200A (XXI), art. 11(1) (Dec. 16, 1976), available at http://www.unhcr.ch/html/menu3/b/a_ceschr.htm).

14. *Id.* at 1084-85 (citing Office of the United Nations High Comm'n'r for Human Rights, The Committee on Economic, Social and Cultural Rights: Fact Sheet No.16 (Rev. 1) § 6, (July, 1991) available at <http://www.unhcr.ch/html/menu6/2/fs16.htm>).

15. Hauter, *supra* note 12, at 1085-1086.

lihood. The duty to provide requires that states fulfill the right to adequate food when people cannot do so themselves for reasons beyond their control. States can violate the right to adequate food through either actions or omissions. States do have a defense: a state does not violate the right to food if it is simply unable to comply, but only when it is unwilling to do so, or when it discriminates and denies the right to some people.¹⁶

A tension exists between what might be referred to as economic versus human rights models of poverty reduction and food security. In the initial movement to prevent hunger and poverty, there was often a focus on solely economic statistics (e.g., GDP, \$1/day poverty thresholds) that were poor indicators of actual conditions throughout the world.¹⁷ In reaction to this, a widespread push toward practical country-specific self-sufficiency in food production was initiated.¹⁸ This continues to be the focus of international commentary aimed at ensuring that the human right to food is respected, although trade and food imports are not necessarily negatively correlated with food security. Through focusing on local food production, the right to food is better practically protected than in *post hoc* adjudication, as the justiciability of the human right to food is not guaranteed by each state and there are concerns about extraterritorial application of the right.¹⁹ Nonetheless, many IFIs' (international financial institutions) policies remain informed by "economic" modeling and focus on GDP and other measures as indicative of real economic development.²⁰

There has long been argument about the lack of enforcement measures for economic, social and cultural rights when individuals or groups have complaints against states.²¹ Since 2004 the UN has developed an optional protocol (opened for signature in 2009)

16. *Id.* (citing U.N. Comm on Econ., Soc. & Cultural Rights [CESCR], Substantive Issues Arising In The Implementation Of The International Covenant On Economic, Social And Cultural Rights: General Comment 12, "The Right To Adequate Food" (Art. 11), U.N. Doc E/C.12/1999/5 (May 12, 1999) [hereinafter Right to Adequate Food], available at [http://www.unhcr.ch/tbs/doc.nsf/\(Symbol\)/3d02758c707031d58025677f003b73b9](http://www.unhcr.ch/tbs/doc.nsf/(Symbol)/3d02758c707031d58025677f003b73b9)).

17. ASBJØRN EIDE, FOOD AS A HUMAN RIGHT 3 (A. Eide et al. eds., United Nations University Press 1984).

18. *Id.*

19. See Michael J. Dennis & David P. Steward, *Justiciability of Economic, Social and Cultural Rights: Should There Be an International Complaints Mechanism to Adjudicate the Rights to Food, Water, Housing and Health?* 98 Am. J. Int'l L. 462, 491 (2004).

20. *Id.* at 500.

21. *Id.* at 462-63.

to the International Covenant on Economic, Social and Cultural Rights (“ICESCR”) permitting the investigation of claims against states.²² Recommendations could be made to state respondents about how to bring their law into compliance, similar to the mechanism available to individuals under the First Optional Protocol to the Covenant on Civil and Political Rights (ICCPR). Social and cultural rights are to be “progressively realized” (as opposed to civil and political rights which are enforceable if self-executing or implemented in domestic legislation) and thus have spawned a flurry of academic discussion on the justiciability and enforceability of such rights.²³ Arguably, the right to food as customary international law is binding even on states which have not ratified the ICESCR. Few countries recognize a right for individuals to bring ICESCR related complaints solely on the basis that the treaty has been ratified.²⁴ While many countries have language guaranteeing the right to food in their constitutions²⁵, few have made this right enforceable in the courts.²⁶ Thus there is little uniformity in terms of how signatories have incorporated the right to food into their domestic legal systems.

There is likewise a good deal of debate about the extraterritorial effect of the right to food.²⁷ Is it possible that one country or a transnational corporation could be liable for the effects its actions have on food supply in another country? US exports of corn to Mexico under NAFTA in the mid-2000s is a prime example of this phenomenon. U.S. subsidy of its own corn industry resulted in cheap corn which flooded the Mexican market, partly in a misguided attempt by the Mexican government to cater to short term consumer preference. US corn was imported so cheaply and at such a high volume that it largely destroyed domestic Mexican corn production, driving out small and even corporate corn farmers throughout Mexico.²⁸

22. *Id.*

23. *See id.*; *see also* Hauter, *supra* note 12 at 1086.

24. *See id.* at 1089.

25. *See* Jim Yardley, *India Asks: Should Food Be a Right for the Poor?*, N.Y. Times, Aug. 8, 2010 (explaining that in India there is discussion of creating a new constitutional right to food).

26. *See* Hauter, *supra* note 12, at 1089.

27. *See* Narula, *supra* note 6 at 724-27.

28. *Id.* at 1093; Sandra Polanski, Br. Submitted to the Can. Standing S. Comm. on Foreign Affairs, *Mexican Employment, Productivity And Income A Decade After NAFTA*, (2004), available at: <http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=1473>; *see generally* Ernesto Hernandez-Lopez, *Law, Food, and Culture: Mexican Corn's National Identity Cooked in "Tortilla Discourses" Post-TLC/NAFTA*, 20 St. Thomas L. Rev. 573 (2008).

By removing price floors and food-security reserves, the U.S. had triggered a collapse in the price of U.S. agricultural products, including corn.²⁹ US corn imports into Mexico soared as a result of this confluence of factors.³⁰ Poorer rural farmers in Mexico were unable to shift to production of other crops. As the fallout from NAFTA continued, one unexpected side effect was the lack of growth for employment needs in manufacturing.³¹ As poorer farmers lost their land and were unable to find work in manufacturing industries after migrating to cities, poverty and wage stagnation occurred.³² If the extra-territorial effects of the signatories can make them liable, countries could be prevented from subsidizing their own agricultural sectors in cases like these. The U.S. could be liable to those Mexican farmers that were affected by the corn imports. More importantly, these farmers, or groups on their behalf, could bring suit to force a more balanced approach to trade. Likewise, Mexico itself could be liable for removing import caps during this period.³³

TRADE AND THE RIGHT TO FOOD

While some anti-globalists decry free trade altogether, many development economists are instead critical of how trade liberalization is being implemented (Stiglitz, Chimni, et.al.).³⁴ But there is general agreement that “two key trade policies. . . perpetuate hunger: agricultural subsidies in rich countries, and forced removal of tariffs in poor ones.”³⁵

One of the primary issues that the Doha Round of discussions

29. FRANK ACKERMAN ET AL., GLOBAL DEVELOPMENT AND ENVIRONMENTAL INSTITUTE, FREE TRADE, CORN, AND THE ENVIRONMENT: ENVIRONMENTAL IMPACTS OF US – MEXICO CORN TRADE UNDER NAFTA 16-17 (2003), available at <http://ase.tufts.edu/gdae/pubs/wp/03-06-naftacorn.pdf>.

30. See U.S. Dep’t of Agric., *Mexico’s Corn Industry and U.S. Mexico Corn Trade*, AMBER WAVES (Sept. 26, 2011), http://www.ers.usda.gov/amberwaves/june04/findings/charts/finding_Mexicocorn_400.gif.

31. See Hauter, *supra* note 12, at 1076.

32. *Id.*

33. *Id.*

34. See generally, JOSEPH E. STIGLITZ, FAIR TRADE FOR ALL (2005) (arguing that poorer countries should move toward free trade gradually, and that richer countries should help poorer ones prepare for trade.); JOSEPH E. STIGLITZ, GLOBALIZATION AND ITS DISCONTENTS (W. W. Norton & Co. 2002) (arguing that policies based on neo-liberal assumptions are fundamentally unsound, and there are desirable government interventions which, in principle, can improve upon the efficiency of the market.); B. S. CHIMNI, INTERNATIONAL COMMODITY AGREEMENTS; A LEGAL STUDY (Routledge, Kegan & Paul 1987) (examining international commodity agreements in terms of political economy, effectiveness, and in the context of free trade).

35. CANADIAN FOOD SECURITY POLICY GROUP, A FOOD SECURITY PERSPECTIVE ON

was to address was the issue of agricultural subsidies in wealthy nations throughout the world. Wealthy nations had maintained these protections during the creation of the World Trade Organization (WTO) and advanced a notion of future removal over time.³⁶ The two primary actors on the wealthy side are the European Union (EU) and the United States spending an estimated combined \$ \$114 billion on agricultural subsidies.³⁷ The European Union spends an estimated \$79 billion per year (55 billion Euros).³⁸ EU subsidies are distributed through Europe's Common Agricultural Policy (CAP).³⁹ France is Europe's largest agricultural producer and accordingly receives the largest share of these subsidies from the EU, nearly 10 billion Euros of agricultural subsidization in 2008.⁴⁰

CAP was initiated after World War II as a means to develop and accelerate Europe's food production capabilities; the agricultural program has grown to the point where it accounts for nearly half of the EU's spending budget.⁴¹ A result of the subsidy program over the decades was a large surplus of food.⁴² The subsidy funds still flow to EU countries today despite these price deflating excesses. They support, and in some cases prop up, agricultural enterprises that some suggest are incapable of competing in the global market on their own.⁴³ While some European countries are large financial contributors, they receive a comparatively small amount of the subsidies.⁴⁴ For example, in Great Britain and the Netherlands, the size of their agricultural industries are smaller compared to those of a country such as France, yet their relative

CANADA'S INTERNATIONAL TRADE AND DEVELOPMENT ASSISTANCE POLICIES 1 (2004), available at <http://www.chs.ubc.ca/archives/?q=node/776>.

36. Brandon Petelin, *The United States and International Trade: The Implications of Noncompliance with Dispute Settlement Panel Rulings*, 23 T. M. Cooley L. Rev. 545, 559-60 (2006).

37. See Jack Thurston, *Does the CAP fit?*, FOLLOW THE MONEY (February 4, 2010) <http://www.followthemoney.eu/does-the-cap-fit/>; see also Chris Edwards, *Agricultural Subsidies*, DOWNSIZING THE FEDERAL GOVERNMENT (June 2009), <http://www.downsizinggovernment.org/agriculture/subsidies>.

38. Thurston, *supra* note 37.

39. Stephen Castle & Doreen Carvajal, *Europe's Vast Farm Subsidies Face Challenges*, N.Y. Times, Dec. 29, 2009, at B1.

40. *Id.*

41. *Id.*

42. *Id.*

43. See Henry Samuel, *French Farmers Survive but Multinationals Cash in on EU Subsidies*, THE TELEGRAPH, (Aug. 30, 2009) <http://www.telegraph.co.uk/news/worldnews/europe/france/6111715/French-farmers-survive-but-multinationals-cash-in-on-EU-subsidies.html>.

44. See Castle & Carvajal, *supra* note 39, at B1.

wealth remains high, requiring those countries to contribute heavily.⁴⁵

This disparity has led to internal pressures to re-evaluate the spending scheme of agricultural food subsidies in Europe. While the internal EU political debate over these subsidies carries on, the agricultural assistance program is set for revision in 2013.⁴⁶ Among the issues to be discussed are the roles of newly admitted EU members, formerly of the eastern bloc. These countries were denied an equal share of the subsidy program during the last negotiation but now wield significantly more clout than before. In addition to any potential debates about redistribution amongst the EU members, the newly implemented accounting measures imposed on all twenty-seven EU member countries have helped illuminate the trail of where the funds actually go.⁴⁷ There has been much outcry already as critics in many countries point to money being given to non-farmers throughout Europe.⁴⁸ These paper trails will surely intensify an ongoing debate over when, where and how much money the EU needs to spend on subsidizing its agricultural sector.

As the EU's internal policies regarding agricultural subsidies undergo scrutiny, the daily role these subsidies play in the world market continue.⁴⁹ While many are hopeful that the subsidy program will begin a process of change, the current system continues to adversely affect those in competition with the subsidized agricultural products. These subsidies still pose an impediment to breaking the deadlock in the Doha round of discussions. Many less developed countries fear that their domestic agricultural sectors are not adequately protected from potential food surpluses created by the food subsidies of the wealthier nations in the WTO.⁵⁰ This leads to debilitating effects on these countries ability to sustain, protect and grow their domestic agricultural sectors.

While it does not have as high levels of agricultural subsidy as does the EU, the United States' refusal to reduce farm subsidies was seen by many to be a primary cause of the stalling of the

45. *See id.*

46. *See id.*

47. *See id.*

48. *See id.*

49. *See id.*

50. *See generally*, Richard Mshomba, *How Northern Subsidies Hurt Africa*, AFRICA RECOVERY, 29 (September 2002) (discussing how subsidies reduce world food prices, but also reduce the incomes of African farmers).

Doha Round trade negotiation in 2006.⁵¹ The U.S. economy's larger size compared to the EU's means its impact is felt more thoroughly in other parts of the world. The United States spends an estimated \$10-30 billion per year on farm subsidies.⁵² These subsidies are distributed over a multitude of states, to both privately owned farms and large scale corporate farms.⁵³ The farmers that receive subsidies cover a broad range of American farm exports.⁵⁴ By subsidizing the American agricultural industry, the United States guarantees a price floor for these goods, which provides stability and security to the farmers who produce these crops.⁵⁵ Subsidies make crops cheaper to produce, lowering prices on the world market and disadvantaging poor farmers in developed countries.

Selling subsidized food coupled with import tariffs that are reduced to the point of irrelevancy due to WTO rules, these goods effectively reduce developing countries' farmers' profits.⁵⁶ In many instances the price these artificially supported goods sell for threatens to wipe out entire farm sectors in poorer countries because there is simply no profit to be made by indigenous farmers. At the same time, American and European farmers are insulated from the competition that other countries could pose on an equally competitive field.⁵⁷ In developing countries in particular, there are serious concerns that fledgling agricultural industries—or long established ones such as Mexican corn—will be driven out of business.⁵⁸ By reducing agricultural production profits in these developing countries, farm subsidies have the effect of eroding the infrastructure and wealth of poor countries throughout the world. This correlates directly with food insecurity, affecting both the domestic supply of food and the price of imported food. There is

51. See Brandon Petelin, *The United States and International Trade: The Implications of Noncompliance with Dispute Settlement Panel Rulings*, 23 T.M. COOLEY L. REV. 545, 560 (2006).

52. Chris Edwards, *Agricultural Subsidies*, THE CATO INSTITUTE, (June 2009) available at <http://www.downsizinggovernment.org/agriculture/subsidies>.

53. See *id.*

54. See *id.*

55. See generally Ilan Benshalom, *The New Poor at Our Gates: Global Justice Implications for International Trade and Tax Law*, 85 N.Y.U. L. REV. 1 (2010) (explaining the current debate of global wealth redistribution, including subsidies, and discussing the relational duties between developed and undeveloped countries.).

56. See *id.*

57. See *id.*

58. See Amy Clark, *Is NAFTA Good for Mexico's Farmers?*, CBS NEWS, (February 11, 2009) available at <http://www.cbsnews.com/stories/2006/07/01/eveningnews/main1773839.shtml>.

general consensus that in the wake of the WTO, LDCs markets are now more open than those of developed countries, an imbalance which does not benefit the agricultural sector in LDCs.⁵⁹

AMELIORATING EFFECTS OF TRADE LIBERALIZATION ON DEVELOPING NATIONS

Article 11 of the International Covenant on Economic, Social and Cultural Rights ("ICESCR") specifically references the international trade dimensions of the right to food.⁶⁰ The international framework for agricultural trade is led by the Agreement on Agriculture (AoA) of the Uruguay Round of negotiations of the General Agreement on Tariffs and Trade (GATT), now subsumed within the WTO.⁶¹ This marks the first time in the history of trade law that agriculture was specifically included in the trade regime, and that basic trade law principles such as most-favored-nation (MFN) and national treatment apply to agricultural products.⁶² The WTO's Dispute Settlement Understanding (DSU) enables enforcement through WTO authorized unilateral trade sanctions by one

59. See Martin Khor, *WTO Ministerial Outcome Imbalanced Against Developing Countries*, THIRD WORLD NETWORK (Dec. 22, 2005), <http://www.twinside.org.sg/title2/twninfo339.htm>.

60. See ICESCR, G.A. Res. 2200 (XXI) A (Dec. 16, 1976), available at www.c-fam.org/docLib/20080625_ICESCR.pdf. ("1. The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The State Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent. 2. The States Parties to the present Covenant, recognizing the fundamental right of everyone to be free from hunger, shall take, individually and through international co-operation, the measures including specific programmes, which are needed: (a) To improve methods of production, conservation and distribution of food by making full use of technical and scientific knowledge, by disseminating knowledge of the principles of nutrition and by developing or reforming agrarian systems in such a way as to achieve the most efficient development and utilization of natural resources; (b) Taking into account the problems of both food-importing and food-exporting countries, to ensure an equitable distribution of world food supplies in relation to need.")

61. See Christine Kaufman & Simone Heri, *Liberalizing Trade in Agriculture and Food Security – Mission Impossible?*, 40 VAND. J. TRANSNAT'L L. 1039, 1042-43 (2007); see also Kerstin Mechlem, *Harmonizing Trade in Agriculture and Human Rights: Options for the Integration of the Right to Food into the Agreement on Agriculture*, 10 Max Planck Yearbook of U.N. Law 127 (2006), available at http://www.mpil.de/shared/data/pdf/pdfmpunyb/05_kerstiniiii.pdf. On the general linkage of trade law and human rights, see generally the excellent recent book, BERTA ESPERANZA HERNANDEZ-TRUYOL & STEPHEN J. POWELL, *JUST TRADE: A NEW COVENANT LINKING TRADE AND HUMAN RIGHTS* (2009).

62. See David A. Gantz, *A Post-Uruguay Round Introduction to International Trade Law in the United States*, 12 ARIZ. J. INT'L & COMP. L. 7, 102 (1995).

state against another, and the WTO introduces substantive minimum standards for the first time in many areas of law, notably intellectual property law through the TRIPS agreement. Each of these impact agriculture and food.

Arguably, the right to food may be violated in cases where international trade agreements artificially lower the price of imported goods— including agricultural goods— through subsidies or other mechanisms which in turn drive prices of local goods down and bankrupt local producers.⁶³ The United Nations Food and Agriculture Organization's research concludes that the exports of developing nations very rarely increase while cheaper imports increase dramatically.⁶⁴ Given these trends, it is intuitive that local production should be protected in order to prevent local agricultural infrastructure breakdown and reliance on foreign imports.⁶⁵ Among the potential remedies is the implementation of special and differential treatment in trade agreements regarding agricultural goods.

Protections for agriculture aimed at providing food security can be realized by allowing lesser developed countries longer time periods to implement agreements.⁶⁶ This allows these countries the time to properly plan and organize their economies to protect their agricultural stability. In addition, by ensuring that these countries have the support and advice to aid the development and stability of their infrastructure to ensure food security and guard against hunger. If provided on an individual basis, allowing a lesser developed country to achieve stability in food production will greatly advance the effort to improve the financial condition of the poorest members of that country.⁶⁷ By stabilizing food production, the lower income farmers in poorer countries benefit by earning profits that allow them to purchase food and stave off

63. See Hauter, *supra* note 12, at 1078-81.

64. See *id.* at 1080.

65. See Carmen G. González, *China in Latin America: Law, Economics, and Sustainable Development*, 40 *Envtl. L. Rep.* 10170, 10180 (2010). For a thorough and persuasive overview of law and food security issues see generally, Carmen G. González, *The Global Food Crisis: Law, Policy, and the Elusive Quest for Justice*, 13 *YALE HUM. RTS. & DEV. L.J.* 462 (2010).

66. WTO Committee on Trade and Development, *Special and Differential Treatment for Least Developed Countries*, WT/COMTD/W/135 (Oct. 5, 2004), available at http://www.wto.org/english/tratop_e/devel_e/dev_special_differential_provisions_e.htm.

67. See John Nash & Donald Mitchell, *How Freer Trade Can Help Feed The Poor*, FINANCE AND DEVELOPMENT (Mar. 2005), <http://www.imf.org/external/pubs/ft/fandd/2005/03/pdf/nash.pdf>.

hunger.⁶⁸

Another remedy that would aid lesser developed countries in their pursuit of food security is the establishment and protections afforded by special safeguards for price volatility. By adopting policies that help low income farmers to mitigate damages which accompany unpredictable events that would otherwise overwhelm their abilities to cope with sudden price surges, lesser developed countries can contribute to the stability of its people's economic livelihood.⁶⁹ Protection of low income farmers and food security could be further advanced by exempting food staples from tariff reductions. Proposed exemptions have included granting lesser developed countries the ability to ban dumping of developed countries' agricultural products in their markets.⁷⁰ By preventing the dumping of large quantities of goods into their markets, lesser developed countries are able to maintain some stability in their domestic markets. In addition, they are able to protect the low and middle income farmers from the damaging effects of agricultural price decline. One proposal called a "negative list approach" allows lesser developed countries to add a certain number of food staples to a list which exempts them from lowering tariffs on these goods.⁷¹

Trade liberalization can have detrimental effects on the long term food security of less developed countries. This includes the environmental damage that may result from a country's attempt to satisfy export demand. Rather than working under environmentally friendly standards or sustainability models for agriculture, forestry or fish stocks, many countries are forced to grapple with the global demand for these goods which, despite the environmental damage that attends, outweighs the country's need to provide long term security. Results have been mixed. The International Convention for the Conservation of Atlantic Tuna has failed to reverse the depletion of tuna stock in the Atlantic.⁷²

68. *See id.*

69. *See* ORG. FOR ECON. DEV. AND COOPERATION & FOOD & AGRICULTURE ORG., AGRICULTURAL OUTLOOK 2010 (2010), available at <http://www.agri-outlook.org/dataoecd/31/4/45453906.pdf>.

70. *See* Briefing of Agriculture Negotiations, *The Issues and Where We Are Now*, 20-23, 63, (Dec. 1, 2004), http://www.wto.org/english/tratop_e/agric_e/agnegs_bkgrnd_e.pdf.

71. Duncan Green & Shishir Priyadarshi, *FAO Geneva Roundtable On Special And Differential Treatment In The Context Of The WTO Negotiations on Agriculture* (Feb. 1, 2001), <http://www.fao.org/trade/docs/Green-Priyadarshi.htm>.

72. ENVTL. LAW INST., INTERNATIONAL ENVTL. LAW: A GLOBAL AUDIT/ASSESSMENT, § 8:48 (2010).

Many fishing countries were reluctant to sign the Convention, fearing a detriment to their current finances.⁷³ Forest conservation efforts are another area where policy changes have been slow to take effect. Internationally traded tropical timber was scheduled to come exclusively from sustainable sources by 2000.⁷⁴ That goal, ten years later, has still not been achieved.⁷⁵ NAFTA, for example, has been linked to an increase in water pollution from nitrogen in areas where increased farming has taken place as a result of the Trade Agreement.⁷⁶ Farm subsidies reduce the price of nitrogen based fertilizer so much that little effort is made to prevent run-off loss into Gulf waterways.⁷⁷

Brazil was subject to a WTO dispute when it attempted to ban imports of retreaded tires from the EU based on concerns about threats to human health and the environment. Brazil claimed that the tires, when discarded, added to the creation of stagnant pools of water that increased the mosquito population.⁷⁸ The mosquitoes in turn carry malaria and other diseases, presenting a serious health hazard to Brazilians.⁷⁹ In addition, Brazil claimed that the tires lead to toxic leaching into the soil.⁸⁰ The European Community initiated a complaint before a WTO panel. The Appellate Body eventually agreed with the EC; the body found that Brazil's import ban was a permitted measure under GATT aimed at protecting health but was nonetheless unjustified discrimination because Brazil allowed the import of retreaded tires from participating MERCOSUR countries.⁸¹ Legitimate concerns about threats to the environment and public health were sidelined by the WTO process. Another example is fertilizer run-off from American farms and the resulting depletion of marine life in the Gulf of

73. *See id.*

74. *Id.*

75. *Id.*

76. *See* Scott Vaughn, *The Greenest Trade Agreement Ever?: Measuring The Environmental Impacts Of Agricultural Liberalization*, in *NAFTA'S PROMISE AND REALITY: LESSONS FROM MEXICO FOR THE HEMISPHERE* 61, 67-68, 73 (Audley et al. eds., 2004).

77. *See* Keith E. Sealing, *Attack of the Balloon People: How America's Food Culture and Agricultural Policies Threaten The Food Security of the Poor, Farmers, and Indigenous Peoples of the World*, 40 *VAND. J. TRANSNAT'L L.* 1015, 1028 (2007) (citing RICHARD MANNING, *AGAINST THE GRAIN* 72 (2004)).

78. Chris Wold, *Taking Stock: Trade's Environmental Scorecard after Twenty Years of "Trade and Environment,"* 45 *WAKE FOREST L. REV.* 319, 328 (2010).

79. *Id.*

80. *Id.*

81. *See id.* at 328-329.

Mexico.⁸² Run-off from nitrogen fertilizer on farms, carried to the Gulf by the Mississippi River, has contributed to the development of a 20 thousand square kilometer dead zone where shrimp and fish cannot survive.⁸³ This depletion of fisheries is precisely the sort of threat that developing countries need to be wary of. The long term impact of current policies such as this can have a negative impact for Mexicans who depend upon these resources for food or livelihood.

Trade liberalization often has the distorting effect of shifting the limited amount of resources a less developed country may have from production geared towards local consumption to production for export to the global market. While the net benefit of producing goods for export may be high, it comes at a steep price for many people in poor countries. Many poor countries have limited arable land to grow food, a limited workforce to work the farms due to urbanization, and limited capital to support production for local consumption. Agriculture employs nearly seventy percent of the labor force in poor countries around the world⁸⁴ and it is a major contributor to their GDP.⁸⁵ With so many people tied to agrarian economies in poor countries, a tension exists between providing the land and labor for agriculture required for food security, and the reduction of poverty and hunger, and the use of the land for export agriculture to satisfy global market demand. This is perhaps most acute in tropical countries where the pressures of the global market to grow food for export often results in insufficient production for local consumption.

Complicating the plight of food insecure populations is the profit derived from growing goods for the export market. Although trade benefits may be greater when certain foods are in high market demand around the world and only certain countries can grow that food, the poor in an exporting country typically are not in a position to secure many of those benefits. Instead, these profits are diverted to other industries or to large transnational corporations who have set up industrial farming operations in developing countries.⁸⁶ These enterprises locate there to exploit low relative labor costs and/or perhaps the country's unique ability to grow certain agricultural goods in demand on the global

82. See Sealing, *supra* note 77, at 1028.

83. See *id.*

84. See Green, *supra* note 71, at § 2.

85. See *id.*

86. See Castle & Carvajal, *supra* note 39 at B1.

market.⁸⁷ Foreign corporations competing with poor farmers often contribute little to long-term economic development. Further consequences of trade liberalization for development and food security include:⁸⁸

- Excessive production for foreign markets can lead to environmental damage, depleting agricultural lands, fish stocks, and water resources.
- Export oriented food production may divert resources such as land, labor, and capital away from production for local communities. . . .
- Although earnings from export conceivably could be used to import cheap food for those most in need, usually they are not used in that way. The poor are not the ones who decide how foreign exchange earnings are spent.
- The benefits of trade between parties of unequal power will be distributed unevenly, with the result that the gap between them widens steadily.
- The volume of exports from developing nations, and even the price, may not be a good indicator of the extent to which the people of those nations draw economic benefit from the trade. Many food production operations in developing nations are controlled by companies from developed nations.
- Excessive promotion of exports can lead to weakening commodity prices, to the disadvantage of exporting nations.⁸⁹

These issues were hotly debated during the Doha round of the WTO talks.⁹⁰ There have now been years of negotiations without any real agricultural trade agreements resulting in part from resistance by developing nations who fear low priced imports with which they are unable to compete.⁹¹ The G-20 talks in Toronto, Canada in June, 2010 indicate that Doha may be even more delayed and dysfunctional than previously thought. Agricultural trade liberalization, therefore, backfires as developing nations

87. See Hilary K. Josephs, *Learning From The Developing World*, 14 KAN. J.L. & PUB. POL'Y 231, 232 (2005) (referencing Virginia Postrel, *Variety, The Spice of Life, has measurable value. But It's Not Easy To Determine*, N.Y. TIMES, June 17, 2004 at C2.)

88. GEORGE KENT, *FREEDOM FROM WANT: THE HUMAN RIGHT TO ADEQUATE FOOD* 195 (Georgetown University Press 2005).

89. *Id.*

90. See Lori Wallach & Deborah James, *Why the WTO Doha Round Talks Have Collapsed and a Path Forward*, COMMON DREAMS (August 14, 2006) available at <http://www.commondreams.org/views06/0814-33.htm>.

91. See Hauter, *supra* note 12, at 1078-81.

having less diversified economies cannot afford the transition costs involved with exporting select crops including labor force dislocation and unemployment as farms fail due to low cost imported food.⁹² There has been some pushback from LDCs, but it's too soon to say how effective it will be.

INTELLECTUAL PROPERTY LAW AND ITS EFFECTS ON FOOD INSECURITY

International intellectual property regulation under the WTO was lobbied for and obtained by powerful states and MNCs in favor of universal standards for copyright and pharmaceutical patent protection.⁹³ The World Intellectual Property Organization (WIPO) was sidelined as economic rights were at stake and lobbyists pushed for the broad economic control of GATT and the WTO.⁹⁴ The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) operates under the auspices of GATT and is critical for GATT members' agricultural policies as minimal protection of plant varieties and patenting of micro-organisms is mandated by TRIPs.⁹⁵

The major problem with IP and its overlap with agricultural policies is that the agricultural industry has become concentrated in recent years as IP rules fuel the growth of a few major firms.⁹⁶ For instance, a small number of major firms hold key patents in enabling technologies and germplasm.⁹⁷ This has wide reaching effects on both access of developing nations to seeds and the necessary research and development to grow local or regional agricultural industry. This is unfair as fully developed nations with the ability to produce patent-worthy invention are being incentivized while developing nations with neither the industry nor the resources for R&D, are being forced to use resources to establish infrastructure (in the form of administrative bodies) that will validate and recognize these foreign patents. This ensures that LDCs will be held back in the area of agricultural innovation while the developed nations reap the benefit of the TRIPS under the WTO.

In addition to TRIPs, the International Union for the Protec-

92. *Id.* at 1081-82

93. See THE FUTURE OF FOOD: A GUIDE TO THE INTERNATIONAL NEGOTIATIONS AND RULES ON INTELLECTUAL PROPERTY, BIODIVERSITY AND FOOD SECURITY 6 (Geoff Tansey & Tasmin Rajotte eds., Earthscan Publications Ltd. 2008).

94. See *id.* at 6-7.

95. *Id.*

96. *Id.*

97. *Id.*

tion of New Varieties of Plants (UPOV) protects breeders by ensuring the protection of plant varieties.⁹⁸ One of the major problems with UPOV for developing nations is whether the re-sowing of saved seeds by traditional small scale farmers is allowed—it may or may not be in some cases.⁹⁹ Developing nations have joined UPOV at a rapid rate not because of an internal need for plant variety protection, but because under TRIPs the signatories must come up with a *sui generis* or patent system for plant variety protection and UPOV is the only internationally recognized system.¹⁰⁰ Developing nations have neither the resources nor the time to come up with a *sui generis* regime tailored to the nation. Moreover, the major developing nations put hard pressure on developing nations to implement rules that they agree with or are advantageous to the developed nations.¹⁰¹

FARMING AND FOOD SECURITY

The food system is controlled by major agricultural players from developed nations that corner key markets via patents and plant variety protection.¹⁰² Propagating plants that are from a patented plant variety is not permitted under plant patenting regimes instituted worldwide post-TRIPs.¹⁰³ Both TRIPs and UPOV have been heavily criticized for a number of reasons:

- The requirement to provide for minimum IP protection and plant variety protection limits a countries' flexibility to decide what level of protection best suits the nation.
- There is no express exemption for farmers saving seed.
- UPOV provides excessive rights for breeders and, again, no express exemption for farmers, which undermines farmer's rights.
- Efforts to bridge the wide gap by food sovereignty advocates does not create a universally applicable farmer's rights to provision, but leaves the decision up to each nation.¹⁰⁴

98. *Id.* at 32.

99. *See* Briefing, *supra* note 70, at 38 (labeling the exemption as the "farmer's privilege").

100. *Id.* at 40.

101. *Id.* at 47.

102. *See id.* (explaining that developed countries essentially control local production in developing countries via these patent rights, which in turn stifle any agricultural development).

103. *Id.* at 19.

104. *Id.* at 176.

Problems arise especially in the context of plant breeder's rights in many African countries. Article 27 (3) (b) of the TRIPS agreements encourages the formulation of *sui generis* protection regimes.¹⁰⁵ The rest of the TRIPS agreement declines to offer patent protection to plant genes. As a result of this clause, many parts of the world have formulated their own system and interpretation of the rights of plant breeders.¹⁰⁶ One such system to arise post-TRIPS is the International Convention for the Protection of New Varieties of Plants (UPOV).

UPOV has been criticized for not adequately protecting the traditional knowledge of indigenous and local peoples. UPOV and TRIPs combine to offer protections for large scale corporate seed companies and professional breeders from developed countries.¹⁰⁷ In Africa the traditional method of farmer's development of seed varieties happens over a period of time amongst a community of farmers.¹⁰⁸ These farmers have developed seeds that have gone into circulation in Africa and have since found their way outside the countries where they were developed.¹⁰⁹ Many countries lack adequate means to protect this traditional knowledge under a scheme of intellectual property so these ideas and materials go unprotected against unauthorized use by others. The fear is that these others may in turn develop patentable products from the traditional knowledge and owe nothing to the creators.¹¹⁰

UPOV's provisions do not provide the adequate protections that these local communities and small farmers need. In response to the lack of protections for these groups the Organization of African Unity developed the African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources.¹¹¹ As in the Convention on Biodiversity (CBD), one of the main areas of focus was on establishing the rights of local communities over

105. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, [hereinafter TRIPS], available at http://www.wto.org/english/docs_e/legal_e/27-trips.pdf.

106. EMANUEL OPOKU AWUKU, GENETIC ENGINEERING AND THE WORLD TRADE SYSTEM: WORLD TRADE FORUM 111 (Daniel Wuger & Thomas Cottier eds., Cambridge University Press 2008).

107. *Id.*

108. *Id.*

109. *Id.*

110. *Id.* at 112.

111. ORG. OF AFRICAN UNITY, MODEL LAW (2000) available at <http://www.farmersrights.org/pdf/africa/AU/AU-model%20law00.pdf>

their traditional knowledge and resources.¹¹² UPOV along with WIPO have come into conflict with the CBD and the Model Legislation as to how to best achieve the desired results.¹¹³

During the Doha Round Meeting of the WTO, developing countries sought and were granted a Ministerial Review of TRIPS Article 27 (3)(b). Many saw this as an opportunity to revise the language in the Article to bring into account the concerns raised by UPOV, the Model Rules and the CBD.¹¹⁴ Currently the situation is somewhat unresolved. The majority of African States have ratified TRIPS, along with its contentious Article 27 (3)(b). Although a few states have adopted UPOV, the majority have not on the premise that UPOV does not do enough to protect traditional knowledge and the methods and practices of indigenous people.¹¹⁵ The Model Rules have seen some results such as the development of a *sui generis* system in Uganda in the form of The National Environmental Management Authority (NEMA).¹¹⁶ If the competing approaches discussed in this section can be harmonized, the rights of indigenous communities and farmers in the breeding of unique plant varieties can be protected. Of immediate concern to many countries that are attempting to establish or maintain food security in this context is that patent law will deprive them of necessary seed and plants to achieve their goals. Seeds and plants with traits that provide disease resistance, high yield or post-harvest storage capacity may be inappropriately privatized by transnational companies from developed countries, and effectively precluded from use by LDC farmers.¹¹⁷

By protecting these rights in LDCs, agricultural sectors within those countries can grow and be protected while they achieve stability. However, the current situation is that many countries must comply with the TRIPS provisions meaning that small farmers' operations are not protected, and the traditional knowledge used to create these things remains ripe for exploitation. Therefore, farmer's rights are undermined as well their security and stability. This in turn leads to a destabilization of any food security/sovereignty measures a lesser developed country may attempt.

112. See AWUKU, *supra* note 106, at 113.

113. *Id.* at 114.

114. *Id.* at 117.

115. *Id.*

116. *Id.* at 114-115.

117. MICHAEL BLAKENEY, INTELLECTUAL PROPERTY RIGHTS AND FOOD SECURITY 90 (CAB International 2009).

With the inherent lack of democracy in the WTO,¹¹⁸ LDCs are prevented from pushing through the reforms that they need to establish food security and build their agricultural sectors to a satisfactory point. The food sovereignty movement argues that agriculture should be removed from WTO oversight and jurisdiction.¹¹⁹ Fundamental human rights issues are often sidelined by the need to comply with rules and obligations of the WTO, WIPO, TRIPS etc. International obligations should not compromise the capacity of a country to establish its own food security. Rather, developing countries should be granted exemptions from tariff reductions for staple goods and foodstuffs so as to develop and grow the vital parts of their infrastructure before they are subject to the full brunt of global trade rules and regulations.

THE FOOD SOVEREIGNTY APPROACH

The movement for food sovereignty (nutritional and agricultural self-determination) has as perhaps its central tenet that the community of nations will remove food from the WTO, making it exempt from global trade rules. While the human right to food has characteristics typical of other human rights, in some measure describing a narrow claim against the state for deprivation of a right, food sovereignty more resembles the right of self-determination and is characterized by both the promise and fuzziness of that term. In general, food sovereignty refers to a self-empowerment of communities and nations to collectively decide upon production, marketing, and consumption of food outside of the strictures of the global trade system.

A meeting of over 500 representatives from over 80 countries (including farmers, indigenous peoples, and a wide variety of civil society groups) in Mali in February, 2007 led to the establishment of the “six pillars of food sovereignty,” a point of departure for developing nations attempting to take back control of food security.¹²⁰ The food sovereignty movement informs the struggle of developing nations against globalized and industrialized food systems where these have obscured local interests. The “Six Pillars of Food Sovereignty” are described as follows:

1. Focuses on Food for People, putting the right to food at

118. See CLAUDE E. BARFIELD, *FREE TRADE, SOVEREIGNTY, DEMOCRACY 1* (American Enterprise Institute Press 2001).

119. See ROSSET, *supra* note 10.

120. Patrick Mulvany, *Food Sovereignty Comes of Age*, *Food Ethics*, Autumn 2007, at 19; see also Tansey & Rajotte eds., *supra* note 93, at 177-178.

- the centre of food, agriculture, livestock and fisheries policies; and rejects the proposition that food is just another commodity or component for international agribusiness.
2. Values Food Providers and respects their rights: and rejects those policies, actions and programs that undervalue them, threaten their livelihoods and eliminate them.
 3. Localises Food Systems, bringing food providers and consumers closer together; and rejects governance structures, agreements and practices that depend on and promote unsustainable and inequitable international trade and give power to remote and unaccountable corporations.
 4. Puts Control Locally over territory, land, grazing, water, seeds, livestock and fish populations; and rejects the privatization of natural resources through laws, commercial contracts and intellectual property rights regimes.
 5. Builds Knowledge and Skills that conserve, develop and manage localized food production and harvesting systems; and rejects technologies that undermine, threaten or contaminate these, e.g. genetic engineering.
 6. Works with Nature in diverse, agroecological production and harvesting methods that maximize ecosystem functions and improve resilience and adaptation, especially in the face of climate change; and rejects energy-intensive industrialized methods which damage the environment and contribute to global warming.¹²¹

There are reasons to hope that the self-determination implicit in the food sovereignty movement has already captured some degree of public dissatisfaction with extant patterns of global food production and trade, and that it might spawn further critique, protest, and provide impetus for a global rethinking of food delivery from farm to table. At the very least it provides space for arguing for local control of food in place of the passivity sometimes implicit in conventional discussions of the applicability and enforceability of the human right to food. Food sovereignty calls for a systematic re-examination of agricultural and food policy specifically placing local control over food-related decision making at the center of its model. Re-democratizing agriculture and food policy has to be a continuing effort at the heart of global advocacy in this area; food sovereignty offers a critical vantage point from which to mount

121. *Id.*

critiques of the corporate and free trade driven direction of trade law and policy in recent decades.

CONCLUSION

Clearly one of the major obstacles to achieving just outcomes in the trade and food debates is the apparently chronic deficit of democratic representation in IFIs, the WTO, and in trade negotiations across the board. Issues critical to food security among the poor in developing countries are systematically discounted or sidelined in these fora. How has mobility of capital and free trade become so normatively dominant and mobility of labor so unthinkable? How has trade liberalization, with its promise of equal access to world markets, become so lopsided in favor of powerful states? There must be a sustained and solidarity based effort to resist and reframe the nature of these debates: biodiversity and food security, ecology and sustainability, must come to challenge the hegemony of the contract based investment/return model.

Although the main arguments in the literature on food insecurity range from reform proposals for the justiciability of the right to food to trade exclusions and exemptions for developing countries in the food sector, the major issue would instead appear to be whether to pursue a reform agenda or remove food from the trade paradigm altogether. In combination and pursued in parallel, right to food and food sovereignty approaches offer a consolidated and coherent strategic approach to the problem of structural disadvantage to developing countries and resulting food insecurity. The Global North must be forced to admit its part in and its benefit from this unequal system, take responsibility for these inequities and promote change.