In Fairness to Future Generations of Eaters

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ABSTRACT

Climate change threatens the supply and quality of traditional foods. To respond to this threat, this essay applies Professor Edith Brown Weiss's principles of intergenerational equity to support a call for the protection of food heritage for future generations. The essay surveys some available international instruments but concludes that gaps still exist for addressing systemic threats such as climate change. It urges advocates to focus on expanding these international protections and incorporating considerations of intergenerational equity into our discussions of food protections.

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INTRODUCTION

The International Covenant on Economic, Social and Cultural Rights recognizes the "right to an adequate standard of living, including adequate food,"[1] as well as the "fundamental right to be free from hunger."[2] Other international instruments, as well as customary international law, may also provide a right to

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1. Int'l Covenant on Econ., Soc. and Cultural Rights art. 11(1), Dec. 16, 1966, 993 U.N.T.S. 3 (entered into force Jan. 3, 1976) [hereinafter ICESCR].

2. *Id.* art. 11(2).

food.[3] But much of our legal conversations involve threats to food security.[4] This is absolutely justifiable, given how the United Nations Food and Agriculture Organization observes that "[m]ore than 820 million people in the world are still hungry today" and "that about 2 billion people in the world experience moderate or severe food insecurity."[5] Moreover, the term "food security" has come to take a broader meaning, as it has been construed as related to preservation of cultural traditions. For example, reports of the Special Rapporteur on the Right to Food recognize that food security itself requires that people have access to foods "corresponding to the cultural traditions of the people to which the consumer belongs."[6]

But food is not just a matter of securing enough calories and nutrition to survive. Food is also an important aspect of cultural preservation for future generations. That is, an essential element of many cultures is the food associated with those cultures. This short, and rather incomplete, essay argues that food heritage is itself an important and independent value worth protecting—even apart from food security—and that insights regarding intergenerational equity are important for developing better tools for protecting food heritage. It first argues for the intergenerational importance of culinary heritage by describing the relevance of food to cultural preservation between generations, and then describing threats to food heritage deriving from climate change and other environmental threats. The essay then describes various legal instruments for preserving food heritage but observes that such instruments often fail to expressly engage with relevant legal instruments for protecting against climate change and other environmental threats to food heritage. Finally, the essay provides some suggestions for expanding cultural heritage preservation efforts with respect to food to more directly address these environmental threats.

I. THE INTERGENERATIONAL IMPORTANCE OF FOOD HERITAGE

Food is a critical element of sustaining ourselves as biological beings. But it is also an important part of our lives as social creatures. Many of us consume meals

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3. *See*, *e.g.*, Laura Niada, *Hunger and Int'l L.: The Far-Reaching Scope of the Hum. Right to Food*, 22 CONN. J. INT'L L. 131, 166–76 (2006); Destaw A. Yigzaw, *Hunger and the L.: Freedom from Hunger as a Freestanding Right*, 36 HOUS. J. INT'L L. 655 (2014); Karen Kong, *The Right To Food For All: A Right-Based Approach To Hunger And Soc. Ineq.*, 32 SUFFOLK TRANSNAT'L L. REV. 525 (2009); David Marcus, *Famine Crimes Under Int'l L.*, 97 AM. J. INT'L L. 245 (2003); Anthony Paul Kearns, III, Note, *The Right To Food Exists Via Customary Int'l L.*, 22 SUFFOLK TRANSNAT'L L. REV. 223 (1988).

4. *See supra* note 3.

5. Food and Agric. Org. of the U.N., *The State of Food Sec. and Nutrition in the World: Safeguarding Against Econ. Slowdowns and Downturns* (2019) at vii, https://perma.cc/2F32-GFA2.

6. Report by the Special Rapporteur Jean Ziegler on the Right to Food, U.N. Comm'n on Human Rights, on Its Fifty-Eight Session, Provisional Agenda Item 10, P 26, U.N. Doc. E/CN.4/2002/58, at 11 (2002) (quoting Report by the Special Rapporteur Jean Ziegler on the Right to Food, U.N. Comm'n on Human Rights, on Its Fifty-Seventh Session, Provisional Agenda Item 10, P 14, U.N. Doc. E/CN.4/2001/53 (2001)), https://perma.cc/2H3B-RWEN.

socially and relate to individual dishes as part of our upbringings and ways of life. We view certain dishes nostalgically, other dishes as imbued with traditional values, and even other dishes as essential to what we consider necessary to even eat a meal. In the West, there is "bread" as synonymous with meals. In Hong Kong, where my family is from, we talk about "rice" as synonymous with meals and eating.

This section will describe the relevance of food as an essential element of human culture, and indeed cultures. It will then describe various threats to food heritage stemming from climate change and related environmental harms. In doing so, it will draw upon Professor Brown Weiss's framework describe how the threats to food heritage arising from climate change and related environmental harms challenge intergenerational equity with regards to food.

A. THE RELEVANCE OF FOOD TO CULTURAL PRESERVATION

Numerous sociological studies have observed how food is an essential element of different cultural identities, in complicated ways.[7] For example, words related to food are important parts of everyday languages, and in many languages, we speak of certain foods as synonymous to eating meals themselves,[8] suggesting the importance of certain types of foods as an essential element of eating. We also use certain foods for religious reasons, extending the cultural importance of our foods.[9] One example is the use of the etrog citron for the Jewish celebration of Sukkot.[10]

We also use foods for yearly ceremonial reasons, like the steamed rice zongzhi eaten during Dragonboat festivals, with varieties for each village and region.[11] This suggests the use of foods not only for celebration, but also for elements of subcultural distinction and identity.

Finally, we use other foods to mark important events in our lives. For example, foods associated with weddings differ from culture to culture. In the Malay communities, wedding foods involve egg flowers, sweet glutinous rice, buttered rice,

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7. *See, e.g., Food, Drink, and Identity in Eur.*, Thomas Wilson, ed., Vol. 22, EUR. STUDIES (2006); Daniel Weller & David Turkon, *Contextualizing the Immigrant Experience: The Role of Food and Foodways in Identity Maintenance and Formation for First- and Second-Generation Latinos in Ithaca, N.Y.*, 54 ECOL. OF FOOD & NUTRITION 57 (2015); Claude Fischler, *Food, Self, and Identity*, 27 SOC. SCI. INFO. 275 (1988); Gina M. Almerico, *Food and Identity: Food Studies, Cultural, and Personal Identity*, 8 J. OF INT'L BUS. AND CULTURAL STUD. 1 (2014).

8. Wenying Jiang, *The Relationship Between Culture and Language*, 54 ELJ J. 328, 330–32 (2000).

9. *See* DANIEL SACK, WHITEBREAD PROTESTANTS: FOOD AND RELIGION IN AMERICAN CULTURE (2000); OF TRIPOD AND PALATE, FOOD AND RELIGION IN TRADITIONAL CHINA (Roel Sterckx eds., 2005); Gillian Feeley-Harnik, *Religion and Food: An Anthropological Persp.*, 63 J. AM. ACAD. OF RELIGION 565 (1995).

10. DAVID Z. MOSTER, ETROG: HOW A CHINESE FRUIT BECAME A JEWISH SYMBOL (2018).

11. Hong-mei Yang & Jing-hua Yang, *An Anthropological Surv. of Dong's Zongzi Customs: A Case Study of Zhuping Village, Liping County, Guizhou Province*, J. ORIGINAL ECOL. NAT'L CULTURE (2012).

yellow glutinous rice, sireh junjung and pickled fruit.[12] In more Western cultures, the wedding cake is a highlight of the wedding ceremony.[13] And in Kazakhstan, wedding feast foods can involve horse meat, which is "believed to have special curative powers."[14] These associations highlight how foods can demarcate not only cultural identities, but also individual identities as shaped by cultural heritage.

These are just a few examples of the ways in which food shapes and is shaped by our cultural identities. Suffice it to say that food is quite an important aspect of culture, both for existing and future generations.

B. CLIMATE THREATS TO FOOD HERITAGE

The availability of certain foods, including culturally important foods, is under threat, due to various environmental harms, most notably climate change. As a general matter, climate change can pose a number of significant threats to foodways, not only to agriculture (as a source for our foods) but to biodiversity (as another source for our foods).

As the 2018 Intergovernmental Panel on Climate Change (IPCC) Report on Climate Change and Land observed, climate change can lead to a number of problems related to food security.[15] This report explained that there is "high confidence" that "[f]ood security will be increasingly affected by projected future climate change," that "[v]ulnerability of pastoral systems to climate change is very high," and that "[f]ruit and vegetable production, a key component of healthy diets, is also vulnerable to climate change."[16] Moreover, these effects are likely to implicate all aspects of food security, including "availability, access, utilisation and stability."[17]

These effects on food security derive from a number of aspects of climate change. For example, temperature changes can lead to changes in the growing seasons of crops, which, depending on the crop, can prevent harvests, lower crop quality, or even extend yields.[18] Temperature changes can also increase the availability of crop pests and diseases, leading to decreased yields.[19] And temperature

12. Rosmaliza Muhammad et al., *The Roles and Symbolism of Foods in Malay Wedding Ceremony*, 101 PROCEDIA – SOC. & BEHAV. SCI. 268 (2013).

13. SIMON CHARSLEY, WEDDING CAKES AND CULTURAL HIST. 18–19 (1992).

14. Cynthia Werner, *Marriage, Markets, and Merchants: Changes in Wedding Feasts and Household Consumption Patterns in Rural Kazakstan*, 19 CULTURE & AGRIC. 6, 12 (1997).

15. C. Mbow et al., *Chapter 5: Food Security*, *in* CLIMATE CHANGE AND LAND: AN IPCC SPECIAL REPORT ON CLIMATE CHANGE, DESERTIFICATION, LAND DEGRADATION, SUSTAINABLE LAND MANAGEMENT, FOOD SECURITY, AND GREENHOUSE GAS FLUXES IN TERRESTRIAL ECOSYSTEMS 439 (2018), https://perma.cc/JR4N-A5X4.

16. *Id*. at 439.

17. *Id*. at 442.

18. *Id*. at 454.

19. *Id*. at 458.

increases can increase farmworker fatigue and heat exposure,[20] again impacting the availability of crop harvests.

Predicted precipitation changes arising from climate change can also lead to impacts on the availability of crops. Depending on whether an area is subject to higher or lower precipitation, these changes can lead to increased or decreased yields of water-dependent crops.[21] Changes in precipitation can also lead to various impacts on stationary livestock production systems,[22] pastoral livestock production systems,[23] and aquaculture systems.[24]

Finally, climate change can also impact other systems related to food security, from food transportation to food preservation. As the U.S. Climate Resilience Toolkit explains, "Land, water, and air transportation are all vulnerable to climate change. Adverse climate events impact transit time, delivery reliability, and efficiency, which affect the cost of all goods moving through the transportation system—including food."[25] Rising temperatures and changes in precipitation and humidity can also lead to impacts on the safety of traditional food preservation and storage techniques.[26]

But these are not just general threats. Already, climate change is threatening a number of culturally important foods. Take, for example, tribal traditional foods. Certain berry plants, used by the Wabanaki people in Maine and Canada to initiate adolescent females' entrance into adulthood, are experiencing lowered supplies.[27] Coffee and chocolate, prized by many societies, are also threatened by climate change, as these crops are intolerant of large ranges in temperatures and precipitation.[28] Moreover, increased temperatures can lead to increased pest exposures to which these crops are especially vulnerable.[29] Similarly, climate change can drive changes in viticulture practices—also a staple in many cultures—that, in turn, may be unsustainable with respect to how those practices affect other local ecosystems.[30]

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20. *Id*. at 453-54.
21. *Id*. at 439.
22. *Id*. at 454.
23. *Id*. at 457.
24. *Id*. at 459-60.
25. *See* U.S. Climate Resilience Toolkit, *Food Distribution*, https://perma.cc/43RA-94U8 (citing M. McGuirk et al. *Weather and Climate Change Implications for Surface Transportation in the USA*, WMO BULLETIN 58, 84–93 (2009)).
26. *See* Lee-Ann Jaykus et al., Food and Agriculture Organization, *Climate Change: Implications for Food Safety* (2008), http://www.fao.org/3/i0195e/i0195e00.pdf.
27. Kathy Lynn, *The Impacts of Climate Change on Tribal Traditional Foods*, 120 CLIMATE CHANGE 545, 548–49 (2013); *cf*. Alder Keleman Saxena et al., *Indigenous Food Systems and Climate Change: Impacts of Climatic Shifts on the Production and Processing of Native and Traditional Crops in the Bolivian Andes*, 4 FRONTIERS IN PUB. HEALTH 20 (2016).
28. Michael Gross, *Coffee and Chocolate in Danger*, 24 CURRENT BIOLOGY R503–506 (2014).
29. *Id*.
30. Lee Hannah et al., *Climate Change, Wine, and Conservation*, 17 PROCEEDINGS OF THE NAT'L ACAD. OF SCI. 6907–6912 (2013).

Thus, climate change presents threats to intergenerational equity with respect to food. As Professor Brown Weiss outlined in her seminal work, *In Fairness to Future Generations and Sustainable Development*, there are three normative principles of intergenerational equity.

> There are three normative principles of intergenerational equity. First, each generation must conserve options. . . . Second, each generation should be required to maintain the quality of the planet so that it is passed on in a condition no worse than that in which it was received. . . . Third, each generation should provide its members with equitable rights of access to the legacy of past generations and conserve this access for future generations.[31]

This provides us with a lens to evaluate existing legal instruments for intergenerational equity with respect to food. For example, what does conserving options mean in the context of culturally important food? My preliminary suggestion is that this means that we should focus on preserving each generation's options to develop foodways organically and avoid external threats that particular food options would disappear. This does not entail preserving particular cuisines in a static manner,[32] but rather that options for preparing and developing those cuisines be preserved. Along those lines, instruments for food intergenerational equity should focus on maintaining the availability of foods accessible to particular cuisines in their development.

What does maintaining quality so that it is passed on in a condition no worse than that in which it was received mean in the context of food? My preliminary suggestion is that this means that we should maintain the availability of food ingredients that are robust and flavorful. What this would mean is that preserving the agricultural components themselves is not enough; we need to maintain sufficient experiential components of these ingredients (flavor, mouthfeel, etc.) such that they retain their associational elements.[33] That is, with respect to intergenerational food equity instruments, we must move beyond supply and also consider food quality.

Finally, what does providing members with equitable rights of access to the legacy of past generations and conserving this access for future generations mean in the context of food? I suggest that this means that access to foods important to cultural heritage be preserved not just for the wealthy, but for all who want to rejoice in this cultural history. As Professor Brown Weiss wrote:

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31. Edith Brown Weiss, *In Fairness to Future Generations and Sustainable Development*, 8 AM. U. INT'L L. REV. 19, 22–23 (1992).

32. *See* KRISHNENDU RAY, THE ETHNIC RESTAURANTEUR (2016) (discussing how expectations on "ethnic" restauranteurs in the West lead them to focus on preserving static visions of particular cuisines).

33. *See, e.g.*, Hossein Azadi, *Genetically Modified and Organic Crops in Developing Countries: A Review of Options for Food Security*, 28 BIOTECHNOLOGY ADVANCES 160 (2010) (discussing, among other things, the issue of flavor with respect to biotech foods).

> This is an intergenerational principle of access, or conservation of access. . . . First, while [principles of intergenerational equity] should encourage equality among generations, they should neither authorize the present generation to exploit resources to the exclusion of future generations, nor impose unreasonable burdens on the present generation to meet indeterminate future needs. Second, no principle should require use to predict the values of future generations. Rather, we should provide them with sufficient flexibility to achieve their own goals according to their own values. Third, the principles must be clear in their application to foreseeable situations. Finally, they must be shared by different cultural traditions, and must be generally acceptable to different economic and political systems.[34]

I suggest that this means that legal instruments that preserve the equitable rights of access to food legacies of past generations and conserve those rights for future generations should focus on the burdens that conservation techniques and outcomes create for present and future generations, with sufficient flexibility provided for doing so.

II. INTERNATIONAL LEGAL INSTRUMENTS FOR PRESERVING FOOD HERITAGE

By making this argument for intergenerational food equity, I am in no way suggesting that that international law ignores the sustenance of food heritage. There do exist some instruments, and they are absolutely welcome from the standpoint of intergenerational food equity. But so far, the available instruments do not address threats to the availability of foods that are part of our heritage due to climate change and other environmental harms. The following section first describes some available sources of protection—the UNESCO Intangible Cultural Heritage Program and the International Treaty on Genetic Resources for Food and Agriculture—and then outlines gaps left by those tools to address current environmental threats to intergenerational equity.

A. UNESCO INTANGIBLE CULTURAL HERITAGE PROGRAM

The United Nations Educational, Scientific and Cultural Organization (UNESCO) Convention for the Safeguarding of Intangible Cultural Heritage [hereinafter "Convention"][35] was adopted by the UNESCO General Conference in 2003 and entered into force on 2006.[36] UNESCO has interpreted the language of this Convention as including culinary heritage.[37]

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34. Weiss, *supra* note 31, at 23.

35. Text of the Convention for the Safeguarding of Intangible Cultural Heritage, UNESCO [hereinafter Intangible Cultural Heritage Convention], https://perma.cc/WL33-6Q8R.

36. Entry into Force, Convention for the Safeguarding of Intangible Cultural Heritage, UNESCO, https://perma.cc/56S4-ML4X.

37. *See* Intangible Heritage Lists, UNESCO, https://perma.cc/K89A-TH57 (including culinary heritage); *see also* Morgan Figuers, Note and Comment, *Monuments, Mountains, and . . . The*

The Convention defines "intangible cultural heritage" as "the practices, representations, expressions, knowledge, and skills—as well as the instruments, objects, artifacts and cultural spaces associated therewith—that communities, groups and, in some cases, individuals recognize as part of their cultural heritage."[38] Articles 16 and 17 of the Convention create two types of lists: "Representative List of the Intangible Cultural Heritage of Humanity" [hereinafter "Representative List"] and "List of Intangible Cultural Heritage in Need of Urgent Safeguarding" [hereinafter "Urgent Safeguarding List"].[39] Under its latest Operational Directives for the Implementation of the Convention for the Safeguarding of the Intangible Cultural Heritage [hereinafter "Operational Directives"],[40] items to be added to the Representative List are to be nominated by state parties, with documentation for fulfilling the following criteria:

> R.1 The element constitutes intangible cultural heritage as defined in [the Convention].
>
> R.2 Inscription of the element will contribute to ensuring visibility and awareness of the significance of the intangible cultural heritage and to encouraging dialogue, thus reflecting cultural diversity worldwide and testifying to human creativity.
>
> R.3 Safeguarding measures are elaborated that may protect $\pi$and promote the element.
>
> R.4 The element has been nominated following the widest possible participation of the community, group or, if applicable, individuals concerned and with their free, prior and informed consent.
>
> R.5 The element is included in an inventory of the intangible cultural heritage present in the territory(ies) of the submitting State(s) Party(ies), as defined in Articles 11 and 12 of the Convention.[41]

Similarly, under these Operational Directives, items to be added to the Urgent Safeguarding List are to be nominated by state parties, with documentation for fulfilling the following criteria:

> U.1 The element constitutes intangible cultural heritage as defined in [the Convention.]
>
> U.2 (a) The element is in urgent need of safeguarding because its viability is at risk despite the efforts of the community, group or, if applicable, individuals and State(s) Party(ies) concerned; or (b) The element is in extremely urgent

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Mediterranean Diet? Potential for UNESCO's World Culinary Heritage Inscriptions to Positively Affect Sustainable Agriculture, 24 COLO. NAT. RESOURCES, ENERGY & ENVTL. L. REV. 419 (2013).

38. Intangible Cultural Heritage Convention, *supra* note 35, at Sec. 1, Art. 2(1).

39. *Id*. at Arts 16 & 17.

40. UNESCO, Operational Directives for the Implementation of the Convention for the Safeguarding of the Intangible Cultural Heritage (2018), https://perma.cc/Y9BX-46XM.

41. *Id*. at I.2.

> need of safeguarding because it is facing grave threats as a result of which it cannot be expected to survive without immediate safeguarding.
>
> U.3 A safeguarding plan is elaborated that may enable the community, group or, if applicable, individuals concerned to continue the practice and transmission of the element.
>
> U.4 The element has been nominated following the widest possible participation of the community, group or, if applicable, individuals concerned and with their free, prior and informed consent.
>
> U.5 The element is included in an inventory of the intangible cultural heritage present in the territory(ies) of the submitting State(s) Party(ies), as defined in Articles 11 and 12 of the Convention.
>
> U.6 In cases of extreme urgency, the State(s) Party(ies) concerned has (have) been duly consulted regarding inscription of the element in conformity with [the Convention].[42]

Once an intangible cultural heritage is listed (either on the Representative List or the Urgent Safeguarding List), different safeguards at the state and international level kick in. For example, states must "take the necessary measures to ensure the safeguarding of the intangible cultural heritage present in its territory."[43] These measures include identification of the intangible cultural heritage that exists in its territory,[44] adoption of appropriate policies,[45] and promotion of education.[46] Besides, in taking these measures, each state party must "endeavor to ensure the widest possible participation of communities, groups, and, where appropriate, individuals that create, maintain and transmit such heritage, and to involve them actively in its management".[47]

At the international level, the Convention promotes international cooperation, which includes "the exchange of information and experience, joint initiatives, and the establishment of a mechanism of assistance" to other State Parties.[48] These include "(a) studies concerning various aspects of safeguarding; (b) the provision of experts and practitioners; (c) the training of all necessary staff; (d) the elaboration of standard-setting and other measures; (e) the creation and operation of infrastructures; (f) the supply of equipment and know-how; and (g) other forms of financial and technical assistance, including, where appropriate, the granting of low-interest loans and donations."[49]

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42. *Id*. at I.1.
43. Intangible Cultural Heritage Convention, *supra* note 35, at Art. 11(a).
44. *Id*. at Art. 11(b).
45. *Id*. at Art. 13(d).
46. *Id*. at Art. 14.
47. *Id*. at Art. 15.
48. *Id*. at Art. 19.
49. *Id*. at Art. 21.

The Convention also requires the governance committee for the Convention[50] to establish procedures for requests for international assistance,[51] and to establish an Intangible Cultural Heritage Fund,[52] with contribution from state parties.[53] The Operational Directives has since provided criteria for requiring international assistance, which includes the following:

> A.1. The community, group and/or individuals concerned participated in the preparation of the request and will be involved in the implementation of the proposed activities, and in their evaluation and follow-up as broadly as possible.
>
> A.2 The amount of assistance requested is appropriate.
>
> A.3 The proposed activities are well conceived and feasible.
>
> A.4 The project may have lasting results.
>
> A.5 The beneficiary State Party shares the cost of the activities for which international assistance is provided, within the limits of its resources.
>
> A.6 The assistance aims at building up or reinforcing capacities in the field of safeguarding intangible cultural heritage.
>
> A.7 The beneficiary State Party has implemented previously financed activities, if any, in line with all regulations and any conditions applied thereto.[54]

The Operational Directives have also provided frameworks for developing and distributing the Intangible Cultural Heritage Fund.[55]

Although no foods or drinks have been listed on the Urgent Safeguarding List,[56] a number of foods and drinks have been listed on the Representative List.[57] One example is Arabic coffee, described as "an important aspect of hospitality in Arab societies and considered a ceremonial act of generosity."[58] Their listing describes both ritualistic and food quality aspects of the drink, stating:

> Traditionally, coffee is prepared in front of guests. Coffee-making begins with the selection of beans, which are lightly roasted in a shallow pan over a fire, then placed into a copper mortar and pounded with a copper pestle. The coffee grounds are placed into a large copper coffee pot; water is added and the pot is placed on the fire. Once brewed, it is poured into a smaller coffee pot from which it is poured into small cups. The most important or oldest guest is served first, filling a quarter of the cup, which can then be refilled. Common practice

50. *Id*. at Art. 4.
51. *Id*. at Art. 22.
52. *Id*. at Art. 25.
53. *Id*. at Art. 26.
54. UNESCO, *supra* note 40, at Ch. I, 12 (A.1–7).
55. *Id*. at Ch. II.
56. UNESCO, *Browse the Lists of Intangible Cultural Heritage and the Register of Good Safeguarding Practices*, https://perma.cc/MJK5-NKKJ (last visited Mar. 11, 2020).
57. *Id*.
58. UNESCO, *Arabic Coffee, a Symbol of Generosity*, https://perma.cc/96B3-ASGA (last visited Mar. 11, 2020).

> is to drink at least one cup but not exceed three. Arabic coffee is made and enjoyed by men and women from all segments of society, particularly in the home. The sheikhs and heads of tribes who serve Arabic coffee in their meeting spaces, elderly Bedouin men and women and owners of coffee trading shops are considered the main bearers. Knowledge and traditions are passed on within the family through observation and practice. Young family members also accompany their elders to the market to learn how to select the best coffee beans.[59]

The entry for Neapolitan pizza[60] is similar. It states

> The art of the Neapolitan 'Pizzaiuolo' is a culinary practice comprising four different phases relating to the preparation of the dough and its baking in a wood-fired oven, involving a rotatory movement by the baker. The element originates in Naples, the capital of the Campania Region, where about 3,000 Pizzaiuoli now live and perform. Pizzaiuoli are a living link for the communities concerned. There are three primary categories of bearers – the Master Pizzaiuolo, the Pizzaiuolo and the baker – as well as the families in Naples who reproduce the art in their own homes. The element fosters social gatherings and intergenerational exchange, and assumes a character of the spectacular, with the Pizzaiuolo at the centre of their 'bottega' sharing their art. Every year, the Association of Neapolitan Pizzaiuoli organizes courses focused on the history, instruments and techniques of the art in order to continue to ensure its viability. Technical know-how is also guaranteed in Naples by specific academies, and apprentices can learn the art in their family homes. However, knowledge and skills are primarily transmitted in the 'bottega', where young apprentices observe masters at work, learning all the key phases and elements of the craft.[61]

Finally, Nsima, a culinary tradition of the Malawi, is described on this list[62] as

> a compound name for the culinary and dietary tradition of Malawians as well as the name of a single component of this tradition, a form of thick porridge prepared with maize flour. Nsima is prepared through an elaborate process requiring specific knowledge, from pounding the maize into flour to selecting the accompanying food and then preparing and serving it. Certain customs are followed during mealtimes, for example to regulate gluttony and promote cleanliness and cohesion. The process of growing, storing, processing and preparing the maize from which Nsima is made is bound up with Malawians' way of life, and eating Nsima is a communal tradition in families and an opportunity to strengthen bonds. At an early age, girls learn to pound maize or sift

59. *Id.*

60. UNESCO, *The Art of Neapolitan "Pizzaiulo,"* https://perma.cc/85KN-5BHA (last visited Mar. 11, 2020).

61. *Id.*

62. UNESCO, *Nsima, Culinary Tradition of Malawi*, https://perma.cc/G2V2-NSTC (last visited Mar. 11, 2020).

> flour to prepare Nsima, while young boys hunt for animals to provide accompaniments. Communities ensure the safeguarding of the element through continued practice, the publication of schoolbooks and recipes on Nsima, the organization of festivals and the revitalization of the practice. Most restaurants in Malawi also feature Nsima on their menus. Knowledge relating to the element is transmitted informally between adults and children, and through on-the-job training and education.[63]

Many of these traditional foodways, however, are threatened by climate change in ways insufficiently addressed by the Convention. Studies have shown that climate change impacts the available quality and quantity of coffee beans around the world, due to the sensitivity of coffee crops to temperature and water availability.[64] Similarly, the production of olive oil, a key ingredient of Neapolitan pizza, is also affected by climate change.[65] Likewise, the growing of Malawi maize, the key component of Nsima, is threatened by the effects of climate change, mainly from increasing frequency of drought conditions.[66]

The main instruments of the Convention are provision of education and financial assistance, more effective at addressing the loss of traditional foodways from the pressures of changes in global economies. But these "capacity-building" tools[67] are inadequate for addressing the more large-scale, systemic threats to cultural foodways arising from climate change. And tough choices arise, even in terms of structuring education and financial assistance in these areas. Should the focus be on providing technical assistance to grow traditional crops in the face of changing climactic conditions, and if so, would these changes still reflect full access to food legacies of past generations, as principles of intergenerational

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63. *Id*.

64. *See, e.g*., Marcelo Bento Paes de Camargo, *The Impact of Climatic Variability and Climate Change on Arabic Coffee Crop in Brazil*, 69 BRAGANTIA 239 (2010); Christian Bunn et al., *A Bitter Cup: Climate Change Profile of Global Production of Arabica and Robusta Coffee*; 129 CLIMATIC CHANGE 89 (2015); Juliana Jaramillo et al., *Some Like It Hot: The Influence and Implications of Climate Change on Coffee Berry Borer* (Hypothenemus hampei) *and Coffee Production in East Africa*, PLoS ONE 6(9): e24528 (2015), https://doi.org/10.1371/journal.pone.0024528.

65. *See, e.g*., Fátima Aguilera et al., *Heat Accumulation Period in the Mediterranean Region: Phenological Response of the Olive in Different Climate Areas (Spain, Italy And Tunisia)*, 58 INT'L J. OF BIOMETEOROLOGY 867 (2014); Luigi Ponti et al., *Fine-Scale Ecological and Economic Assessment of Climate Change on Olive in the Mediterranean Basin Reveals Winners and Losers*, 15 PROCEEDINGS OF THE NAT'L ACAD. OF SCI. 5598 (2014); Younes Ben Zaied & Oussama Zouabi, *Impacts of Climate Change on Tunisian Olive Oil Output*, 139 CLIMATIC CHANGE 535 (2016); Yazin Ozdemir, *Effects of Climate Change on Olive Cultivation at Table Olive and Olive Oil Quality*, LX SCIENTIFIC PAPERS. SERIES B, HORTICULTURE (2016).

66. *See, e.g*., Miriam Kalanda Joshua et al., *Implications of Climate Change Risks on Rural-Urban Agricultural and Food Flows in Blantyre City, Malawi*, 50 J. OF PUB. ADMIN. 125 (2015); Kondwani Msowoya et al., *Climate Change Impacts on Maize Production in the Warm Heart of Africa*, 30 WATER RESOURCES MGMT. 5299 (2016); Tilele Stevens & Kaveh Madani, *Future Climate Impacts on Maize Farming and Food Security in Malawi*, 6 SCI. REP. 36241 (2016).

67. UNESCO, Operational Directives, *supra* note 40, at Ch. I, 12 (A.1–7).

equity of require? Would quality of food ingredients be sacrificed for maintaining adequate supply, and if so, would this still protect intergenerational equity?

B. INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Another international instrument directed at preserving foodways for future generations is the International Treaty on Plant Genetic Resources for Food and Agriculture [hereinafter "Treaty"].[68] It entered into force in 2004,[69] and its objectives are "the conservation and sustainable use of all plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security."[70] The Treaty contains a number of provisions for national commitments and international cooperation for the conservation and sustainable use of plant genetic resources,[71] the establishment of farmers' rights,[72] and the creation of a multilateral system of access and benefit sharing for these resources.[73]

The bulk of the Treaty involves creating ways for states and the international community to protect plant genetic resources, defined as "any genetic material of plant origin of actual or potential value for food and agriculture."[74] States must

> a) Survey and inventory plant genetic resources for food and agriculture, taking into account the status and degree of variation in existing populations, including those that are of potential use and, as feasible, assess any threats to them;
> b) Promote the collection of plant genetic resources for food and agriculture and relevant associated information on those plant genetic resources that are under threat or are ofpotential use;
> c) Promote or support, as appropriate, farmers and local communities' efforts to manage and conserve on-farm their plant genetic resources for food and agriculture;
> d) Promote in situ conservation of wild crop relatives and wild plants for food production, including in protected areas, by supporting, inter alia, the efforts of indigenous and localcommunities;
> e) Cooperate to promote the development of an efficient and sustainable system of ex situ conservation, giving due attention to the need for adequate documentation, characterization, regeneration and evaluation, and promote the development and transfer of appropriate technologies for this purpose

68. Commission on Plant Genetic Resources for Food and Agriculture, The International Treaty on Plant Genetic Resources for Food and Agriculture [hereinafter Treaty], http://www.fao.org/3/a-i0510e.pdf.
69. *Id*.
70. *Id*. Art. 1.1.
71. *Id*. Part II, Arts. 4-8.
72. *Id*. Part III, Art. 9.
73. *Id*. Part IV, Arts. 10-13.
74. *Id*. Art. 2.

with a view to improving the sustainable useof plant genetic resources for food and agriculture;

f) Monitor the maintenance of the viability, degree of variation, and the genetic integrity of collections of plant genetic resources for food and agriculture.[75]

In addition, under the Treaty, states may adopt measures for

a) pursuing fair agricultural policies that promote, as appropriate, the development and maintenance of diverse farming systems that enhance the sustainable use of agricultural biological diversity and other natural resources;

b) strengthening research which enhances and conserves biological diversity by maximizing intra- and inter-specific variation for the benefit of farmers, especially those who generate and use their own varieties and apply ecological principles in maintaining soil fertility and in combating diseases, weeds and pests;

c) promoting, as appropriate, plant breeding efforts which, with the participation of farmers, particularly in developing countries, strengthen the capacity to develop varieties particularly adapted to social, economic and ecological conditions, including in marginal areas;

d) broadening the genetic base of crops and increasing the range of genetic diversity available to farmers;

e) promoting, as appropriate, the expanded use of local and locally adapted crops, varieties and underutilized species;

f) supporting, as appropriate, the wider use of diversity of varieties and species in on farm management, conservation and sustainable use of crops and creating strong links to plant breeding and agricultural development in order to reduce crop vulnerability and genetic erosion, and promote increased world food production compatible with sustainable development; and

g) reviewing, and, as appropriate, adjusting breeding strategies and regulations concerning variety release and seed distribution.[76]

While many of the Treaty's goals are aspirational, the creation of the multilateral system of access and benefit sharing has some structural force.[77] That is, this multilateral system creates ways to protect access to plant genetic resources from biopiracy and other limitations on access and farmers' rights.[78] It does so through a system of access and benefit sharing. With respect to access, the Treaty provides that

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75. *Id*. Art. 5.1.

76. *Id*. Art. 6.2.

77. *See, e.g*., Katie Bass, Comment, *The Battle Over Plant Genetic Resources: Interpreting the International Treaty for Plant Genetic Resources*, 16 CHI. J. INT'L L. 151, 162-64 (2015).

78. Michael Halewood & Kent Nnadozie, *Giving Priority to the Commons: The International Treaty on Plant Genetic Resources for Food and Agriculture*, *in* THE FUTURE CONTROL OF FOOD 115, 130 (Geoff Tansey & Tasmin Rajotte eds., 2008).

a) Access shall be provided solely for the purpose of utilization and conservation for research, breeding and training for food and agriculture, provided that such purpose does not include chemical, pharmaceutical and/or other non-food/feed industrial uses. In the case of multiple-use crops (food andnon-food), their importance for food security should be the determinant for their inclusion in the Multilateral Systemand availability for facilitated access.

b) Access shall be accorded expeditiously, without the need to track individual accessions and free of charge, or, when a fee is charged, it shall not exceed the minimal cost involved;

c) All available passport data and, subject to applicable law, any other associated available non-confidential descriptive information, shall be made available with the plant geneticresources for food and agriculture provided;

d) Recipients shall not claim any intellectual property or other rights that limit the facilitated access to the plant genetic resources for food and agriculture, or their genetic parts orcomponents, in the form received from the Multilateral System;

e) Access to plant genetic resources for food and agriculture under development, including material being developed by farmers, shall be at the discretion of its developer, duringthe period of its development;

f) Access to plant genetic resources for food and agriculture protected by intellectual and other property rights shall be consistent with relevant international agreements, and withrelevant national laws;

g) Plant genetic resources for food and agriculture accessed under the Multilateral System and conserved shall continue to be made available to the Multilateral System by the recipients of those plant genetic resources for food and agriculture, under the terms of this Treaty; and

h) Without prejudice to the other provisions under this Article,the Contracting Parties agree that access to plant genetic resources for food and agriculture found in in situ conditions will be provided according to national legislation or, in the absence of such legislation, in accordance with such standards as may be set by the Governing Body.[79]

And with respect to the sharing of benefits, the Treaty requires the exchange of information between states, creation of provisions for access to and transfer of technology, prioritizing capacity-building, and sharing monetary and other benefits of commercialization.[80]

All in all, while the Treaty promotes "the development and maintenance of diverse farming systems,"[81] its more substantive focus is on providing access to plant genetic material despite potential intellectual property rights claims,[82] and promoting the development of systems for protecting such access.

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79. *See* Treaty, *supra* note 68, Art. 13.1.
80. *Id*. Art. 13.2
81. *Id*. Art. 6.2(a).
82. *Id*. Art. 13.1(d), (f).

As with the Convention, the tools available under the Treaty are inadequate to address threats to plant genetic material arising from climate change. To the extent that scholars have discussed the Convention with respect to climate change, they have focused more on the Treaty's ability to protect agricultural research and traditional agricultural products that are especially resilient to climate change impacts,[83] versus the ability of the Treaty to protect plant genetic resources—traditional or not—from the impacts of climate change.

C. GAPS FOR ADDRESSING INTERGENERATIONAL INEQUITIES

While these international instruments protect intergenerational equity for food resources to some degree, they also leave a number of gaps. For example, the Convention works through a "listing" regime, relying upon submitting states to designate intangible cultural heritage resources worthy of protection.[84] States may therefore face internal conflicts about submitting intangible cultural heritage resources that highlight inherent barriers to protecting those resources due to climate change. The United States' experience with the listing of endangered and threatened species under the Endangered Species Act provides one example.[85] As Professor Oliver Houck observed, issues such as funding and financial commitments associated with listing species for protection have led to delays in the listing process.[86] While the Convention addresses a different context, these same concerns may still apply.

The Convention is also focused on the retention of cultural heritage options and protecting access to those options, rather than on maintenance of quality for those options,[87] implicating principles of intergenerational equity. Finally, the Convention fails to contain requirements of affirmative protection for systemic threats to intangible cultural heritage that extend beyond pressures from economic changes and global trade.

Similarly, the Treaty, while protective of traditional genetic resources, is mainly concerned with intellectual property rights and farmers' rights, versus affirmative requirements for states to protect these resources from more systemic

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83. *See, e.g.*, Emily Marden & R. Nelson Godfrey, *Intellectual Property and Sharing Regimes in Agricultural Genomics: Finding the Right Balance for Innovation*, 17 DRAKE J. AGRIC. L. 369, 369 (2012) (mentioning the promise of intellectual property protection for crops resilient to climate change); Fabrice Mattei, *COP 21: Historic Climate Change Agreement and Its Impact on Access and Transfer of Green Technologies*, 51 LES NOUVELLES 62, 66 (2016) (describing the Treaty as a means of relying on technology to "mitigate climate change").

84. *See* Intangible Cultural Heritage Convention, *supra* note 35, at Sec. 1, Arts. 16 & 17.

85. *See*, *e.g.*, Oliver A. Houck, *The Endangered Species Act and Its Implementation by the U.S. Departments of Interior and Commerce*, 64 U. COLO. L. REV. 277, 280-96 (1993) (describing various issues with the listing process that have led to bottlenecks in the listing of species for protection under the U.S. Endangered Species Act).

86. *Id.*

87. *See id.*

threats, such as threats to these resources from the effects of climate change.[88] There is little in the Treaty that focuses on access to those genetic resources, much less preservation of quality of those genetic resources, as much as protecting property rights for those genetic resources.

III. EXPANDING INTERNATIONAL LEGAL INSTRUMENTS TO BETTER PROTECT FUTURE GENERATIONS OF EATERS

This essay has so far described available international instruments for protecting intergenerational food equity and highlighted gaps in these instruments for addressing threats due to climate change. How, then, might we strengthen the rights of future generations of eaters in light of climate change threats to our food resources? I provide a few preliminary suggestions, drawing from the experiences of indigenous food sovereignty advocates, who have been at the forefront of addressing intergenerational food equity.

The listing protocol of the Convention provides a good start for focusing international efforts for protecting intangible cultural heritage, of which food is a substantial part. But, as discussed earlier, it may be subject to the same weaknesses as other instruments that rely upon "listing" to protect particular elements, in ways that ignore future generations' access and options. So one potential area for reform is developing a way to open up the conversation about what foods should be listed as necessary for preserving intergenerational equity with respect to food heritage. One important avenue is the creation of open meetings and discussions, such as the food summits hosted by the Intertribal Agricultural Council in the United States, where the importance of preserving traditional foods are discussed and shared, and where new foods are developed based upon shared cultural understandings.[89]

Next, both the Convention and the Treaty, while focused on preserving the existence of heritage foods (as either an intangible cultural heritage or a plant genetic resource), fail to address intergenerational equity concerns of access to these foods.[90] How would we expand these protections to include protections for access? One area for reform might be to extend resources for promoting access to foods relevant to cultural heritage. Again, the work of indigenous peoples can provide potential models. The Native American Food Sovereignty Alliance, for example, works with youth groups to promote access to traditional foods.[91] Such connections to youth have provided bridges for access to both knowledge and resource sharing in other areas,[92] and thus may provide successful avenues for extending equitable intergenerational access to food heritage.

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88. *See* Treaty, *supra* note 68, at Art. 2.

89. *See, e.g.*, Great Lakes Region IAC, *2019 Great Lakes Intertribal Food Summit* (2019), https://perma.cc/KL3X-LLC8.

90. Weiss, *supra* note 31, at 23.

91. *See* Native American Food Safety Alliance, *Our* Stories (2019), https://perma.cc/GF5Z-F7P8.

92. *See*, *e.g.*, Stephanie Tai, *Environmental Hazards and the Richmond Laotian American Community: A Case Study in Environmental Justice*, 6 ASIAN L.J. 189 (1999).

Finally, advocates should focus on developing broader requirements for the protection of food cultural resources so that future generations of eaters can access and enjoy the foods of prior generations, as well as the foods that their communities would have developed without external environmental constraints. With respect to threats from climate change, this may entail developing more systemic responsibilities, such as state or regional responsibilities for broader advocacy efforts to minimize greenhouse gas emissions.

CONCLUSION

While food heritage may not be as necessary as food security to our sheer survival as biological beings, it is still an important part of our cultural heritage. As Carlo Petrini, founder of the International Slow Food Movement, once stated, "Food history is as important as a baroque church. Governments should recognize cultural heritage and protect traditional foods. A cheese is as worthy of preserving as a sixteenth-century building."[93] This essay begins to outline what it may take, given threats to food arising from climate change, to preserve intergenerational equity with respect to food if we were to take seriously food heritage as important for cultural preservation.

That said, I leave with more questions than answers. How do we tackle tensions between the cultural preservation of foodways and impacts on climate change? That is, how do we balance the preservation of foodways that themselves might have negative impacts on climate change (for example, livestock consumption) with intergenerational equity for food heritage? How do we approach new food technologies, such as genetically modified organisms, that may simultaneously take the place of food ingredients important in our cuisines, but also supplant traditional forms of agriculture? And how to do we evaluate the types of "options" for food we should preserve for future generations, given the ever-evolving landscape of cuisines and culture? As Professor Brown Weiss observed, "implementing our responsibilities to future generations will be difficult."[94] My hope is that—while difficult—this essay is the beginning of a conversation, rather than the end, a conversation to be had over meals, drinks, and thoughtful engagement.

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93. Hannerie Visser, *The Trend of Preserving Memories*, N.Z. TIMES (Mar. 21, 2018), https://perma.cc/R6ZC-BGC6; *see also Juliana* Chen, *Keeping Up with the Hakka Food Culture*, THE STANDARD (May 16, 2018), https://perma.cc/AR9R-KQVT.

94. Weiss, *supra* note 31, at 26.