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International Approaches to the Intersections Between the Human Rights to Food and Culture: a case study based on the agrochemical threat to honey availability

Abordagens Internacionais para as Interseções entre os Direitos Humanos à Alimentação e à Cultura: um estudo de caso baseado na ameaça dos agrotóxicos à disponibilidade de mel

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International Approaches to the Intersections Between the Human Rights to Food and Culture: a case study based on the agrochemical threat to honey availability\*

Abordagens Internacionais para as Interseções entre os Direitos Humanos à Alimentação e à Cultura: um estudo de caso baseado na ameaça dos agrotóxicos à disponibilidade de mel

> Pedro Odebrecht Khauaja\*\* Maria Goretti Dal Bosco\*\*\*

### Abstract

Our research explores the cultural aspects of the Right to Food, as well as the connections between this right and the Right to Culture, from a Human Rights perspective. This was done by exploratory research on both legal conceptual frameworks, as well as a case study on the current concern regarding honey production and availability due to bee disappearance. This disappearance is highly connected to the use of agrochemicals and similar technologies in agricultural production. From this standpoint, we propose a conceptual approach to the intersection between the Human Right to Food and the Human Right to Culture, attempting to offer a framework that gives a satisfactory answer to the problem of how to protect and regulate the cultural elements of food production, distribution, and consumption. First, we analyse the supposition that there's a cultural element in food, that varies from society to society but remains a conceptual constant and part of our relation to food as a species. Secondly, we look at honey as a cultural element, both in history and in economics. Third, we show the correlation between agrochemicals, pesticides, and GMOs, and the issues of bee disappearance, colony collapse, etc. Lastly, we propose an interconnected Human Rights approach based on the dialogues between food and cultural rights.

**Keywords**: right to food; cultural rights; honey; agrochemicals; human rights.

### Resumo

Nossa pesquisa explora os aspectos culturais do Direito à Alimentação, bem como as conexões entre esse direito e o Direito à Cultura, a partir de uma perspectiva de Direitos Humanos. Isso foi feito por meio de pesquisa exploratória sobre ambos os quadros conceituais legais, bem como um estudo

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de caso sobre a preocupação atual com a produção e disponibilidade de mel devido ao desaparecimento das abelhas. Esse desaparecimento está muito ligado ao uso de agrotóxicos e outras tecnologias similares na produção agrícola. A partir dessa perspectiva, propomos uma abordagem conceitual para a interseção entre o Direito Humano à Alimentação e o Direito Humano à Cultura, tentando oferecer um framework que forneça uma resposta satisfatória ao problema de como proteger e regulamentar os elementos culturais da produção, distribuição e consumo de alimentos. Primeiramente, analisamos a suposição de que há um elemento cultural na alimentação, que varia de sociedade para sociedade, mas permanece uma constante conceitual e parte de nossa relação enquanto espécie com a alimentação. Em segundo lugar, olhamos para o mel como um elemento culturalmente significativo, tanto na história quanto na economia. Em terceiro lugar, mostramos a correlação entre agroquímicos, pesticidas e OGM, e os problemas do desaparecimento das abelhas, colapso de colônias, etc. Por fim, propomos uma abordagem interconectada de Direitos Humanos baseada nos diálogos entre os direitos à alimentação e à cultura.

**Palavras-Chave**: direito à alimentação; direitos culturais; mel; agrotóxicos; direitos humanos.

### **1** Introduction

Honey holds significant cultural importance across various societies, reflected in its multifaceted roles in tradition, economy, and social practices. Our research explores the cultural aspects of the Right to Food, as well as the connections between this right and the Right to Culture, from a Human Rights perspective. This was done by exploratory research on both legal conceptual frameworks, as well as a case study on the current concern regarding honey production and availability due to bee disappearance.

This disappearance is highly connected to the use of agrochemicals and similar technologies in agricultural production. From this standpoint, we propose a conceptual approach to the intersection between the Human Right to Food and the Human Right to Culture, attempting to offer a framework that gives a satisfactory answer to the problem of how to protect and regulate the cultural elements of food production, distribution, and consumption.

First, we analyse the supposition that there's a cultural element in food, that varies from society to society but remains a conceptual constant and part of our relation to food as a species. Secondly, we look at honey as a cultural element, both in history and in economics. Third, we show the correlation between agrochemicals, pesticides, and GMOs, and the issues of bee disappearance, colony collapse, etc. Lastly, we propose an interconnected Human Rights approach based on the dialogues between food and cultural rights.

In many cultures, honey is imbued with spiritual and symbolic meaning. For instance, in Hinduism, honey is one of the five elixirs of immortality. In Christianity and Judaism, honey symbolizes prosperity and the sweetness of the Promised Land, as seen in references to «a land flowing with milk and honey» in the Bible. The use of honey in religious ceremonies and offerings underscores its sacred status.

Honey is also featured prominently in the culinary traditions of many cultures. It is a key ingredient in various traditional dishes and beverages, such as Greek baklava, Middle Eastern desserts, and the Ethiopian honey wine called tej. The culinary use of honey not only enhances flavour but also preserves cultural recipes and practices. Its production supports the livelihoods of countless beekeepers globally, contributing to rural economies and community sustainability. In many regions, beekeeping is a traditional craft passed down through generations, fostering social cohesion and cultural continuity.

Culturally, this production is closely linked to environmental stewardship. Beekeeping encourages the preservation of natural habitats and biodiversity, reflecting a cultural appreciation for the interdependence between humans and nature, meaning honey's cultural importance is vast and varied, spanning historical, religious, medicinal, culinary, economic, environmental, and social domains. Its enduring presence in diverse cultural contexts underscores its significance as more than just a food product but as a vital element of cultural heritage and identity.

Agrochemicals, pesticides, and transgenic plants pose significant threats to bees and honey production, impacting their health, behaviour, and survival. Neonicotinoids—a class of systemic insecticides—, for ins-

tance, are highly toxic to bees. They affect the central nervous system of insects, leading to paralysis and death. Even at low doses, neonicotinoids can impair bees' foraging behaviour, navigation, and ability to communicate, which are crucial for colony health and efficiency.

Herbicides reduce the availability of wildflowers and other plants that bees rely on for nectar and pollen. This loss of food sources can weaken bee populations and reduce biodiversity. Some Genetically Modified crops produce their own insecticides that, while targeting specific pests, raise concern about long-term impact on non-target species, such as bees. Other transgenic crops may alter the nutritional content of nectar and pollen, potentially affecting bee health and their ability to produce quality honey.

The combined stress from pesticides, pathogens, and poor nutrition can lead to Colony Collapse Disorder (CCD), where worker bees abruptly abandon the hive, leaving the queen and immature bees to perish. Declining bee populations mean fewer pollinators for crops, leading to lower yields and reduced availability of flowers for nectar collection, essential for honey production. This decline in bee health and productivity makes beekeeping less viable, economically straining beekeepers and threatening the continuity of traditional honey production practices.

This, in turn, raises the main concern of this research, which is the unavailability of a culturally significant item. The Human Right to Food and the Human Right to Culture are interconnected in several meaningful ways, as food is not merely a necessity for survival but also a profound cultural artifact. Foods often embody cultural traditions and heritage, passed down through generations. They represent cultural identity, community history, and shared values. Methods of food preparation, preservation, and consumption are culturally specific and contribute to the cultural fabric of a society.

Certain foods symbolize cultural values or historical events, making them essential to the practice and continuity of cultural traditions. The right to food includes access to food that is not only sufficient and safe but also culturally acceptable. This means respecting dietary practices, religious restrictions, and traditional foods of different communities.

For indigenous peoples, for example, traditional food systems are integral to their cultural identity and way of life. Protecting their right to food involves safeguarding their land, resources, and traditional agricultural practices. Preserving local agricultural knowledge and biodiversity is essential for maintaining cultural heritage and ensuring resilient food systems.

Our goal is also to point out that policies aimed at ensuring food security must consider cultural impacts and involve local communities in decision-making processes to ensure cultural appropriateness and acceptance. Encouraging sustainable agricultural practices that preserve traditional crops and food production methods supports both food security and cultural heritage.

Ensuring access to culturally appropriate food supports the preservation of cultural heritage and identity, while protecting cultural rights enhances food security by maintaining traditional food systems and practices. These rights mutually reinforce each other, promoting a holistic approach to human well-being and cultural sustainability.

### 2 The cultural aspects of food

First and foremost, this paper relies on the widely accepted premise that food and feeding hold a significant place in human cultural practices. Indeed, we have a plethora of works, from all fields of human knowledge, that point to food as this ancestral, primary source of cultural meaning and values. From anthropological works of the likes of Levi-Strauss1 to formidable social analyses such as those of Josué de Castro<sup>2</sup>, most aspects of food have been explored-from cultural practice to hunger, from individualised tastes to mechanisms of power and control.

What this research explorers, however, is the cultural aspects of food, and more specifically how legal mechanisms interpret and understand this aspect. To do this, we first need to establish what is this cultural aspect we refer to, as well as its importance and significance in society. This, luckily, is well established in the field's literature.

Anthropology, for instance, has long recognized that understanding how a society relates to food and fee-

<sup>&</sup>lt;sup>1</sup> LÉVI-STRAUSS, C. Do mel às cinzas. São Paulo, SP: Cosac Naify, 2005

<sup>&</sup>lt;sup>2</sup> CASTRO, Josué de. Geografia da Fome: o dilema brasileiro: Pão Ou Aço. 10. ed. Rio de Janeiro: Antares, 1984.

ding is vital to understand their overall cosmologic and social arrangements<sup>3</sup>. Sidney Mintz<sup>4</sup> also provides an excellent review, which can be very helpful in thinking about the relationship between food and culture. He reinforces the positions described above, showing the cultural power that food has, whether in the construction and reinforcement of material social relations, or in the construction and reaffirmation of more abstract identities and meanings.

On the theme of "eating together" as the primary ritual that creates/is created by society, Carneiro<sup>5</sup> elegantly frames it as follows:

> The difference between human commensality and that of animals is that we attribute meanings to the acts of sharing, and they change over time. Commensality helps to organize the rules of identity and social hierarchy [...] just as it serves to weave networks of social relations, it also serves to impose limits and borders, social, political, religious, etc. [our translation]

The specialized literature on the history of food, as reviewed by Dos Santos<sup>6</sup>, predominantly suggests that commensality (the act of eating together) is a foundational element in human social evolution. Through the social interactions surrounding food—whether in its acquisition, preparation, or consumption—humans both create and reflect their social structures.

In more rudimentary contexts, the process of obtaining food directly influences social hierarchies, granting power to those who excel in hunting, in regions where hunting is predominant, or in gathering roots, where foraging is primary. Thus, food plays a crucial role in shaping intersubjective relationships.

In other words, it is through attributing meaning to the act of eating that humans transform the mere acquisition of nutrients into culture. This is when we begin to talk about «food» as culturally signified nourishment. The history of food, therefore, takes on new dimensions, making it essential to understand not only the methods of obtaining food but also the societal impacts of these methods (such as who hunts, how they hunt, and what this hunting signifies).

Additionally, it encompasses the methods of preparation and the cultural significance attributed to these acts. The forms and rituals of ingestion, along with the complex web of senses and meanings associated with food, also come into play. The field of food history provides intriguing interpretations for understanding and narrating the relationship between food and culture.

For example, Santos<sup>7</sup> notes that: «The eating habits and practices of social groups, whether distant or recent, which may evolve into culinary traditions, often make individuals feel part of a sociocultural context that grants them an identity, reaffirmed by taste memory» *[our translation]*. Food is one of the many ways that man has at his disposal to build identity and belonging, uniting or separating groups, constituting traditions and characteristics that will be part of the intricate network of meanings that unites a nation, or a people, for example.

The author also points out some ways in which the history of food and cuisine can quickly become the history of peoples themselves. It shows that the break with the traditional method of human food during the Age of Enlightenment (in which the night became accessible, via lighting) meant the emergence of conversation around a food table, and the whole tradition of bars and cafes that made possible, in part, the emergence of the Enlightenment movement, and in part the whole culinary tradition of «refining» and «haute cuisine» that France still heads today.

Dos Santos cites other works on the history of salt and on the history of bread, which demonstrate, as Gilberto Freyre did with sugar, that the history of certain foods is intertwined with the history of certain civilizations<sup>8</sup>. During the colonization process, the history of European civilization is intertwined with the history of the world itself, so that the history of its cuisine becomes, in part, the history of the world's cuisine.

Thus, he argues that the end of the millennium and the beginning of the twenty-first century marks a huge

<sup>&</sup>lt;sup>3</sup> MEIGS, A. Food as a cultural construction. *Food and Foodways*, v. 2, n. 1, p. 341–357, 1987. DOI:10.1080/07409710.1987.9961926.

<sup>&</sup>lt;sup>4</sup> MINTZ, S. W. Comida e antropologia: uma breve revisão. *Revista Brasileira de Ciências Sociais*, v. 16, n. 47, p. 31-41, 2001.

<sup>&</sup>lt;sup>5</sup> CARNEIRO, H. S. Comida e sociedade: significados sociais na história da alimentação. *História*: questões e debates, v. 42, p. 71-80, 2005. p. 72.

<sup>&</sup>lt;sup>6</sup> SANTOS, C. R. A. dos. A alimentação e seu lugar na história: os tempos da memória gustativa. *História*: questões e debates, v. 42, p. 11-31, 2005.

<sup>&</sup>lt;sup>7</sup> SANTOS, C. R. A. dos. A alimentação e seu lugar na história: os tempos da memória gustativa. *História*: questões e debates, v. 42, p. 11-31, 2005. p. 12.

<sup>&</sup>lt;sup>8</sup> SANTOS, C. R. A. dos. A alimentação e seu lugar na história: os tempos da memória gustativa. *História*: questões e debates, v. 42, p. 11-31, 2005. p. 20 et seq.

paradigm shift, driven by the end of the cold war and the expansion of capitalism, which disconnects the human being from previous social textures. This period is marked by «McDonaldnization», that is, a globalization of eating habits, in the sense of becoming relatively homogeneous and gradually losing the previous forms of food production and ingestion (which respected and imposed their own time, a time of culture), to emerge new forms, such as fast food (which refers to the time of capital and modernity).

Much like Dos Santos, Mintz<sup>9</sup> also delves into the intersection of food and capitalism, highlighting how food serves as a lucrative commodity deeply embedded in both biological and cultural spheres. Capitalism exerts significant influence over food, altering not only how it is produced and distributed but also reshaping the cultural meanings associated with eating. Mintz underscores this transformation occurring on two fronts: firstly, in the material realm of food production and distribution where capitalism dictates relationships among producers, sellers, and consumers; and secondly, in the realm of cultural meanings, where capitalism imbues eating practices and culinary traditions with new significance.

Furthermore, he revisits the discourse surrounding McDonald's as a prime example of globalization and a catalyst for reconfiguring global food dynamics. This underscores the notion that shifts in food systems mirror broader social changes, and vice versa, evident across historical epochs from pre-modern to modern societies. Thus, the phenomenon of globalization and postmodernity manifests distinctly in the realm of food, reflecting ongoing transformations in societal structures and cultural practices.

Massimo Montanari<sup>10</sup>, in his fundamental work for the field of food culture studies, approaches the theme from a very similar perspective. For the author, the creation of cuisine and the creation of culture occur concomitantly. Societies organize cultural practices around material needs, and the most urgent is usually nutrition sustenance. Later in his book<sup>11</sup>, he retakes the theme of commensality as ritual practice, but also approaches

this intersection of food and culture form the identity point of view.

In a similar fashion, in the introduction to their book focusing on food and culture, Brulotte and Di Giovane<sup>12</sup> highlight that feeding habits and choices have a direct relationship to communal recognition, as well as personal identities. One could argue that this is especially true in contexts of traditional and indigenous communities, as Meigs puts it<sup>13</sup>, who are especially reliant on food for establishing cultural norms. However, as Mintz14 and Dos Santos15 "McDonalds perspective" shows, globalization of food habits is also the cultural mark of globalized society.

Reichardt and Garavello<sup>16</sup>, in a study regarding the relationship between the Xavante tribes of Brazil and their territory, show how it is impossible to dissociate their cultural food practices from their relationship to the land they live in, in so far as one is essential to the other. These indigenous communities build their entire concept of world and self in an entanglement that encompasses both land and culture as one, which means their cooking, eating and sharing food are all connected to one specific environment. This goes to show that food is not only a part of culture, but in a sense is culture itself.

All of this is to argue that there is an undeniable cultural aspect imbued in food habits, choices, production, and regulation. That is, this cultural aspect is not exclusive to "traditional feeding practices" in "isolated, indigenous communities", as some might put it. Globalization's choices of food products, exportation of certain kinds of food items, the dynamics of hunger/overeating in third and first world countries, all of this is part of an enormous network of cultural practices17.

<sup>9</sup> MINTZ, S. W. Comida e antropologia: uma breve revisão. Revista Brasileira de Ciências Sociais, v. 16, n. 47, p. 31-41, 2001.

<sup>&</sup>lt;sup>10</sup> MONTANARI, Massimo. Food is Culture. Nova York: Columbia University Press. 2006. p. 27-58.

<sup>&</sup>lt;sup>11</sup> MONTANARI, Massimo. Food is Culture. Nova York: Columbia University Press. 2006. p. 91-132.

<sup>&</sup>lt;sup>12</sup> BRULOTTE, Ronda L.; DI GIOVINE, Michael A. Edible identities: food as cultural heritage. Farnham: Ashgate; Heritage Culture and Identity Series, 2014. p. 1-28.

<sup>&</sup>lt;sup>13</sup> MEIGS, A. Food as a cultural construction. Food and Foodways, v. 2, n. 1, p. 341-357, 1987. DOI:10.1080/07409710.1987.9961926. <sup>14</sup> MINTZ, S. W. Comida e antropologia: uma breve revisão. Revista Brasileira de Ciências Sociais, v. 16, n. 47, p. 31-41, 2001.

<sup>&</sup>lt;sup>15</sup> SANTOS, C. R. A. dos. A alimentação e seu lugar na história: os tempos da memória gustativa. História: questões e debates, v. 42, p. 11-31, 2005.

<sup>&</sup>lt;sup>16</sup> REICHARDT, F. V.; GARAVELLO, M. E. P. E. Quando habitar corresponde ao direito humano à alimentação. Revista de Direito Internacional, v. 14, n. 1, p. 68-79, 2017.

<sup>&</sup>lt;sup>17</sup> MONTANARI, Massimo. Food is Culture. Nova York: Columbia University Press. 2006.

### 3 Honey as an historically and socially significant factor

Now we would like to approach the cultural and economic significance and importance of honey as a food item. Crittenden<sup>18</sup> offers an insightful exploration of honey's pivotal role in ancient societies, particularly in terms of its nutritional significance and the challenges associated with its procurement. The author underscores honey's unique nutritional profile, suggesting its potential importance for human survival, especially in environments where nutrient availability was scarce.

Moreover, he posits a correlation between the difficulty of accessing honey and the development of human tool-making abilities. Depictions of honey collectors using tools in cave art suggest that human ingenuity enabled access to honey sources that were inaccessible to other animals. This dual dynamic—between the desire for honey and the development of tools—likely fuelled the evolution of techniques and utensils for honey extraction. The timing of these advancements also aligns with the period of brain growth among early hominids, indicating a symbiotic relationship between honey procurement and human cognitive development.

If we think about the cultural development of Western society, putting together the more traditional narrative that places the West as being the result of a mixture between Greco-Roman culture and Christianity, we can already see a role of a certain relevance of honey. Honey was a relatively central delicacy in Christian-Jewish culture and generally very important in the Middle East. Its mentions in the Bible are not numerous, usually associated with the divine and paradise, which points to a role of certain nobility within the food divisions. If we then think about the question of food as a way of constructing identities, religious identity does not escape this question<sup>19</sup>.

Honey was also very well liked in Greece and Rome<sup>20</sup>. Roman and Greek recipes were, almost unanimously, sweetened with honey. The Greek economy was so dependent on honey production that Solon, the Greek ruler, passed specific laws on how and where to assemble the hives for extraction. Honey has played an important role in numerous treatment techniques<sup>21</sup>, returning to the previous debate on the relationship between food and health, which is essential to understand the cultural role of food, and we can cite the well-known and highly complex case of Chinese medicine, as well as Ayurvedic medicine.

Thus, it is easy to show that honey played some very essential role in the construction of the West, both by way of Christianity and by way of Greco-Roman. Honey as food (being sweet and highly nutritious), as medicine (in periods of very low development of medical science) and as an economic value (both because it is rare in certain places but cultivable in others) has been an essential part of the historical and social development of the West.

The pivotal moment in honey's history occurred with the introduction of sugar. Originating in the East, sugar was brought to Europe through trade facilitated by Arab peoples<sup>22</sup>. Before this, sugar had already replaced honey as the primary sweetener in societies with lower import costs, like China, India, and parts of the Middle East. However, honey remained prevalent and accessible across the broader Indo-European continent.

With maritime expansion, sugar production expanded to the Caribbean islands and the Americas, becoming a luxury item with widespread accessibility. Sugar's rise was driven by its efficiency in sweetening, cost-effectiveness in production, and ease of transport, which made it economically advantageous for controlling powers.

Mintz<sup>23</sup>, as said before, identifies sugar as one of the earliest examples of the globalization of dietary habits. Unlike the gradual adoption of foods like bread or salt, sugar's expansion was rapid and deliberate, fuelled by powerful interests that shaped and profited from emerging markets. This support network included material incentives like pricing and availability, as well as ideological factors such as advertising and cultural shifts.

 <sup>&</sup>lt;sup>18</sup> CRITTENDEN, A. N. The importance of honey consumption in human evolution. *Food and Foodways*, v. 19, n. 3, p. 257-273, 2011.
<sup>19</sup> LÉVI-STRAUSS, C. *Do mel às cinzas.* São Paulo, SP: Cosac Naify,

<sup>2005.</sup> 20 CRANE E. The world bits on the heating and have been find a second sec

<sup>&</sup>lt;sup>20</sup> CRANE, E. *The world history of beekeeping and honey hunting*. London: Routledge, 1999.

<sup>&</sup>lt;sup>21</sup> PECANAC, M. *et al.* Burn treatment in ancient times. *Med Pregl*, v. 66, n. 5-6, p. 223-226, 2003.

<sup>&</sup>lt;sup>22</sup> CRANE, E. *The world history of beekeeping and honey hunting*. London: Routledge, 1999.

<sup>&</sup>lt;sup>23</sup> MINTZ, S. W. Comida e antropologia: uma breve revisão. *Revista Brasileira de Ciências Sociais*, v. 16, n. 47, p. 31-41, 2001.

By the 19th century, sugar had largely supplanted honey, except in regions without access to sugar. This homogenization of sweetening habits reflected sugar's adaptability to local traditions. Mintz suggests that sugar's dominance foreshadowed the logic that would govern the post-war global food market: a push towards homogenization for increased efficiency and ease of exchange.

In contemporary times, honey maintains a defined market despite the dominance of sugar. There's a tension between the trend towards homogenization and resistance from local movements like the «slow food» movement, advocating for traditional food habits. Honey's perceived health benefits have also led to its inclusion in movements promoting healthier diets.

A notable example is New Zealand honey, particularly from the «manuka» plant, prized for its medicinal and nutritional properties. The New Zealand government heavily invests in the honey industry, exporting it internationally and domestically on a large scale. This underscores the economic value of honey despite competition from sugar<sup>24</sup>.

The economic value of honey is intertwined with its social significance. In Brazil, honey production has specific characteristics, with small to medium-sized producers predominating<sup>25</sup>. While there are professionalized honey production operations, the majority of production occurs on a smaller scale and serves local markets<sup>26</sup>.

Overall, honey remains an integral part of Brazil's food culture, supporting small producers economically and contributing to regional culinary traditions. What the data indicate, therefore, is that even today honey is an integral part of Brazil's food culture, either economically, helping small producers, or as part of the tradition of regional cultures.

Additionally, honey production plays a vital role in enabling other economic activities like bean production through pollination. Bees and honey production also help to enable other economic activities, such as the production of beans, through pollination<sup>27</sup>. It is clear the important role that honey plays in our food imagination, and in local production economies. Honey continues to hold significance in both food culture and local economies.

## 4 The agrochemical threat to honey availability<sup>28</sup>

The root that supports this paper's arguments, alongside the cultural significance of food in general and honey in particular, is the threat that widespread, large-scale use of agrochemicals in agriculture poses to beekeeping and honey production. The disappearance of bees from both natural fauna and controlled environments is a growing concern to scientists all over the world<sup>29</sup>, including the international organizations responsible for agricultural practices and technology regulations, as well as health and food safety.

Focusing on the effects of these chemical products on beekeeping and honey production in Brazil, we have a long standing academical production showing that bees are largely affected by both transgenic plant modification and pesticide use<sup>30</sup>. Government-related researchers have proposed more than once the need for

<sup>&</sup>lt;sup>24</sup> MINISTRY FOR PRIMARY INDUSTRIES. *Apiculture: Ministry* for Primary Industries 2018 apiculture monitoring programme. Wellington, New Zealand: Ministry for Primary Industries, 2018.

<sup>&</sup>lt;sup>25</sup> CORRÊA-OLIVEIRA, M. E. *et al.* Apicultores do Estado de Sergipe, Brasil. *Scientia Plena*, v. 6, n. 1, p. 1-10, 2010.

<sup>&</sup>lt;sup>26</sup> PONCIANO, N. J. *et al.* Caracterização do nível tecnológico dos apicultores do Estado do Rio de Janeiro. *Revista de Economia e Sociologia Rural*, v. 51, n. 3, p. 507-522, 2013.

<sup>&</sup>lt;sup>27</sup> RIZZARDO, R. A. G. *et al.* Apis mellifera pollination improves agronomic productivity of anemophilous castor beans (Ricinus communis). *Anais da Academia Brasileira de Ciências*, v. 84, n. 4, p. 1031-1037, 2012.

<sup>&</sup>lt;sup>28</sup> It is worth noting that in Brazilian portuguese there is an especific word to refer to agricultural pesticides or agrochemicals: *"agrotóxicos"*. The term is a compound word formed by combining *"agro,"* which relates to agriculture, and *"tóxicos,"* which means toxic or poisonous. So, *"agrotóxicos"* would literally translate to *"agricultural toxins"* in English. These are substances used in farming to control pests, weeds, and diseases that can damage crops, but they can also have harmful effects on human health and the environment if not used properly.

<sup>&</sup>lt;sup>29</sup> ROSSI, E. M. *et al. Abelhas & Agrotóxicos*: Compilação sobre as evidências científicas dos impactos dos agrotóxicos sobre as abelhas - Petição perante a Relatoria DESC da Comissão Interamericana de Direitos Humanos. [*S.l*]: Navdanya International, 2020. Disponível em: https://navdanyainternational.org/wp-content/ uploads/2020/11/abelhas2020.pdf. Acesso em: 29 maio 2020.

<sup>&</sup>lt;sup>30</sup> ROSSI, E. M. *et al. Abelhas & Agrotóxicos*: Compilação sobre as evidências científicas dos impactos dos agrotóxicos sobre as abelhas - Petição perante a Relatoria DESC da Comissão Interamericana de Direitos Humanos. [*S.l*]: Navdanya International, 2020. Disponível em: https://navdanyainternational.org/wp-content/ uploads/2020/11/abelhas2020.pdf. Acesso em: 29 maio 2020.

a focused long-term approach to understanding this phenomenon<sup>31</sup>.

The essence of most research in this topic is, as summarized by Rossi et al.32, that the use of pesticides is highly damaging to bee colonies, affecting a wide-range of biological functions, from individual bee navigation abilities<sup>33</sup> to colony sustainability capacity<sup>34</sup>. The case for chemical harm to bees goes so far as generating an European Food Safety Authority (EFSA) guidance document exclusively on the theme<sup>35</sup> that concludes in the same direction as virtually all scientific research: pesticides, transgenics and similar agricultural practices are putting bees at extinction risk.

The logical conclusion is very simple: without bees, there's no honey. Agrochemical use in Brazil is directly related to our agricultural model based on monoculture and large, monopolised land use<sup>36</sup>. This not only amplifies large inequalities in rural scenarios, but also creates, through the "agro-industrial complex", a fabricated need for pesticides, agrochemical, and other similar technologies.

As evidenced by Mossmann, Albiquerque and Barbieri37:

> Regarding the harm to pollinators, particularly bees, neonicotinoid chemicals are identified worldwide as

responsible for Colony Collapse Disorder (CCD). The 50% decline in the bee population over the past 25 years in the United States and Great Britain has been attributed to the use of insecticides, threatening the foundations of agriculture, as 71% of the crops that provide almost the entirety of global food rely on bee pollination. [our translation]

Bombardi<sup>38</sup>, one of the main researchers of this theme in Brazil, attributes this to the circular fabrication of economical needs, in which transgenic plants dominate the market because of their low price, creating the need for specific agrochemicals to support their growth, and specific pesticides to protect them from plagues and diseases that originate precisely from their genetic homogeneity and monoculture demands.

The result is that agrochemicals and pesticides have been on the rise for decades in Brazil, despite all health concerns already well established and proven<sup>39</sup>. The scientific community has been on a long struggle against this use expansion, as encapsulated in the Associação Brasileira de Saúde Coletiva (Brazilian Association of Collective Health - ABRASCO) publications organizing all available evidence and studies<sup>40</sup>.

Denny, et al.<sup>41</sup> evaluate that this tendency is not exclusive to Brazil, but rather a characteristic of a specific form of economic structure built around the attempt to solve the problem of food security through mass production, which relies heavily on there chemicals, as well as genetically modified plants and animals. There is something to be said as well about how this solution focuses only on the quantity aspect of the food security problem, that is, whether there is enough food, but sacrifices other aspects such as which foods are available, the nutritional value of said foods, and the environmental and health consequences of these practices.

Overall, these approaches are focused in health concerns for humans, but we would like to call attention for

<sup>&</sup>lt;sup>31</sup> ROCHA, M. C. L. S. de A. Efeitos dos agrotóxicos sobre as abelhas silvestres no Brasil: proposta metodológica de acompanhamento. Brasília: Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA), 2012.

<sup>32</sup> ROSSI, E. M. et al. Abelhas & Agrotóxicos: Compilação sobre as evidências científicas dos impactos dos agrotóxicos sobre as abelhas - Petição perante a Relatoria DESC da Comissão Interamericana de Direitos Humanos. [S.l.]: Navdanya International, 2020. Disponível em: https://navdanyainternational.org/wp-content/ uploads/2020/11/abelhas2020.pdf. Acesso em: 29 maio 2020.

BALBUENA, M. S. et al. Effects of sublethal doses of glyphosate on honeybee navigation. The Journal of Experimental Biology, v. 218, n. 18, p. 2835-2842, 2015.

<sup>&</sup>lt;sup>34</sup> LU, C.; WARCHOL, K. M.; CALLAHAN, R. A. Sub-lethal exposure to neonicotinoids impaired honeybee winterization before proceeding to colony collapse disorder. Bulletin of Insectology, v. 67, n. 1, p. 17-24, 2014.

<sup>&</sup>lt;sup>35</sup> EFSA Guidance Document on the risk assessment of plant protection products on bees (Apis mellifera, Bombus spp. and solitary bees). EFSA Journal, v. 11, n. 10, p. 3306, 2013.

<sup>&</sup>lt;sup>36</sup> KAGEYAMA, A. O novo padrão agrícola brasileiro: do complexo rural aos complexos agroindustriais. In: DELGADO, Guilherme Costa; GASQUES, José Garci; VILLA VERDE, Carlos Monteiro (org.). Agricultura e políticas públicas. Brasília: Ipea, 1990.

<sup>&</sup>lt;sup>37</sup> MOSMANN, M. P.; ALBUQUERQUE, L.; BARBIERI, I. B. Agrotóxicos e direitos humanos no contexto global: O Brasil em risco de retrocesso? Revista de Direito Internacional, v. 16, n. 2, p. 150-167, 2019. p. 157.

<sup>&</sup>lt;sup>38</sup> BOMBARDI, L. M. Geografia do uso de agrotóxicos no Brasil e conexões com a União Europeia. São Paulo: FFLCH-USP, 2017.

<sup>&</sup>lt;sup>39</sup> BRASIL. Relatório Nacional de Vigilância em Saúde de Populações Expostas a Agrotóxicos. Brasília/DF: Ministério da Saúde, 2016. Disponível em: http://bvsms.saude.gov.br/bvs/publicacoes/agrotoxicos\_otica\_sistema\_unico\_saude\_v1\_t.1.pdf. Acesso em: 10 dez. 2023. v.1, tomo 1.

<sup>40</sup> CARNEIRO, F. F. Dossiê ABRASCO: um alerta sobre os impactos dos agrotóxicos na saúde. [S.l]: EPSJV/Expressão Popular, 2015

<sup>&</sup>lt;sup>41</sup> DENNY, D. M. T. et al. Segurança alimentar e a governança econômica global. Revista de Direito Internacional, v. 14, n. 1, p. 125-141, 2017.

the effect these products have in the entire ecosystem chain, including and especially bees health and, consequently, honey availability. As Comino et al. conclude in their study of agrochemical impact in honey production<sup>42</sup>, there is a direct correlation between pesticide use and colony collapse.

### **5** Possible interpretations for the intersection of the Human Right to Food and the Human Right to Culture

Once established both the cultural significance of food in the case of honey, as well as the threat posed by pesticides and agrochemicals, we would like to explore possible interpretations of the current conceptual arsenal of international law and Human Rights that may help analyse the situation and propose effective protection approaches.

The essence of this paper is the argument that the protection of food is not limited to securing nutritional value and sufficient quantities of food, an approach that, while legitimate, focuses only on the hunger aspect of the Right to Adequate Food as established in the Human Rights agenda. The right to food is a fundamental human right that ensures everyone has access to sufficient, safe, and nutritious food to maintain a healthy and active life without facing hunger or malnutrition. It encompasses not only the availability of food but also factors such as accessibility, adequacy, and cultural appropriateness-which is the focus of this paper.

The so-called "Right to Culture", or "cultural rights", is a set of fundamental human rights that recognizes the importance of cultural identity, heritage, and participation in cultural life. It encompasses individuals' rights to freely participate in cultural activities, express themselves culturally, and access and enjoy their cultural heritage.

The Right to Food is more easily identifiable, since it appears in the Article 25 of the Universal Declaration of Human Rights (UDHR), as well as the Article 11

of the International Covenant on Economic, Social and Cultural Rights (ICESCR)-of which it is the main focus. The Right to Culture, while not mentioned directly in the UDHR, can be derived from Article 18, and it appears in the Article 15 of the ICESCR.

With both of these international law and Human Rights instruments in mind, we can propose interpretations that bring forth a dialogue between both rights frameworks, creating possible intersections between a right to "a standard of living adequate for the health and well-being of himself and of his family, including food"43 and the right to "take part in cultural life"44.

The relationship between food and law is intricately intertwined. Law serves as the framework through which modern nation-states organize social life, while simultaneously being shaped by societal norms and values. Therefore, any discussion on culture or food inherently involves legal considerations<sup>45</sup>.

The Human Right to Culture, a well-established concept, aims to safeguard local and global cultural expressions, fostering peaceful coexistence among diverse communities. This framework highlights the State's role in actively protecting cultural diversity through legal means, ensuring that cultural identities are respected and preserved<sup>46</sup>.

Within this context, the cultural dimension of food must be acknowledged and addressed. Food is not merely sustenance; it is deeply intertwined with cultural practices and traditions. Thus, discussions on food should be conducted through the lens of cultural rights, recognizing the significance of food in shaping cultural identities. As per Reichardt and Garavello's work47,

<sup>&</sup>lt;sup>42</sup> COMINO, M. B.; PAULA, M. S. J. de; MARTINS, G. de S.; GIMENEZ, E. do A. Impacto de agrotóxico na produção de mel em propriedade da cidade de Paranapuã-SP: estudo de caso. In: FÓRUM DE INICIAÇÃO CIENTÍFICA DO UNIFUNEC, 9., 2018. Anais [...], 2018.

<sup>43</sup> UNITED NATIONS. International Covenant on Economic, Social and Cultural Rights. 1966. Available at: https://www.ohchr.org/en/ professionalinterest/pages/cescr.aspx. Acesso em: 10 dez. 2023. Article 11.

<sup>44</sup> UNITED NATIONS. International Covenant on Economic, Social and Cultural Rights. 1966. Available at: https://www.ohchr.org/en/ professionalinterest/pages/cescr.aspx. Acesso em: 10 dez. 2023. Article 15.

<sup>&</sup>lt;sup>45</sup> OLIVEIRA, A. R. de. Comida e aspectos simbólicos na perspectiva de políticas públicas para o cumprimento do Direito Humano à Alimentação Adequada e Saudável. Segurança Alimentar e Nutricional, Campinas, v. 27, p. 1-10, 2020. DOI:10.20396/san.v27i0.8658090. Acesso em: 10 dez. 2023.

<sup>&</sup>lt;sup>46</sup> CUNHA FILHO, F. H. Teoria dos direitos culturais: fundamentos e finalidades. São Paulo: Edições SESC São Paulo, 2018.

<sup>&</sup>lt;sup>47</sup> REICHARDT, F. V.; GARAVELLO, M. E. P. E. Quando habitar corresponde ao direito humano à alimentação. Revista de Direito Internacional, v. 14, n. 1, p. 68-79, 2017.

there is a connection between food, culture, environmental protection and the rights of indigenous people, for example.

Given the inherent connection between law and culture, it is imperative to examine how legal frameworks address food-related issues such as honey. Honey, as both a cultural element and a food source, is imbued with cultural significance and meaning. Therefore, understanding the legal implications surrounding honey consumption and production is essential to grasp the broader debates on food culture.

Dirceu Pereira Siqueira, a fundamental Brazilian reference in this field, argues that the right to food is implicitly present in all constitutions, underscoring food's foundational role in modern statehood<sup>48</sup>. Brazil's Constitution includes the right to food among its social rights in Article 6. Thus, the right to food and related public policies, such as food security initiatives, serve as crucial mechanisms for state intervention in food matters and societal engagement with the state's actions. Understanding the intricate relationship between food, society, and the state demands considering the right to food and its implications<sup>49</sup>.

However, this study adopts a broader perspective than simply considering honey within the general framework of the right to food. Dirceu Pereira, in an article specifically about this intersectional approach<sup>50</sup>, argues for a shift from an indirect application of the right to food to a more direct and fundamental approach, connected to cultural public policies.

Pereira also highlights that the right to food encompasses various dimensions, including a cultural dimension often overlooked by doctrine. He asserts that food rights extend beyond mere sustenance and include cultural considerations. To truly grasp the relationship between the right to food, honey, and pesticide use, understanding the cultural dimension of the right to food is essential. Pereira contends that food rights are integral to social inclusion and cultural identity.

Expanding on this perspective, we propose that Cultural Rights serve as a reciprocal interaction between the State and society within the realm of food. Therefore, to comprehend the profound impact of honey's disappearance on Brazilian food culture, it is imperative to examine not only the cultural dimension of the right to food but also the international framework for protecting cultural rights.

The concept of the right to cultural food goes beyond mere sustenance; it encompasses cultural significance and heritage. This approach acknowledges culturally significant foods, such as *feijoada carioca*, which have gained recognition as cultural heritage. While this perspective is particularly relevant in considering the potential loss of honey, it underscores the broader significance of cultural rights in shaping food systems.

If honey holds cultural significance, it warrants protection under the cultural dimension of the right to food. However, complexities arise when considering the process of food homogenization and the erosion of local traditions and knowledge due to globalization.

Miranda<sup>51</sup>, for example, identifies three primary functions of cultural rights: safeguarding cultural identity, ensuring cultural freedoms, and providing access to cultural goods. While these rights ideally empower society to realize its cultural potential, the international framework grants cultural rights a more assertive role. In societies marked by profound economic disparities, the state's inaction, as outlined by Miranda, risks extinguishing diverse cultures.

To preserve cultures and facilitate their free development, states must actively intervene, aligning with principles in international declarations Brazil has endorsed. This entails protecting and nurturing cultures, fostering equality in exchanges between groups and identities. Dennis & Stewart<sup>52</sup> have suggested the establishment of an international mechanism to address infringements on diffuse rights, including food rights.

<sup>&</sup>lt;sup>48</sup> SIQUEIRA, D. P. *Teoria geral do direito à alimentação*: cultura, cidadania e legitimação. Birigui, SP: Universidade Estadual Paulista (UNESP), 2015.

<sup>&</sup>lt;sup>49</sup> OLIVEIRA, A. R. de. Comida e aspectos simbólicos na perspectiva de políticas públicas para o cumprimento do Direito Humano à Alimentação Adequada e Saudável. *Segurança Alimentar e Nutricional*, Campinas, v. 27, p. 1-10, 2020. DOI:10.20396/san.v27i0.8658090. Acesso em: 10 dez. 2023.

<sup>&</sup>lt;sup>50</sup> SIQUEIRA, D. P.; BRITO, J. R. A dimensão cultural do direito à alimentação: as facetas do multiculturalismo e seus reflexos para a inclusão social e pessoas e grupos. *Revista Brasileira de Direito*, v. 10, n. 2, p. 157-176, 2023. DOI:10.21534/2317-6139.2023v10n2p157-176. Acesso em: 10 dez. 2023.

<sup>&</sup>lt;sup>51</sup> MIRANDA, J. Notas sobre cultura, constituição e direitos culturais. *Revista O Direito*, v. 138, n. IV, p. 39-54, 2006.

<sup>&</sup>lt;sup>52</sup> DENNIS, M.; STEWART, D. Justiciability of Economic, Social, and Cultural Rights: Should There Be an International Complaints Mechanism to Adjudicate the Rights to Food, Water, Housing, and Health? *American Journal of International Law*, v. 98, n. 3, p. 462-515, 2004. DOI:10.2307/3181641. Acesso em: 10 dez. 2023.

There is also a need for actions beyond the powers of state. Estelita<sup>53</sup> calls attention to the growing power of private actors in matters of food sovereignty and security, especially in the context of globalization and privatization of food production and control. The author suggests that global governance of the right to proper food should focus on the non-state actors as well, especially in the Global South where state institutions are often weakened by corruption. We would add that it is in the Global South, as Reichardt and Garavello<sup>54</sup> show, that traditional food cultures are also more at risk.

We derived, from the current interpretations of both the Human Right to Adequate Food and the Human Right to Culture, three possible approaches to connect both: The "Food Culture Right" approach; the "Cultural Food Right" approach; and the "Cultural aspects of the Right to Food" approach. We will explore all three as follows.

#### 5.1 The "Food Culture Right" approach

This approach, derived from works focused on observing specific food cultures in certain societies, such as Brulotte and Di Giovine's selected papers<sup>55</sup>, focuses on understanding the set of specific practices revolving around food production, trade, and consumption as a cultural heritage to be protected.

That is, the intersection between these Human Rights protects and secures a people's right to their food heritage and practices, which in turn would demand states and private actors actively engage in protecting any "food culture" in a given society or human group.

### 5.2 The "Cultural Food Right" approach

This approach, which stems from works such as Crane's book<sup>56</sup> and Crittenden's paper<sup>57</sup>—and is the one most akin to the results of analyses focusing on the issues of bee disappearance and honey unavailability in Brazil<sup>58</sup>—focuses on the cultural significance of one specific food item, or group of items, not necessarily to one specific culture but to cultures in general.

This approach has a possible dialogue to Montanari's perspective of food as a cultural asset, as well as Siqueira's efforts to frame food as an integral part of citizenship-that is, availability of certain food items is a necessary element of an individual's condition as citizen and is a parameter for the degrees of dignity in a certain society.

### 5.3 The "Cultural aspects of the Right to Food" approach

The last possible approach offers a broader framework to intertwin both Human Rights, creating a more general perspective that allows the international mechanisms of law to regulate this aspect of the Right to Adequate Food more effectively. This approach is closer to the perspective of researchers like Siqueira and Brito<sup>59</sup> and Silva<sup>60</sup>, all interested in highlighting the cultural element that resides within food, without losing sight of the already widely established doctrine of Adequate Food rights and obligations.

This approach is also interesting in its possible role within the debate over the best legal conceptual frameworks for protecting the Human Right to Adequate Food. As analysed by Beuchelt and Virchow<sup>61</sup>, the two primary frameworks in place today are the Human Rights paradigm, and the notion of food sovereignty. The

<sup>53</sup> ESTELITA, T. B. Direito à alimentação e responsabilidade internacional além do Estado. Revista de Direito Internacional, v. 21, n. 2, p. 49-69, 2024.

REICHARDT, F. V.; GARAVELLO, M. E. P. E. Quando habitar corresponde ao direito humano à alimentação. Revista de Direito Internacional, v. 14, n. 1, p. 68-79, 2017.

<sup>&</sup>lt;sup>55</sup> BRULOTTE, Ronda L.; DI GIOVINE, Michael A. Edible identities: food as cultural heritage. Farnham: Ashgate; Heritage Culture and Identity Series, 2014.

<sup>&</sup>lt;sup>56</sup> CRANE, E. The world history of beekeeping and honey hunting. London: Routledge, 1999.

<sup>&</sup>lt;sup>57</sup> CRITTENDEN, A. N. The importance of honey consumption in human evolution. Food and Foodways, v. 19, n. 3, p. 257-273, 2011.

KHAUAJA, P. O.; DAL BOSCO, M. G. Do néctar ao nada: mel, direito à alimentação adequada e cultura no contexto do uso de agrotóxicos no Brasil. HomaPublica - Revista Internacional de Direitos Humanos y Empresas, v. 7, n. 1, p. 1-17, 2023.

<sup>&</sup>lt;sup>59</sup> SIQUEIRA, D. P.; BRITO, J. R. A dimensão cultural do direito à alimentação: as facetas do multiculturalismo e seus reflexos para a inclusão social e pessoas e grupos. Revista Brasileira de Direito, v. 10, n. 2, p. 157-176, 2023. DOI:10.21534/2317-6139.2023v10n2p157-176. Acesso em: 10 dez. 2023.

<sup>&</sup>lt;sup>60</sup> SILVA, M. A. Segurança alimentar e nutricional: a produção do conhecimento com ênfase nos aspectos da cultura. Revista de Nutrição, v. 20, n. 1, p. 7-16, 2007. DOI:10.1590/S1415-52732007000100008. Acesso em: 10 dez. 2023.

<sup>&</sup>lt;sup>61</sup> BEUCHELT, T. D.; VIRCHOW, D. Food sovereignty or the human right to adequate food: which concept serves better as international development policy for global hunger and poverty reduction? Agriculture and Human Values, v. 29, n. 2, p. 259-273, 2012. DOI:10.1007/s10460-012-9355-0.

last one is mainly focused on securing a territory's independence in food production and distribution<sup>62</sup>.

Both, however, are derivatives from the idea of a human right to receive sufficient amounts of food in its nutritional aspect, which is the main goal of early debates regarding the Human Right to Adequate Food<sup>63</sup>. Although hunger continues to be an issue in contemporary international debates, we believe that this approach allows for an important new take on the issue, recognizing food as a central part of the protection of cultural heritage and traditions, as well as acknowledging the cultural element present in every food dynamic, whether in "traditional" cultures or globalized contexts.

Furthermore, it is a perspective capable of fitting in both the Human Rights frameworks and the food sovereignty paradigm. In the first, it fits as a way to highlight the interconnection between different human rights mechanisms. In the second, it allows for a deeper developing of the notion of food sovereignty, including in it the capacity to provide the culturally significant foods in a territory.

### **6** Conclusions

The goal of this research is to explore the international law and Human Rights basis for a legal conceptual interpretation that connects the Right to Adequate Food with the Right to Culture. This stems from the idea that all food is culturally loaded, as well as all cultures have food related elements. This perspective highlights the need for a more complex interpretation of the Human Rights system that allows for the dialogue between mechanisms and norms to become effective in public policies and judicial decisions.

By observing the current issues regarding honey production in Brazil we can very clearly visualize the need for such effort of interpretation, especially considering this item's importance in history. The current trend of increased use of pesticides, transgenic seeds and agrochemicals is a material threat to the very existence of a highly significant cultural item that just so happens to be a food.

It is precisely this element that creates the dialogue between rights. In other words, there is a direct connection between agricultural and food safety policies and cultural protection, which can only be well observed by an intersectional approach that connects both Human Rights.

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<sup>&</sup>lt;sup>62</sup> JAROSZ, L. Food sovereignty: A new rights framework for food and nature. *Agriculture and Human Values*, v. 25, n. 2, p. 281-293, 2008. DOI:10.1007/s10460-007-9076-4. Acesso em: 12 jul. 2013.

<sup>&</sup>lt;sup>63</sup> OSHAUG, A.; EIDE, W. B.; EIDE, A. Human rights: a normative basis for food and nutrition-relevant policies. *Food Policy*, v. 19, n. 6, p. 491–516, 1994. DOI:10.1016/0306-9192(94)90042-6.

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