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ABSTRACT [1]

Food, air and water are the three essentials our human body requires to functioning, but only food is fully privatized. Food as a purely private good prevents millions to get access to such a basic resource, since the purchasing power determines its access. With the dominant no money-no food rationality, hunger still prevails in a world of abundance. In this paper, the commons approach is applied to food, deconstructing food as a pure private good and reconstructing it as a commons that can be better produced and distributed by a tricentric governance system compounded by market rules, public regulations and collective actions. This narrative can sustain the urgently needed transition from the dominating agro-industrial food system towards a food system that is fairer to food producers, consumers and nature. Along those lines, food and nutrition security shall be understood as a Global Public Good and the price of food shall rightly reflect its value to society and its multiple dimensions, not just the value in exchange. Should food be consider as a commons, the implications for the governance of the global food system would be enormous, with examples ranging from placing food outside the framework agreements dealing with pure private goods, banning financial speculation on food or preparing international binding agreements to govern the production, distribution and access of food to every human being.

Introduction

Food, air and water are the three essentials our human body requires to functioning. They are limited but renewable resources produced by nature but its public-private nature is however diverse. Air is still considered a Global Public Good (GPG)[2], non-excludable but rival, and yet its commodification has already started using creative accounting based on economic valuation of environmental processes (carbon trade schemes and pollution quotas are just private entitlements to pollute)[3]. Water is in the process of being rebranded from public to private good (Finger and Allouche, 2002; Kay and Franco, 2012), a process that is highly contested in many cities[4]. Food is however largely regarded as a pure private good, as it is excludable and rival, although wild foodstuff could perfectly be considered a commons.

Nowadays, the value of food is no longer based on its many dimensions that bring us security and health, values that are related to our cultural foundations (food as culture), to human rights considerations (the right to food), to the way food is produce (food as a sustainable natural

[1] A reviewed version of this paper will be published in the magazine The Broker in 2014 http://www.thebrokeronline.eu/

[2] A Global Public Good is a good available worldwide, essential for all human beings, that cannot be excludable (either because it is very costly or because it would mean killing the excluded person) and whose production and distribution cannot be governed by one state. Global Public Goods are goods that shall be governed in a common manner as they are beneficial for every human being (Kaul, 2010; Kaul and Mendoza, 2003).

[3] Carbon trading is a market for fresh air and polluting permits emerged since the Kyoto Protocol in 1997 whereby polluters and governments exchange rights to pollute air that belongs to everybody (Bohm *et al*., 2012; Newel and Paterson, 2010).

[4] Despite privatising efforts promoted by international institutions such as the World Bank and intensively pursued by private companies such as GDF Suez or Veolia, the re-municipalisation of water services is gaining momentum in Paris, Berlin, Budapest, Barcelona, Jakarta or Dar es Salaam (http://www.remunicipalisation.org , http://www.world-psi.org/sites/default/files/documents/research/dh-remunicipalisation_presentation-ppt.pdf [Accessed January 7 2014].

resource) or to its essential nature as fuel for human body. Those multiple dimensions are superseded by the tradable features, being value and price thus mixed up. This article defends that a fairer and more sustainable food system shall revalue the non-monetary dimensions of food, and hence the global and local food production and distribution systems shall not be exclusively governed by supply-demand market rules[5]. Institutional arrangements based on collective actions, appropriate legal collective entitlements, adequate funding and political support shall also be given due consideration by politicians and academics. Self-regulated collective actions for food, either market-based, share-based, organic, local or fair trade-based represent the third pillar of the governance of the evolving food system. The State-Market duopoly in food provision will need to re-accommodate this mounting force of citizens´ actions to reclaim food as a commons. Food can and must be shared, given for free, guaranteed by the State, cultivated by many and also traded in the market. The purchasing power cannot exclusively determine our access to such essential.

The industrial food system has produced more and cheaper food

The industrial technology-dominated food system has achieved remarkable outputs during the second half of the 20th century by increasing food production and facilitating food access to millions of urban and rural consumers. Tripling global crop production, increasing yields, lowering food prices and moving away from habits and skills to more systematically organized and controlled ways of production are all commendable achievements for human kind (Bindraban and Rabbinge, 2012). As a matter of fact, between 1960 and 1990, the share of undernourished people in the world fell significantly since improved availability and decreased staple food prices dramatically improved energy and protein consumption of the poor (Hazell, 2010; FAO, 2013a). FAO reports a reduction of 173 million hungry people from 1015 million (19%) in 1990 to 848 (12%) in 2013, representing 7.5 million less per year (FAO, 2013b). And the UN also confirms that 700 million fewer people lived in conditions of extreme poverty in 2010 than in 1990 (UN, 2013a). This linear increase in food production has outpaced the population growth benefiting virtually most consumers in the world and the poor relatively more because they spend a greater share of their income on food[6].

Agricultural mechanisation and better agronomic knowledge are responsible for the synergistic effects of the many interacting, innovative technologies that have contributed to past yield increases. The improved high-yielding varieties developed by international and national research centres have largely contributed to that increase (Evans, 1998). These varieties were supplemented with the development of better and cheaper fossil fuel-based agro-chemicals to fight plagues and diseases and increase growth. The expansion of arable land and irrigation schemes, and greater crop intensification have also contributed to food production (FAO, 2013c; UNEP, 2009).

Productivity gains, however, have been uneven across crops and regions (Evenson and Gollin, 2003) and global increases in production have been confined to a limited range of cereal crops (rice, maize,

[5] Moreover, following the philosopher Michael Sandel, market rules not only put prices to goods but in doing so markets corrupt their original nature (Sandel, 2012). The commodification of food crowds out non-market values worth caring about, such as recipes associated to some types of food, the conviviality of cropping, cooking or eating together, the local names of forgotten varieties and dishes or the traditional moral economy of food production and distribution, materialised in the ancient and now proscribed practices of gleaning or famine thefts.

[6] Although consumers generally benefited from declines in food prices, farmers benefited only where cost reductions exceeded price reductions (Evenson and Gollin, 2003).

and wheat) with smaller increases in crops such as potato and soybean (Godfray *et al*., 2010). Increased cereal production has supported the increase in chicken and pig production, but also led to concerns that human diets are becoming less diverse and more meat-based, with the subsequent increase in the ecological footprint. We produce 4600 kcal per person of edible food harvest, enough to feed a global population of 12-14 billion (UNCTAD, 2013), but after waste, animal feed and biofuels, we end up with no more than 2000 Kcal per person (Lundqvist *et al.*, 2008). And it seems that yield improvements are already reaching a plateau in the most productive areas of the world (Cassman *et al.*, 2010; Lobell *et al*., 2009), rendering almost impossible to double food production by 2050 with the current trends (Ray *et al*., 2013). That explains why many scientists and agri-food corporations are calling for a Greener Revolution or Green Revolution 2.0 (Pingali, 2012).

Commoditization of food means under-valuing other dimensions

However, this mechanisation and commodification of the industrial food system did not come for free and many undesirable externalities and consequences are evident nowadays (see Box 1). Moreover, in the last decade it seems to have gone too far in the radical consideration of food as a pure commodity that can be speculated with, diverted from human consumption to biofuel production and used as a justification for unethical land grabbing in the poorest but land-rich countries by the richest but land-poor ones.

Box 1: The failure of the industrial food system

Globally speaking, we have a troublesome relationship with food, as more than half the world eats in ways that damage their health. Eating is not a source of pleasure for billions but a compulsory habit and certainly a cause of concern. Obesity and undernutrition affect an estimated 2.3 billion people globally, about one third of the world's population (GAIN, 2013), and food and nutrition security is at the forefront of contemporary political debates. Hunger is the largest single contributor to maternal and child mortality worldwide, with 3.1 million children dying every year of hunger-related causes (Black *et al*., 2013). Additionally, overweight and obesity cause 2.8 million deaths (WHO, 2012). Despite years of international anti-hunger efforts, rising gross national incomes and per capita food availability, the number of hungry people has been reduced at a very slow pace since 2000 and we have 848 million undernourished people in the world (FAO, 2013a). Obesity is rapidly mounting and 1120 million obese people are expected by 2030 (Kelly *et al*., 2008). The ironic paradoxes of the globalised industrial food system are that half of those who grow 70% of the world's food are hungry (ETC Group, 2013), food kills people, food is increasingly not for humans (a great share is diverted to biofuel production and livestock feeding) and 1/3 of global food production ends up in the garbage every year, enough to feed 600 million hungry people (FAO, 2011).

The side-effects of the industrial food system can be illustrated by the fact that 70% of hungry people are themselves small farmers or agricultural labourers (UNCTAD, 2013), agriculture is highly demanding of water[7] and it makes a poorly use of that scarce public good, the industrial system diminishes the nutritious properties of some foods, by storing in cold rooms, peeling, boiling and the transformation processes (Sablani *et al*., 2006; Toor and Savage, 2005), an overemphasis on production of empty and cheap calories renders obesity a growing global pandemic, food production is highly energy inefficient as we need 10 kcal to produce 1 kcal of food (Pimental and Pimental,

[7] 96% of world non-marine water is used for food production (Marsily, 2007).

2008), soil degradation and biodiversity loss amongst others. With the current levels of food production and consumption, if we all were a standard US citizen, we would need 5.2 planets to cover our needs (WWF, 2012). And nevertheless the 1.2 billion poorest people account for only 1 per cent of world consumption while the billion richest consume 72 per cent (UN, 2013b).

Subsidized Industrial Agriculture

Moreover, the industrial food system is not even more efficient or cost-benefit than the more sustainable food systems (either modern organic or customary) as it is heavily subsidized and amply favoured by tax exemptions[8]. The great bulk of national agricultural subsidies in OECD countries are mostly geared towards supporting this large-scale industrial agriculture[9] that makes intensive use of chemical inputs and energy (Nemes, 2013), and that helps corporations lower the price of processed food compared to fresh fruits and vegetables. The alternative organic systems are more productive, both agronomically and economically, more energy efficient and they have a lower year-to-year variability (Smolik *et al*., 1995) and they depend less on government payments for their profitability (Diebel *et al*., 1995).

Anyhow, it is not about "organic" vs. "industrial" agriculture, it is about valuing the multiple dimensions of food to human beings other than its artificially-low price in the market. For instance, dimensions related to fair production and nutritional and enjoyable consumption, compared to the mono-dimensional approach to food as a commodity, where the major driver for agri-businesses is to maximize profit by producing and delivering cheap food with low nutritional value and high-energy demanding.

The enclosure of food by the industrial model

And yet food was not always regarded in such a way and as it was cultivated for centuries in common and considered a mythological or sacred item[10]. But during the 19th and 20th centuries, food evolved from a common local resource to a private transnational commodity, becoming an industry and a market of mass consumption in the 21st century globalized world (Fischler, 2011). The conversion of goods and activities into commodities, or commodification, has been the dominant force that transformed all societies since at least the mid-19th century[11] (Harvey, 2005; Polanyi, 1944/1957; Sandel, 2013; Sraffa, 1960). The process was not parallel in all countries (i.e. the

[8] The Global Subsidies Initiative http://www.iisd.org/gsi/ [Accessed January 7 2014].

[9] The average support to agricultural farmers in OECD countries in 2005 reached 30% of total agricultural production, equalling to 1 billion $ per day (UNCTAD, 2013). In OECD countries, agricultural subsidies amount $400 billion per year. Moreover, the world is spending half a trillion dollars on fossil fuel subsidies every year. In 2011 the US government gave $1billion in fuel tax exemptions to farmers. The overall estimate for EU biofuels subsidies in 2011 was €5.5–€6.8 billion (IISD, 2013; WWF, 2011).

[10] Many types of food are often endowed with sacred beliefs (fish and bread in Christianity, people is believed to be made of corn among the Mayan peoples, quinoa is sacred for the Peruvian Incas, cows are sacred and uneatable in India) and their production and distribution are thus governed by non-market rules, being in many cases produce, distribute and eat in commons (Diamond, 1997; Fraser and Rimas, 2011; Montanori, 2006).

[11] What makes any good, action or activity a commodity is the possibility of trading it for profit. Today, not everything useful is a commodity but there are still few things that can't be bought in the market. Capitalism can be characterized by the production of commodities by means of commodities, as all means of production can also be traded (raw materials, labour, money, knowledge).

Communist period in the USSR and its allies or the varied penetration of market-led paradigms in customary native societies of developing countries) but it ended up in the dominant industrial system that fully controls international food trade, feeds a great share of global population and has given rise to the corporate control of life-supporting industries, from land and water-grabbing to agricultural fuel-based inputs.

The enclosure mechanisms, through privatization, legislation, excessive pricing or patents, have played a role in limiting the access to food as a commons, transferring common properties from the many to the few. This commodification process, understood as the development of traits that fit better with the mechanized processes developed by the industrialized food model, is a human-induced social construct that deprives food from its non-economic attributes just to retain its tradable features, namely durability, external beauty and the standardisation of naturally-diverse food products[12]. The commodification of food meant more food miles, immoral food wastage, an impoverishment of food diversity, a reduction of food varieties to those who are able to cope with transport hurdles and stay attractive to customer and all-the-year presence of seasonally produced foods. During this process, the nutrition-related properties of food were neglected and cheap calories became the norm[13]. However, these cheap calories came at great cost to the environment, human health and societal well-being, lowering farm prices of food producers and sustaining cheap rural labour, forcing small-scale farmers to flee to urban areas (Carolan, 2013; Roberts, 2013).

And so we reached the current situation where the value of food is no longer based on its many dimensions that benefit humans. The value in use (a biological necessity) is highly dissociated from its value in exchange (price in the market) (Timmer *et al*., 1983). However, food is unique among commodities in its multiple dimensions such as a basic human need that should be available to all, a fundamental human rights that should be guaranteed to every citizen, a pillar of every national culture, certainly a marketable product that should be subject to fair trade and sustainable production and finally a common good that should be enjoyed by all humans and governed in a common and responsible way. Actually, the consideration of food as a pure commodity opposes radically to all the other dimensions, rather important for our survival, self-identity and community life. This reduction of the food dimensions to one of a commodity explains to many authors[14] the very roots of the failure of the global food system, a system that produces food in excess to adequately feed the whole planet but it is not capable of guaranteeing equitable food access to everybody by simply using the market rules. The conventional industrialised food system is

[12] The neo-liberal trend to carry out economic valuations in monetary terms of any type of ecosystem service, originally meant to create economic incentives for conservation, has definitely paved the way for the subsequent commodification of ecosystem services (Gomez-Baggethun and Ruiz-Perez, 2011).

[13] By cheap calories we mean low-cost sources of dietary energy such as refined grains, added sugars and fats. They are inexpensive and good tasting and, jointly with salt, they form the basis of ultra-processed industrial food. In contrast, the more nutrient-dense lean meats, fish, fresh vegetables and fruit are generally more costly because they are not so largely subsidized (Drewnowski and Darmon, 2005; Monteiro *et al*., 2011).

[14] There is a growing literature of alternative food movements, activists in developed and developing countries, academic rural sociologists and Keynesian economists that highlight the pervasive nature of food assigned by the industrial food system, denouncing the consideration of food as a pure commodity that can be speculated with, modified genetically, patented by corporations or diverted from human consumption just to maximise profit (Anderson, 2004; Christ, 2013; Kotagama *et al*., 2008/2009; Magdoff and Tokar, 2010; Zerbe, 2009). The commons approach to food is gaining track via urban-led alternative food networks, rural food sovereignty movements and progressive academic schools of thought.

operating mainly to accumulate and underprice food resources and maximize the profit of food enterprises instead of maximizing the nutrition and health benefits of food to all of us[15]. Fully privatized food means that human beings can eat food as long as they have money to buy it or means to produce it, means that are mostly private goods (land, agro-chemicals, patented seeds) although not always (local landraces, rainfall, agricultural knowledge). With the dominant no money-no food rationality, hunger still prevails in a world of abundance.

Food excludability and rivalry

In the popular meaning, a commons describes a specific resource that is owned and managed in common, shared and beneficial for all or most members of a community (Sandel, 2009). Then we have the standard economic definition of public goods, anchored in the non-rivalry and non-excludability features - individuals cannot be effectively excluded from its use and the use by one individual does not reduce availability to others (Samuelson, 1954; Ver Eecke, 1999). Examples of commons include fresh air, non-patented knowledge, national defence, universal public health, social security and peace. In sensu stricto, food is rival because if I eat a cherry it is no longer available for others to eat, and excludable although if someone is excluded from food it will starve to death in less than 40 days. However, cherries are continuously produced by nature and cultivated by humans, so they are no longer restricted in numbers. As long as the replenishment rate outpaces the consumption rate, food is considered a renewable resource with a never-ending stock, such as air. Food produced by nature and harvested in a sustainable way seems to be unlimited, available worldwide although not enough to feed us all and therefore we have to produce it ourselves

Excludability and rivalry are not absolute features but social constructs created by human beings. Goods often become private or public as a result of deliberate policy choices. Many societies have considered, and still consider, food as a commons, as well as forests, fisheries, land and water, and the consideration different civilisations have assigned to natural resources is rather diverse and certainly evolving. The degree of excludability and rivalry depends on the nature of the good, technological developments and the definition and enforcement of property rights that are defined by entitlements, regulations and sanctions that allow certain activities and proscribe others for specific groups or people[16].

[15] For additional critics to the industrialised food system dominated by mega corporations and how these companies have just sought to maximize profit at the expense of nutritional value, original taste, natural diversity of food varieties and local/seasonal markets see also Azetsop and Joy (2013), Clapp and Fuchs (2009), Rosset (2006), Weis (2007).

[16] Enclosure is the decrease of accessibility of a particular resource due to privatization or new legislation, transferring common properties "from the many to the few" (Benkler, 2006; Nuijten, 2006). Expanding copyrights, issuing permits or taxing specific activities enable enclosure of previous commons (Arvanitakis, 2006; Hess, 2008; Lucchi, 2013). The enclosure and full privatization of goods owned by no one explains an important aspect of capitalism's insatiable appetite. Several examples can enlighten this process. For example, fishing from the seashore or collecting mushrooms in the forest used to be free and now are regulated by license or banned in many areas and certain seasons. Plant genetic resources in the form of seeds used to be public goods until scientific and technological progresses enabled us to synthesize DNA, modify living organisms and reconstruct genes in the laboratory. Genes and seeds that are now subject to copyright licenses. Setting quotas is another way to address the problem of open-sea fisheries (Young, 2003). Another form of enclosure of the commons is developing new markets for the services these common-pool resources provide. The 1997 Kyoto Protocol was the first attempt to create an international market for permits for greenhouse gases, and perhaps the first steps towards the enclosure of the pure air in the atmosphere.

Therefore, food excludability and rivalry can be contested and revisited. Both properties are attributes our society has assigned to different types of good, largely based on dominant ideology, particular economic thinking and historical considerations and they can be modified. The commodification of natural resources essential for human beings can hence be reversed and a re-commonification of food is deemed an essential paradigm shift for sustainable food transitions, provided there is a common agreement within our societies.

The over-reliance on market forces

One of the dominant economic doctrines of recent decades has been that market forces by themselves could regulate the national and international food systems to pull hungry people out of the plight of starvation and destitution. It was praised that market-led food production and allocation would finally achieve a better-nourished population, as long as the world's average wealth increased. However, reality has proven otherwise as unregulated markets may still not provide a socially efficient quantity of food even if enough income was distributed to low-income groups. Moreover, despite the reliance on industry self-regulation and public–private partnerships to improve public health and nutrition, there is no evidence to support their effectiveness against hunger, obesity and safety considerations (Hawkes and Buse, 2011; Moore-Lappe *et al.,* 1998). Transnational corporations are major drivers of obesity epidemics by maximising profit from increased consumption of ultra-processed food and drink (Ludwig *et al*., 2001; Monteiro *et al.,* 2011). Marion Nestle has recently uncovered how Coca Cola is supporting scientific research to influence in the public opinion towards their industrial fatty and high-sugar products[17]. These conflicts of Interest between economic profit and scientific knowledge have proven to exert a reporting bias in industry-financed academic research so as to mask or discard the direct relationship between ultra-processed sweetened drinks and obesity (Bes-Rastrollo *et al.,* 2013). The consumption of unhealthy food and drinks is occurring faster in food systems that are highly penetrated by foreign multinationals in poor countries (Stuckler *et al*., 2012), where government regulations and public opinion are usually not capable of controlling corporate leverage. That explains why the only evidence-based mechanisms that can prevent harm caused by unhealthy commodity industries are public regulation and market intervention[18]. This means, more state not less.

A food system anchored in the consideration of food as a commodity to be distributed according to the demand-supply market rules will never achieve food security for all (Rocha, 2007). It is evident that the private sector is not interested in people who do not have the money to pay for their services or goods, whether be healthy food or staple grains. Moreover, markets, governed by private, individual self-interest, will not provide an adequate quantity of public goods, such as public health, good nutrition or hunger eradication, with enormous although non-monetised benefits to human beings, as the positive externalities cannot be captured by private actors. Those public goods have to be sought and maintained by the public sector and the collective actions of citizens.

[17] http://www.foodpolitics.com/2013/10/annals-of-nutrition-science-coca-cola-1-nhanes-0/ [Accessed January 7 2014].

[18] Strong laws consistently had a biggest impact in curbing school sales of junk food and sweetened drinks and thus in slowing childhood obesity (Moodie *et al.,* 2013; Taber *et al.,* 2012; WHO, 2013).

Food transitions that guarantee sustainability

With millions of people needlessly dying prematurely each year from hunger and obesity in a world of ample food supplies, nobody can dispute the need for a change. The mass industrial food model, which is becoming highly dominant, is increasingly failing to fulfil its basic goals: producing food in a sustainable manner, feeding people adequately and avoiding hunger. There is a need to bring unconventional and radical perspectives into the debate on possible solutions for a transition towards a fairer and sustainable food system. Following Wrights' real utopias, there is an urgent need to develop alternative visions to the industrial food system, no matter how little support that mat get, since the mere fact of proposing alternatives outside the dominant mainstream may contribute to creating the conditions in which such support can be built (Wright, 2010). And the power of food to generate a substantial critique to the neoliberal corporate and industrialized food system and to harness multiple and different alternative collective actions for food shall not be underestimated (McMichael, 2000). Food is a powerful weapon for social transformation.

At present, the globalised world is at the crossroad of two food transition streams: the well advanced nutritional transition from vegetable- to meat-dominated diets and the incipient food transition from oil-dependent industrial agriculture to more sustainable and local food systems. The path selected by the majority of the population and the new food paradigm that will emerge from these transitions will greatly affect our survival within the Earth's carrying capacity. Nevertheless, all previous transitions shared a common denominator: food was always viewed as a private good produced by private means and traded in the market. Almost none of the most relevant analyses produced in the last decades on the fault lines of the global food system and the very existence of hunger has ever questioned the nature of food as a private good (FAO, 2012; UK Government, 2011; World Bank, 2008; WEF, 2013), although some authors already suggested the idea (Anderson, 2004; Ausin, 2010; Wittman *et al.*, 2010). And therefore the common understanding affirms the main problem nowadays is the lack of food access, reaffirming the private nature of food and its absolute excludability[19]. But problems cannot be solved with the same mind-set that created them, as Einstein wrote.

Food as a commons

There is a need to reclaim a discourse and a rationale of the commons to be applied to food at global, national and local level. Fortunately, several dimensions of food are already considered as commons (see Box 2), as well as the consequences of healthy food and adequate nutrition. In both economic and political terms, food and nutrition security could be considered a Global Public Good as it is beneficial for the individuals, communities, nations and the planet in general, even if not everybody is contributing or paying for its provision.

[19] All researchers and policy makers implicitly agree that food is purely a private good, that you gain access to when you purchase it in the market or produce it yourself with other privately-owned inputs. Along those lines, there is a common understanding that the main problem nowadays is the lack of food access, although food production concerns are also gaining momentum. This approach is evident in the following global food security policy documents: MDG and WFS Plans of Action, the CFS Global Strategic Framework for Food Security and Nutrition 2012, the G-8 New Alliance for Food Security and Nutrition 2012, the G-20 L'Aquila Food Security Initiative, The G-20 Action Plan on food price volatility and agriculture 2012 and the World Economic Forum New Vision for Agriculture. Additional references can also be found in Vivero (2013).

BOX 2: Food-related elements that are already considered as commons

Policy makers and academics are moving from the stringent economic definition of public/private goods to a looser but more practical definition of the so-called Global Public Goods, those goods to be provided to society as a whole as they are on every body's interest. Many food-related aspects are already considered, to a certain extent, common goods, while others are quite contested (wild foods and water) or generally regarded as private goods (cultivated food).

a.- Traditional agricultural knowledge: a commons-based patent-free knowledge that would contribute to global food security by upscaling and networking grassroots innovations for sustainable and low cost food production and distribution (Brush, 2005).

b.- Modern science-based agricultural knowledge produced by public national and international institutions: Universities, national agricultural research institutes or international CGIAR, UN or EU centres, they all produce public science, widely considered as a global public good (Gardner and Lesser, 2003). More research funds shall be invested in sustainable practices and agro-ecology knowledge developed by those universities and research centres instead of further subsidizing industrial agriculture.

c.- Cuisine, recipes and national gastronomy: Food, cooking and eating habits are inherently part of our culture, inasmuch as language and birthplace, and gastronomy is also regarded as a creative accomplishment of humankind, equalling literature, music or architecture. Recipes are a superb example of commons in action and creativity and innovation are still dominant in this copyright-free domain of human activity (Barrere *et al.*, 2012; Harper and Faccioli, 2009). It is worth mentioning this culinary and convivial commons dimension of food has received little systematic attention by the food sovereignty movements (Edelman, 2013), although it is being properly valued by alternative food networks (Sumner *et al*., 2010; The Food Commons, 2011).

d.- Edible plants and animals produced by nature (fish stocks and wild fruits and animals): Nature is largely a global public good (i.e. Antarctica or the deep ocean) so the natural resources shall also be public goods, although it varies depending on the proprietary rights schemes applied in each country. Fish stocks in deep sea and coastal areas are both considered common goods (Bene *et al*., 2011; Christy and Scott, 1965).

***e.- Genetic resources for food and agriculture*:** Agro-biodiversity is a whole continuum of wild to domesticated diversity that is important to people's livelihood and therefore they are considered as a global commons (Halewood et al., 2013). It should be mostly patent-free to promote and enable innovation. Seed exchange schemes are considered networked-knowledge goods with non-exclusive access and use conditions, produced and consumed by communities.

g.- Food Safety considerations: Epidemic disease knowledge and control mechanisms are amply considered as global public goods, as zoonotic pandemics are a public bads with no borders (Richards *et al*., 2009; Unnevehr, 2006). Those issues are already governed through a try-centric system of private sector self-regulating efforts, governmental legal frameworks and international institutional innovations such as the Codex Alimentarius.

f.- Nutrition, including hunger and obesity imbalances: There is a growing consensus that health

and good nutrition should be considered as a Global Public Good (Chen et al., 1999), with global food security recently joining that debate in international fora (Page, 2013).

g.- Food price stability: Extreme food price fluctuations in global and national markets, as the world has just experienced in 2008 and 2011, are a public bad that benefits none but a few traders and brokers. Those acting inside the global food market have no incentive to supply the good or avoid the bad, so there is a need of concerted action by the states to provide such public good (Timmer, 2011).

It seems to be rather evident that any government has a deep concern on food issues at national and international level, as subsidized food production and consumption policies are the norm all over the world (see above on subsidies to industrial agriculture), food safety regulations are considered a global common good to be dealt with by states (Richards et al., 2009) and food-related civil unrest is as much a subject of political concern nowadays as it used to be all along history. However, the hypocrite political discourse of OECD and WTO calls for a dismantling of national trade barriers and subsidized agriculture in developing countries whereas maintaining billion-subsidized food systems at home. For every government, food is not like any other commodity as it is highly regulated and heavily subsidized what reckons its special nature as the mainstay of societies.

This dual approach reflects that food is a *de facto* impure public good, governed by public institutions in many aspects (food safety regulations, seed markets, fertilizer subsidies[20], the EU CAP[21] or US Farm Bill[22]), provided by collective actions in thousands of customary and post-industrial collective arrangements (cooking recipes, farmers' seed exchanges, consumer-producers associations) but largely distributed by market rules: you eat as long as you have money to purchase either food or food-producing inputs.

Tri-centric governance

Nowadays, in different parts of the world, numerous examples of local transitions towards sustainable food production and consumption are taking place[23]. Based on Elinor Ostrom's[24]

[20] Fertilizer subsidies are widely used all over the world, either explicitly or in more subtle ways, as government recognizes that the agricultural sector is a strategic one. http://www.voanews.com/content/fertilizer-subsidy-costs-could-outweigh-benefits/1693403.html [Accessed January 7 2014].

[21] The Common Agricultural Policy (CAP) of the European Union is a multi-state supported programme to help food producers to earn a better living, increase price competitiveness in the international market and incentivize the rural inhabitants to remain in rural areas so as to become custodians of the landscapes and the environment. In 2011, total CAP budget for 27 EU countries was 58 billion euro http://ec.europa.eu/agriculture/statistics/factsheets/pdf/eu_en.pdf Comparative data on state support to agriculture can be found in EU (2012). [Accessed January 7 2014].

[22] The US Farm Bill incorporates not only schemes to support agriculture but also nutrition programs such as food stamps and school lunches. In 2012, only the food stamps amounted 100 billion $ and the US Senate schedules nearly 1 trillion $ for the next 10 years of the Farm Bill. http://capreform.eu/the-us-farm-bill-lessons-for-cap-reform/ [Accessed January 7 2014].

[23] Amidst the numerous food innovations that are mushrooming all over the world, mostly in urban areas by concerned citizens, one could highlight the following: food trusts in USA (http://www.thefoodcommons.org/images/FoodCommons_2-0.pdf), food swaps in Australia (http://communitygarden.org.au/), community-supported agriculture in USA (http://www.nal.usda.gov/afsic/pubs/csa/csa.shtml), community food growing and free harvest in Belgium

polycentric governance (Ostrom, 1990, 2009), food is being produced, consumed and distributed by agreements and initiatives formed by state institutions, private producers and companies, and self-organized groups under self-negotiated rules. The tri-centric governance schemes are usually compounded of (a) ***civic collective actions for food*** (also called Alternative Food Networks) **undertaken initially at local level and whose aim is mostly** preserving and regenerating the commons that are important for the community (food as a common good); (b) ***governments*** whose main goal is to maximize the well-being of their citizens and providing an enabling framework to enjoy the commons (food as a public good); and (c) *the* ***private sector*** **that can** trade undersupply, specialised or gourmet foodstuff (food as a private good). The private sector's role in this tricentric system can parallel similar roles of private schools and private hospitals in countries with public health/education systems. Those initiatives demonstrate that a right combination of self-regulated collective actions, governmental rules and incentives, and private sector entrepreneurship yield good results for food producers, consumers, the environment and society in general, and the challenge now is how to scale up those local initiatives to national level.

The re-commonification of food will take several generations so the transition phase should witness greater levels of public sector involvement. States have a vital role to play through taxing and incentives schemes, public credit and subsidies for collective actions, enabling legal frameworks that are not too stringent for self-regulated initiatives and land reforms to maximize common interest. The state must be seen as a funding and operational instrument to achieve the society's well-being, being food security part of it. However, this leading role of states should gradually be shifted to the self-initiated collective actions by producers and consumers, as the public provision of food does not surpass the net benefits yielded by the self-organized and socially-negotiated food networks (Bollier, 2003). Therefore, there should be enabling spaces for local governments, local entrepreneurs and local self-organized communities to coexist.

Practical implications of considering food as a commons

If food is considered a commons, the legal, economic and political implications would be paramount, although nowadays we can barely have a glimpse. It would entail implications far beyond the countries harbouring hungry people as the food system governance would bring extra-territorial obligations (Kent, 2008), according the global nature of this common good. Up to now, advocacy for anti-hunger measures was based on demonstrating the economic and political impacts that hunger imposes to human societies (Grantham-McGregor *et al*., 2007; Martinez and Fernandez, 2008; World Bank, 2006) or highlighting the links between food insecurity, social unrest and productivity losses (Messner and Cohen, 2008; Lagi *et al*., 2011; Holt-Gimenez and Patel, 2009). On the contrary, alternative non-economic arguments such as moral obligations, public health considerations, social

(http://incredibleediblebelgium.wordpress.com), food gleaning in UK (http://www.feeding5k.org/gleaning.php), food policy councils in Canada (Toronto, http://tfpc.to/) and Brasil (Belo Horizonte, http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/Future_Policy_Award_brochure.pdf), local foodsheds in New York (http://blogs.ei.columbia.edu/2009/09/11/designers-at-columbia-and-mit-promote-%E2%80%9Cfoodshed%E2%80%9D-concept/), or the Slow Food movement starting in Italy and now extended to 150 countries (http://www.slowfood.com/). [All links accessed January 7 2014].

[24] Elinor Ostrom was awarded the Nobel Price on Economics in 2009 for her analysis of economic governance of the commons. She analysed hundreds of institutional arrangements and collective actions to govern common-pool resources, such as coastal fisheries, irrigation schemes and community forests.

cohesion or human rights approaches were largely neglected (Pinstrup-Andersen, 2007; Sidel, 1997; FAO *et al.,* 2007). Considering food as a commons would provide the adequate rationale to support these non-economic arguments.

Food would be kept out of trade agreements dealing with pure private goods (Rosset, 2006) and there would thus be a need to establish a commons-based governing system for production, distribution and access to food, such as those agreements proposed for climate change and universal health coverage. That would definitely pave the way for more binding legal frameworks to fight hunger (MacMillan and Vivero, 2011) and guarantee the right to food for all, as well as reinforced cosmopolitan global policies (Held, 2009) and fraternal ethics (Gonthier, 2000), such as those originally proclaimed during the French Revolution.

In the same line, a Universal Food Coverage[25] could also be a sound scheme to materialise this new narrative. This social scheme would guarantee a daily minimum amount of food for all citizens (HLPE, 2012) (i.e. one loaf of bread, ten *tortillas* or two *injeras*). This universal entitlement would protect the only human right declared as fundamental in the ICESCR: freedom from hunger, and it would recognize that eating is a fundamental human need. The food coverage could also be implemented as a Basic Food Entitlement (Van Parijs, 2005) or a Food Security Floor[26]. During the transition period, and as an immediate mechanism, the state should guarantee the minimum salary equals the food basket.

Moreover, there would be a legal and ethical ground to ban futures trading in agricultural commodities, as the speculation on food influences considerably the international and domestic prices and benefits none but the speculators. Considering food as a commons would prioritize the use of food for human consumption, limiting the non-consumption uses. Today, by applying the economic rationale, the best use of any commodity is where it can get the best price (i.e. feed for livestock, pharmaceutical by-products or biofuel).

Additionally, it could backstop the narrative to reverse the excessive patents of life, applying the same principles of free software to the food and nutrition security domain. It seems the patents-based agricultural sector is slowing or even deterring the scaling up of agricultural and nutritional innovations and the freedom to copy actually promotes creativity rather than deter it, as it can be seen in the fashion industry or the computer world. Millions of people innovating on locally-adapted patent-free technologies have far more capacity to find adaptive and appropriate solutions to the global food challenge than a few thousand scientists in the laboratories and research centres (Benkler, 2006).

Collectiveness versus competitiveness

Civic collective actions for food are built upon civic engagement, food conviviality, reducing consumption of ultra-processed foods and increasing seasonal and local products. Unlike the market, the food commons are about cooperation, sharing, stewardship, equity, self-production,

[25] An idea called for by Nobel Prize Amartya Sen http://www.governancenow.com/news/regular-story/amartya-sen-bats-universal-food-coverage [Accessed January 7 2014].

[26] Similar to the Social Protection Floor proposed by Deacon (2012).

sustainability, embeddedness and direct democracy from local to global. The *Homo cooperans* substitutes the *Homo economicus* when dealing with natural essentials for humans[27].

These collective actions for food share the multidimensional consideration of food (as an essential resource, a human right, a cultural item and a tradable asset) that diverges from the mainstream industrial food system's uni-dimensional approach of food as a commodity. The de-commodification of food will imply to delink commodities and well-being, accepting free food schemes as part of the welfare state and increasing the proportion of goods and services consumed outside the formal market and the public sphere (food sharing, exchange groups, producers-consumers associations, community-supported agriculture and the like). Using McMichael's food regimes conceptual framework (McMichael, 2009), the re-commonification of food and its practical implications would certainly open up the transition towards a food regime, different from the corporate one we have at present. This yet-to-be but progressing food regime, whereby the several food dimensions are properly valued and the primacy rests in its absolute need for human beings, could be termed as a *Food Commons Regime*, although a *Food Sovereignty Regime*, not yet consolidated though, has also been suggested (Wittman, 2011).

The institutional arrangements that govern local food systems and people's capacity for collective action are essential agencies of any reconfiguration of the global food system to render it more sustainable and fairer. Finding the adequate balance between this tri-centric institutional setup to govern food production, distribution and consumption will be one of the major challenges the humankind will have to address in the 21st century. We need to develop a food system that provides meaning, and not just utility, to food production, trading and consumption (Anderson, 2004). To achieve this sustainable food system we need to reconsider how food is regarded by our society, not merely as a privatized commodity but as common good to be enjoyed by all at any time.

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[27] The *Homo economicus* concept, launched by the econommist John Stuart Mill in 19th century, sees humans as rational and narrowly self-interested actors whose main goal when dealing in the market is to maximize utility as a consumer and economic profit as a producer (Persky, 1995). In contrast, the *Homo cooperans* states that human beings are primarily motivated by cooperation, the common of their society, community or group and to improve their environment (De Moore, 2013).

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FOOD SOVEREIGNTY: A CRITICAL DIALOGUE INTERNATIONAL COLLOQUIUM PAPER SERIES

Food Sovereignty: A Critical Dialogue

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A fundamentally contested concept, food sovereignty has – as a political project and campaign, an alternative, a social movement, and an analytical framework – barged into global agrarian discourse over the last two decades. Since then, it has inspired and mobilized diverse publics: workers, scholars and public intellectuals, farmers and peasant movements, NGOs and human rights activists in the North and global South. The term has become a challenging subject for social science research, and has been interpreted and reinterpreted in a variety of ways by various groups and individuals. Indeed, it is a concept that is broadly defined as the right of peoples to democratically control or determine the shape of their food system, and to produce sufficient and healthy food in culturally appropriate and ecologically sustainable ways in and near their territory. As such it spans issues such as food politics, agroecology, land reform, biofuels, genetically modified organisms (GMOs), urban gardening, the patenting of life forms, labor migration, the feeding of volatile cities, ecological sustainability, and subsistence rights.

Sponsored by the Program in Agrarian Studies at Yale University and the Journal of Peasant Studies, and co-organized by Food First, Initiatives in Critical Agrarian Studies (ICAS) and the International Institute of Social Studies (ISS) in The Hague, as well as the Amsterdam-based Transnational Institute (TNI), the conference "Food Sovereignty: A Critical Dialogue" was held at Yale University on September 14-15, 2013. The event brought together leading scholars and political activists who are advocates of and sympathetic to the idea of food sovereignty, as well as those who are skeptical to the concept of food sovereignty to foster a critical and productive dialogue on the issue. The purpose of the meeting was to examine what food sovereignty might mean, how it might be variously construed, and what policies (e.g. of land use, commodity policy, and food subsidies) it implies. Moreover, such a dialogue aims at exploring whether the subject of food sovereignty has an "intellectual future" in critical agrarian studies and, if so, on what terms.

The Yale conference was a huge success. It was decided by the organizers, joined by the Land Deal Politics Initiative (LDPI), to hold a European version of the Yale conference on 24 January 2014 at the ISS in The Hague, The Netherlands.

ABOUT THE AUTHOR

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