



# Food and Agricultural Organization

Berkeley Model  
United Nations



**LXIII**  
SIXTY-THIRD SESSION

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Welcome, delegates! My name is Sharon Licht and I am thrilled to serve as head chair of the Food and Agricultural Organization (FAO) at BMUN 63. I am a senior at UC Berkeley majoring in Conservation and Resource Studies, with a focus on sustainable agricultural development. Outside of class, I work for a nonprofit organization that advocates for state policy reform to protect small farmers from the impacts of climate change. I also assist with a soil bioremediation research project on campus. Although my work thus far has been on agricultural policy and soil science in California, I hope to ultimately play a role in global agricultural development that empowers small farmers and strengthens sustainable food systems.

Joining me on the dais are Winnie Itago, Peter Lee, and Stacey Dojiri. Winnie is a second year international student from Nairobi, Kenya. Seeking to major in Environmental Economics and Policy and minor in Global Poverty and Practice, Winnie plans to return to Africa after she graduates and work on natural resource management. She has been involved with BMUN for one awesome year, and is excited for FAO because of the committee's focus on her favorite thing... food! Fun fact: she actually hates avocado. Crazy, right? Anyway, when Winnie isn't studying or reading for class, you can find her listening to music, learning to tango, or perfecting her salsa moves!

Peter is a first year intended Computer Science major. After four years of Model UN in high school, he is so excited to serve on the dais at BMUN! Outside of class, Peter is an intern for our student government on campus and also a world-renowned hip hop dancer. If the delegates put in #werk in committee, Peter might just bust a move for you all come conference weekend. He wishes you the best of luck researching and looks forward to getting to know all of you at BMUN!

Stacey is also a first year and plans to major in either Molecular and Cellular Biology or Public Health, with a minor in Global Poverty and Practice. She is interested in immunology, infectious diseases, and public education reform. Outside of her rigorous academic work, Stacy loves portrait sketching and dancing! This will be her fifth year participating in MUN. She is most excited to hear all of the delegates' creative ideas during committee.

This will be my eighth year involved with MUN and my fourth with BMUN. I am honored to serve as head chair of FAO at my final BMUN conference and open the discourse on two topics I find intriguing and profoundly important: Sustainable Land Management and Food



Insecurity: Challenging FAO's Guiding Framework. *These topics are multifaceted and challenging, and I encourage you to send any questions to me at [slicht@bmun.org](mailto:slicht@bmun.org). Best of luck with your research! Please do not hesitate to contact me with any questions or concerns.*



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## Sustainable Land Management

### Topic Background

Land management is a critical component of sustainable development. The international community needs to adopt a more sustainable approach to land management in order to meet the demands of the growing global population, projected to soar over 9 billion by 2050 (UNESCO 2014). The expanding human population will certainly increase global demand for food, fuel, land, and water. In fact, by 2050, it is estimated the demand for water in the agricultural sector will double, while the availability of water will destabilize due to climate change (Nkonya 2012). At the same time, unsustainable land management policies have allowed for atmospheric pollution, soil degradation, desertification, deforestation, water pollution, loss of biodiversity, and genetic erosion. For the purposes of our committee, this synopsis will focus on unsustainable land management practices related to agriculture.

Sustainable land management (SLM) is necessary for protecting soil fertility, maintaining the hydrological cycle, preserving biodiversity, stabilizing the climate, and allowing future generations the benefits of healthy ecosystems. At the 1992 Earth Summit, SLM was broadly defined as the use of land resources, including soils, water, animals, and plants, to meet changing human needs, while protecting the long-term productive potential of these resources and their environmental functions. SLM requires an understanding of ecosystem characteristics and biogeochemical processes, socioeconomic and cultural characteristics of those who depend directly on natural resources, and the wider environmental functions and services provided by healthy ecosystems (FAO, Sustainable Land Management).

Land cover plays a central role in the biophysical cycles and socioeconomic processes that comprise global environmental change. *Land cover*, such as forest, grassland, or cropland, is the manifestation of land use. By definition, land cover should only describe vegetation and man-made features, but the scientific community also uses it to describe bare rock, soil, and water surfaces. *Land use* is characterized by management practices such as logging, ranching, and cropping (IPCC). While natural scientists consider land use in terms of activity like agriculture, forestry, or development, social scientists take into account the social and economic context of



those management practices, such as subsistence versus commercial agriculture or public versus private land (FAO, Land cover classification system). Understanding land use trends—and the socioeconomic contexts that shape these trends—is key to understanding land cover change.

Land-use and land-cover change (LULCC) is the most significant driver of biodiversity loss and other forms of land degradation worldwide (Nkonya 2012). LULCC also largely impacts carbon fluxes and contributes to greenhouse gas (GHG) emissions, which alters atmospheric composition and affects global climate (IPCC). For example, deforestation causes about 15 percent of global GHG emissions. Deforestation not only releases GHGs, but also disrupts the hydrological cycle, decreases biodiversity through habitat destruction, and increases soil erosion (WWF). While deforestation describes the land cover change, the associated land use change might be described as the transition from forestry to agriculture. In fact, agriculture is estimated to be the direct cause of about 80 percent of deforestation around the globe (Wageningen University and Research Centre 2012). Another example of LULCC is desertification, which refers to land degradation in arid, semi-arid, and dry subhumid regions. Primary causes of desertification include agricultural practices that utilize heavy machinery, diversion of rivers for irrigation, and overgrazing of herbs, shrubs, and grasses (FAO, Sustainable development of drylands and combating desertification). Both of these phenomena—deforestation and desertification—are contingent on the socioeconomic characteristics of surrounding communities. Rural communities facing food insecurity likely lack the agricultural infrastructure and technical support to engage in regenerative agricultural practices, and have no choice but to clear forests or cultivate dryland in order to grow enough food to meet their immediate needs.

Unsustainable agricultural practices are indeed a key driver of land degradation. *Land degradation* refers to the temporary or permanent lowering of the productive capacity of land, which involves all the natural resources that contribute to its productivity. The term includes desertification, forest degradation, and deforestation, but for the purposes of this committee we will focus primarily on soil degradation. Soil degradation includes soil fertility decline, erosion by wind or water, waterlogging, salinization, and other processes related to the productivity of soils (FAO, Types of Land Degradation). Human activities, namely agriculture, certainly lead to various types of soil degradation.



Two prominent trends within today's commercial agricultural system include extensification and intensification. Extensification refers to the increase in food production through the expansion of agricultural lands, often at the expense of deforestation. Intensification, in response to land scarcity, seeks to increase food production by through capital and land intensive management practices. Intensive management of cropland typically involves chemical inputs and their application using heavy machinery, which leads to soil compaction, erosion, and runoff into waterways. Additionally, intensive farming systems are increasingly specialized, which refers to the concentration of farming operations on very crops (or very few cultivars of those crops). As a comparison, while nomadic pastoralists graze pastures *extensively* over large areas, sedentary smallholder ranchers manage pastureland *intensively* over smaller areas. Both of these management types indeed allow for overgrazing, soil erosion, and soil compaction. While different agricultural land use types experience different environmental challenges, 38 percent of the world's 1.5 billion ha of cropland and 73 percent of the world's 3.4 billion ha of rangeland are impacted by land degradation (UNCCD 2009, FAO 1997, Nkamleu 2011).

In addition to soil erosion and broader land degradation, conventional agriculture contributes to atmospheric pollution and water scarcity and contamination. FAO estimates that GHG emissions from agriculture, including crop and livestock production, has risen from 4.7 billion tons of carbon dioxide equivalent (CO<sub>2</sub> eq) in 2001 to over 5.3 billion tons in 2011, a 14 percent increase. Agricultural GHG emissions are largely due to enteric fermentation, the livestock digestive process that releases methane, which accounted for nearly 40 percent of total agricultural GHG emissions in 2011. The application of synthetic fertilizers is the fastest growing emissions source in agriculture, as the associated GHG emissions have increased about 37 percent since 2001 (FAO 2014). Agricultural demand for water is estimated as 1000-1500 liters per kg (l/kg) of cereal crop, and 15,000 l/kg of meat. Irrigation often leads to contamination through runoff and depletion of surface and groundwater through excessive and inefficient use (UNCCD 2009).

## **International Involvement**

Numerous UN organizations have initiated programs to promote SLM. This section outlines several prominent initiatives that provide a context for our dialogue in committee.



Mostly notably, the General Assembly declared 2015 as the International Year of Soils (UN General Assembly 2014). This initiative aims to: promote global recognition of the contributions of soil to food security, climate change mitigation and adaptation, ecosystem services, and sustainable development; call attention to the need for investment in sustainable soil management and for policies that protect soil resources; and catalyze global, regional, and national enhancement of systems for soil information collection and monitoring (FAO, Global Soil Partnership).

FAO supports the development of SLM in member nations through training, information, technology, advisory services, and policy reform. The Organization promotes farmer field schools, conservation agriculture, integrated land and water management, integrated plant and pest management, and sustainable forestry (FAO, Global Soil Partnership). FAO is implementing various projects to address transboundary land degradation issues with funding from the Global Environmental Facility (GEF) (FAO Investment Center). Additionally, FAO has also increasingly recognized the role of urban agriculture in SLM, and has called for increased financial and technical assistance to support urban farmers (FAO, Feeding the Cities & FAO, Urban Agriculture).

The United Nations Environmental Program (UNEP) is committed to mitigating the environmental impacts of LULCC and promoting SLM. UNEP organizes a number of councils and programs to advise governmental and private sector decision-makers in this area, such as the Convention to Combat Desertification and the Sustainable Agri-food Production and Consumption Forum (UNEP, Land). The UN Convention to Combat Desertification (UNCCD) serves as the only legally binding global agreement that links SLM to the environment and development (UN, World Day to Combat Desertification).

Lastly, in September 2014, the UN's Special Rapporteur on the Right to Food, Nafeez Ahmed, called for a worldwide transition to agricultural democracy for the empowerment of small farmers and the promotion of agroecology. *Agroecology* is the scientific discipline that uses ecological theory to study, design, and manage productive agricultural systems that sustain yields and optimize the use of local resources, while mitigating the detrimental environmental and socioeconomic impacts of modern technology (Altieri). Ahmed's statements at FAO's International Symposium on Agroecology for Food and Nutrition Security were complemented



by other food experts' recognition that agroecology is key to both sustainable land management and social and environmental justice for small farmers (Ahmed 2014).

## Case Study

### Payment for Ecosystem Services: REDD in Indonesia

Nature provides an array of benefits to human society, called *ecosystem services* (Reid 2005). Forests provide a variety of ecosystem services to humans, from direct material goods like timber to indirect services like enhancing biodiversity, modulating climate, maintaining soil health, and serving as terrestrial carbon sinks (Lindberg et al 1997). These services are essentially disregarded in the global capitalist market. Because most ecosystem services exhibit characteristics of public goods, the global economy can externalize the ecological degradation associated with development (Schomers, Matzdorf 2013). Payment for ecosystem services (PES) is a market-based approach that works within the current structure of the global economic system to internalize environmental costs (Rosendal 2014). An incentive-based mechanism, PES proposes the compensation of land stewards for ecosystem conservation and restoration (Hecken, Bastiaensen 2010).

One prominent example of PES manifests is UN Collaborative Program on Reducing Emissions from Deforestation and forest Degradation (REDD), which partners with 53 countries to fiscally support national afforestation initiatives and ecologically responsible forest management to combat climate change (UN-REDD Program 2009). Indonesia's national REDD program shows promising potential for curbing deforestation and promoting social and economic development. Illegal logging, agricultural expansion (specifically, oil palm plantations), mining, and forest fire all contribute to the alarming deforestation rate of 1.17 million hectares per year in Indonesia. In 2009, the government began its partnership with REDD, and 60 projects have since been initiated. Public consultations regarding the scope and content of the national REDD strategy allowed for the participation of over 300 experts representing more than 200 local, national, and international organizations. However, some institutions, such as the Forest Peoples Program, have criticized the Indonesian government's failure to consult NGOs and indigenous peoples' groups during the drafting process (REDD in Indonesia). The Forest Peoples Program has also voiced concern that there are no legal procedures for the recognition or management of



private forests, and that the Forestry Department has issued permits for logging and plantations with little regard for customary law (Colchester 2010).

In response, the Indonesian government has made progress to improve the rights of indigenous peoples and local communities in forest management. Legislation has been implemented stating that traditional communities should seek compensation from the state for losses suffered due to environmental pollution, and the REDD National Strategy has formalized the State's commitment to respecting customary land rights by establishing a common map that acknowledges indigenous peoples' territories and local communities (REDD in Indonesia).

Although this case study focuses on PES as a mechanism to combat deforestation, we included it to illustrate how this concept—the internalization of environmental degradation—works in real time. Delegates should use this case study to understand how PES could serve as a step toward sustainable land management that is environmentally responsible and socially just. Specifically, delegates can consider the benefits and challenges of implementing a PES scheme to promote sustainable agricultural systems.

## Questions to Consider

1. What interests (economic, political, social, cultural, environmental) compete for land use in your country? Please discuss in detail.
2. How does land management relate to environmental issues in your country?
3. What types of on-farm conservation practices are used in your country and how do they preserve soil fertility, improve water use efficiency, and/or reduce pollution?
4. How can agricultural development adapt to and/or mitigate climate change?
5. How has the UN addressed sustainable land management and have recommendations been adhered to or ignored? Why?
6. How much land must remain in agriculture to feed 9+ billion people come 2050?
7. What should 9+ billion people's diets consist of?



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## Food Insecurity: Challenging FAO's Guiding Framework

### Topic Background

Unlike Sustainable Land Management, our second topic encompasses a broad range of policies and solutions outside the typical FAO dialogue. *Food Insecurity: Challenging FAO's Guiding Framework* seeks to foster debate around the structure and function of the committee itself. This topic stems from widespread criticism of FAO from farmer advocacy groups, women's rights organizations, environmentalists, indigenous groups, NGOs, and developing nations regarding issues of social equity and intellectual integrity. We imagine this topic will allow for an analysis of the structural inefficiencies and fundamental inequities present in FAO's governing framework, which will ultimately reflect what mechanisms the international community sees best fit to solve the global food crisis. This synopsis aims to provide a background on the foundational organization of FAO and an introductory analysis of its anti-hunger approach: food security.

In 1945, representatives of 44 governments convened to found a permanent organization dedicated to food and agriculture, and FAO was established as a specialized United Nations agency. The Organization is now comprised of 194 member states, whose representatives meet biennially at the FAO Conference. At this Conference, a Council of 49 member countries is elected to serve three-year rotating terms and a Director-General to serve a six-year term (UNESCO). Current Director-General José Graziano da Silva of Brazil has worked to reinforce the Organization's institutional capacities and strengthen partnerships with civil society, private sector, academia, and the South-South Cooperation (FAO, Who We Are: Director-General).

Since its inception, FAO has worked to eliminate hunger, food insecurity, and malnutrition; boost the productivity and sustainability of agriculture, forestry, and fisheries; alleviate rural poverty; enable inclusive and efficient agri-food systems; and bolster the resilience of livelihoods to disaster (FAO, What We Do). These goals are pursued in a variety of ways, most prominently through the Organization's collection, analysis, and subsequent dissemination of information relating to food, agriculture, and nutrition. Further, the Organization promotes and recommends national and international action in the fields of scientific and technological



research, the promotion of public knowledge, conservation of natural resources, agricultural efficiency, the equity and sustainability of food distribution, and international agreements in the agricultural commodity arena (FAO 2013).

Actions taken by FAO reflect its commitment to achieving food security across the globe. The concept of food security seems self-explanatory, but in fact its definition has evolved over time, reflecting transitions in international policy thinking. The 1974 World Food Conference defined food security in terms of supply, determining that food security is realized when the availability and price stability of food supplies could be assured (FAO 1974). By 1983, FAO's focus on access led to the adoption of a new definition, which emphasized the need for all people to have physical and economic access to basic food (FAO 2006). Three years later, the World Bank Report on Poverty and Hunger introduced the distinction between *chronic* food insecurity, associated with low incomes and structural poverty, and *transitory* food insecurity, defined by periods of intensified pressure caused by natural disasters, economic collapse, or conflict (World Bank 1986). At the 1996 World Food Summit, today's most widely accepted definition of food security came to fruition: when all people have consistent physical and economic access to enough safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. From this definition, FAO extracts four primary dimensions of food security, including (1) physical availability of food, determined by food production, stock levels, and net trade; (2) economic and physical access to food; (3) food utilization, involving meal preparation and diversity of diet, which determines individual nutrition status; and (4) stability of the aforementioned metrics (FAO 2008).

Despite international efforts to eradicate hunger, as described in Target 1C of the Millennium Development Goals (MDGs), 842 million people lack access to basic food supplies (UN MDGs). Hunger disproportionately affects rural dwellers in developing countries. Of the 842 million hungry people in the world, 827 million—or 98 percent—live in developing countries. While Asia is home to the largest number of hungry people—over 500 million, Sub-Saharan Africa experiences the highest prevalence of hunger—nearly 25% of the population (WFP, Hunger Statistics). According to the World Food Programme (WFP), those living in rural areas comprise 75 percent of the world's hungry. As these populations rely on agriculture for their food and livelihoods, they are particularly susceptible to crises like drought and flood.



Many migrate to cities searching for employment, contributing to the rising number of poor and hungry urban dwellers around the world (WFP, Who Are The Hungry?). While one in eight people worldwide suffer from hunger, roughly one third of the food produced for human consumption each year is lost or wasted. The United Nations Environmental Programme (UNEP) estimates that consumers in wealthy nations annually waste almost as much food, 222 million tonnes, as the entire annual net food production of sub-Saharan Africa, 230 million tonnes (UNEP).

These alarming statistics reflect the persistence of the global food crisis and its disproportionate impact on poor rural dwellers in developing countries. The *global food crisis* refers to the rapid escalation of food prices in 2008, which reversed a thirty-year global trend in cheap food and led to the outbreak of riots across the globe (UN 2011). To address the continuing prevalence of food insecurity and the volatility of food prices, FAO has identified 14 focus areas for the post-2015 development agenda, the first being food security and the right to adequate food as a universal human right. FAO calls for a multidimensional anti-hunger approach involving the improvement of food systems governance, strengthening social protection mechanisms for risk reduction, and inclusive and responsible investments in agriculture, rural areas, health and education (FAO). While these objectives are commendable, FAO's critics might argue that the Organization fails to address the inequitable distribution of the global food supply that allows hunger and food waste to simultaneously persist. The following section outlines these critiques.

## **International Involvement**

FAO combats hunger under the framework of food security. This approach, employed by many humanitarian and social service organizations, seeks to mainstream more equitable and sustainable food production and distribution systems into existing market structures. The food security approach presumes that more environmentally responsible and socially just alternatives can set new industrial standards. This can be accomplished through international incentive-based certification (e.g. fair trade, sustainable fisheries, organic), transnational agricultural subsidies, and corporate self-regulation (Holt-Gimenez 2011). FAO explicitly follows the food security framework through its focus on market-based development, evidenced by the Organization's



partnerships with multinational agribusinesses. The Organization aims to mainstream principles of corporate social and environmental responsibility by developing voluntary standards, facilitating private investments in value chains that include smallholders, and strengthening collaboration between multinational corporations (MNCs) and national governments to promote inclusive technology adoption and fair markets (FAO, Enable inclusive and efficient agricultural and food systems).

Further, FAO is tightly linked to UN organizations that adhere to the *food enterprise* governing framework, such as WFP, the World Trade Organization (WTO), and the World Bank. The foundations of this anti-hunger approach arise from the presumption that market-based development, in the form of expanding global markets and increasing output through technological innovations, can eradicate hunger. This trend allows for overproduction and corporate monopolization of the food system, as international institutions and wealthy governments push for further liberalization of global markets and technological solutions to hunger (Holt-Gimenez 2011).

Critics argue that both the food security and food enterprise approaches reinforce the corporate food system. As international institutions promote market-based development and technological solutions to hunger, they empower MNCs while disenfranchising the rural poor from food-producing resources. This trend is evidenced by FAOs stance on Genetically Modified Organisms (GMOs), according to some critics. FAO encourages the global community to embrace GMOs for their ability to meet the needs of an expanding and increasingly urbanized global population. The Organization does recognize the associated risks, categorizing them as either effects on human and animal health or on the environment, and in 2013 established the GM Foods Platform, an online service where member nations can share information about the safety of GMOs (FAO 2000, FAO 2014). This initiative is commendable in that it addresses growing concern over the safety of GMOs, but the Organization has not yet addressed the social equity issues that arise when promoting corporate agribusiness over small scale producers. In 2009, the FAO co-sponsored the International Assessment of Agricultural Knowledge, Science, and Technology for Development (IAASTD), which addressed some of the social equity issues associated with GMOs. The IAASTD attributed these concerns to lack of public knowledge about the capacity for GMOs to combat hunger, as well as a lack of investment in smallholder



farming operations. The Assessment posits that the potential for GMOs to boost the resilience of small and subsistence agricultural systems has been hindered by either over-regulation or intellectual property rights legalities (IAASTD).

Although FAO recognizes some social equity issues within the GMO industry, the Organization's general support of GMOs is problematic for the developing world's rural poor. La Via Campesina, the international movement representing over 200 million farmers, considers FAO's promotion of GMOs to be propaganda from Monsanto, Syngenta, and other corporate interests (La Via Campesina 2004). Founded in 1993, La Via Campesina is a grassroots movement bringing together millions of peasants, small and medium-sized farmers, landless people, women farmers, indigenous people, migrants and farm workers from around the world. The movement now comprises about 164 local and national organizations in 73 countries, with the mission of defending small-scale sustainable agriculture as a means for promoting social justice and dignity (La Via Campesina 2011). La Via Campesina strongly opposes FAO's partnerships with MNCs, arguing that these relationships compromise the Organization's intellectual integrity and contribute to the disempowerment of marginalized groups from managing their own food-producing resources.

The foundations of La Via Campesina lie in the *food sovereignty* framework. Unlike FAO and other UN organizations that work toward food security through market-based development, food sovereignty movements operate entirely outside of existing market structures. Food sovereignty is a conceptual framework describing the democratization of the food system in favor of the poor and underserved. In other words, food sovereignty movements aim to dismantle the monopoly power of corporations in the food system, proposing instead the redistribution of the rights to land, water, seed, and other food-producing resources back to farmers (Holt-Gimenez 2011). The organizations leading the food sovereignty trend originate from agrarian and labor struggles in the global South, La Via Campesina being one of the most prominent. FAO took a monumental step forward in 2013 with the formalization of a partnership with La Via Campesina, as part of its Strategy for Partnerships with Civil Society Organizations (FAO 2013). This partnership will allow for the participation of La Via Campesina in a variety of political processes and promote dialogue for developing sustainable local initiatives, according to FAO.



While attaining worldwide food security seems the natural approach to combating hunger, in fact there exist a variety of ways to ensure people have adequate access to food. *Food justice* describes yet another anti-hunger approach that operates outside of existing market structures. This framework parallels food sovereignty in its foundation in civilian empowerment and opposition to the corporate control of the food system. However, while food sovereignty activists frequently engage in relevant international dialogues, food justice groups primarily promote the right to food through locally based initiatives linking access to healthy food together with sustainable production (Holt-Gimenez 2011).

The following section introduces two case studies: one describing the injustices faced by poor farmers competing in the global market, the other outlining how food sovereignty movements empower the rural poor to reclaim the right to their own food-producing resources.

## Case Studies

### 1 | Coffee Farming in Uganda

Coffee consistently tops the charts as Uganda's most abundant and valuable export. Although large scale coffee producers are gradually emerging, the coffee sub-sector of the Ugandan economy depends almost entirely on about half a million smallholder farmers (FAO, FAOSTAT: Uganda). According to the Uganda Coffee Development Authority (UCDA), 90 percent of these farmers operate on an average of 0.5 to 2.5 hectares. Over 1.5 million Ugandan households, most of them rural, depend on coffee related activities for their livelihoods (FAO 2012).

As technological innovations and political institutions allow for greater production of coffee, the global coffee supply increases, which leads to competition between producers and subsequently extremely low prices. The economic situation for Ugandan coffee growers was largely determined in 1992, when the national government liberalized its domestic coffee market. FAO claims that this liberalization allows coffee growers the freedom to choose to whom to sell their product, but in fact this policy favors the companies controlling the export market (FAO 2012).

The Ugandan coffee market is essentially dominated by Nestle, a food and beverages corporation that has enjoyed remarkable profits despite the increasingly low costs of coffee. One



of the world's leading buyers of coffee, Nestle has worked closely with the UCDA to help develop trees with improved yields, higher disease resistance, and higher quality in order to help increase coffee growers' competitiveness and income (Nestle 2010). Additionally, Uganda has partnered with wealthy nations and FAO to bolster the resilience of its coffee production against climate change. In September 2013, Belgium signed a 3.9 million USD agreement for FAO to implement a two-year project to sustainably improve the livelihoods and food security of rural Ugandans in the face of climate change (FAO 2013).

Despite these initiatives to improve the livelihoods of coffee farmers, Uganda remains one of the poorest countries in the world, with many regions facing widespread chronic food insecurity (WFP 2014). In his book *Stuffed and Starved*, activist Raj Patel describes the plight of several Ugandan coffee growers, who link their poverty and malnourishment directly to the price of coffee (Patel 2008). In 2013, Oxfam reported that the income generated by coffee is used almost entirely for household necessities, medical expenses, and children's education. Because farmers must utilize their incomes in these ways, and also because of low and variable coffee prices, farmers cannot afford to reinvest in their coffee production and make financial gains (Oxfam 2013).

The situation in Uganda calls attention to the failure of market-based development enterprises to address rural hunger and issues of social equity. While international organizations, wealthy governments, and MNCs continue to invest in Uganda's agricultural development, the smallholder farmers producing the country's most valuable crop are left in poverty.

## 2 | Karnataka State Farmers' Association

One of the first farmers' organizations to raise its voice against GMOs in India, the Karnataka State Farmers' Association (KRRS) demands a statewide ban on genetically modified crops and calls for the abolition of corporate control over seeds (Tokar 2008). KRRS was formally established in 1980, when smaller local farm groups came together to work toward their common goal of food sovereignty. Now representing over 10 million members, KRRS serves as a key movement within La Via Campesina. KRRS engages in confrontational politics using nonviolent methods, such as civil disobedience and direct actions, to challenge laws that allow for MNCs to control peasant agriculture in India (GM Watch 2007, Khadse and Bhattacharya).



Since 1995, over 270,000 Indian farmers have committed suicide (BBC 2013). There is widespread speculation that the suicides are related to farmers' ongoing dependence on expensive seeds and agrochemicals from corporate giants like Monsanto, Cargill, Novantis, Pioneer, and Dupont. Small farmers are often forced out of business due to the *technological treadmill*, which describes how technological innovations improve efficiency and yields, reduce commodity prices, and thus require producers to either adopt new technology or else their operations fail (Altieri, *The Myths of Agricultural Biotechnology*). Genetically modified crops are particularly challenging for small farmers, who become increasingly dependent on the agribusiness sector for seeds and chemical inputs in order to compete in a market dominated by GMOs (Altieri 2004).

KRRS promotes alternatives to conventional industrial agriculture by educating farmers about agroecology, seed conservation, energy independence, and more. Specifically, KRRS supports a popular movement called Zero Budget Natural Farming, which is utilized by over four million farmers across the country. By dissolving farmers' reliance on loans and private inputs, KRRS believes these alternatives will help put an end to farmer suicides (Khadse and Bhattacharya).

While FAO promotes GMOs for their ability to improve crop yields, the social and economic struggles faced by millions of Indian farmers could be the result of policies favoring the interests of MNCs that sell genetically modified, patented seeds. As La Via Campesina acquires more member organizations across the globe, KRRS as just one example, will FAO take seriously the calls for food sovereignty? Can FAO address the concerns of the world's rural poor, while sustaining its commitment to technological solutions to hunger?

## Questions to Consider

1. How has food price inflation affected your country, and how has the national government responded to it?
2. How does your country engage with FAO and international food aid organizations?
3. What political instruments are in place to combat food insecurity in your country, and how do these instruments consider issues of social, cultural, and gender equity?



4. Does your government recognize the Right to Food as a universal human right, and how is that reflected in national policies?
5. What sorts of technological innovations have improved the agricultural productivity and/or nutritional status of your country? What types of GMOs does your government permit?
6. How are farmers and rural dwellers represented in decision-making bodies in your country? What mechanisms are in place to protect them from food price volatility and environmental change?
7. Have food justice/sovereignty movements come to fruition in your country? Please discuss.



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