

Campaign over Golden Rice: Environmental Rights versus Humanitarian Rights

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The conceptual framework of sustainable development is built on three pillars – economic, environmental and social (*WCED, 1989*).

In the early 2014 a small group led by Patrick Moore, a former co-founder of Greenpeace, marched in front of Greenpeace buildings in Germany and the UK to protest against the Greenpeace's position on Golden Rice (*Connor, 2014*). It is possibly the first protest against Greenpeace. However, a case when a radical environmentalist changes his mindset and turns against its former colleagues is not unique. Moore joins other 'environmental heretics', such as Mark Lynas, Stewart Brand and James Lovelock, arguing for GM (genetically modified) crops. These arguments indicate new challenges presented to the ideological hegemony of environmentalists in the discussion about GM crops.

The GM debates have been portrayed as two-dimensional: environmental risks versus economic profits, green lobby opposing industry (*GP, 2005*). The Golden Rice, unlike other GM products, was designed as a humanitarian project to address malnutrition of poor populations, particularly children, in developing countries, which has been one of the Millennium Development Goals (*UNDP, 2008*). This rice contains beta-carotene which should fight the Vitamin A deficiency, a preventable cause of many illnesses (*Potrykus, 2001*). Moore referred to the humanitarian rights' framework, claiming that Greenpeace 'committed the crime against humanity' (*Moore, 2014*). Thus, the Golden rice case has shifted the debates on GM crops from the confrontation of economic pillar and environmental pillar to the inclusion of the third dimension - social development.

This paper studies the 'green heretics' arguments to understand what makes them change their views on GM crops and compare it with traditional agenda of Greenpeace, and demonstrates how the question of food security has been placed in environmental rights' and humanitarian rights' agendas. This all then leads to a discussion of sustainable development.

Key words: sustainable development, GM crops, environmental rights, humanitarian rights

This paper addresses the complexities of merging two concepts of sustainable development and human rights and illustrates it with the debate over the use of genetically modified (GM) crops, particularly Golden Rice, for food security and health improvement. It first sets the framework and then discusses the Golden Rice campaign, showing how both opponents and proponents of GM crops appeal to a different set of rights (human rights versus environmental rights) under the framework of sustainable development to support their arguments. It then concludes with a brief discussion of contemporary understanding of sustainable development.

Food is essential for living of every human. Thus, access to food is directly relevant to the human right to life (Art.3). The Universal Declaration of Human Rights has specified 'the right to a standard of living adequate for the health and well-being of himself and of his family', which includes food (Art.25) (*UN, 1949*). Some countries, such as India, have even formalised the right to food at national level (*Fifteen Lok Sabha, 2013*).

Hunger and malnutrition are causes for millions of people losing health and their lives.

Vitamin A deficiency (VAD), one of the largest nutritional burdens in the developing world, particularly affects children and women. It increases child mortality and blindness due to susceptibility to infection (*Rein&Herbers, 2006*). According to Harvest Plus, around 127 million preschool children in the world today are vitamin A deficient. Annually, between 250,000 and 500,000 preschool children go blind from this deficiency, and about two-thirds die within months of going blind. The number of pregnant women suffering from VAD is close to 20 million (*HarvestPlus, 2014*).

The direct logic of addressing the human right to food is to ensure access of vulnerable groups to food containing necessary nutrients. Golden rice with transgenes enabling biosynthesis of provitamin A, was designed for that, according to its creators (*Ye et al, 2000*). However, despite over a decade of research, it has not been delivered to its targeted population. The reason is the strong opposition to the use of GM crops by green movement and difficult procedures to regulate producing GM crops.

Before exploring the arguments of both sides (supporters and opponents of Golden rice), one needs to understand the framework in which they operate. Both sides use such terms as sustainability and human rights, but each of them reads them differently.

The concept of sustainable development in regards to food security was introduced by the World Commission on Environment and Development. Its report 'Our Common Future' discussed the challenge of producing more food for the fast growing world population with less resources available (*WCED, 1989, p.54*). They also identified inequalities in the food production chain and international trade as challenges to food security (*ibid. p.12-3*). The concept of sustainability was understood as ability of public policies to ensure the needs of the present population 'without compromising the ability of the future generations to meet their own needs' (*ibid. p.8*). This referred to three areas – economic welfare, social equality and environmental protection, which were recognised as interlinked. Their solution to this dilemma of finding a compromise between increasing food production and preserving environment was holistic approach to natural resource management and application of new technologies, such as biotechnology (*ibid. p.138*).

In practice, however, this dilemma is difficult to be resolved and most debates on sustainable development among environmental economists fall into two categories – advocating weak sustainability (main focus is on economic growth) or arguing for strong sustainability (environment is given priority) (*Pearce & Atkinson, 1998*).

In the human rights' framework the same issue has been outplayed in the debate on environmental rights. As Hancock pointed out, 'ecological rationality' of arguing for the human rights to 'an environment free of toxic' and access to natural resources collides with the 'the logic of economic rationality' (*Hancock, 2003, p.15-17*). So it addresses to the same debate as the one of weak and strong sustainability.

Environmental rights refer to conditions of biological survival, so some authors, such as Galtung, discussed ' a high need for livelihood, for which an ecologically stable environment with a high level of biodiversity is a necessary condition' (*Galtung, 1994*). Some scholars, such as Hiskes, recognised ability of environmental rights infringing one's other rights, for example to make profit, but still being beneficial for all sides. Hiskes also focused on future generations' welfare, as the Brundtland report does (*Hiskes, 2005, 1356*).

At the same time others scholars and human rights activists 'criticized the environmental movement for disregarding immediate human needs in the quest to protect biota, finite natural resources, and the basic needs of future generations', and pointed out that the environmental

supremacy reduce focus on human welfare rights: 'For people vulnerable to torture or chronic hunger, the urgent problems of immediate survival are likely to displace concern for long-term ecological integrity' (Anderson, 1996, p.3).

There is another layer in the debate on the right to have access to natural resources, which comes to the discussion on the contrast of two ownership systems: private property rights and common property over resources, which is often taken as an example of capitalism diverting natural resources from the poor (Hancock, 2003 p.143).

Thus, the comparison of two discussions of sustainability and the rights shows a similarity: there are two confronting sides. One supports the economic rationality, and the other gives priority to the environmental argument. They both refer to human rights to support their argument.

The same two-dimensional framework has been used in discussing GM crops. The opposition has built their critique on the strong confrontation to the arguments of economic rationality, which they see as neoliberalism, raising concerns over monopoly control over seeds and environmental damage (Shiva, 2000 ; Greenpeace, 2013).

Before the GM debate started, the green movement had criticized international policies for the loss of biodiversity, which was caused by the spread of genetically uniform monocultures. The environmentalists castigated the official agencies for economic rationality ('need to demonstrate in economic terms the value of biological resources in economic terms to a country's social and economic development' (Shiva et al, 1995, p.9). The intensive agriculture based on the use of chemicals populated by the Green Revolution of the 1960s has been also criticised and organic farming has been called instead as the Real Green Revolution (Parrott & Marsden, 2002).

GM crops were originally designed to produce more yields with less input, which means combating with weeds and insects that diminish the yields and decreasing the use of insecticides and pesticides, for which the Green Revolution has been criticised. When they arrived, the green movement evaluated them as a threat to biodiversity, causing possible genetic contamination through cross-pollination and promotion of possible resistance of weeds and insects to insecticides and herbicides (GM-Free, 1999a, p.13; GM- Free, 1999b, p.6-7; Greenpeace, 2005). The patenting of seeds by the agro-companies has been called biopiracy, which prevented farmers from having their own seeds supply. Vandana Shiva has widely used the notion of rights in her critique of GM food under globalization:

The right to produce for oneself or consume according to cultural priorities and safety concern has been rendered illegal according to the new trade rules. The right of corporations to force-feed citizens of the world with culturally inappropriate and hazardous foods has been made absolute. The right to food, the right to safety, the right to culture are all being treated as trade barriers that need to be dismantled...We have to reclaim our right to save seed and to biodiversity. We have to reclaim our right to protect the earth and her diverse species. We have to stop this corporate theft from the poor and the nature. Food democracy is the new agenda for democracy and human rights (Shiva, 2000, p.18).

As one can see, she referred to a number of violated human rights, including environmental rights, cultural rights and basic welfare rights, because of the spread of GM crops patented by the agro-corporations.

As for Golden rice, it appears that it is different from other GM crops, as it was designed to address poverty and health issues of the Southern poor, rather than enrich the corporations in the North (Potrykus, 2001; Moore, 2014). But it is rejected by the anti-GM lobby. It is considered as a 'hoax', a Trojan horse, leading the way to commercial GM crops (Sahai, 2004; Shiva, 2001).

Professor Peter Bayer and Professor Ingo Potrykus started to work on the Golden Rice project in 1992. The first trial was conducted in 2004. In 2005, with the contribution of the Syngenta Foundation, a new version of the seeds was developed. In 2008 the Bill and Melinda Gates Foundation supported the project, and the clinical trials were completed in 2009 (*Moore, 2014*).

The research has met two challenges on its way: the intellectual property rights ownership of biotech corporations and the opposition of the environmental movement.

The first challenge was met by free licences donated by the involved companies. Syngenta also set up a foundation 'Humanitarian Golden Rice Project' to start a dialogue with public sector about the research and distribution of the crop. It was announced that public rice institutions would develop locally adapted golden rice varieties. Small hold farmers were to receive new seeds free of charge big farmers were to pay license fee (*Sahai, 2004, p. 4612*). Thus, at least three usual criticisms of GM crops were not applicable to Golden rice: corporations were not making profit, poor farmers had access to seeds free of charge and local varieties were promoted. However, the further Syngenta's conditions over the use of Golden rice raised criticism, since the company left only one variety of transformed rice line and appointed Gerard Barry, a former Monsanto employee, as Golden Rice coordinator (*ibid. p. 4613; King et al, 2011*).

To overcome the opposition of environmental NGOs to GMO, Potrykus approached Greenpeace, the largest green NGO leading the anti-GM agenda. According to his letter released into public, he initially received what seemed a positive response from Greenpeace's campaigner Benedikt Haerlin (*Potrykus, 2001*). According to his interview, Haerlin has never seriously considered accepting Golden Rice and suggested to Potrykus 'eating more carrots' and mentioned that despite his official step out, he continued to collaborate with Greenpeace for few years after the incident (*Haerlin, 2014*). It is clear that the senior management of Greenpeace was not going to approve Golden rice. So the second challenge has not been met. In his letter Potrykus warned Greenpeace from planning to destroy his field trials, accusing them of 'contributing to a crime against humanity' (*Potrykus, 2001*). In August 2013 the activists supported by Greenpeace destroyed the trials of Golden Rice in the Philippines (*Lomborg, 2013*).

Then a former Greenpeace member Patrick Moore stepped in a campaign for Golden Rice. In September 2013 he registered an NGO The Allow Golden Rice Society in his native Canada together with his brother Michael. The aim of the Society is 'to end the active blocking of Golden Rice by Greenpeace and other organizations who claim that it is either of no value or that it is a detriment to human health and the environment' 'through direct public action, media communications and coalition-building' (*Moore, 2014*). By May 2014 the Society, effectively meaning Moore brothers, have completed three public campaigns (one in Canada, two in Europe) and the third one is on the way scheduled for June 2014. The campaigns included public lectures, media briefs, interviews and public manifestations outside Greenpeace offices. These are possibly the first examples of protests held against Greenpeace.

Moore's main argument is based on the earlier claims by Potrykus that Greenpeace has conducted 'crime against humanity' by rejecting Golden Rice. Moore has referred to the Rome Statute of the International Criminal Court (*Moore, 2014*). The statute deals with 'the most serious crimes of concern to the international community as a whole' (Preamble) (*ICC, 2002*). It describes procedures of prosecuting criminals and protecting their victims, including the established principles of the international law of armed conflict' (Art.21). Moore believes that Greenpeace's actions are intentional and their campaign against Golden Rice is a 'systematic attack directed against any civilian population'. In his view, following the rules of the Statute, Greenpeace should be taken before the Court, and the protection of humanitarian rights of the victims, in this case

people suffering from VAD, means full access to Golden Rice (*Moore, 2014*).

His focus on people's needs did him well to win the public lecture on Golden Rice in Norwich, while his opponent, a representative of strong sustainability approach, Patrick Mulvany who worked for different organisations, including the UK Food Group, outraged the public by saying in the Q&A part of the talk that he cared about plants' biodiversity more than about the people in developing world dying from VAD (*Mulvany, 2014*). This is an extreme example. Other anti-GM leaders, as Shiva, have extensively written about welfare of farmers. But Brand has criticised her opinion which advocated rejecting GM food, even if it was the only food available, in the example of the Zambian hunger and the GM food aid, because the long term goal of saving biodiversity was leaving people to die from hunger (*Brand, 2010*).

Moore has been called by his former colleagues 'eco-Judas' (*Zelko, 2013*). But he is not the only example of an influential environmentalist who went against the mainstream of the green movement. The 'environmental heretics' include an environmental journalist George Monbiot, whose initial remarks about GM as 'the biggest threat to future supplies' were cited by GM Free magazine (*GM-Free, 1999a*), another former Greenpeace activist Mark Lynas, who used to destroy GM trials, Stewart Brand and James Lovelock, the founder of the Gaia theory (*Connor, 2014*). Harrison-Dunn adds to the list Jens Katzek, a former anti-GMO campaigner for the Friends of the Earth, who joined the Golden Rice Humanitarian Board (*Harrison-Dunn, 2014*). Many of them got media attention for their anti-mainstream claims. Lynas has publicly apologised for destroying crops as a Greenpeace activist (*Lynas, 2013*); and Lovelock wrote a public letter, in which he 'bow[ed] [his] head in shame at the thought that our original good intentions should have been so misunderstood and misapplied', referring to the green movement rejecting all energy sources, except the renewable ones (*Lovelock, 2012*).

While Golden Rice's initial design was made for a humanitarian cause, it is not the only reason that made 'the heretics' to change their mind about GM technology in agriculture. A broader reason seems to be climate change and search for mitigation for global warming. They have considered GM crops, together with nuclear energy, less harmful than fossil fuels contributing greatly to emissions and conventional agriculture with heavy use of pesticides, which allow to use less resources, such as water and soil, while still providing for the majority of the world population (*Lovelock, 2009; Lynas, 2011a*). While discussing the food security from the point of what seems as economic rationality, they offered a serious change in environmental paradigm. Moore and Lovelock, suggested that people's needs, in this instance, their need in food, were to be taken inseparably from the needs of the Earth (*Lovelock, 2012*). Unlike the traditional environmental view which sees humans as a threat to nature, they believe humans to be part of the nature and thus to have their needs satisfied, particularly if the technology provides the means to do so in a less environmentally harmful way (*Michael Moore, 2014*).

Of course, the mainstream environmental movement does not easily accept these new arguments. The main opponents of the GM crops, disapproved Golden Rice. Both Greenpeace members and Vandana Shiva, have criticised Golden rice, using the same critique as for other GM crops, while adding the discussion of possible nutritional failures of Golden rice (*King et al, 2011; Greenpeace, 2013; Shiva, 2001*).

In some way, this critique has been positive, as Potrykus tried to address these points in the improved version of Golden rice seeds, and proponents of the GM crops have had to present their views in a very careful and balanced way. Professor Swaminathan (*2014*) has stressed out that GM crops are not to be taken as magic bullet and that other solutions have to be incorporated, thus aiming at the holistic approach praised by the Brundtland report.

There were also attempts to disqualify the 'green heretics' credibility, narrowing the debate towards the neoliberal venality. Since Moore has worked for business, including timber companies, he is outcasted by the environmentalists, particularly those with hard core anti-GM views (*Melchett, 2014*). There were allegations that Lynas worked for Europabio, the European biotech business association, but he proved to have no connection (*Lynas, 2011b*).

Monbiot, who agreed to eat GM food (2002), in his critique of the BBC film 'What the Green Movement Got Wrong' about 'green heretics' Brand and Lynas, warned about the danger of demonising environmentalism and called for what would be the Brundtland's ideal: 'social and environmental progress' achieved with the use of technological change, economic growth and confrontation to power (*Monbiot, 2010*).

The GM crops, and Golden rice, have provided rich material for many discussions. Initially it seems to be as another two-dimensional debate, when economic rationality is opposed by ecological rationality protecting biodiversity and the framework of human rights is been frequently used to support their main argument by both opponents and supporters of GM crops. Both Patrick Moore, the supporter of GM crops, and Vandana Shiva, the anti-GM activist, used the argument of human rights' violation in their rhetoric. The project of Golden rice aiming for the humanitarian need was not accepted by the mainstream green movement, who reject the idea that GM technology can be beneficial to the poor. But the reaction to it by a group of environmentalists, the 'environmental heretics', shows that there is a discontent by some members of the movement that the debate is taken flat. They moved the debate on biotech from discussion of safety of GM food (for them it is safe) into a broader framework, where under a serious threat (global warming) the technology is considered as one of the possible solutions, and brought back the focus on human needs. These views by equalising environmental rights with welfare human rights have challenged the fundamental environmentalism downplaying the immediate needs of the humans. This gives an opportunity to address more the third (social) pillar of sustainable development. However, this approach has a challenge in remaining the focus on the protection of environment, while the needs of a higher number of people are satisfied, the more pressure is on the environment, even if biotech can help to consume less resources. It is still the same dilemma of sustainability.

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