

The right to food and the impact of liquid biofuels (agrofuels)

Asbjørn Eide



FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS
Rome, 2008

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

The positions and opinions presented do not necessarily represent the views of the Food and Agriculture Organization of the United Nations.

All rights reserved. Reproduction and dissemination of material in this information product for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged. Reproduction of material in this information product for resale or other commercial purposes is prohibited without written permission of the copyright holders.

Applications for such permission should be addressed to:

Chief

Electronic Publishing Policy and Support Branch

Communication Division

FAO

Viale delle Terme di Caracalla, 00153 Rome, Italy

or by e-mail to:

copyright@fao.org

© FAO 2008

Right to Food Studies

Right to Food Studies is a series of articles and reports on right to food related issues of contemporary interest in the areas of policy, legislation, agriculture, rural development, biodiversity, environment and natural resource management.

This study was conducted in the context of the project “*Creating capacity and instruments to implement the right to adequate food*” financed by the Government of Germany.

Right to Food Studies are available at www.fao.org/righttofood/. For those without web access, mail or paper copies may be requested from the Right to Food Unit, FAO, Viale delle Terme di Caracalla 00153, Rome, Italy, righttofood@fao.org. Readers are encouraged to send any comments or reactions they may have regarding a Right to Food Study.

The positions and opinions presented do not necessarily represent the views of the Food and Agriculture Organization of the United Nations.

ABOUT THE AUTHOR OF THIS PAPER:

Asbjørn Eide

Asbjørn Eide is Professor Emeritus and now Senior Fellow at the Norwegian Centre for Human Rights, University of Oslo, a former Special Rapporteur on the Right to Food as a Human Right of the UN Sub-Commission on Prevention of Discrimination and Protection of Minorities, and the Chairman of the Panel of Eminent Experts on Ethics in Food and Agriculture appointed by the Director-General of FAO.

Table of Contents

Executive Summary	6
Introduction	7
PART I	
1. THE RIGHT TO FOOD	9
Food security and the right to food	
Commitments by States	
2. ON BIOFUEL DESCRIPTION AND SCOPE	10
Concepts	
The main producers and consumers	11
3. THE IMPACT OF BIOFUEL ON FOOD SECURITY AND THE RIGHT TO FOOD.	12
Towards a 'Food versus fuel' battle?	
Impact of the price increases	14
Land concentration and evictions	16
Harmful structural transformation of agriculture and land holdings	17
Impact on women	18
Competition for water	19
Environmental harm	
4. ON THE JUSTIFICATIONS FOR BIOFUEL	20
Why an artificial market?	
The main drivers and their justifications	
On Greenhouse gas saving	21
On security of supply	
Ensuring pollution-free urban traffic?	22
Creating additional employment?	
Calculating costs and benefits	23
Conclusions of this section	
PART II	
5. APPLYING THE RIGHT TO FOOD GUIDELINES TO BIOFUEL POLICIES AND PROJECTS	25
The right to food as foundation of the response to the food crisis	
The right to food has an obvious priority over biofuel	26
Food security and the right to food – rights and obligations.	

6. PROCESS REQUIREMENTS: NATIONAL STRATEGIES, VULNERABILITY IDENTIFICATION AND GOVERNANCE NECESSITIES NATIONAL	28
Strategies for the realisation of the right to food	
The importance of FIVIMS in relation to biofuel projects and policies	29
Learning from experience	31
The importance of legislative measures	
Participation and transparency in decisions concerning biofuel	33
Calculating the social, environmental and economic costs against the benefits	34
Ensuring access to resources and assets in the context of biofuel options and projects.	
Remedies	35
7. SUBSTANTIVE ASPECTS OF STATE OBLIGATIONS AT THE NATIONAL LEVEL	36
The three types of state obligations introduced	
The duty of the State to respect the right to food and other human rights	
The duty to protect	37
The duty to facilitate the realization of the right to food	39
The duty to fulfill by providing direct assistance.	40
Fulfill - to the maximum of their available resources	41
8. OBLIGATIONS AND RESPONSIBILITIES AT THE INTERNATIONAL LEVEL	43
Transborder duty to respect?	
Transborder duty to protect?	
International duty to facilitate and fulfill:	44
9. RECOMMENDED POLICIES AND GUIDELINES ON BIOFUEL PRODUCTION IN RESPECT OF FOOD SECURITY AND THE RIGHT TO FOOD	46
Should there be a moratorium until safeguards are put in place?	47
Preferred option: ending targets, mandatory blending, quota and TAX BREAKS which create the artificial market	48
National policies in developing countries – lessons to be drawn	
Guidelines for international policies on biofuel production and use: Some suggestions	49
References and sources of further information	52

Executive Summary

This study examines the impact of biofuel production on the enjoyment of the human right to adequate food and the fundamental right of everyone to be free from hunger. It follows from internationally recognised human rights that States have a core obligation to ensure freedom from hunger for all, and that any decisions which may negatively affect the enjoyment of the right to food should be reviewed. This has also been reiterated by the UN Human Rights Council in its resolution adopted on 22 May 2008 as the result of its special session on the food crisis from a human rights perspective. This paper therefore explores whether and to what extent biofuel production has undermined or is likely in the future to undermine or weaken the access to food for vulnerable people, and whether there are any overriding ethical concerns that can justify biofuel production even if it harms access to necessary and sufficient food to avoid hunger.

The conclusions are that the liquid biofuel production has indeed contributed and is in the near future likely to continue to weaken the access to adequate food or to the resources by which vulnerable people can feed themselves, in at least three ways: Firstly, by contributing significantly to the increase in food prices. The study recognises that there are several other factors which jointly with biofuel production have caused the steep increase in food prices. Secondly, by causing land concentration for plantation-type production, due to considerations of economy of scale, which have led and are likely to continue to cause evictions or marginalisation of vulnerable groups and individuals. Many women in the developing countries, particularly in Africa, are likely to be particularly severely affected, should extensive biofuel production spread to their part of the world. Indigenous peoples and other groups with insecure title to the land on which they make their living have also been harmed and are likely to be so in the future. Third, biofuel production causes a number of environmental problems, reduces biodiversity, and lead to competition for water.

In light of this, the question is whether there are sufficient ethical justifications for biofuel production to override the negative consequences. The conclusions are (1) that the most widely used justification, that replacing fossil fuel (gasoline, diesel) by biofuel can reduce greenhouse gas emissions and thereby reduce global warming, is mostly not tenable. Most liquid biofuel production, distribution and use leads to as much and sometimes more greenhouse gas emissions than the use of fossil fuel, when both the direct and indirect consequences are taken into account, including the unavoidable land shifts that will be required by any expansion of such production; and (2) that biofuel production cannot in any significant degree improve the energy security of developed countries – to do so would require so vast allocation of land that it would be impossible for a multitude of reasons. It recognizes that the use of liquid biofuel reduces urban pollution to some extent, but not much since blending will still be necessary for a long time to come, and there are other ways to reduce pollution which have less negative consequences.

biofuel, which is still only a speculative possibility that may in the future turn out not to become economically feasible. The paper then turns to the question whether there can be ways in which liquid biofuel production can be made compatible with full respect for the right to adequate food for all, and particularly with the right of everyone to be free from hunger. This would require that the decisions and implementations of policies and projects for biofuel production conform to the internationally adopted standards and guidelines for the realisation of the right to food. The study therefore examines the process requirements and the substantive obligations of States at the national and the international level and ends with a set of recommendations for the adoption of guidelines on biofuel production based on the primary concern to ensure freedom from hunger and the right to adequate food for all.

Introduction

Bioenergy, the use of biofuel for power and heat, has during the last decade attracted considerable interest and expectations. The greatest upsurge in interest has focused on biomass prepared into biofuel (mainly ethanol and biodiesel) used to power transport vehicles. It has been widely hoped that the use of biofuel can contribute to the solution of a range of problems including reduction of greenhouse gas emission, provide a renewable and therefore sustainable energy source, and increase the agricultural income for rural poor in developing countries. If these achievements could indeed be made, there would be very strong ethical arguments in favour of liquid biofuel production. In the last few years, however, serious concerns have emerged and have, during the last year, grown in strength and significance. There are well documented claims that there are serious harmful consequences of biofuel production which have been grossly underestimated, and that the alleged benefits have been considerably exaggerated. The growing concerns are strikingly reflected in the title of a recent working paper for the OECD: Is the cure worse than the disease?¹

The world is now facing a deep crisis caused by a steep increase in food prices without a corresponding increase in income for the food insecure. Biofuel production is one of its causes. Biofuel production has also given rise to a number of other problems and risks causing a far-reaching concentration of land ownership in developing countries with harmful effects on the livelihoods of vulnerable groups. The purpose of this paper is to explore policies and projects concerning biofuel production from the perspective of the realization of the human right to food.

The right to food is defined by the United Nations as a right to physical and economic access at all times to adequate food and to be free from hunger. The right to be free from hunger has been defined as a fundamental human right in international human rights law, to be given the highest priority both in national and international policies regarding food and agriculture. The FAO Council has adopted guidelines on the realisation of the right to food in the context of food security, and a special Right to Food Unit has been established within FAO to assist States in the realization of this right.



The right to food and the impact of liquid biofuels (agrofuels)

PART I

1. THE RIGHT TO FOOD

FOOD SECURITY AND THE RIGHT TO FOOD

FAO defines food security as a “situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”². The vast majority of States have recognised that everyone has a right to adequate food and a fundamental right to be free from hunger (Covenant on Economic, Social and Cultural Rights, Article 11, 1966). As defined by the UN Committee on Economic, Social and Cultural Rights, “the right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement” (General Comment 12, 1999).

States Parties to the Covenant on Economic, Social and Cultural Rights have undertaken to respect, protect and fulfil the right to food. The UN Committee on Economic, Social and Cultural Rights has pointed out that Covenant clearly requires that each State Party take whatever steps are necessary to ensure that everyone is free from hunger and as soon as possible can enjoy the right to adequate food. This has since been further developed by the Right to Food Guidelines, adopted by the FAO Council in 2004. The implications of the Guidelines for biofuel policies are further discussed under section 5 below.

COMMITMENTS BY STATES

The Heads of State and Government, gathered in 1996 at the World Food Summit (WFS) at the invitation of the FAO, reaffirmed the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger. The participating States therefore committed themselves to implement policies aimed at eradicating poverty and inequality and improving physical and economic access by all, at all times, to sufficient, nutritionally adequate and safe food and its effective utilization. They pledged their political will and their common and national commitment to achieving food security for all and to an ongoing effort to eradicate hunger in all

countries, with an immediate view to reducing the number of undernourished people to half their present level no later than 2015.

They stated in the Rome Declaration on World Food Security: “We consider it intolerable that more than 800 million people throughout the world, and particularly in developing countries, do not have enough food to meet their basic nutritional needs. This situation is unacceptable. Food supplies have increased substantially, but constraints on access to food and continuing inadequacy of household and national incomes to purchase food, instability of supply and demand, as well as natural and man-made disasters, prevent basic food needs from being fulfilled. The problems of hunger and food insecurity have global dimensions and are likely to persist, and even increase dramatically in some regions, unless urgent, determined and concerted action is taken, given the anticipated increase in the world’s population and the stress on natural resources”.

In 1996, at the time of the Summit, the number of undernourished people in developing countries was estimated to be 823 million people. Had the commitments made in 1996 been followed up, the number should have been reduced by approximately 20 million each year, and in 2008 there should consequently be some 583 million hungry people in the world. The tragic fact is that the number of undernourished people in the world is probably over 900 million, in other words, many more than in 1996 when the process to halve the number was started. This is a devastating failure, and a significant part of the increase during the last two years is due to increasing food prices.

One important aspect of the Rome Declaration was the recognition that hunger is not caused by scarcity in terms of production capacity (actual or potential supply), but is due to poverty in terms of income or assets, which means people can neither effectively demand the necessary food nor feed themselves through their own efforts. The fact that many are hungry in spite of sufficient production capacity means that insufficient measures have been taken to protect and ensure assets or income for food insecure people. Had resources and income been more evenly distributed, there would have been, even under present circumstances, enough food for all. Food which is now sold as feed for animals, for aqua-cultivated fish or for pets, would have been bought at competitive prices by people if they had the income to do so.

2. ON BIOFUEL DESCRIPTION AND SCOPE

CONCEPTS

The production and use of liquid biofuel for transport, also called agrofuel, is the main focus of this paper. The strong interest in liquid biofuel is due to the fact that it can be used as a supplement, or alternative, to gasoline or diesel derived from petroleum (fossil fuel). It is its use for transport which generates the strong interest and tremendous increase in investments.

Biofuel can also be used in a wider sense. Woodfuel, which has been used for thousands of years for cooking and heating, is also a biofuel. Bioenergy in all its forms is energy produced from biomass, non-fossil material of biological origin including forest and agricultural plants, wild or cultivated as crops. Bioenergy can be harnessed from biomass in several ways. It can be processed and used in solid, liquid or gas forms. Solid biofuel includes fuelwood, pellets, and charcoal. Liquid biofuel mainly includes bioethanol and biodiesel. Biofuel in form of gas includes methane.

Liquid biofuel is mainly produced as ethanol or biodiesel. The feedstocks for ethanol are mainly sugar cane and maize, to a lesser extent from wheat, sugar beet and cassava. The feedstocks for biodiesel are oil-producing crops, such as rapeseed, palm oil and *Jatropha*.

THE MAIN PRODUCERS AND CONSUMERS

Brazil pioneered the production of liquid biofuel well before World War II, using parts of its vast sugar cane plantations for the production of ethanol. The second major producer is the United States, starting its production of ethanol from maize in the 1980s. Around the turn of the millennium (2000) the EU started to become involved, mainly using rapeseed and to a lesser extent soybean and sunflower oil for biodiesel production.

These producers consume the whole of their own biofuel production internally. The United States and the EU cannot by far meet their own targets of consumption by own production and will therefore be increasingly dependent on import from developing countries. The European and American demand for liquid biofuel has therefore motivated substantial production also in other countries, particularly in Indonesia and Malaysia, engaging in biodiesel production from palm oil. The most recent addition is the production of biodiesel from *Jatropha*, a plant producing non-edible oily seed, found and now cultivated for biofuel in Asia and Africa.

The use of liquid biofuel constitutes only a very limited part of the total use of energy derived from biomass, and biomass used for energy is a very small part of total energy consumption, and yet the extent of agricultural land used to produce these small components of total energy demand is large and substantially affects food production. If biofuel production were to double many times over, which is what present quota and targets would require, the impact would probably be intolerably high, particularly for the next few years until the production of food has increased to meet the growing demand.

In 2007, liquid biofuel contributed only 0,36 of the total energy consumption in the world. To achieve this modest fraction of the total energy use, 23 percent of US coarse grain production was used to produce ethanol and in the EU about 47 percent of all vegetable oil production was used to produce biodiesel³. It is estimated that in 2008 the ethanol share of the gasoline fuel market in the US will be about 4.5 per cent, with a quarter of the coarse grain production in the country devoted to biofuel. The U.S. National Academies of Sciences made a calculation, using the year of 2005 as an example, showing that even if all the corn and soybeans

produced in the U.S in 2005 had been used for bioethanol production, this would only replace 12% of the country's gasoline demand and 6% of its diesel demand⁴.

Taken as a whole, liquid biofuel meets today around 1 percent of the world road transport needs, and yet the share of the total agricultural plant production is huge. According to the World Energy Outlook, should current trends and expectations continue, this is likely to rise to around 2.3 percent in 2015 and 3.2 percent in 2030. An Alternative Policy Scenario has been presented according to which the production might rise to 3.4 percent in 2015 and 5.9 percent in 2030⁵. It therefore appears that very large parts of agriculture would have to be harnessed to biofuel and still only a very modest share of transport energy consumption could be met.

These projections focus solely on what is called 'first generation technology' – the only now in existence. As noted in the introduction, the discussion about a possible 'second generation biofuel technology' is still very speculative. Hopes are that it will become possible to use ligno-cellulosic biomass to produce liquid biofuel, which would be less competitive with food production. There is growing doubt whether that production will ever become possible and commercially viable. A recent study by the European Commission Joint Research Centre considers it unlikely that second generation biofuels will be competitive with first generation by 2020. Techno-economic analysis has indicated that second generation biofuels will be much more expensive than first generation biofuels⁶. It is therefore unlikely that it will be economically feasible to rely on second generation liquid biofuel within the foreseeable future. Recently attention has also been given to another serious risk, that the plant species envisaged for the second generation production may turn out to be invasive when alien to the territories where they are planted, which may cause a multitude of problems including for food production. 'Don't let invasive biofuel crops attack your country; warn top scientists' is the title of a press release May 20th by GISP, the Global Invasive Species Programme⁷.

3. THE IMPACT OF BIOFUEL ON FOOD SECURITY AND THE RIGHT TO FOOD.

TOWARDS A 'FOOD VERSUS FUEL' BATTLE?

Doornbusch and Steenblik, in their paper prepared for the Organization for Economic Co-operation and Development (OECD), argued that government policies around the world to replace oil with ethanol and other liquid biofuels could draw

4 M. Muller, T. Yelden and H. Schoonover, Food versus Fuel in the United States –Can Both Win in the Era of Ethanol?, Institute for Agriculture and Trade Policy (IATP), September 2007, 2, available at www.iatp.org.

5 FAO: Sustainable Bioenergy and Food Security, p. 2

6 European Commission Joint Research Centre: Biofuels in the European Context: Facts and Uncertainties. JRC 44464. Giovanni de Santi, ed. European Communities, 2008.

7 For details, see GISP: Biofuel crops and the use of non-native species. GISP 2008: Biofuel crops and the use of non-native species: Mitigating the risks of invasion. The Global Invasive Species Programme (GISP), May 2008

the world into a “food-versus-fuel” battle. They focused in particular on the impact on food prices. “Any diversion of land from food or feed production to production of energy biomass will influence food prices from the start, as both compete for the same inputs.”⁸ Putting it starkly, the ‘food versus fuel’ game could make it possible for a car owner in a developed country to fill his or her tank (50 litres) with biofuel produced from 200 kg. of maize, which would have been enough to feed one person for one year.⁹ The purchasing power of the owner of the car is of course vastly higher than that of a food insecure person in a developing country; in an unregulated world market there is no doubt who would win.

The then UN Special Rapporteur on the Right to Food, Jean Ziegler, was requested in 2007 by the UN Human Rights Council to examine urgently the impact of agrofuels on the realisation of the right to food. He received repeated appeals from non-governmental organisations to examine in his reports the impact of these new fuels in hunger and food security. In his interim report presented in the second half of 2007, he argued that the rush to turn food crops — maize, wheat, sugar, palm oil — into fuel for cars, without first examining the impact on global hunger would be a recipe for disaster, and quoted Lester Brown from the Earth Policy Institute who when briefing the United States Senate in June 2006 suggested that “the stage is now set for direct competition for grain between the 800 million people who own automobiles, and the world’s 2 billion poorest people”.

Ziegler’s successor as UN Special Rapporteur, Olivier de Schutter, has raised serious concerns about the impact of biofuel production on the right to food, particularly its impact on food prices. On 2 May 2008, in the background note to his call for a special session of the UN Human Rights Council, he pointed to the demand for agrofuels as one determining factor in the current crisis. He underlined that it would be impossible to make agrofuels an alternative to fossil fuel due to the sheer size of feedstock that would require, and that the impact of agrofuels on the environment has been shown to be negative. In this connection he referred to studies by Fargione and by Crutzen.¹⁰

At his initiative, the UN Human Rights Council held a special session on 22 May 2008 on the food crisis from a human rights perspective. The Council emphasized in its resolution that States and relevant multilateral institutions should review any policy or measure which could have a negative impact on the realisation of the right to food before instituting such a policy or measure¹¹. The ‘measures’ that should be reviewed before being instituted clearly include biofuel policies or projects.

While the increase in food prices is the most obvious factor in biofuel impact on the access to food of vulnerable people, it is not the only one. There are at least three other consequences that have to be taken into account: The impact on land holding and evictions, the impact on labour conditions, and the impact on the environment which in turn impacts the enjoyment of the right to food will be discussed.

8 Doornbusch and Steenblik p.4

9 G. Gendron, Radio Canada, 12 August 2007, quoted in Ziegler report 2007 p.21

10 See the list of references for the studies of Fargione and Crutzen, respectively.

11 Human Rights Council resolution May 22 para. 3

IMPACT OF THE PRICE INCREASES

The impact of the soaring food prices on the enjoyment of the right to food for poor people is devastatingly high. Even before the dramatic rise in the cost of food, some 850 million people were hungry because they did not have economic or physical access to enough food; with that increase, at least an additional hundred million persons are now food insecure.

Many families in developing countries spent already before the recent price increases 60 to 80 percent or more of their income to purchase food. For them, the price increase is dramatic. A study prepared at the International Food Policy Research Institute in 2006 projected that the number of people suffering from undernourishment would increase by 16 million people for each percentage point increase in the real price of staple food.¹² The increasing price has also significantly reduced the ability of the World Food Program and other food aid agencies to meet the needs of the millions they traditionally tried to help, let alone the large numbers of newly hungry people who used to be able to take care of their own needs.

There are many and different causes behind the steep increase in food prices. Some of the causes are of a temporary nature (poor harvests in Australia in 2006, low yields in Europe at that time, plant disease and pests in Vietnam). Later harvests have been much better, so these factors do not give the main reason. Speculation made possible by temporary reduction of food stocks has played a role. The shortages in turn were the result of the diversion of agricultural production from food to biofuel.

Most important are three general and long-lasting factors: Biofuel production in competition with food production, the increasing cost of food production, and the increasing demand. All these three factors have long-term implications that have to be addressed when long-range policy options for the elimination of hunger are drawn up.

There is no doubt that biofuel production has had a substantial impact on the increasing cost of food, though opinions differ on the degree of the rise caused by biofuel and its related factors. David Mitschell, Lead Economist at the Development Prospects Group of the World Bank, has pointed out that the World Bank's index of food prices increased 140 percent from January 2002 to February 2008, and he argues that three quarters (105 percent) of the rise was due to biofuel and the related consequences of low grain stocks, large land shifts, speculative activity, and export bans. While he recognizes that the increase was due to a confluence of factors, the most important was the large increase in biofuel production in the U.S, where 25% of the production of maize goes to ethanol production, and in the EU, where 47% of vegetable oil production is used for biofuel production. Without the increase in biofuel, Mitchell argues, global wheat and maize stocks would not have declined appreciably and price increases due to other factors would have been moderate.¹³

The second factor is the increasing cost of food production – more expensive seeds

¹² Rosegrant, Mark and others: Biofuels and the global food balance. See reference

¹³ Donald Mitchell: A Note on Rising Food Prices. Draft April 8, 2008, page 1. On file with author of this study

due in part to patents and other forms of intellectual property; higher costs of fuel for machinery and vehicles and for fertilizers, pesticides, water, land and labour.

The third factor is the increasing demand for meat and fish for the growing numbers of middle-class consumers in countries like China and India. While their consumption of such food is still far below that of the pattern of consumption in Western Europe, North America, Australia and New Zealand, the increase has led to a substantial growth in the demand for feed for animals and aquaculture fish. Using food as feed for meat and milk producing animals which then is consumed by humans requires 9 times as many calories and those required for direct human consumption.

From the observation of these three factors policy consequences should be drawn. The most important is a need to change the approach to agricultural developments in developing countries, focussing more on respect for and improvement of the traditional sources of livelihood for rural people. The rise in the cost of industrial-type intensive agriculture, which relies heavily on patented seed, extensive use of fuel, fertilizers, irrigation and other expensive inputs, implies that poor people will have increasing difficulties in paying those prices. Consequently it needs to be explored whether it is possible to delink at least some part of the food production from these heavy costs. Small-scale organic farming, including in part production for own consumption or for local markets, relying heavily on own labour, might be the more rational alternative for the rural poor and can be much improved without any dramatic breach in present landholding or inputs.

Support for this view can now be found in the outcome of the monumental world-wide study 'International Assessment of Agricultural Knowledge, Science and Technology for Development (IAAKSTD)', initiated by the World Bank and FAO in 2002, which delivered its reports in 2008. The study calls for considerable revisions of present directions in agriculture and warns against uncritical continuation of the industrial-agricultural model. In the section dealing with sub-Saharan Africa (SSA), the study concludes that

"... the development and sustainability goals of reducing hunger, achieving food security, improving health and nutrition, and increasing environmental and social sustainability will only be reached if the focus of agriculture and AKST¹⁴ moves away from simply the production of food, fiber, feed, and bioenergy. A broader perspective encompasses an integrated agricultural commodity value chain from production through to processing and marketing with a local and regional perspective. It accounts for the multiple functions of agriculture that include the improvement of livelihoods, the enhancement of environmental services, the conservation of natural resources and biodiversity, and the contribution of agriculture to the maintenance of social and cultural traditions. It recognizes that women, who account for approximately 70% of agricultural workers and 80% of food processors in SSA, need significantly increased representation in research, extension and policy making, and equitable access to education, credit and secure land tenure" (emphasize added).¹⁵

¹⁴ Agricultural Knowledge, Science and Technology

¹⁵ IAASTD study, section on Sub-Saharan Africa, Summary for Decision-Makers, p.8.
http://www.agassessment.org/docs/SSA_SDM_220408_Final.pdf

Will food prices decrease again, or can at least the increase be halted? The effects of some of the factors mentioned above are probably impossible to mitigate. Increasing meat consumption is likely to continue. The prices of petrol, fertilizers and pesticides will continue to increase. But biofuel production in competition with food can be reduced; it depends on political decisions, not on inexorable market factors.

LAND CONCENTRATION AND EVICTIONS

A second problem associated with liquid biofuel production concerns land concentration and evictions. Evidence indicates that the production requires large entities of land and plantation-type production. This leads to a pressure for ownership concentration, and it opens up for a much higher degree of external investors in land ownership and production than under more traditional forms of production. Foreign investors see a profit in biofuel as long as their markets are guaranteed, but they see no profit in investing in cassava and other traditional food in Africa and elsewhere for local food production.

It is quite revealing that the most successful case of liquid biofuel production is that of Brazil. The history of Brazil is one of enormous land holdings for individual owners (latifundia) resulting in earlier centuries from evictions and outright killings of large parts of the indigenous populations, then followed by extensive use of slavery for the plantations, later the use of highly exploited cheap labour. Without the latifundia structure, the Brazilian sugar cane production would not have evolved in the way it has. Large holdings make it possible to have plantation-production of scale. Conditions of labour are still very bad in the sugar cane plantations now used for ethanol production. The present government under President Lula is doing an admirable work on improving the conditions of past tragedies, but the obstacles are enormous¹⁶.

Problems of evictions resulting from investments in production of feedstock for biofuel have been reported from a number of countries. In his 2007 report, Jean Ziegler quotes examples of forced evictions, appropriation of land and other violations of human rights in biofuel plantations in different parts of the developing world. In some cases, agribusiness companies urge peasants to sell their land, in others the companies occupy land without informing the communities who have been living there for decades. Many indigenous communities and people of African descent do not possess land titles and have been forcibly evicted. Houses, crops and animals were burned. Villagers in some areas have been systematically threatened by soya agribusiness and by the paramilitaries paid to protect it, and sometimes also by the state police¹⁷. Similar and related problems have also been described by the Pastoral Land Commission in Brazil¹⁸, and by Biofuelwatch UK and others¹⁹.

The UN Special Rapporteur on adequate housing has also reported on increasing

¹⁶ A detailed study of the history, present situation and the obstacles are found in Ricardo Abramoway's background study for the FAO High-Level Conference on World Food Security June 2008

¹⁷ Ziegler, 2007 report, para. 38

¹⁸ Pastoral Land Commission: Agroenergy: Myths and Impacts in Latin America

¹⁹ Biofuelwatch UK: Agrofuels: Towards a reality check in nine key areas

evictions, and has argued that there is a serious normative gap concerning the right to land. He has argued that inequitable land ownership patterns and the phenomenon of landlessness give rise to interrelated problems that range from inadequate housing, lack of livelihood options, poor health, hunger and food insecurity, to acute poverty. The question of land has particular effects on groups such as indigenous peoples, communities that have historically been discriminated against, minorities, internally displaced persons and returning refugees. Land is of crucial importance to women when it comes to the question of inheritance and issues of access, tenure and livelihood. Without adequate recognition of individual and collective rights to land the right to housing, the right to food, livelihood, self-determination and the security of the person and home cannot be effectively realized²⁰.

Obligations of States to refrain from, and protect against, forced evictions from home(s) and land arise from several international legal instruments that protect the human right to adequate housing and other related human rights, but have not been effectively implemented. As a result of his many years of reporting, the Special Rapporteur on Adequate Housing has therefore elaborated a set of basic principles and guidelines on development-based evictions and displacement, which should guide further work in this area, including in the preparation of guidelines for biofuel production²¹.

Attention must also be given to the related, serious risk that plantations for biofuel feedstock are established on high-quality lands, leaving subsistence crop producers to seek a living only on marginal lands. Another risk is that the plantations reduce or eliminate the grazing land for traditional livestock which is essential for the maintenance of food security for traditional households²².

HARMFUL STRUCTURAL TRANSFORMATION OF AGRICULTURE AND LAND HOLDINGS

Behind these examples is a very serious general problem which needs close attention. Production of feedstock for biofuel is by its very nature best suited for large holdings, and it is to an extreme degree a monoculture production, with all its negative implications. It opens up for foreign and outside investors on an unprecedented scale. Traditional, small-scale agriculture in developing countries is not attractive for investors, but biofuel is – as long as there is a guaranteed market. The implication of this is ominous: It may lead to a process of marginalisation or eviction of smallholders to an unprecedented degree, transforming them either into badly paid workers or to the swelling number of urban poor. The long-range consequences can be even more serious than the impact of the soaring food prices.

This structural transformation of landholding and production may not be an absolutely necessary consequence of extensive biofuel production. With the necessary political will and ability of governments to withstand this trend, it is

20 Kothari: report on adequate housing, 2007, paras. 27-29

21 The principles and guidelines are contained as an annex to the report by the Special Rapporteur on housing quoted above.

22 This risk is discussed in FAO Report on Gender and Equity Issues in Liquid Biofuel Production, 2008

not impossible that patterns of small-scale, profitable feedstock production for biofuel can emerge among small holders in developing countries. This might become possible if human rights, including the right to food and its Guidelines of implementation are taken seriously, a point which will be further elaborated below. There are reasons to doubt, however, that the trend towards large-scale holdings and evictions can be averted through a greater preference for small holder production. There would simply not be enough biofuel produced to make it economically profitable to build the pipeline, the distribution system and the investments in fuel-flexible vehicles. Smallholder production might emerge as an appendix to large plantations; it probably cannot be an alternative to it.

It has been pointed out that many of the negative consequences of feedstock production are similar to those arising from other forms of agricultural intensification and land concentration. There is some similarity, but the biofuel production is likely to have a much more drastic impact than other forms of intensive agriculture. Economy of scale is a key to profitable biofuel production, which implies that it will mostly be carried out on large-scale plantations. Smallholders are likely to have a minor space in this production, which requires an integrated industrial/agricultural organisation of production, factory processing, transport and distribution. Plantation-type production is also much more attractive than other agricultural activities to non-local investors who are only interested in large-scale production which can be controlled from afar. Unless stringent regulations are put in place, it is likely that such production will speed up a negative process of evictions and marginalisation and to which there are no socially adequate safety nets, unless there is a full recognition of the problems and a willingness to take the necessary steps to minimize the risks. If, on the other hand, the necessary social and environmental safeguards are established and effectively enforced, it is an open question whether biofuel production will continue to expand. The recent study initiated by FAO and the World Bank called International Assessment of Agricultural Knowledge, Science and Technology for Development points among other things to the need to target small-scale agricultural systems through development-oriented local government and through institutions such as cooperatives, farmer organizations and local business associations and unions to support small-scale farming systems, and to ensure greater and more effective involvement of women and the use of their knowledge, skills and experience. There is a major risk that expansion of biofuel production will counteract the possibility to pursue these valuable objectives, unless the risks are thoroughly analysed prior to major future developments in this area.

IMPACT ON WOMEN

The process of land concentration, monoculture and eviction or marginalisation of those who have traditionally lived there is likely to have a particularly negative impact on women's role in agriculture. In many developing countries, women have the most important role both in production and preparation of food. A recent FAO study analyses the risks that women will face if large-scale production of feedstock for biofuel goes ahead. The authors argue that liquid biofuels production might contribute to the socio-economic marginalisation of women and female-headed households in several ways. Firstly, large-scale plantations for such production require an intensive use of resources and inputs to which smallholder farmers,

particularly female farmers traditionally have limited access. Secondly, if so-called 'marginal' land is converted into biofuel plantations (which e.g. is done with some *Jatropha* plantations in India) these areas can no longer be used as common property resources, which have traditionally supplied food, fodder, fuelwood, building materials and other locally important resources. The same problems concerning marginal lands can be expected in Africa. The competition for water (see further below) can seriously aggravate the problems for women in Africa. Studies show that women spend an enormous amount of time on collecting water; should water resources be further diverted their situation might be even more precarious. The FAO study provides recommendations on how the risks can be minimised and the possible benefits can be obtained also by women. These considerations on gender impact of biofuel production will be of crucial importance in the guidelines that should be prepared on biofuel production (see section 9 below)²³.

COMPETITION FOR WATER

Sugarcane, which is among the most efficient feedstock for biofuel, is heavily dependent on extensive use of water. In Brazil the production is to a large extent rainfed, but when similar production is established in other parts of the world where rain is more scarce and unreliable, a serious competition between biofuel production and requirements of water for other needs including household uses is likely to occur, and it can become a threat to the enjoyment of the human right to water as part of the right to food, housing, and health²⁴. Palm oil for biodiesel is also dependent on water. The *Jatropha* bush is in principle less dependent on water and can grow in marginal and dry areas, but its yield is low compared to what can be obtained when grown in more fertile land or with more access to water. It is likely that even with *Jatropha* the competition for water can be severe.

ENVIRONMENTAL HARM

Monocultural production of feedstock for biofuel can cause a number of environmental harms. With the possible exception of sugarcane production for ethanol, there is increasing evidence that when direct and indirect impact is taken into account including shifts in land use, biofuel production actually increases greenhouse gas emissions and thereby intensifies rather than mitigates global warming. Monoculture production is also harmful for biodiversity, which in turn has considerable consequences for the necessary dietary diversity which is required for adequate food. Furthermore, pesticides connected with biofuel production are reported to contaminate water resources and give rise to health problems.

23 FAO Report on Gender and Equity Issues in Liquid Biofuel Production, by Andrea Rossi and Yianna Lambrou. FAO 2008

24 The human rights obligations arising from the right to water is spelled out in General Comment 15 of the UN Committee on Economic, Social and Cultural Rights.

4. ON THE JUSTIFICATIONS FOR BIOFUEL

WHY AN ARTIFICIAL MARKET?

With the possible exception of ethanol produced in Brazil from sugar cane, biofuel for transport is not competitive with petroleum-based diesel or gasoline, not even with today's very high petroleum prices. The ethanol from Brazil is also not much used outside Brazil because there is no comprehensive distribution system elsewhere and it would be a major effort to build it up.

Because biofuel – apart from ethanol in Brazil – is not competitive with available diesel or gasoline without governmental or regional (EU) interventions creating an artificial market in the form of subsidies and other supports, tax breaks, mandatory blending or other devices, it is necessary to explore the justifications given and subject them to a reality check. This will be done in the following section, while considerations on the ethanol produced and used in Brazil are kept out of the discussion.

If there were strong ethical arguments in favour of biofuel production, and on the other hand serious negative consequences (as indicated in the preceding section), a serious ethical dilemma would exist. It will here be argued, however, that the justifications for extensive biofuel production are rather weak or mostly untenable; consequently the harm weighs more than the benefits. The implication of this assessment is that liquid biofuel production should be scaled back rather than extended.

Producers and investors depend on markets for the products they want to sell. When markets based on ordinary economic mechanisms do not exist, major investors sometimes cooperate with governments to create the necessary conditions to sell their products. It may not always be clear who takes the first initiative, but strong investors sometimes play a significant role in creating or facilitating the market by successfully lobbying for subsidies or other preferences. These complex processes depend on public/private interaction. Public subsidies and interventions which increase the cost of products wanted by consumers need justifications. The justifications may sometimes be well founded, in other cases their foundation may be more dubious or become shakier over time due to new insight and evidence. This is what to some extent has happened with the justifications for the production and use of liquid biofuel.

THE MAIN DRIVERS AND THEIR JUSTIFICATIONS

The main public drivers of an international market for liquid biofuel are the EU and the United States. We therefore need to examine their justifications for the process. The main focus here will be on the policies and measures of the European Union.

The Commission of the European Union has identified the following main objectives of its biofuels policy (here quoted from European Commission Joint Research Centre p.8):

- **Greenhouse Gas Saving.** The biofuels directive review argues that since GHG emissions in the transport sector continue to grow whilst those in other sectors are shrinking, future emissions reductions must specifically target the transport sector. Biofuels policy should respect other environmental objectives.
- **Security of Supply.** Transport sector is almost completely dependent on imported crude oil. This restricts the potential sources of supply, and makes supply susceptible to political instability. Biofuels should help.
- **Employment.** Biofuels are claimed to bring economic benefits to the EU because they increase employment, especially in rural areas, and to underdeveloped countries because they open new export markets.

ON GREENHOUSE GAS SAVING.

The problem of greenhouse gas emissions is of extreme importance because of the role of greenhouse gas in global warming which will have increasingly harmful effect and particularly so on many developing countries which have the least possibilities to mitigate the consequences. If indeed production and use of liquid biofuel could help save greenhouse gas emissions, it would be a strong argument in its favour. Regrettably, however, mounting evidence shows that emissions are not saved; on the contrary, with regard to some of the products and methods biofuel may increase emissions compared to fossil fuel. This is so if the whole life-cycle of the production, distribution and use is taken into account, and when direct and indirect effects are counted in.

In a recent issue of *Science*, Fargione et al. presented research conclusions according to which “converting rainforests, peat lands, savannas, or grasslands to produce food crop-based biofuels in Brazil, Southeast Asia, and the United States creates a ‘biofuel carbon debt’ by releasing 17 to 420 times more CO₂ than the annual greenhouse gas reductions that these biofuels would provide by displacing fossil fuels”²⁵. Paul Crutzen, an outstanding chemist who has won a Nobel prize, has presented a calculation showing that rapeseed biodiesel as produced in Europe and ethanol based on corn are likely to raise rather than reduce greenhouse gas emissions²⁶.

The Joint Research Centre of the European Commission is now largely endorsing this view, partly on the ground that the greenhouse gas effects of the use of nitrogen fertilisers have been underestimated and partly because land use changes could release such quantities of greenhouse gas that it would negate the savings from EU agrofuels. The Joint Research Centre concludes that “the only major biofuels which we can say are likely to save greenhouse gas (considering indirect effects) are bioethanol from sugar cane from Brazil, compressed biogas and in the future second generation biofuels. For first generation biofuels made in EU it is clear that the overall indirect emissions are potentially much higher than the direct ones whilst they are unlikely to be much lower”²⁷.

25 Fargione et al.: Land Clearing and the Biofuel Carbon Debt, 2008

26 Crutzen et al.: N₂O Release from agro-Biofuel..

27 European Commission Joint research Center: Biofuels, p.12

ON SECURITY OF SUPPLY

A prominent justification by both the United States and the EU has been that the production of biofuel, being a renewable source, can provide a security of supply in light of the uncertainties connected with access to petrol. It is now increasingly clear that this will not provide a comprehensive security. The previously mentioned U.S. National Academies of Sciences found that even if all the corn and soybeans produced in the US in 2005 had been used for bioethanol production, this would only have replaced 12% of the country's gasoline demand and 6 % of its diesel demand. It is therefore obvious that the US would have to depend on massive imports, either of fossil fuel or biofuel, at a scale which would have extremely serious consequences for conditions in the producing countries. If the whole US corn and soybean production was taken out of the food market and into the biofuel domain, it would have a massive impact on food prices.

The same applies to the EU: At present, 47 % of its oilseed production goes to biodiesel and yet it serves only a very tiny percentage of European transport needs. The EU has set a 10% biofuel target on biofuel consumption in the 27 EU Member States by 2020. The report by the European Commission Joint Research Centre has found that unless the second generation biofuels become feasible (which the authors do not think it will, for economic reasons), the percentage to be imported from outside the EU to meet that target would be from 56-64 % overall and 80 % of biodiesel import, mainly palm oil. Enormous land areas in non-EU countries would have to be devoted to this purpose. These targets have set in motion a veritable 'biofuel fever' in countries like Indonesia and Malaysia, with serious consequences for vulnerable groups in those countries and for accelerated rainforest deforestation.

ENSURING POLLUTION-FREE URBAN TRAFFIC?

It is true that liquid biofuel could reduce the pollution in urban areas. However, the reduction of pollution is much less than what might be expected, because in the foreseeable future the biofuel will have to be blended and be a limited component together with a much higher percentage of petrodiesel or gasoline. There are other emerging alternatives that are much more environmentally attractive, in particular the 'plug in' hybrid personal car which may come into mass production two years from now. This 'plug-in' hybrid car uses both electricity and gasoline or diesel. It can be plugged into electricity overnight, which will be enough for much of the daily urban traffic; only when more extensive use is required it switches to liquid fuel. Hydrogen-driven cars are also under development.

CREATING ADDITIONAL EMPLOYMENT?

The EU has argued that European biofuel production could create additional employment which would not otherwise have been available. The European Commission Joint Research Center has calculated this and has found (p.14) that the net EU employment effects are neutral or close to neutral.

The employment potential for biofuel production in developing countries is difficult to calculate. The question to be asked would be whether there would be new

employment at a greater number than that of those who are evicted or marginalized because they are losing parts or the whole of their livelihood conditions as a result of expansions of biofuel plantations. While there are large numbers of workers involved in sugar cane/ethanol production in Brazil, their working conditions are very bad. The existence of large numbers of poor and seasonal workers is because of the latifundia system. There are large numbers of independent small landholders which are found in other parts of the developing world. The Brazilian example can therefore not be replicated elsewhere.

CALCULATING COSTS AND BENEFITS

The justifications which have been used to create an artificial market for liquid biofuel probably do not hold or have a very weak foundation, too weak to justify the negative consequences of such production. With regard to the EU, the Joint Research Centre is very clear on this: “The cost disadvantage of biofuels is so great with respect to conventional fuels (at least in the mix foreseen in the scenarios analyzed), that even in the best of cases, they exceed the value of the external benefits that can be achieved. This is what explains the fact that despite a very large uncertainty regarding many of the data needed to compute the cost-benefit analysis, the conclusions can be very robust and unequivocal. Even for the most favourable possible combination of assumptions, the benefits fail to exceed the costs. The net discounted welfare loss (net cost to society) that even the best alternative considered by the original study (2006) would impose on the taxpayers of Europe throughout time horizon 2007-2020 ranges between 33 and 65 billion €, with 80% probability”²⁸.

CONCLUSIONS OF THIS SECTION.

The use of liquid biofuel for transport by the use of known and economically viable technology will not in general help reduce global warming, nor will it significantly mitigate the exhaustion of global energy sources; other measures and means will have to be used for that. Only to a very limited extent can States and groups of States diversify their sources of energy for transport by relying on biofuel. Brazil is an exception due to the extensive availability of sugar cane, taking into account that there has been an overproduction and overconsumption of sugar, and the amount of conversion to ethanol production has therefore not seriously harmed food production. Brazil can cover a significant part of its own needs for liquid biofuel, but cannot become a supplier of the world without significant expansions, which would require deforestation and substantial greenhouse gas emissions and which therefore would be unacceptable at the global level. The fact that the United States while devoting a quarter percent of its coarse grain production to liquid biofuel has reached only a tiny percent use in transport shows that a comprehensive substitution is impossible.

The use of liquid biofuel in transport vehicles can to some extent reduce urban pollution, but with present quantities the reduction will be very modest because – Brazil apart – the biofuel will have to be blended with a much larger part of

gasoline (petrol) or diesel. Substitution of fossil fuel by biofuel to a much larger extent would be impossible because of the vast areas of land that would have to be used for that purpose. Pollution will therefore largely have to be fought in other ways, through improved technology in car manufacture, in the introduction of cars wholly or partly driven by electricity, including hybrid cars using electricity for short distances and gasoline or diesel for long distances.

As noted, the conclusions here refer to present technology of liquid biofuel production and do not take into account the possible benefits of the so-called second generation, which at this stage remain entirely speculative.

But why focus only on liquid biofuel? Solid biofuel, including wood products, would cause much less problems than the production of liquid biofuel. It cannot yet be used directly in transport, but there are other ways to use bioenergy than processing it into liquid biofuel, and there are many ways of replacing fossil fuel with electricity and solid biofuel burners. These should be exhausted before continuing on the rather cumbersome and costly road of liquid biofuel.



The right to food and the impact of liquid biofuels (agrofuels)

PART II

5. THE RIGHT TO FOOD GUIDELINES TO BIOFUEL POLICIES AND PROJECTS

THE RIGHT TO FOOD AS FOUNDATION OF THE RESPONSE TO THE FOOD CRISIS

As a result of the world crisis caused by soaring food prices, there is now a widespread awareness that the right to food has to be at the foundation of efforts to handle the crisis. The United Nations Human Rights Council held a special session on 22 May 2008 on “The negative impact on the realization of the right to food of the worsening of the world food crisis, caused inter alia by the soaring food prices”.

In her opening address to the Council, the UN High Commissioner for Human Rights pointed out that the food crisis boils down to a lack of access to adequate food, in spite of the fact that such access is a right protected by international law. She emphasized that discrimination and marginalization must be eradicated, including exclusion from access to land, productive resources, decent work and public policy safety nets. A failure to act in a comprehensive manner, she said, may also trigger a domino effect by putting at risk other fundamental rights, including the right to health or to education, when people are forced to forego competing basic necessities or services in order to feed themselves and their families. She emphasized that States, individually and collectively, have a legal obligation under human rights law to remedy such situations and to provide sustainable access to food without discrimination, and that State obligations regarding the right to food and freedom from hunger entail the adoption of national strategies to ensure food and nutrition security for all²⁹.

In his address to the Council, Olivier De Schutter, the Special Rapporteur on the right to food, emphasized that the crisis should not be viewed as one that is solely humanitarian or macro-economic in nature, but as one that is focused on the right to food. “What distinguishes a natural disaster from a violation from human rights is that, in the latter situation, we are capable of moving along the chain of causation, from the situation of the malnourished of the hungry to specific acts or abstentions by duty-holders,” he said. On the same day, the European Parliament adopted a resolution entitled ‘Rising food prices in the European Union and developing countries’ where in its operative Article 1 it stressed the fundamental nature of the right to food and the need to improve access for all people at all times to

enough food for an active, health life; underlined that States have the obligation to protect, respect and fulfill this fundamental right, and called on the EU Council to implement international human rights law provisions on the right to food. In para. 6 the Parliament emphasizes that the supply of food to all people across the globe should take precedence over any other goal. Food should be available at reasonable prices, and priority needs to be given to food over (bio)fuels (para.18) . The Parliament also accepted that EU subsidization of crops intended for biofuel is no longer justified (para. 19)

In late April 2008, the Executive Heads of the United Nations specialized agencies, Funds and Programmes and Bretton Woods Institutions agreed to establish a Task Force on the Global Food Crisis under the leadership of the Secretary-General, with the primary aim to promote a comprehensive and unified response to the global food security crisis in support of governments and affected populations. It must be expected that freedom of hunger and the realization of the right to work will be the guiding objectives of the Task Force.

THE RIGHT TO FOOD HAS AN OBVIOUS PRIORITY OVER BIOFUEL.

It is sometimes falsely assumed that there is ethical dilemma in the choice between food and biofuel production. The right to food obviously has to be given priority over unnecessary energy consumption – and much of the energy consumption particularly in developed countries is unnecessary by a wide mark. Governmental support for biofuel production cannot be justified if it competes with food production to the extent of endangering the right to be free from hunger. Secondly, we are still far from a situation where all alternative energy sources are exhausted. There are other and more efficient ways of using energy, also from biomass, than to produce liquid biofuel, and there are better ways to increase income of the poor in rural areas of developing countries than by way of feedstock production for liquid biofuel. Thirdly, there is considerable space for energy saving.

Nor does a priority of the right to food over liquid biofuel production weaken efforts to mitigate global warming, because most of the present production and use of liquid biofuel does not reduce greenhouse gas emissions when its direct and indirect effects are taken into account.

This does not exclude that some production of liquid biofuel might be appropriate in certain circumstances provided adequate safeguards are established. Concerns with the right to food and food security should guide the formulation of those safeguards.

FOOD SECURITY AND THE RIGHT TO FOOD – RIGHTS AND OBLIGATIONS.

The World Food Summit defined food security as “a situation that exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”. National food security would therefore mean a situation where every individual within the State at all times have physical and economic access to sufficient, safe and nutritious food.

The human right to adequate food builds on this but clarifies that to enjoying food security is a right for everyone. There is a linkage between rights and duties, between rights-holders and duty-bearers. The right to food spells out both the content of the right and the corresponding obligations of States, individually and collectively. It spells out the requirement for the duty-bearers to recognize the right to food and to adopt the measures required to ensure the enjoyment of that right.

In the 1996 Rome Declaration on World Food Security, Heads of State and Government “reaffirm[ed] the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger.” Objective 7.4 of the World Food Summit Plan of Action established the task: “to clarify the content of the right to adequate food and the fundamental right of everyone to be free from hunger, as stated in the International Covenant on Economic, Social and Cultural Rights and other relevant international and regional instruments, and to give particular attention to implementation and full and progressive realization of this right as a means of achieving food security for all.”

As requested by the Rome Declaration, the content of the right was clarified by the UN Committee on Economic, Social and Cultural Rights in 1999 by the adoption of its General Comment 12, which reads:

“The right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement. ... The right to adequate food will have to be realized progressively. However, States have a core obligation to take the necessary action to mitigate and alleviate hunger as provided for in paragraph 2 of article 11, even in times of natural or other disasters.”

The primary duty-bearers are the States, individually and collectively. The primary responsibility rests with each State in relation to everyone living on its territory; the secondary responsibility rests with the community of States, which are obligated to ensure the enabling conditions required to ensure the enjoyment of the right everywhere, to abstain from any policy which harms or prevents the enjoyment of the right to food in other countries than their own, and to take separate and joint action to assist States that have difficulties in ensuring the right to food for everyone within their territory.

With regard to the challenges posed by biofuel policies and projects, therefore, the human rights responsibility must be exercised both at the national and the international level. The problems have in part emerged due to the creation of an artificial market through political decisions in some of the developed countries, in particular the EU and the United States. This has had a ripple effect in many parts of the world. In this setting, it is clear that there is a responsibility of the State in which the biofuel production takes place, of the State where it is consumed, and of the international community as a whole to take the necessary preventive and protective measures and to provide the necessary safety nets were required. Decisions affecting biofuel production are made both at the global level, at the regional level (EU), and at the State level. The discussion below will start with

the application of the right to food to biofuel policies and projects at the national level, followed by a discussion of obligations by outside States and regions of States and ends with observations on the responsibilities of the international community as a whole.

6. PROCESS REQUIREMENTS: NATIONAL STRATEGIES, VULNERABILITY IDENTIFICATION AND GOVERNANCE NECESSITIES

NATIONAL STRATEGIES FOR THE REALISATION OF THE RIGHT TO FOOD.

The UN Committee on Economic, Social and Cultural Rights has pointed out that “the most appropriate ways and means of implementing the right to adequate food will vary significantly from one State party to another. Every State will have a margin of discretion in choosing its own approaches, but the Covenant clearly requires that each State Party take whatever steps are necessary to ensure that everyone is free from hunger and as soon as possible can enjoy the right to adequate food” (General Comment 12 para. 21). This, the UN Committee says, will require the adoption of a national strategy to ensure food and nutrition security for all based on human rights principles.

As summed up by the Special Rapporteur on the Right to Food, Olivier de Schutter, such a national strategy should comprise the establishment of appropriate institutional mechanisms, particularly in order to : (i) identify, at the earliest stage possible, emerging threats to the right to adequate food, by adequate monitoring systems ; (ii) improve coordination between the different relevant ministries and between the national and sub-national levels of government ; (iii) improve accountability, with a clear allocation of responsibilities, and the setting of precise timeframes for the realization of the dimensions of the right to food which require progressive implementation ; and (iv) ensure the adequate participation, particularly, of the most food insecure segments of the population.³⁰

The formulation and implementation of national strategies for the right to food requires full compliance with principles of good governance, people’s participation, accountability, non-discrimination, transparency, human dignity, empowerment and the rule of law.

In recognition of the fact that the most appropriate ways and means of implementing the right the right to food will vary from one State to another, the FAO Council adopted in November 2004 the path-breaking Right to Food Guidelines. These Guidelines, prepared by an intergovernmental committee with very broad participation, demonstrate how the human rights principles listed

above can be worked in a human rights-based approach by States to food security for all. The Guidelines provide a wide range of directive principles and practical guidance on how to ensure the right to food when faced with issues related to biofuel production.

Guideline 1 underlines the necessity of democracy, good governance, human rights and the rule of law, and Guideline 3 reinforces the call by the UN Committee for a national human rights-based strategy in consultation with relevant stakeholders for the progressive realization of the right to adequate food, and spells out the contents that such a strategy could have.

In the elaboration of these strategies, it is essential to make a realistic assessment, in consultation with groups that may be affected, of the likely impact of any project for liquid biofuel production. The Guidelines require in particular that the needs of vulnerable and disadvantaged groups be taken into account in any decision relating to any such project.

Guideline 17.2 recommends the conducting of right to food impact assessment in order to identify the impact of domestic policies, programmes and projects on the progressive realization of the right to adequate food of the population at large and vulnerable groups in particular, and as a basis for the adoption of the necessary corrective measures. A right to food impact assessment would be carried out in a similar fashion to environmental impact assessments. In the case of biofuels, it would seem advisable to carry out both environmental and right to food impact assessments before adopting facilitating policies.

THE IMPORTANCE OF FIVIMS IN RELATION TO BIOFUEL PROJECTS AND POLICIES

It is essential to investigate who (which groups) is presently, or is likely to become, food insecure, and to make a realistic assessment of the likely causes or factors of this present or future insecurity. As pointed out by the UN Committee on Economic, Social and Cultural Rights, and reinforced by Guideline 13, this requires statistical disaggregation between rural and urban parts of the population, between men and women, boys and girls, between different racial or ethnic groups, between the indigenous peoples and the dominant part of the population, between casts and outcasts, and between the regions of the country which are in the central areas of economic development and those who are in the periphery. It also requires contextual information as to why particular groups are insecure or are likely to become so if a particular project is contemplated, such as the establishment of a biofuel plantation or an initiation of a more comprehensive biofuel policy. Which particular group of people will be affected, and why? Should future insecurity appear to be likely, this should either lead to abandonment of the project, or an identification of strategies or measures which would prevent future impoverishment from occurring.

ensure an effective implementation of the FIVIMS system. Guideline 13 calls on States that have not already done so to establish and keep updated FIVIMS – Food Insecurity and Vulnerability Mapping Systems. FIVIMS was established following the 1996 World Food Summit (WFS) at the request of Member States. It was intended as a key step towards achieving the WFS Plan of Action goals in the fight against hunger in the world. Its potential function is to achieve a full mapping of food insecurity and vulnerability through disaggregated information which makes it possible to identify with precision those groups that are food insecure in terms of lack of assets or income, as well as on other grounds. FAO plays a major role in the operationalisation and implementation of FIVIMS and has devoted considerable efforts to make it a useful instrument in fulfilling the commitments made by States at the World Food Summit.

Through the FIVIMS activities at national, and regional levels, States are encouraged and can be helped to carry out a more careful identification and categorisation of the food insecure and vulnerable population groups, improving understanding through cross-section analysis of the underlying causes, and using evidence-based information and analysis to advocate for the formulation and implementation of policies and programmes enhancing food security and nutrition. If food insecurity and vulnerability information systems at national and sub-national levels could be strengthened and better integrated, it would provide better and more up-to-date information to the policy-makers and members of civil society concerned with food security issues at all levels in the country.

A serious problem is that many States, be it for reasons of lack of resources or limited commitments, have not cooperated to the degree hoped for, and as a consequence we are still far from a fully satisfactory map of those who are food insecure, and we know even less why exactly those groups have come into that problematic situation of insecurity or why just they are unable to get out of it. This makes it even more problematic to get a proper grip on adequate policy changes in light of the accelerating food prices and the expanding biofuel production. It is to be hoped that the shock of the soaring food prices will increase the commitment to implement the FIVIMS mapping properly.

At the global level, some efforts have been made through FIVIMS to promote coordinated action among partner agencies in support of best practices in the development of national and regional food insecurity and vulnerability information and mapping systems. There is a pressing need to accelerate these efforts. A global map of food insecurity and vulnerability developments of various groups in society which is kept continuously updated and monitored, can give a better understanding of the dynamics of impoverishment and make it possible to take effective action in time to reverse negative dynamics, including possible negative consequences of biofuel expansion.

Better information and knowledge of the underlying dynamics could lead to targeted action to prevent further impoverishment and help eradicate extreme poverty and hunger, provided there is in existence a genuine recognition of responsibility

to respect, protect and fulfil the fundamental right of everyone to be free from hunger.

Improved FIVIMS mapping should have played a prominent role in achieving the Millennium Development Goals (MDGs) and in particular MDG - 1 on the eradication of extreme poverty and hunger. So far, this has not happened to a significant degree. In light of the challenges of soaring food prices and potential expansion of biofuel production, it is essential that an integrated framework to address mappings of food insecurity and vulnerability is incorporated into the preparation procedures of both UN Common Country Assessments reports and Poverty Reduction Strategy Papers, to support a comprehensive and well structured analysis which makes it possible to monitor the dynamics of impoverishment versus poverty reduction.

LEARNING FROM EXPERIENCE

At first sight, States and some groups in a developing country may find the prospects for biofuel production attractive, particularly when presented with projections of future earnings. There may be a problem of insufficient information about the possible negative consequences. It is therefore essential to ensure that there is available sufficient information from the experience of other countries where biofuel production has taken place. A checklist of experiences in other countries of relevance for the right to food should be drawn up, such as the following:

- Have there been evictions of indigenous peoples and peasants in connection with the establishment or expansion of biofuel plantations?
- Have there been gains for smallholders from biofuel production, and if so, are these gains more widespread and substantial than the losses from persons or groups that have been evicted?
- If groups of people were resettled in order to give space for plantations, were these groups given adequate opportunity to negotiate conditions for resettlement, and was there proper alternative land made available which gave them at least as good livelihood conditions as those they had before?
- If there are experiences of contract farming, what has been the experience of the farmers taking place in such projects – did their income increase as compared to what they had before, and did they become more food secure as a consequence of participating in the project?
- Regarding workers in biofuel plantations, were they given decent conditions of work, security of work, income sufficient to ensure an adequate standard of living for the worker and his/her family, and were the workers allowed to carry out trade union activities without interference by the employers?

THE IMPORTANCE OF LEGISLATIVE MEASURES.

As provided for in Article 2 of the Covenant on Economic, Social and Cultural Rights, States should take steps to achieve the full realisation of the rights in

the Covenant, including the right to food by all appropriate means, including particularly the adoption of legislative measures. Legislation may seek in general ways to ensure for all the enjoyment of the right to food, and legislation may also aim at preventing negative policies and practices which could undermine the situation of vulnerable people.

The UN Committee on Economic, Social and Cultural Rights, in its General Comment 12, has recommended that States consider the adoption of framework law as a major instrument in the implementation of the national strategy concerning the right to food. In the same line, Guideline 7.2 invites States to include provisions in their domestic law, possibly including constitutional or legislative review, facilitating the progressive realization of the right to food in the context of national food security, and to make administrative, quasi-judicial and judicial mechanisms available to provide adequate, effective and prompt remedies accessible, in particular, to members of vulnerable groups.

It is also important to abolish legislation which is harmful to the enjoyment of the right to food. Guideline 3.2 states that the elaboration of strategies to ensure the enjoyment of the right to food for all should begin with a careful assessment of existing national legislation, policy and administrative measures.

Guideline 5.5 recommends that States implement and maintain effective anticorruption legislation and policies, a matter which is of great concern in the context of investment projects concerning biofuel. Collusions between investors and government actors is a significant potential risk in the biofuel area.

Guideline 8.6 recommends that States introduce and implement gender-sensitive legislation providing women with the right to inherit and possess land and other property. States should also provide women with secure and equal access to, control over, and benefits from productive resources, including credit, land, water and appropriate technologies. Taking into account empirical evidence showing that women are often marginalized when biofuel production expands, gender-sensitive legislation along the lines of Guideline 8.6 should be introduced before the biofuel production starts.

States should also adopt the necessary legislation to protect decent conditions of labour in accordance with international obligations.

Legislation is particularly important concerning land: States should in line with Guideline 8.10 take measures to promote and protect the security of land tenure, especially with respect to women and poor and disadvantaged segments of society, through legislation that protects the full and equal right to own land and the right to inherit. It can here be added that in light of challenges posed by biofuel plantation investments, there is a need for the legislature to review whether existing livelihood assets, including access to and use of land, are properly recognized and protected under existing law and whether the necessary law enforcement mechanisms in this respect are available.

States should consider legal and policy mechanisms to advance land reform which enhances access for the poor and for women. Special attention in this respect should be given to the situation of indigenous peoples and ways to protect their rights.

PARTICIPATION AND TRANSPARENCY IN DECISIONS CONCERNING BIOFUEL.

In the preparation, elaboration and implementation of development policies, including those involving biofuel projects, measures to ensure to everyone the enjoyment of the right to food should have a central place. Coordination between ministries and regional and local authorities will be required, but the problem is to have in place institutional arrangements giving due attention to the human rights perspectives including the right to food.

As envisaged in Guideline 5.3, the establishment of a specific institution with overall responsibility for overseeing and coordinating the implementation of the Guidelines might be a positive step. It could be a good way to ensure that the right to food is given adequate attention in any decision involving biofuel projects or policies. Should no specific body exist at the national level to monitor the realization of the right to food, it could be a role for the national human rights institution of the country concerned to monitor the application of the Guidelines, as also envisaged in Guideline 18.

Appropriate institutional mechanisms should be devised to secure that all stakeholders have a genuine influence on decisions relating to biofuel policies and projects. Guideline 5.4 requires States to ensure that relevant institutions provide for full and transparent participation of the private sector and the civil society, in particular of the groups most affected by food insecurity. Important is also Guideline 5.5 which requires States to take measures to implement and maintain effective anticorruption legislation and policies. Collusions between investors and government actors is a significant potential risk in the biofuel area.

Transparency and equal access to information is crucial in these decisions. There is a serious risk that investors and sometimes government representatives hold more detailed information on the consequences of biofuel production than the local people, and that part of relevant information is withheld to obtain consent based on incomplete information.

These measures, along with measures in education and public information, would empower individuals and communities to participate in policy decision making, and to claim their rights if they are being violated

CALCULATING THE SOCIAL, ENVIRONMENTAL AND ECONOMIC COSTS AGAINST THE BENEFITS.

Before entering into or accepting biofuel projects, States should make a full calculation of the social, economic and environmental costs compared to the benefits – and to the ways in which the benefits will be shared. Should biofuel projects be allowed to go ahead in spite of negative economic or social consequences for some groups or individuals, appropriate safety nets should be established in line with Guideline 14. As pointed out in Guideline 14.3, the design of social and food safety nets depends on the nature of food insecurity, objectives, budgets and administrative capacity as well as local circumstances, but States should nonetheless ensure that they adequately target those in need and respect the principle of non-discrimination in the establishment of eligibility criteria. The costs of safety nets will have to be entered into the calculation.

To provide an adequate safety net can never be simply a pecuniary payment or provision of food aid. A purely pecuniary compensation will not yield satisfactory results – when people are evicted from the land where they traditionally made their livelihood, they may become culturally disoriented and are often unable to restart a productive life. As a minimum, there must be arrangements for retraining and the offer of alternatives which make it possible to live a decent and rewarding life, not simply an opportunity to survive.

ENSURING ACCESS TO RESOURCES AND ASSETS IN THE CONTEXT OF BIOFUEL OPTIONS AND PROJECTS.

The UN Committee on Economic, Social and Cultural Rights, in elaborating the content of the strategy required to ensure for everyone the right to food, has stated that the strategy should give particular attention to the need to prevent discrimination in access to food or resources for food. This should include: guarantees of full and equal access to economic resources, particularly for women, including the right to inheritance and the ownership of land and other property, credit, natural resources and appropriate technology; measures to respect and protect self-employment and work which provides a remuneration ensuring a decent living for wage earners and their families (as stipulated in Article 7 (a) (ii) of the UN Covenant on Economic, Social and Cultural Rights); maintaining registries on rights in land (including forests).

The Committee has also pointed out that as part of their obligations to protect people's resource base for food, States Parties should take appropriate steps to ensure that activities of the private business sector and civil society are in conformity with the right to food.

These issues are further elaborated in Guideline 8 and quite pertinent in regard to decisions concerning biofuel policies and projects.

Guideline 8.1 calls on States to facilitate sustainable, non-discriminatory and secure access and utilization of resources and to protect the assets that are important for people's livelihoods. It is of paramount importance that this is taken into account when biofuel plantations are contemplated. Past experience shows that evictions have often occurred, under the claim that those who lived there did not have proper legal tenure. The lack of such tenure often reflects a weakness in national law, sometimes based on an assumption that the land belongs to the State rather than to those who cultivate the land or use it for their livestock.

The problem is particularly serious for many indigenous peoples whose land rights are often not recognized under national law. The UN General Assembly adopted in September 2007 the Declaration on the Rights of Indigenous Peoples, which contains wide-ranging requirements to recognize the rights of the indigenous peoples to the land which they have traditionally used, and their right to determine the priorities for the development of those territories.

The substantive aspects of the application of the Right to Food Guidelines to biofuel policies and projects are examined under section 7 below.

REMEDIES

Any person or group who is a victim of a violation of the right to adequate food should have access to effective judicial or other appropriate remedies at both national and international levels. All victims of such violations are entitled to adequate reparation, which may take the form of restitution, compensation, satisfaction or guarantees of non-repetition. National Ombudsmen and human rights commissions should address violations of the right to food. (General Comment 12 para. 32). Similarly, Guideline 7.2 refers to the desirability to have available administrative, quasi-judicial and judicial mechanisms to provide adequate, effective and prompt remedies. It should be made possible and practical for persons who claim that their rights are harmed by a biofuel project to bring the claim before a court, ombudsperson or national human rights institutions.

7. SUBSTANTIVE ASPECTS OF STATE OBLIGATIONS AT THE NATIONAL LEVEL

THE THREE TYPES OF STATE OBLIGATIONS INTRODUCED

In broad terms, the obligations of States are spelled out by the UN Committee on Economic, Social and Cultural Rights in the following terms:

“The right to adequate food, like any other human right, imposes three types or levels of obligations on States parties: the obligations to respect, to protect and to fulfil. In turn, the obligation to fulfil incorporates both an obligation to facilitate and an obligation to provide. The obligation to respect existing access to adequate food requires States parties not to take any measures that result in preventing such access. The obligation to protect requires measures by the State to ensure that enterprises or individuals do not deprive individuals of their access to adequate food. The obligation to fulfil (facilitate) means the State must pro-actively engage in activities intended to strengthen people’s access to and utilization of resources and means to ensure their livelihood, including food security. Finally, whenever an individual or group is unable, for reasons beyond their control, to enjoy the right to adequate food by the means at their disposal, States have the obligation to fulfil (provide) that right directly. This obligation also applies for persons who are victims of natural or other disasters.³¹”

These three types or levels of obligations will be the basis for the following analysis, drawing on the Right to Food Guidelines to exemplify the measures that should be undertaken to implement the obligations.

THE DUTY OF THE STATE TO RESPECT THE RIGHT TO FOOD AND OTHER HUMAN RIGHTS

The obligation to respect existing access to adequate food or the means for its production or procurement requires States Parties not to take any measures that result in preventing such access. As discussed above, biofuel policies create serious temptations to clear territories for plantation purposes, which can fly directly in the face of the enjoyment of the right to food and other human rights. Evictions of persons from land where they have had their livelihood would often be a serious violation. Several human rights bodies have pointed out that forced evictions constitute *prima facie* violations of a wide range of internationally recognized human rights and can only be carried out under exceptional circumstances and in full accordance with international human rights law. Account must here be taken of the ‘Basic principles and guidelines on development-based evictions and

displacement', which deals not only with evictions from houses but also from land³². In contemplating projects for biofuel production, States should respect the existing access by rural people of their established sources of livelihood and should abstain from measures of eviction and resettlement. If their tenure is not clearly protected in national law, legislation should be adopted to repair that gap. Full respect should be given to the continued possession and control by individual farmers or groups such as indigenous peoples to the natural resources that form the basis of their livelihood. Under Guideline 8 on access to resources and assets, States are called on to respect and protect the rights of individuals with respect to resources such as land, water, forests, fisheries and livestock without any discrimination.

States should also, where necessary and appropriate, carry out land reforms and other policy reforms consistent with their human rights obligations and in accordance with the rule of law in order to secure efficient and equitable access to land. This should be done in ways which strengthen pro-poor growth, meaning growth not only for the benefit of the poor but by measures where the poor is an active participant, which is essential for the dignity and self-respect of the persons or groups concerned.

Guideline 8 adds that special attention may be given to groups such as pastoralists and indigenous people and their relation to natural resources. States should in this connection also take into account the UN Declaration on the Rights of Indigenous Peoples Article 26, which states that indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired, and that States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned.

Respecting existing access to food requires that States should not adopt policies that deliberately raise the prices of basic staples without taking measures to shield food insecure people from its impact.

THE DUTY TO PROTECT

As stated by the UN Committee on Economic, Social and Cultural Rights, the obligation to protect requires measures by the State to ensure that enterprises or individuals do not deprive individuals of their access to adequate food. Through legislation and through administrative and law enforcement measures, the State must protect peoples' livelihood against third parties, including from impermissible initiatives by investors to take over land for biofuel production. Under Guideline 8.10, States should take measures to promote and protect the security of land tenure, especially with regard to women and poor and disadvantaged segments of society, and should carry out land reform that facilitates access for the poor and women, giving special attention to the situation of indigenous peoples. Where tenure for those who traditionally used a piece of land is unclear, the State should

³² The 'Basic principles and guidelines on development-based evictions and displacement' were issued in 2005 by the UN Special Rapporteur on Housing, UN document A/HRC/4/18)

ensure through its legislation and law enforcement that their traditional rights are protected. States should, before they engage in extensive biofuel activities, establish or strengthen their land administrative system, including through specialized dispute settlement mechanisms, in order to deal with conflicting land claims, being guided by the need to protect the rights of the current local users of the land as the primary consideration.

Biofuel production has often caused diversion of water from the needs of local people and has repeatedly polluted water resources. Attention must be given to the obligations spelled out in General Comment 15 on the right to water of the UN Committee on Economic, Social and Cultural Rights, where it is stated that access to traditional water sources in rural areas should be protected from unlawful encroachment and pollution. Furthermore, it follows from the UN Declaration on the Rights of Indigenous Peoples that the access by these peoples to water resources on their ancestral lands must be protected. According to the same General Comment 15, States Parties to the Covenant on Economic, Social and Cultural Rights should take steps to ensure that rural and deprived urban areas have a right of access to properly maintained water facilities. In the same line, Guideline 8.11 calls on States to improve access to water giving due attention to the satisfaction of basic needs.

Biofuel production is mostly monoculture and has been found to threaten biodiversity. Guideline 8.12 on protection of genetic resources and biodiversity calls on States to prevent the erosion of and ensure the conservation and sustainable use of genetic resources for food and agriculture, including as appropriate the protection of traditional knowledge, and encouraging the participation of local and indigenous communities and farmers in making national decisions on matters related to the conservation and sustainable use of genetic resources for food and agriculture. Guideline 10.1 calls on States where necessary to take measures to maintain, adapt or strengthen dietary diversity, and they are under Guideline 10.10 reminded of the cultural values of traditional dietary and eating habits. The loss of biodiversity and of traditionally cultivated food as a result of biofuel monoculture production endangers the dietary diversity at the local level in developing countries.

More generally, the State must protect against negative spill-over effects of biofuel production, such as environmental harm of pollution by the burning of forests or of residues from feedstock production for biofuel, or from the introduction of plants for biofuel production that are alien to the areas concerned and which may turn out to be invasive to the surrounding area and therefore a serious risk to local food production.

States should, according to Guideline 8.6, provide women with secure and equal access to, control over, and to benefits from productive resources, including credit, land, water and appropriate technologies. As previously noted there is a considerable risk that biofuel projects have a harmful impact on their access to and control over land and productive resources.

Labour protection is essential. Where biofuel projects are implemented, in

particular where they take the form of plantations, labour has sometimes been badly treated and exploited. Guideline 8.8 calls on States to take measures to ensure that labour conditions are consistent with the obligations of protection that State have undertaken under the Covenant on Economic, Social and Cultural Rights and under the relevant ILO treaties. This requires that their remuneration ensures a decent living for the worker and their families in accordance with the right to an adequate standard of living, and that their working conditions are safe and healthy, as required by the UN Covenant on Economic, Social and Cultural Rights Article 7.

THE DUTY TO FACILITATE THE REALIZATION OF THE RIGHT TO FOOD

The obligation to fulfill (facilitate) the right to food means the State must proactively engage in activities intended to strengthen people's access to and utilization of resources and means to ensure their livelihood, including food security (General Comment 12 para. 15).

Facilitation of access for peasants and landless would consist in establishing appropriate enabling conditions by which they can feed themselves. Most important is land reform giving them access to affordable land for small-scale production.

Guideline 8.2 encourages States to take steps so that members of vulnerable groups can have access to opportunities and economic resources in order to participate fully and equally in the economy. When contemplating a biofuel project it is essential to assess whether it blocks or improves the access to opportunities and economic resources of vulnerable groups. As provided for in Guideline 8.7, States should design and implement programmes that include access and appropriate use of agricultural land for the poorest population.

According to Guideline 8.4, States should promote basic food production with its positive effects on basic incomes and its benefits to small and women farmers, as well as to poor consumers. Biofuel production will often run counter to basic food production, which gives guideline 8.4 a particular importance to avoid harmful decisions relating to biofuel.

Not less important is Guideline 8.6 by which States should promote women's full and equal participation in the economy and implement gender-sensitive legislation providing women with the right to inherit and possess land and other property.

Facing the high input cost of capital-intensive industrial-type agriculture, many small farmers including women will have nearly insurmountable difficulties to produce and market food at prices that will cover the cost of production. A space for more organic food production must therefore be created or maintained, making the farmer less dependent on cash input costs and dependent only on own labour.

States should provide appropriate extension services and make it possible for smallholders to increase their productivity, keeping in mind that maintenance of

biodiversity is essential for a balanced production ensuring the necessary dietary diversity. For the poor farmer and the rural landless who cannot buy their food on the supermarket, there is a need to be able produce a variety of food to sustain a dietary diversity in local food consumption.

Guideline 8.4 therefore calls on States to promote agricultural research and development, in particular for basic food production with its positive effect on basic incomes and its benefits to small and women farmers, as well as poor local consumers. In Africa, where a large part of the food insecure rural people of the world live and where there is a great variety of food plants, publicly funded research should be promoted to develop improved varieties for staple crops including maize, cassava, sorghum, and millet, and to ensure that the seed is available for the small farmer at the lowest possible cost, since there will be very little surplus beyond the satisfaction of the basic needs of the farmer and her or his family. Monoculture production of biofuel would be incompatible with these aims.

In pursuing a 'Green revolution' for Africa, of which there is now much talk, it is important to learn from the mistakes of the green revolution pursued elsewhere including in South Asia. There must be improved focus on organic farming and focus on local markets for local produce, using traditional food elements.

Education is of great significance. Right to Food Guideline 11.8 calls on States to ensure awareness of the importance of human rights, including the right to food, and Guideline 11.5 calls on them to promote information to individuals to strengthen their ability to participate in food-related policy decisions that may affect them, and to challenge decisions that threaten their rights. This would be particularly important in relation to decisions on biofuel projects, which may have a strong and sometimes harmful impact on some of the stakeholders.

States should also reduce inefficient traditional use of biomass by providing assistance in the improvement of means for cooking and heating without creating economic costs which cannot be met by increased incomes.

THE DUTY TO FULFILL BY PROVIDING DIRECT ASSISTANCE.

The soaring food prices, partly caused by biofuel production, have dramatically increased the number of food insecure people. Many more are now in serious need than the 823 million who at the time of the World Food Summit in 1996 were found to suffer from hunger and under-nutrition. It has been pointed out above that biofuel production tends to affect the enjoyment of the right to food in two ways: by contributing to higher prices, and by causing evictions and marginalization and thereby undermining the livelihood of the most vulnerable groups.

Should therefore biofuel projects be allowed to go ahead in developing countries, it is essential that safety nets are established which can take care of those who are negatively affected by the project. When deciding whether to allow a biofuel project to go forward, it is essential that a calculation is made of its social cost

including the cost of the safety net that will have to be established or expanded in the wake of the project.

As envisaged in Guideline 14 States should establish and maintain social safety and food safety nets to protect those who are unable to provide for themselves. The term ‘social safety’ which is used in Guideline 14, is not widely used. It must be understood to mean a situation where there is safety of established land rights and user rights and a generally enjoyed social security in the sense of sufficient income or assets for all. To ensure ‘social safety’ in the context of decisions on biofuel production should imply that existing land rights or user rights for the existing rural population is not threatened by biofuel plantations and other projects. It therefore reinforces the protection of access to resources as set out in Guideline 8.1. Social safety in this sense is enhanced if the duty to respect and protect traditional usages and access is better implemented. The term ‘safety nets’ differs from ‘social safety’ in that it refers to transfers of cash or food to protect persons who are otherwise vulnerable, and corresponds to the human rights term ‘social security’.

It should be kept in mind that the more widely shared social safety in a country is, the fewer will be the food insecure or vulnerable groups, and the less will be the need for food or cash safety nets in terms of transfers. This indicates that social protection of peoples’ ability to feed themselves by their own assets or access to work reduces the cost of safety nets.

Nevertheless, for those who are net buyers of food, the price increases will by necessity require additional safety nets for the vulnerable. This will also include HIV-AIDS victims and their dependents. Food safety nets should not be understood literally in the sense that food should always be provided. In emergency circumstances, that might be necessary. But when emergencies are over, the safety net should be provided to the food agencies in cash so that it can be used to purchase at the local market. Where possible, emergency safety nets should be transformed into development-oriented safety nets by enabling the recipient’s to restart or create her or his own livelihood basis through productive activity in or out of agriculture.

In order to implement their obligations to facilitate and fulfil the right to food, States must have a proper assessment of who the food insecure are. Guideline 13.1 reminds States of the need to establish and maintain a national Food Insecurity and Vulnerability Mapping System (FIVIMS) as discussed above.

FULFILL - TO THE MAXIMUM OF THEIR AVAILABLE RESOURCES

Article 2 of the Covenant on Economic, Social and Cultural Rights requires States to take steps to the maximum of their available resources with a view to achieving progressively the full realization of the rights recognized in the Covenant, including the right to food. As pointed out above, the better the social safety nets are in terms of widespread and equally distributed assets and resources including access to land for the rural population, the lesser the need arises for direct, public

transfer of resources to the poor. It follows that States should seek to avoid that social inequality and impoverisation³³ is increased through development projects including biofuel projects. Biofuel production has undoubtedly caused higher food prices. This has unfortunately increased the necessity and costs of public spending for safety nets, particularly in developing countries which were not themselves the origins of biofuel production. The least developed food deficit countries are particularly badly hit. If, on the other hand, more is done to facilitate conditions under which people can feed themselves or continue to do so, less will be necessary for safety nets and direct provisions. Some of the Low Income Food Import Dependent Countries, particularly the African countries, cannot be expected on their own to cover the full extent of the safety net required. In any situation where a State lacks the resources to provide food to its population in situations where it cannot feed itself, it must seek international support to ensure the availability and accessibility of the necessary food. Not to seek such international support when it is needed, or obstructing the work of international agencies seeking which provide such support, constitutes a serious violation of the right to adequate food³⁴.

33 Impoverization: Making somebody (more) poor. Many projects defined as 'development' and other economic activities including biofuel projects, while leading to a higher income for some, may cause other persons or groups to become more poor - at least in relative and sometimes also in absolute terms, e.g as a result of eviction from the land previously used.

34 General Comment 12 para. 17

8. OBLIGATIONS AND RESPONSIBILITIES AT THE INTERNATIONAL LEVEL

The general rule under human rights law is that each State separately has the primary responsibility to respect and ensure human rights for everyone within its territory; other States and the international community in general has a supplementary role. In the case of the challenges to the right to food posed by biofuel and the other factors which have caused the steep increase in food prices, it is necessary to reverse the order. The problems are often caused by actors having a global reach, and the problems have to be addressed simultaneously at the global and the national level.

TRANSBORDER DUTY TO RESPECT?

The EU and the United States have been the main drivers for liquid biofuel. While in both cases the main production takes place within their own borders, it is clear that the targets they have set, particularly the EU, can in the future only be met if there is also a sizeable import from developing countries. These targets have influenced internal or external investors to engage in biofuel production in developing countries with a view to export to EU, sometimes with the negative consequences that have been discussed in this study. The question might then arise whether the EU (and possibly USA) have failed to respect the rights of peasants and smallholders that are affected by those investments. The answer under international law must be negative. It might be argued, however, that a moral duty arises to protect against harmful activities by refusing import of biofuel which is produced in socially or environmentally unsustainable ways.

As further discussed below, however, it is desirable that targets, mandatory quota for blending, tax breaks and any other preferential treatment of biofuel are brought to an end. There is under present circumstances no justification for these preferences or promotional activities. If these interventions are eliminated, the artificial market for biofuel would disappear, and biofuel producers would have to compete on more realistic terms with fossil fuel. Many of the intended projects would then no longer be profitable and would likely be cancelled or postponed until the so-called second generation biofuel becomes a real option – if that ever happens. This would make it more likely that the livelihood of indigenous peoples and peasants were respected, since the motivation for their eviction would disappear.

TRANSBORDER DUTY TO PROTECT?

It can be argued that importing States have a duty to protect the local population in exporting countries by establishing barriers against import of biofuel which is produced in socially and environmentally harmful ways.

It can also be argued that States have a duty to ensure that corporations headquartered on their territory that engages in biofuel production in developing countries conform to human rights requirements including non-evictions and abstention from exploitative and unhealthy conditions for their workers.

INTERNATIONAL DUTY TO FACILITATE AND FULFILL:

It follows from Articles 2 and 11 of the the International Covenant on Economic, Social and Cultural Rights, as well as from Article 56 of the Charter of the United Nations, that States should cooperate in the identification and elimination of the obstacles to the full realization of the right to food. States in a position to assist should do so, as part of the fulfillment of their international obligations both under the Covenant and the Charter.

The Right to Food Guidelines Part III (International measures, actions and commitments) states in its point 2 that national development efforts should be supported by an enabling international environment, the international community and the UN system, including FAO. These as well as other relevant agencies and bodies according to their mandates, are urged to take actions in supporting national development efforts for the progressive realization of the right to adequate food in the context of national food security, and States should avoid actions that impede the full achievement of economic and social development by the populations of the affected countries and that hinders their progressive realization of the right to adequate food. Outside States have therefore a moral obligation, and possibly a legal one, to assist in the facilitation of conditions which would better secure the enjoyment of the right to food, and to participate in fulfilling the right to food by direct assistance. There is a wide and growing recognition of this international duty, which is reflected in the broad participation in aid for the food insecure in recent times.

Should liquid biofuel production and use be allowed to continue and even to be expanded, there is a clear responsibility for States in a position to do so (mainly the OECD States) to cooperate in the establishment and maintenance of a joint global safety net arrangement. It would require a reliable mechanism to ensure world food aid for the increasing number of food insecure and to cooperate globally to assist the least developed countries with the establishment and maintenance of appropriate safety nets.

Global food aid is increasingly recognised as a duty to which States should participate in accordance with the resources they have available. Guideline 15 sets important criteria for the organization and delivery of food aid. It requires in particular, that the provision of food aid supports the national efforts of receiving States to achieve food security, rather than be imposed or decided upon unilaterally. It requires that donor States provide assistance in a manner that takes into account the importance of not disrupting local food production and the nutritional and dietary needs and cultures of recipient populations. Food aid should be provided with a clear exit strategy and avoid the creation of dependency. Donors should promote increased use of local and regional commercial markets to meet food needs in famine-prone countries and reduce dependence on food aid.

Special attention should be given to low-income, food deficit countries (LIFDCs). For many of them, their domestic capability to ensure safety nets for the food

insecure is too low. This is clearly so for many of the sub-Saharan African countries.

Assistance might focus on increasing food supplies or resources by boosting domestic food production and ensuring access to food for the vulnerable. In part this should consist in measures that increase the number of persons who are able to feed themselves through their own efforts.

There is an overall need to increase public support to food-producing agriculture. Donors need to increase the share of development assistance that goes to local agricultural production, with a view to extending food self-reliance. International public assistance for the development of local, small-scale private sector in the country side to ensure that a greater part of the gains from transactions related to food remain within the country and is shared as widely as possible at the local level.

International action should finance emergency programs aimed at increasing the food production in food deficit countries, and support to efforts intended to enable poor rural producers – those least able to meet the signals of the world food market – to expand their food production and to benefit, where possible, from the higher prices, while being shielded from the high costs of input.

It is preferable that aid by donor States is given to the food agencies (the World Food Programme and others) in cash rather than in food products. This could allow these agencies providing the aid to buy food on the local markets or in the neighbouring regions. As envisaged in Guideline 15, international food aid policies should support the efforts of the recipient countries to achieve food or recreate security for all. This would imply that the assistance should reach the vulnerable groups in ways which enable them establish conditions by which they in the future can feed themselves in a sustainable way.

Food aid must therefore be coupled together with a deliberate effort to transform the conditions which caused the food insecurity itself. Unless this is done, the food aid is likely to create a lasting dependency, which is not only costly but also an undermining of the dignity and self-reliance of the recipients. As stated in Guideline 15.4, emergency food aid should be given in ways which facilitate longer-term rehabilitation and development possibilities for the groups affected and for the recipient country as a whole.

In the distribution of aid and in the policies for the regeneration of food security for the groups concerned, specific attention should be paid to the situation of vulnerable groups, particularly women and children, and indigenous peoples.

9. RECOMMENDED POLICIES AND GUIDELINES ON BIOFUEL PRODUCTION IN RESPECT OF FOOD SECURITY AND THE RIGHT TO FOOD.

There is an urgent need for a forum in which the socially and environmentally sustainable criteria for biofuel production can be debated, formulated and adopted. A possibility is that the Task Force on the Global Food Crisis composed of relevant United Nations specialized agencies, Funds and Programmes and Bretton Woods Institutions, if properly expanded, can become such a forum. The primary aim of the Task Force is said to promote a comprehensive and unified response to the global food security crisis in support of governments and affected populations. The Task Force must go beyond the symptoms of the present food crisis and look at its causes, both the immediate and the structural causes in order to promote necessary reforms and make human rights guide the development policies emerging from the crisis.

The Task Force has indicated that it will focus first on immediate actions and policies in the following areas: immediate food assistance, social protection, boosts to agricultural supply, guidance and support on trade restrictions and taxation, and finance and balance of payments³⁵.

Leading international non-governmental organizations concerned with the right to food have expressed concerns. In their submission presented to the Human Rights Council on 22 May 2008 they argue that the present crisis is rooted in decades of misguided international policies that have failed to create and maintain an enabling environment for States to respect, protect and fulfill the human right to adequate food. They claim that the practice has effectively ignored the need to facilitate the rural poor's access to productive resources. Instead, the policies have led to reduced investments in key sectors such as basic services and diversified traditional and peasant agriculture, and have deregulated international agricultural trade. Consequently, the non-governmental organizations have requested that the coordinating mechanisms created to deal with the present food emergency have the participation of representatives of the Office of the High Commissioner for Human Rights, of the UN Special Rapporteur on the right to food, as well as a strong representation of social movements and civil society organizations.

It is strongly to be hoped that an integrated approach will be developed, where human rights agencies and mechanisms are fully included. In this context it is of great importance that the Right to Food Unit of FAO is given a central role in advising on the implementation of the Right to Food Guidelines and ways in which these can help to structure the forthcoming guidelines on biofuel production.

Criteria should be developed both on what should not be done and what should be done in the area of biofuel production, and on that basis develop the appropriate

regulations at international and national level, it being understood that the international regulations will have to be more general, in the nature of directive principles, while the national have to be more detailed and specific. There must be effective and credible monitoring of the certification system.

The monitoring body at the international level could be linked to the existing human rights bodies, assisted by the Special Rapporteur on the right to food, and/or by a special monitoring team composed of FAO (serviced by the Right to Food Unit) and the UN High Commissioner for Human Rights

SHOULD THERE BE A MORATORIUM UNTIL SAFEGUARDS ARE PUT IN PLACE?

The former U.N. Special Rapporteur on the right to food, Jean Ziegler, in 2007 called for a five-year moratorium on biofuel production which uses current methods. The moratorium was proposed to allow time for technologies to be devised and regulatory structures to be put in place to protect against negative environmental, social and human rights impacts. He argued that this could give time to ensure that biofuel production can have positive impacts and respect the right to adequate food. The moratorium should be used to pursue four different objectives: the first would be energy saving measures by developing better understanding of ways and methods to reduce overall energy consumption and to improve energy efficiency; the second would be to move as quickly as possible to “second generation” technologies for producing biofuels, since this is expected to reduce the competition between food and fuel; the third would be to adopt among first generation methods those technologies that use non-food crops, particularly *Jatropha*, and the fourth objective would be to focus on the way in which biofuel production is organized. It should ensure that it is based on family agriculture, rather than industrial models of agriculture, in order to ensure more employment and rural development that provides opportunities, rather than competition, to poor peasant farmers. Organizing cooperatives of small farmers to grow crops for larger processing firms would provide much more employment than the concentration of land into heavily mechanized expanses and plantations.

The proposal for a moratorium is highly commendable, and the purposes for which it should be introduced are all valuable. Their pursuit should meet no objection even if the moratorium itself is rejected.

It would be helpful if time was given to explore whether technologies can be devised and regulatory structures be put in place to protect against negative environmental, social and human rights impacts, and to find ways to ensure safety nets for those who are negatively affected. It would also intensify the efforts to find other avenues towards energy saving and to search for other sources of energy (wind, solar, waves, and others that can be converted into electricity which in turn can – at least partially – be used to power transport vehicles). The moratorium would make it possible to avoid further harm to food insecure and small-scale farmers from biofuel production.

While all this would be highly desirable, it appears to be politically unrealistic because of the strong economic interests that are already involved in the promotion of biofuel.

PREFERRED OPTION: ENDING TARGETS, MANDATORY BLENDING, QUOTA AND TAX BREAKS WHICH CREATE THE ARTIFICIAL MARKET.

The chances might be somewhat better for States to agree to end all promotional activities and the abolition of the artificial market for biofuel. It would allow a continuation of existing production to the extent that it would be economically competitive with gasoline or biodiesel, but it would hopefully discourage expansion of liquid biofuel production to new land and halt many planned but not yet implemented biofuel projects. It should not, however, exclude biofuel production from plant or animal residues resulting from food production, provided the use of the residues for biofuel are not so extensive that they divert ecologically necessary inputs into agricultural production for food.

In the meantime, explorations should be made to determine at the global level if and under which conditions there can in the future be an ethical justification to promote liquid biofuel through subsidies or quotas, when new technologies are in place and when the appropriate and enforced safeguards against social and environmental harm as well as with criteria for permissible trade in biofuel.

NATIONAL POLICIES IN DEVELOPING COUNTRIES – LESSONS TO BE DRAWN

From a human right to food perspective, two key lessons stand out clearly from the soaring food prices and their impact on vulnerable people. The first is that food availability is becoming an increasingly serious problem and has to be met by growing production. Future intensification of agricultural production or expansion to formerly uncultivated land should focus on food production, not on fuel production, and particularly not on liquid fuel production.

The second lesson should be based on the awareness that prices will remain high for a long time, even though somewhat reduced from the present very high level. Taking into account that hundreds of millions of people in developing countries for a long time will not be able to buy their necessary food on the market at those high prices, alternatives must be found. This can take two directions, both of which must be pursued.

A major reason for the high food prices are the high input costs in industrial-type farming of fertilizers, pesticides, seeds and machinery use. The first option is to ensure space and protect assets for small farmers and peasants to produce the necessary food for themselves, their family and the local market with low input costs. The possibilities for small-scale, more organic farmers should be significantly

expanded and given support, nationally and internationally.

The second option, which must supplement the first, is to establish a functioning safety net for those who cannot have access to the necessary assets. Safety nets must be established through national and international cooperation. They should not, however, be restricted to the minimum food or cash required to survive, but should serve the empowering function to facilitate efforts by the recipient to move from being a dependent target to become self-reliant, whether through agricultural activity or in other ways. The safety net should not be merely an emergency device but development-oriented.

GUIDELINES FOR INTERNATIONAL POLICIES ON BIOFUEL PRODUCTION AND USE: SOME SUGGESTIONS

The preparation of the guidelines should be preceded by the following commitments:

- A commitment to stop expanding biofuel production until international guidelines have been adopted
- A suspension of all quota, blending requirements, tax preferences and other ways which maintains an artificial market for biofuel, until guidelines have been adopted.
- A commitment to phase out subsidies to farmers involved in feedstock production for liquid biofuel production over an appropriate period of time.

Food security and the right to food must be the central common value on which the guidelines should be built. The objectives must be to ensure freedom from hunger to all at the earliest possible time, to mitigate global warming, to ensure protection of biodiversity, to ensure that there is no further impoverishment of any group of people. The commitments to reduce existing poverty, expressed by world leaders at the World Food Summit in 1996, should be revitalised and should guide any decisions related to biofuel. International guidelines should draw on and make use of existing conventions, declarations and guidelines.

The right to food as set out in the Covenant on Economic, Social and Cultural Rights and the Right to Food Guidelines adopted by the FAO Council must be at the basis of guidelines on biofuel production. In addition, they should draw on other documents, among others the following: The 1992 United Nations Framework Convention on Climate Change (UNFCCC) which requires that measures intended to mitigate environmental harm should “take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors” (art. 4), and the 1997 Kyoto Protocol to the UNFCCC which recognizes the importance of renewable energy if (but only if) it contributes to mitigating climate change. Its Article 12 on the Clean Development Mechanism (CDM) could be used though international assistance to facilitate more efficient bioenergy consumption (mainly woodfuel) and thereby reduce greenhouse gas emissions and

carbon loss associated with present and less efficient traditional biofuel consumption in developing countries.

Of particular importance is the 1992 Convention on Biological Diversity (CBD). It commits Parties to biodiversity conservation, which as noted in this study is seriously endangered by monocultural biofuel production. CBD obligations set out in Article 8 include establishing protected areas, restoring or rehabilitating degraded ecosystems (which are at risk by monocultural biofuel production) and preventing the introduction of invasive alien species (as noted above, some of the crops envisaged for the 2nd generation can be highly invasive and harmful). The CBD also introduce environmental impact assessment for projects likely to have adverse effects on biodiversity (art. 14); and involving local populations and the private sector in sustainable use (art. 10).

The FAO International Treaty on Plant Genetic Resources for Food and Agriculture aims at the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security. The elements that should go into the future guidelines on biofuel could include some of the following elements. They should be divided into those that can regulated at the national level and those which require international regulation.

Elements for guidelines on what should not be done (i.e. what should be prohibited or discouraged):

DO NOT

- Produce biofuel which leads to increased greenhouse gas emissions when direct and indirect impact is taken into account
- Produce biofuel in ways which divert water from existing users and prevents previously existing access to water for drinking and sanitation
- Produce biofuel in ways which degrade the soil or pollute water or the local air conditions, e.g. by burning
- Introduce non-native species which carry risks of invasion before appropriate safeguards are adopted – full application of precautionary principle required
- Evict previous users of the land without negotiation and acceptable alternatives made available to the previous users, whether they had recognised tenure or not
- Produce biofuel in ways which undermine previously existing opportunities of women to produce food or have access to woodfuel etc. unless other alternatives are made available prior to the initiation of the biofuel project
- Produce biofuel through exploitative use of labour. Labour is exploitative if wages are below the necessary requirement for an adequate standard of living for the worker and his or her family, where healthy and safe working conditions in conformity with ILO standards are not secured, and where trade union rights without interference or threats is not recognised and respected.

Elements for guidelines on what should be done or encouraged:

DO

- Give priority to projects based on small-scale farming, possibly through cooperative arrangements, where adequate arrangements are made for a combination of biofuel production and food production of own and local consumption (Social).
- Give priority to projects which ensures good and stable working conditions, healthy and safe, ensuring adequate dignity and independence of the worker (Social).
- Choose feedstock which has the potential, in its production, transport, distribution and use, to reduce GHG emissions compared to the use of fossil fuel (Environmental).
- Choose feedstock and mode of production which avoids diverting water from established and necessary uses, and which avoids soil degradation or pollution (Environmental).
- If using *Jatropha* or other plants which have the possibility to grow on marginal land with little water needs, make sure that it is only produced there and is not allowed to be cultivated on good land, even if the productivity of biofuel would then have been better. (Environmental).
- Use feedstock which with a high level of certainty cannot invade land outside the place of production. As a general rule, use only plants that are native to the place of production (Environmental),
- Establish legally binding certification schemes and establish a reliable monitoring system to ensure that the certification is reliable and enforced. (International regulation)
- Adapt, to the extent necessary, WTO-rules to ensure their full compatibility with the certification system to be internationally agreed and effectively monitored. (International regulation)

References and Sources of further information

Abramoway, Ricardo: *A political-cultural approach to the biofuels market in Brazil*. Preparatory Study for the FAO High-Level Conference on World Food Security: the Challenges of Climate Change and Bioenergy, June 2008.

Agroenergy: Myths and Impacts in Latin America. Published by Pastoral Land Commission, Brazil. http://www.focusweb.org/images/stories/pdf/agro_fuels_in_la_english.pdf

Biofuelwatch UK: *Agrofuels: Towards a reality check in nine key areas*. Published by Biofuelwatch UK in collaboration with nine other nongovernmental organizations, 2007. <http://www.biofuelwatch.org.uk>

Biofuels Deemed a Greenhouse Threat, by Elisabeth Rosenthal, New York Times February 8, 2009

Corbyn: "Biofuels Could Boost Global Warming, Study Finds," RSC: Advancing the Chemical by Zoe Corbyn. Sciences, September 21, 2007, found at <http://www.rsc.org/chemistryworld/News/2007/September/21090701.asp>.

Crutzen et. al., "N₂O Release from Agro-Biofuel Production Negates Global Warming Reduction by Replacing Fossil Fuels," Atmospheric Chemistry and Physics, 2007, by P. J. Crutzen, et. al. <http://www.atmos-chem-phys-discuss.net/7/11191/2007/acpd-7-11191-2007.html>.

Doornbusch and Steenblik: *Biofuels: Is the cure worse than the disease?* By Richard Doornbusch and Ronald Steenblik. Background paper for OECD meeting in Paris 11-12 September 2007. SG/SD/RT (3007)3

European Commission Joint Research Centre: *Biofuels in the European Context: Facts and Uncertainties*. JRC 44464. Giovanni de Santi, ed. European Communities, 2008.

FAO Report on Gender and Equity Issues in Liquid Biofuel Production, by Andrea Rossi and Yianna Lambrou. FAO 2008

FAO, IFAD and EFP: High Food Prices. *Impact and Recommendations*. Prepared for the Chief Executives Board for Coordination, April 2008

FAO: *Sustainable Bioenergy and Food Security – Towards an international framework*. FAO 2008

Fargione et al: *Land Clearing and the Biofuel Carbon Debt*. Science 29 February 2008, vol 319 no. 5867, pp. 1235-1238

General Comment 12: *The Right to Food*. General Comment by the United Nations Committee on Economic, Social and Cultural Rights, E/C.12/1999/5.

General Comment 15: *The Right to Water*. General Comment by the United Nations Committee on Economic, Social and Cultural Rights. E/C.12/2002/11

GISP 2008: Biofuel crops and the use of non-native species: Mitigating the risks of invasion. The Global Invasive Species Programme (GISP), May 2008.
<http://www.gisp.org/publications/briefing/Biofuels.pdf>

Kent, George (ed): *Global obligations for the right to food*. Rowman and Littlefields, 2008.

Kothari, Miloon: Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living. UN doc. A/HRC/4/18, 5 February 2007.

Lal, R: *World crop residues production and implications of its use as a biofuel*. Environment International Volume 31, issue 4, May 2005.

Pesket et al.: *Biofuels, Agriculture and Poverty Reduction*. By Leo Peskett, Rachel Starr, Chris Stevens and Annie Dufey. Overseas Development Institute. London, 2007

Pimentel and Patzek: *Green Plants, Fossil Fuels, and Now Biofuels*. David Pimentel and Tad Patzek. BioScience, American Institute of Biological Sciences, November 2006, Vol. 56, No. 11, p. 875.

Rethinking Ethanol. New York Time Editorial, May 11, 2008

Rosegrant, Mark and others: *Biofuels and the global food balance*, in *Bioenergy and Agriculture: Promises and Challenges*, Peter Hazell and P. K. Pachauri, eds. (IFPRI, 2006).

Schmidhuber, Josef: *Impact of an increased biomass use of agricultural markets, prices and food security: A longer-term perspective*. FAO 2007

Schutter 2008 (1) Analysis of the world food crisis by the (new) UN Special Rapporteur on the Right to Food Olivier de Schutter, calling for the Human Rights Council to convene a special session on the right to food in relation to the global food crisis. May 2, 2008

Schutter 2008 (2): Statement 9 May 2008 welcoming the decision of the Human Rights Council to hold a special session on the impact of the realization of the right to food of the soaring food prices.

Searchinger et al 2008: *Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Trough Emissions from Land-Use Change*. By Timothy Searchinger et al., in *Science*, 29 February 2008 vol 319 no. 5867 pp. 1238-1240

UN Task Force on the Global Food Crisis, <http://www.un.org/issues/food/>

taskforce

World Watch Institute: *Biofuels for transport*. World Watch Institute/ Earthscan, 2007

Ziegler report 2007: *Interim report by the UN Special Rapporteur on the Right to Food* by Jean Ziegler. UN report A/62/289

Ziegler report 2008: *Report of the UN Special Rapporteur on the Right to Food*, Jean Ziegler. UN Doc. A/HRC/7/5, 10 January 2008