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Widow Alicket Masenda struggles to feed her childrendue to rising food prices.
PHOTO: FREDERIC COUBERT/PANOS/ACTIONAID

Biofuelling the global food crisis:

why the EU must act at the G20

This new report commissioned by ActionAid shows that biofuel targets set by the EU will lead directly to an increase in the prices of key agricultural commodities worldwide by 2020. And – while consumers around the world will see some increases in their food-related expenditure – it will be people living in developing countries who will suffer the most.

In fact, by 2020 EU biodiesel use could push oil seed prices up by as much as 20%, and vegetable oils by as much as 36%. Meanwhile, EU ethanol use could, according to some models, lift maize (corn) prices by as much as 22%, wheat by as much as 13% and sugar by as much as 21%, compounding the effects of separate US corn ethanol and Brazilian sugar ethanol programmes.

The force of these price rises will hit at a time when local food markets will be affected by large tracts of land being taken over for biofuel production. Meanwhile, greenhouse gas emissions are set to rise significantly as a result of EU biofuel production.

By 2020, millions more people will face terrible choices partly because of EU biofuel mandates: cut back on nutritional intake or cut back on paying for basic social services such as education or health. The EU should press the G20 countries – which include the EU and the US – to remove harmful biofuel targets in order for real progress to be made to improve world food security.

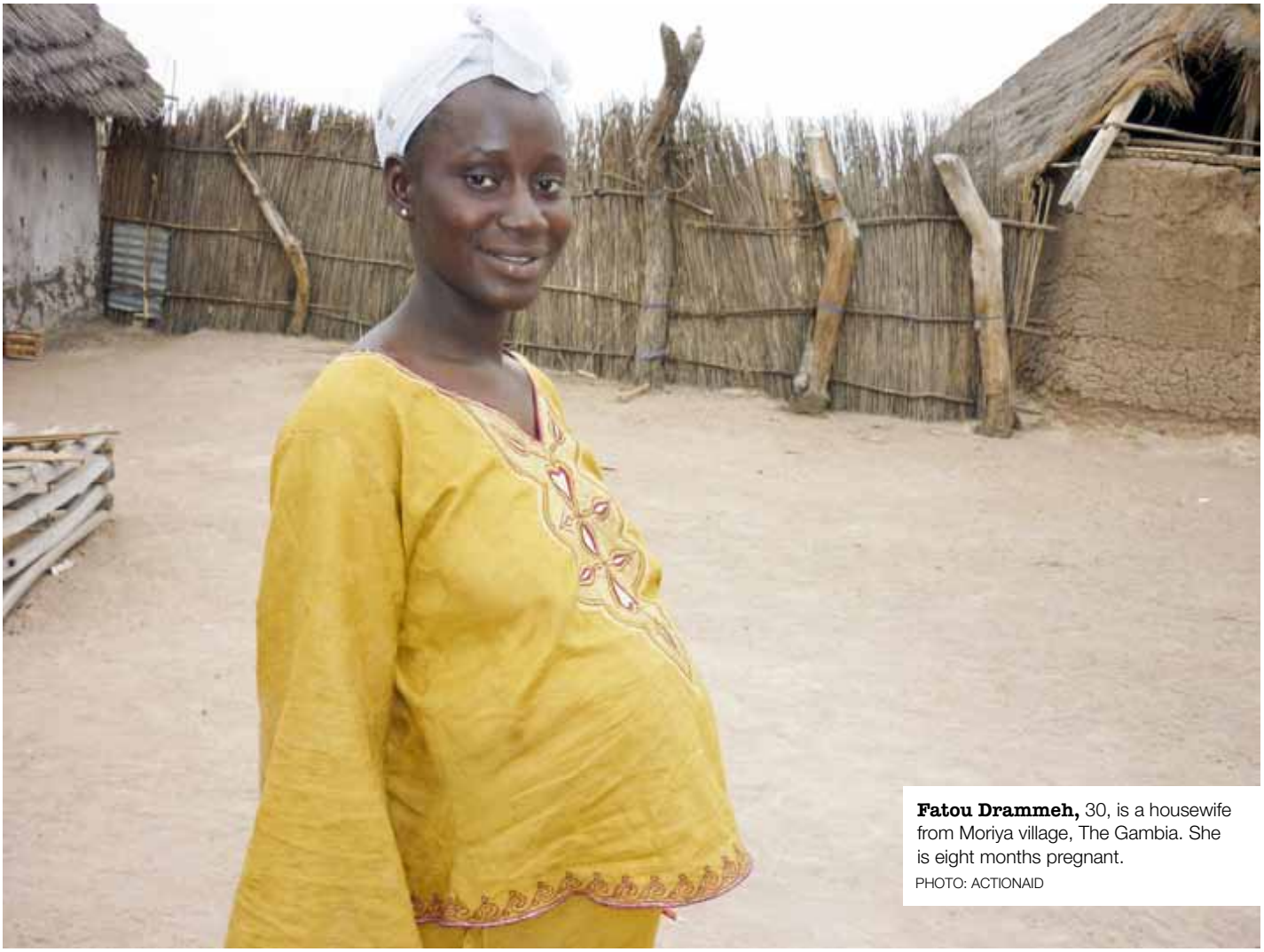
G20 and biofuels

The G20 brings together 19 countries plus the European Union to cooperate on an international economic and financial agenda. The G20 arose out of the financial crisis of the 1990s, and the desire to include additional countries in the global discussions that affected them. The current chair of the G20 is Mexico.

Food security has been a preoccupation of the G20 since the 2007/2008 world food price spikes. In Seoul in 2010, the G20 called on relevant international organisations, including the UN Food and Agriculture Organisation (FAO), the International Monetary Fund (IMF) and the World Bank to develop options for mitigating and managing the risks associated with food price rises, in order to protect the most vulnerable people.

Taking forward work on food security is amongst the priorities for the forthcoming June 2012 Los Cabos summit.

The human cost: The Gambia



Fatou Drammeh, 30, is a housewife from Moriya village, The Gambia. She is eight months pregnant.
PHOTO: ACTIONAID

The food shortage currently being experienced in The Gambia is a result of widespread crop failure mainly caused by inadequate and erratic rains. But the problem is aggravated by rising food prices which, on average, have climbed to about 25% above last year's prices. The UN estimates that over 700,000 people (almost half the Gambian population) have been affected across the country.

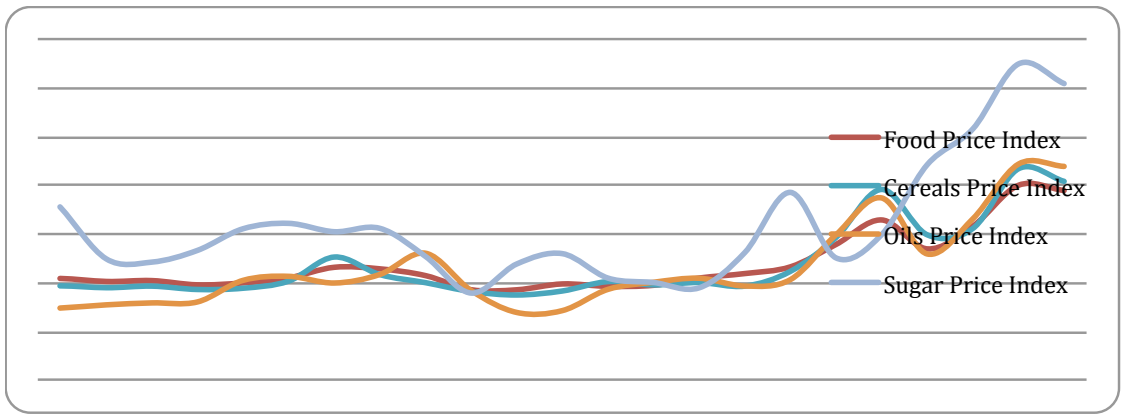
I don't have enough food to eat. This has never happened to me. It is difficult to cope."

"Sometimes, because I don't eat enough, I feel very dizzy. It happened last week and I fainted."

World food prices out of control

World food prices have experienced 'extraordinary volatility' since 2006,[1] reaching historic highs twice in just the last five years (see Figure 1). The price of key staples such as wheat more than doubled during 2007/8, pushing 100 million more people into poverty and sparking riots in countries around the world. After a short period of respite, a further spike in 2010/2011 combined with drought and bad governance to trigger a famine that affected 12 million people across the Horn of Africa.

Figure 1: FAO food price indices (1990-2012)[2]

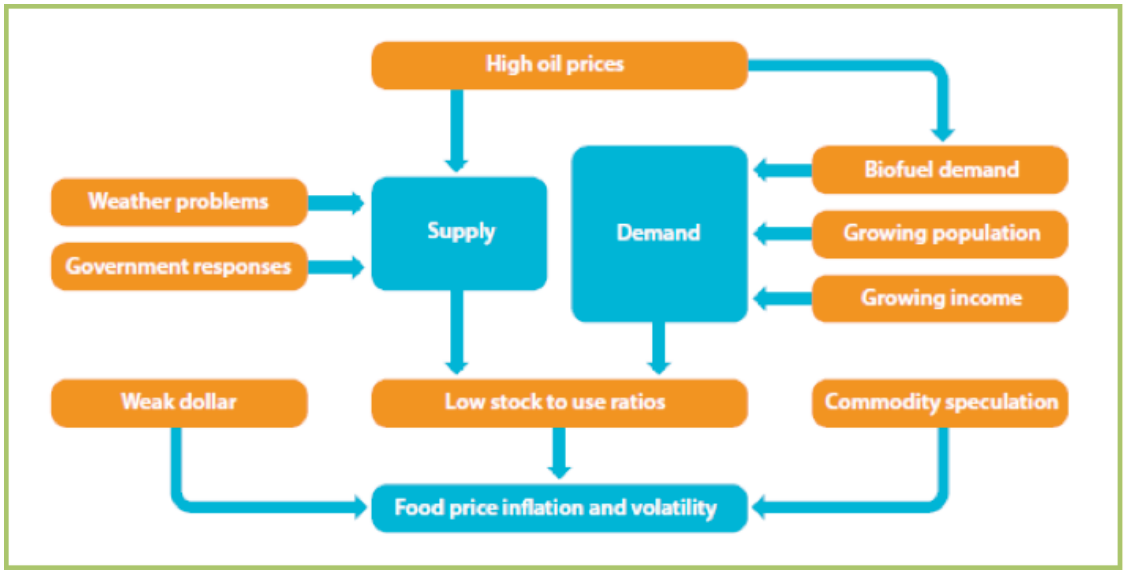


High and volatile food prices look set to be a recurring theme of the coming decade, with another food crisis already unfolding in the Sahel region of west Africa. According to both the OECD and the FAO, agricultural commodity prices in real terms are likely to remain on a higher plateau during the coming decade compared to the last 10 years. Prices in the five years from 2015/16 to 2019/20 are expected to be 27% higher for wheat, 48% higher for maize and 36% higher for oilseeds, compared to the 1998/99 to 2002/03 period.[3]

Biofuels – driving a future of high and volatile prices

Agricultural commodity prices are highly complex, influenced by multiple factors that affect the demand or supply of food, or directly impact on prices (see Figure 2). There has been much debate as to the extent of biofuels' role in recent food price spikes, but few now dispute that biofuels were a 'significant' factor. Moreover, it is clear that three issues – growing populations, rising incomes in emerging and developing countries and the demand for biofuels – will create significant additional demand for food crops in the future.[4]

Figure 2: Factors contributing to food price inflation and volatility[5]



Biofuels play a particularly important role in world food prices, affecting not only crops used for biofuels but also dietary substitutes such as rice or traditional staples. This is due to a number of factors.

The insatiability of biofuel demand

Between 2000 and 2010, global biofuel production grew from 16 billion litres to 100 billion litres.[6] Production is set to grow strongly in coming years, responding to support from a growing number of governments, including the US and the EU, in the form of targets and subsidies. Already, a significant share of some crops is being diverted to biofuels. Sixty-six percent of vegetable oils from crops grown in the EU are used for biofuels. It is the sheer scale of the energy (and thus potentially the biofuels) market that is critical: the food sector is only one fifth the size of the energy sector in terms of calories provided.[7]

Linking food and oil markets

Changes in the price of crude oil can be abrupt, and are increasingly associated with food price volatility. The World Bank expects energy prices to be the major contributor to post 2015 increases in food prices. The energy needed to grow and transport crops already makes up an important share of agricultural production costs. Biofuels create a further link between food and energy: when oil prices are high and a crop's value in the energy market is higher than its value in the food market, crops will be diverted to the production of biofuels.

Competition for land and water

Crops used for biofuels currently occupy between 2% and 3% of arable land worldwide – but since production is concentrated on the most productive land, the impact on prices may be higher than the share in total area or production implies.[9] Biofuels are also substantially more water-intensive to produce, compared to conventional fossil fuels.[10]

Rigid biofuel mandates in an inelastic food system

The food market is relatively inelastic by nature, meaning that supplies of food do not adapt easily as prices change; demand for food also does not change rapidly in response to price changes, particularly for richer consumers who maintain more or less the same level of consumption. The existence of rigid and very substantial demand created by biofuel targets makes food markets even less elastic, resulting in greater price volatility which the poorest people – whose demand for food responds most to price change – are forced to absorb.

EU biofuels mandates – significant for key commodity prices

EU biofuel use is expected to reach the equivalent of nearly 30 million tonnes of oil by 2020, driven by a mandatory target for 10% of renewable energy in transport by 2020. A new report1[11] by the Institute for European Environmental Policy (IEEP) has reviewed available research on the effect that this will have on world agricultural commodity prices.

The findings point to significant ramifications for selected prices such as vegetable oils and wheat, purely as a result of this one target. The increases in prices are in addition to the fact that the 10% target is expected to generate more greenhouse gases than the fossil fuels that are replaced – equivalent to adding up to 29 million cars to the EU's roads by 2020,[12] as well as driving a global rush for cropland and water in developing countries. The difference in price between conventional fuel and biofuels is also set to cost EU vehicle owners as much as EU 126 billion between 2010 and 2020).[13]

EU targets decisive in oilseed and vegetable oil commodity prices

Biodiesel accounted for more than three quarters of EU biofuel use in 2010. More than half of EU biodiesel comes from rapeseed oil, with palm oil and soy also important. Official plans suggest that by 2020, the EU will consume over 21 million tonnes (oil equivalent) of biodiesel,[14] primarily made up from food oil crops.

Fats and oils – important sources of nutrition[15/16]

Fats and oils provide both a concentrated source of energy and the essential fatty acids needed for growth and health for children and adults. In general, adults should consume at least 15% of their energy intake from dietary fats and oils, and women of childbearing age should consume at least 20%.

Vegetable oils are most commonly used as cooking fats in Africa, Asia and Latin America, and include soybean, maize and palm oil. In west Africa, red palm oil is important in diets, also providing a good source of other vital nutrients, such as vitamin A, which is important in avoiding night blindness and improving resistance to disease.

The EU is the biggest producer of biodiesel in the world, as well as being by far the biggest consumer of global biodiesel – representing almost 80% of global biodiesel consumption.[17] According to the new report from the Institute for European Environmental Policy, EU biofuel targets are expected to generate significant world price increases for the crops used to produce biodiesel. Prices for oil seeds will typically range between 8 to 20% higher as a result of the EU mandate. For vegetable oils, the EU mandate will push prices up by between 5 and 36%.

In general, vegetable oils and oilseed consumption have been particularly sensitive to biofuel demand. Between 2000 and 2010, the use of vegetable oils for industrial consumption jumped from 11% to 24%, 'pushed by the booming European biofuel industry', as the High Level Panel of Experts from the FAO Committee on World Food Security noted.[18]

EU ethanol use – compounding US influence

Sugar beet, cane, wheat and maize are the main crops used for ethanol production in the EU, which is expected to represent 28% of EU biofuel by 2020. Despite their lesser importance in fulfilling EU targets, Europe's demand for ethanol crops could still have a significant impact on world agricultural commodity prices.

The Institute for European Environmental Policy study includes a range of price projections. Wheat prices are projected to increase by between 1 and 13%. Sugar (beet/cane) prices could rise by 2% with one model suggesting 21%. For maize and other cereals, prices are projected to rise by 8%, with one model suggesting a rise of up to 22%. These figures relate purely to the impacts of EU biofuel demand on commodity prices.

EU biofuel policies do not operate in isolation. The presence of biofuel policies in several regions of the world multiplies the pressure on agricultural markets. Driven by targets, subsidies and high oil prices, the US is by far the biggest producer of corn ethanol, followed by Brazil. The US biofuel industry uses more than 40% of domestically produced corn, equivalent to approximately 15% of global corn production. Estimates suggest that by 2020, continued biofuel expansion will push US corn export prices up by 18%. Since 2005, US ethanol expansion has cost Mexico between US$1.5 and US$3.2 billion in higher corn import prices.[19]

Together, EU and US biofuel targets will conspire to have a considerable effect on world sugar, cereal and wheat commodity prices by 2020.

Impact on commodity prices likely to be even greater

In practice, the impact of EU biofuel targets on key commodity prices is likely to be even greater, since the above figures are based on major assumptions about the elasticity of the market. Critically, the models do not account for price volatility, instead only providing linear projections of aggregate price changes over time. They also focus on the impact on prices of biofuel feedstock commodities such as fats and oils and wheat. The impact on substitute crops, including traditional staples such as cassava, is not accounted for.

World food price rises spell hunger and poverty

By increasing the price of the key crops that are consumed in developing countries, EU biofuels targets will contribute to worsening hunger and nutrition, as well as eroding longer term efforts by financial donors to lift people out of poverty.

The human cost: Brazil

Katia de Santos with her daughters and the weekly shop that has to feed a family of five.
PHOTO: ANDRE TEELLES/ACTIONAID

Kátia dos Santos, 32 and Elizabete da Silva, 37, are two mothers living in São João de Meriti district, on the outskirts of Rio de Janeiro, Brazil

In Brazil, the price of food rose sharply in early 2008. The consequences were especially felt by the 12.2 million people who still live in poverty in the country.

To poor women such as Kátia and Elizabete, the shopping list for the market got shorter every day. In response, they re-used oil and reduced the consumption of other products in order to keep rice, milk, beans, bread, flour, sugar and soya oil in their families' diet. "I used to buy eight to 10 bottles of oil per month before. I can only buy four bottles now. I filter the used oil to reuse. I know it is bad for our health, but it is worse not to eat. This is our life, and the situation is hard," says Elizabete.

Items such as school materials and clothes are left behind and the decrease in the quantity and quality of food make the family more vulnerable to infections and diseases. Kátia´s 10-year-old daughter Karen was admitted to hospital with a life threatening illness because of dengue fever combined with a kidney infection.

"The doctor said she should drink more milk, but I cannot afford it. She is still weak and must see the doctor to keep the treatment but I have to spend US$14 per month in transport just to take her there. It is not possible to pay that much," says Kátia.

Poorest countries and communities hit hardest

High food prices affect countries in very different ways. The countries most affected by 2007/8 price swings on international markets were typically poor and net food importers such as Malawi and Senegal, which had few reserves and inadequate funds to buy in food at high prices. They had to bear the brunt of the crisis. The number of undernourished people increased overall by 8% in Africa between 2007 and 2008,[20] while government trade balances were strained, currency reserves depleted and expenditure on government safety nets (such as school feeding programmes) rose.

Higher food prices are especially disastrous for the poorest people in developing countries. Almost half of Africa's population lives on less than US$1.25 per day, and expenditure on food accounts for a very high share of that. In Ghana, for example, three-quarters of household income is spent on food.[21] Poor people living in developing countries also tend to buy food that is less processed, such that 'agricultural commodity prices represent a large proportion of the final price poor consumers pay for food items'.[22] This means that poor people are exposed more directly to changes in the prices of unprocessed commodities.

The effect may be that households switch from more expensive items such as meat, milk, fruit and vegetables to cheaper but less nutritious foods, or start to miss meals altogether. Where overall food intake is reduced, women tend to cut back on eating first. And while prices may settle on global markets, domestic markets tend to be much slower in their recovery.[23]

Effects of high world food prices in Asia[24]

Global food prices registered a new high in February 2011, rising by more than 30% year-on-year, underpinned by large increases in the prices of cereals, edible oils and meat. Modelling results suggest that if a 30% increase in global food prices persisted throughout 2011, gross domestic product (GDP) growth for some food-importing countries in the developing Asia region could be reduced by up to 0.6 percentage points. If this is combined with a 30% increase in world oil prices, GDP growth could be reduced by up to 1.5 percentage points compared with the baseline scenario where food and oil price hikes do not occur.

Higher food prices erode the purchasing power of households and undermine the recent gains from poverty reduction. A 10% rise in domestic food prices in the poorest countries in Asia (home to 3.3 billion people) could push an additional 64.4 million people into poverty, or lead to a 1.9 percentage point increase in poverty incidence based on the US$1.25-a-day poverty line.

The consequences for individual households depend on numerous factors, including whether households are net buyers or sellers of food. In reality, not only are most town and city dwellers net buyers but so are most of those who live in rural areas, as many small-scale farmers and agricultural labourers are unable to produce enough food for their families. The worst effects of price rises are believed to be felt by the poorest 20% of the population who are net food buyers. Within this, female-headed households are affected disproportionately as they tend to have less access to land and are also more likely to be poorer.[25]

Food price inflation can also be a serious issue for people in middle-income countries, where many families spend as much as half of their total budget on basic foods. Even in developed countries significantly higher food prices can create hardship for the least well-off. On average, however, UK households spend just 11% of their income on food and non-alcoholic drinks.[26]

Senegal: high food prices worsening food insecurity[27]

The east of Senegal has been hit hard by flooding and fires in recent years, ruining harvests and putting local communities in a precarious situation. The rising world prices for basic foodstuffs is turning a bad situation into a potential humanitarian crisis.

With money not going as far, people have to find alternatives, which means changing their diets and reducing the number of meals prepared from two to one, or even to one meal every two days. This clearly has an effect on family nutrition. Lack of vitamin A and iron is a particular problem, leading to increased miscarriages and complications for pregnant women. In trying to ensure there is sufficient food to eat, there is greater pressure for some girls to get involved in prostitution, and for others to be sent off to early and forced marriages.

The human cost: Malawi, 2008

Widow Alicket Masenda struggled to feed her children due to rising food prices.

PHOTO: FREDERIC COUBERT/PANOS/ ACTIONAID

The surges in world prices during the food crisis of 2007/8 led, in most cases, to substantial increases in domestic prices. In 2008 domestic prices in Malawi (adjusted for inflation) were on average 28% higher for rice, 26% higher for wheat and 26% higher for maize than they had been in 2007. Although much less than the changes experienced on world markets, these increases would have had a substantial impact on the purchasing power of poor people.[28]

Alicket is a widow and has seven children. In the past she had had enough crops to feed herself and her family but in 2008 she had nothing. She was doing casual labour washing clothes to make money to buy maize. Rising food prices made this much harder.

She said: 'I am affected by the rising food price because I don't have any income and can't buy anything. The children have had no food since the morning"

The volatility of prices

The poorest people and governments that are most vulnerable to high food prices also find it particularly challenging to cope with the unpredictable nature of very volatile prices. Some households may have some assets that they can quickly sell; others will have to reduce their intake of food sharply, with longer term repercussions on health. Farmers may reduce inputs, leading to poorer crops later on. Governments may have to quickly shift public funds away from longer term economic development projects, and even then they may struggle to provide emergency aid quickly enough.

The episode of volatility that occurred during the 2007-2008 period caused grave hardship among poor people, and was a major factor in the increase in the number of hungry people to more than one billion.[29]

Increased drain on humanitarian aid

Rises in food prices will make it harder to respond to a food crisis by increasing the financial cost of importing food aid. In 2008, the Ethiopian government was able to draw on its wheat reserves but also had to import additional food to support about 800,000 hungry people in urban areas. Meanwhile, the World Food Programme and nongovernmental organisations also channelled food to the increasing number of people requiring food assistance.[30] Rising food prices means increased costs to buy food for the affected populations while the number of people needing food assistance also increases. In 2008, the WFP was forced to choose between reducing rations, decreasing beneficiaries or finding additional resources from elsewhere.[31]

Undermining longer term poverty reduction efforts

Food price rises and volatility have devastating effects that reach far beyond the immediate crisis itself. Apart from changing the type or amount of food eaten, increased expenditure on food will commonly be compensated by reduced expenditure on medicines or on schooling, for example.

- As prices rise, so families may be forced to run down their few assets or borrow money under unfavourable conditions, making recovery much harder.[32] In 2011, in Ghana, people were selling their land and source of livelihood due to prolonged food unavailability.[33]
- Reduced household budgets may result in less money being spent on school books and fewer children being sent to school.
- Reducing the quality of food eaten increases the likelihood of becoming sick which, in combination with reduced funds for getting medical treatment, can result in life threatening illness.

The 2007/2008 food price spikes also fuelled wide social unrest, sparking food riots and political instability in much of the developing world.

Recommendations – removing biofuel targets

Food security has been a central theme of G20 discussions since the onset of the 2007/2008 food crisis. It is set to remain on the political agenda as food prices rise in response to world population growth, changes in dietary patterns, climate change and biofuel expansion.

To date, the G20 has proved itself incapable of committing to concrete measures to tackle any of these issues. And yet in biofuels at least, the G20 has a real chance to tackle the problem by committing to remove explicit government targets for biofuels.

Instead, G20 leaders are divided over the issue, with the EU, US, Brazil and others resisting any attempts to weaken their biofuels industries, while the rest of the world pays dearly for the price rises and volatility that biofuels are helping to induce.

As a growing body of evidence emerges about the detrimental effects biofuels are having on agricultural commodity prices and food security in developing countries, it is time the G20 commits to decisive action that serves the global interest.

Given the role of EU biofuels in pushing up agricultural commodity prices, the EU should:

- Press the G20 to officially acknowledge the significant role biofuels have played in recent food prices rises and volatility, as set out by the 10 international organisations that reported to the G20 agriculture ministers in 2011, including the International Monetary Fund, the World Bank, OECD, UN FAO and the Institute for Food Policy Research[34], as well as recommended by the High Level Expert Panel of the UN Committee on World Food Security[35].
- Press G20 countries to commit to removing government support – targets and mandates, as well as subsidies – to biofuels that are driving the rapid and massive expansion of biofuels, in line with the report of the 10 international organisations and the High Level Expert Panel.

End Notes

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