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BACKGROUND PAPER

FOOD INSECURITY AND CONFLICT: APPLYING THE WDR FRAMEWORK

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ABSTRACT

This paper provides a synthetic overview of the link between food insecurity and conflict, addressing both traditional (civil and interstate war) and emerging (regime stability, violent rioting and communal conflict) threats to security and political stability. In addition, it addresses the various attempts by national governments, intergovernmental organizations, and civil society to address food insecurity and—in particular—the link with conflict. It begins with a discussion of the various effects of food insecurity for several types of conflict, and discusses the interactions among political, social, and demographic factors that may exacerbate these effects. It then discusses the capabilities of states, international markets, intergovernmental organizations, and nongovernmental organizations (NGOs) to break the link between food security and conflict by focusing on mechanisms that can shield both food consumers and producers from short-term price instability. Finally, it discusses projected trends in both food insecurity and conflict and concludes with some brief comments on policies that can build resilience in light of projections of higher and volatile food prices and a changing climate.

1. *Introduction*

1. Since 2000, rising food prices have contributed to increasing the number of food insecure people from 857 million to 1.02 billion in 2009, reversing slow but consistent progress in reducing the world's hungry (FAO-WFP, 2009). The largest increases in hunger have come in countries at lower levels of economic development that are net importers of basic foodstuffs. The increasing reliance of developing countries on food imports is part of a structural change in world agricultural production and trade. In 1960, developing countries ran food trade surpluses totaling \$1 billion; by the end of the 20th century, this had become a deficit and 48 of 63 low-income countries, and 45 of the 46 least developed countries, were net food importers (FAO, 2003). This deficit is concentrated in countries that are net importers of both food and other agricultural products, but includes also a number of African countries that export cash crops but are heavily dependent on food imports (Headey and Fan, 2008).

2. There is no doubt that rising food prices, and food insecurity more generally, constitute a serious threat to human security. Comparatively less attention has been paid to the implications of food insecurity for political instability and violence, though interest in the subject has grown since rising food prices sparked rioting in 48 countries in 2007-8. In isolated cases, this unrest had lasting political consequences, including the resignation of Haitian Prime Minister Jacques-Édouard Alexis and the 2009 coup against President Marc Ravalomanana of Madagascar, popular opposition to whom was partially due to negotiations for the leasing of half of Madagascar's arable land to a South Korean firm—a move spurred by concerns over food price volatility.

3. This paper surveys the broad impacts of food insecurity for several forms of political violence and conflict, including regime instability, violent protest and rioting, communal conflict, as well as civil and interstate conflict. Broadly, food insecurity has been associated with increases in the probability of democratic failure, protest and rioting in developing countries, instances of communal conflict, and higher probabilities of civil conflict. The relationship between food insecurity and interstate conflict is less clear, though there is some historical evidence linking periods of decreased agricultural productivity to war. However, these effects are contingent on existing political institutions, levels of economic development, safety nets and demographic pressures; food insecurity is neither a necessary nor sufficient condition for acute political violence and conflict.

4. Having identified these relationships, the paper then addresses the various efforts by national governments, intergovernmental institutions, and NGOs to mitigate both food insecurity and to breaking the relationship between food insecurity and violence. We pay particular attention to the actions of national governments during various periods of rapid food price increases on international markets and the actions of the World Food Programme and development NGOs.

5. The remainder of the paper proceeds as follows. Section 2 addresses the extent of past stresses, reviewing the scientific literature that links food insecurity, broadly defined,

to various types of conflict and political instability. Section 3 addresses the causes of past stress. Section 4 turns to the capabilities of national governments, intergovernmental organizations, and NGOs in mitigating food insecurity and shielding consumers and producers from price volatility through social protection measures, as well as expectations about future patterns of food insecurity and the types of development policies and programmes that might break the link between food insecurity and violence. Finally, section 5 concludes with some specific policy recommendations.

2. *Extent of Past Stress*

6. Most research linking food insecurity to conflict has addressed civil conflicts: violent conflicts between state forces and a centralized, defined opposition group over territorial autonomy or control of the central government that achieve some threshold level of battle deaths (Gleditsch et al., 2002). The absence of civil or interstate war, however, is not the same as the presence of peace and stability. Between 1990 and 2008, Kenya experienced neither interstate nor intrastate war. Yet during this period, political violence, including election-related rioting, communal conflict, and cattle raiding caused over 4,500 deaths (Hendrix and Salehyan, 2010). Civil conflict and interstate war are the most obvious manifestations of political violence, but they are far from the only ones. Food insecurity contributes also to democratic fragility, protest and violent rioting, and communal conflict, particularly in developing countries with low levels of state capacity.

7. In general, the causal arguments linking food insecurity to political violence are lacking in microfoundational evidence that explains how food insecurity conditions the decision to participate in violence at the individual level. Theoretical arguments, however, are myriad. The theoretical link between food insecurity and conflict derives from the effect of food insecurity on a) economic and social grievances, which address the issue of motivation, and b) the perceived costs and benefits to participating in violence relative to other means of securing income or food, which address the political opportunity structure (Gurr, 1970; Tilly, 1978; Humphreys and Weinstein, 2008; Blattman and Miguel, 2010). These microfoundations are most evident with respect to participation in civil war. Unlike popular protest, rioting, and communal violence, participation in rebellion generally requires individuals to make it their primary vocation. The literature on participation in rebellion suggests that selective incentives, such as protection from violence, opportunities to engage in predation, and simple material benefits (food, clothing, shelter, etc.) explain actual participation in rebellion better than subjective political grievances. Though much more research is needed, empirical evidence substantiates the opportunity cost model. In a study of demobilized combatants in the Sierra Leonean civil war, poverty and a lack of educational access were associated with participation in civil war – both on the side of the government and the rebels (Humphreys and Weinstein, 2008). Food insecurity is often coincidental with poverty, though the link between food insecurity and participation in the war was not explored.

8. The Roman poet Juvenal recognized in 100 CE that the provision of “bread and circuses” was an effective mechanism for garnering public support and preventing the

populace from expressing discontent. Contemporary observers note that not just the level of insecurity that matters, but how this insecurity is distributed within the population. Many have argued that relative deprivation, rather than absolute deprivation, generates grievances that motivate violent behavior. Thus, many of the studies linking economic grievances to conflict look at both the average level of food insecurity, but also whether that food insecurity is widely shared or concentrated in marginalized groups (Reenock, Bernhard, and Sobek, 2007; Østby, 2008).

9. This paper distinguishes between chronic and acute food insecurity. Chronic food insecurity is a persistent lack of “sufficient, safe, nutritious food to maintain a healthy and active life,” and is generally caused by extreme poverty (WHO, 2010). Acute food insecurity refers to temporary gaps in access to the same, and may be caused by a variety of factors ranging from high prices to breakdowns in delivery systems, economic recessions, natural disasters, and extreme weather events, such as drought and flooding, political turmoil, volatile derivative markets, and conflict itself.

10. Most of the types of political violence addressed here are more prevalent in societies with higher levels of chronic food insecurity; however, the correlation between food insecurity, broadly defined, and political conflict is largely due to the fact that food insecurity is strongly associated with low levels of economic development and past conflict (Collier et al., 2003). However, a growing body of research links food scarcity both directly and indirectly (as proxied by environmental scarcity or access to water resources) to a variety of conflict outcomes even when controlling for the level of development.

2.1. Democratic Breakdown

11. Democratic breakdowns occur when democratically elected leaders are deposed and replaced by unelected officials, without regard for the legal rules and institutions by which the offices of government are filled. Not all democratic breakdowns are themselves violent affairs: “bloodless” coups account for 67 percent of all coups and coup attempts. However, many have been quite deadly. Moreover, the autocratic regimes and instability these democratic breakdowns usher in are more likely to abuse the human rights of their citizens, in some cases leading to mass state killing (Poe and Tate, 1994, Harff 2003).

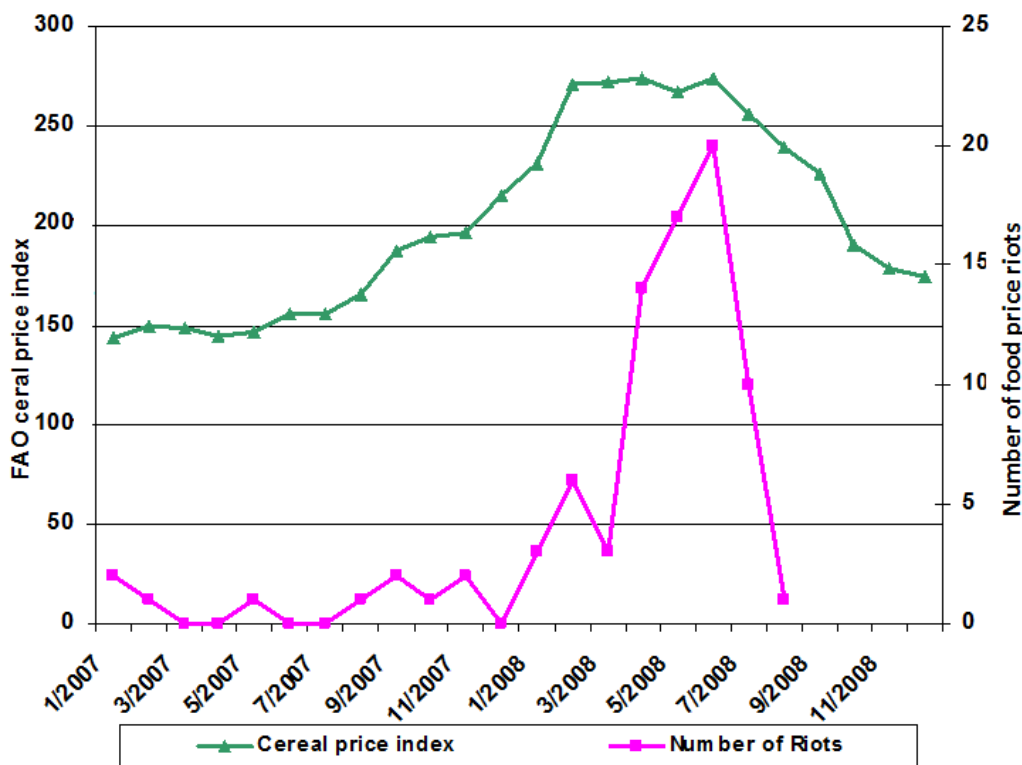
12. Democratic breakdowns are more likely to occur at higher levels of food insecurity, though this relationship is contingent on the level of economic development. Because more economically developed countries presumably have larger social surpluses that could be invested in ameliorating food insecurity, societal actors find it less tolerable. This causal mechanism presumes that the populace evaluates democracy according to a particular performance metric: its ability to provide for basic subsistence. Thus, food insecurity makes democratic breakdown more likely, and the effect increases in strength at higher levels of economic development (Reenock, Bernhard and Sobek, 2007). Based on the empirical evidence, it is unclear whether democratic failure is more likely to come about as the result of popular protest, as implied by the theoretical argument, or intra-regime tensions, such as those between the civilian and military branches of government. No

microfoundational logic of participation is presented.

2.2. Protest and Violent Rioting

13. Record-high world food prices triggered a mixture of protest and violent rioting in 48 different countries in 2007-8 (see Figure 1). The ratio of violent to non-violent protest was higher in low-income countries and in countries with lower government effectiveness (von Braun, 2008). Protests and rioting occurred also in response to earlier spikes in world food prices in the 1970s and 1980s (Walton and Seddon, 1994). Recent research links higher world food prices for the three main staple grains (wheat, rice, and maize) to more numerous protests and riots of all kinds – not just self-identified food protests – in 55 major urban areas in Africa and Asia (Hendrix, Haggard and Magaloni, 2009).

Figure 1 Food prices and rioting, 2007-08



Source: Authors based on WFP data (on riots) and FAO (price index)

14. International market prices are not the only source of food-related protests and rioting. The lifting of government subsidies has led to rioting as well. The three-day “bread riots” that struck Egypt in 1977 and killed upwards of 800 people were a response to the Egyptian government’s IMF-mandated removal of state subsidies for basic foodstuffs (AFP, 2007). Much of the violence associated with “IMF riots” can be traced to popular grievances over the erosion of real incomes that results from withdrawn food and energy subsidies (Walton and Seddon, 1994; Abouharb and Cingranelli, 2007).

2.3. Communal Violence

15. Communal conflict is conflict that involves groups with permanent or semi-permanent armed militias that does not involve the government. However, communal violence can often escalate to include government forces, as has been the case in the Darfur, Rwandan, and Burundian massacres. These conflicts have the potential to escalate when the government is perceived to be supporting, tacitly or otherwise, one of the communal groups at the expense of the other (Kahl, 2006). While the conflict in Darfur may have been proximately caused by communal conflict over land and water resources, its devastating human impacts escalated following the Khartoum government's support for Janjaweed militias in their fight against SPLM/A and JEM rebels.

16. Competition over scarce resources, particularly land and water, are often the cause of communal conflict (Homer-Dixon, 1999; Kahl, 2006; Ban, 2007). These conflicts are particularly common in the Sahel, the zone of transition between the Sahara desert and the savanna. This region is home to both migratory herders and sedentary farmer communities, and is particularly prone to recurrent, long-lasting droughts. Drought has undermined cooperative relationships between herders and farmers, leading to food insecurity and increased competition for water and land between farmers and herders, but also within herding and farming groups. The link between food insecurity and communal violence operates primarily via its effect on the underlying resource bases over which these groups compete. Once violence begins, security dilemmas (fear of attacks in the future generating incentives for preemptive attacks, see Posen, 1997), and lack of alternative dispute mechanisms between groups and effective policing within groups (Fearon and Laitin, 1996) explain the escalation and persistence of violence over time.

17. These conflicts have been particularly lethal in Kenya, Nigeria, Uganda, and the Sudan. Repeated clashes between Fulani herders and Tarok farmers in Nigeria's Plateau State killed at least 843 people in 2004. Similar clashes between Rizeigat Abbala and Terjam herders in the Sudan killed 382 in 2007. Cattle raiding in the Karamoja Cluster, a cross-border region made up of Ethiopian, Kenyan, and Ugandan territory, resulted in more than 600 deaths and the loss of 40,000 heads of livestock in 2004 alone (Meier, Bond and Bond, 2007). These conflicts tend to occur in politically marginalized territories that are far from the capital (Raleigh 2010).

2.4. Civil Conflict

18. Civil conflict is the most prevalent type of armed conflict in the world today (PRIO, 2009), with active civil conflicts outnumbering interstate wars 35 to 1. Civil conflict is almost exclusively a phenomenon of countries at low levels of economic development, which is highly correlated with food insecurity. While there is debate as to whether grievances or greed more proximately motivate rebellion, there is some research linking lower per capita caloric consumption are more likely to experience civil conflict (Sobek and Boehmer 2009). This relationship is stronger in those states where primary commodities

make up a relatively large proportion of their export profile.

19. Pinstруп-Andersen and Shimokawa (2008) find that childhood mortality and poverty are associated with greater probability of civil conflict, though their findings are based on restricted sample sizes. Besley and Persson (2008) argue that opposition groups' willingness to fight increases with the erosion of their real incomes, which can occur due to domestic economic contraction but also higher prices for imported commodities, such as food. They find that as a country's import prices increase, civil conflict becomes more likely.

20. Another body of findings links transitory weather events to civil conflict initiation. In these studies, weather events affect the likelihood of war not by increasing food insecurity per se, but rather by harming agricultural employment and decreasing the opportunity cost to participating in violence. Various studies have observed that the individuals most likely to participate in armed conflict – young males from rural areas with limited education and economic prospects – are likely to work in the agricultural sector. That civil conflict onset is more likely following years of negative growth in rainfall (Miguel, Satyanath and Sergenti, 2004; Hendrix and Glaser, 2007) suggests that drought and decreased agricultural productivity expand the pool of potential combatants, rather than give rise to more broadly held grievances. Benjaminsen (2008), in a case study of the Tuareg rebellion in northern Mali, argues that drought – more particularly, the Malian government's embezzlement of drought relief supplies – was a source of grievance that motivated participation. It is important to note, however, that the particular grievance in this case had more to do with government response to food insecurity than food insecurity per se.

21. Recently, warmer temperatures have been linked to an increase in civil conflict incidence via the same mechanism (Burke et al., 2009). Civil war is also more likely in the aftermath of quick-onset natural disasters such as earthquakes, major volcanic eruptions, floods, and cyclonic storms. The relationship is strongest among lower- and middle-income countries with high levels of inequality, and slow economic growth. Food insecurity and resource scarcity are one of the more plausible explanations for this correlation (Nel and Righarts, 2008). However, it is important to note that in none of these studies are transitory weather events related to caloric intake or food insecurity directly.

2.5. Interstate War

22. There is no systematic research to indicate that food insecurity directly increases the probability that interstate war will occur. Most research that references the effects of food security and production identifies indirect links, such as those that operate through distributive conflicts over territory, water rights, and presumed links between climatic factors and food production.

23. While territory is one of the main issues over which countries go to war, previous

research has not focused directly on access to food or productive agricultural land as a major driver of conflict (Hensel, 2000). However, wars have been waged to reduce demographic pressures arising from the scarcity of arable land, the clearest example being the move to acquire *Lebensraum* (“living space”) that motivated Nazi Germany’s aggression toward Poland and Eastern Europe (Hillgruber, 1981). Moreover, Diamond (1997) argued that military power through the centuries had to build on agricultural production. Water, both for drinking and for agriculture, is also a cause of conflict between countries (Klare, 2002). Countries that share river basins are more likely to go to war than other countries that border one another, and one of the presumed mechanisms explaining this phenomenon is competition over water needed for agricultural livelihoods and subsistence (Toset et al., 2000, Gleditsch et al., 2006). This relationship is strongest among countries at low levels of economic development, and is not exacerbated by drought.

24. Using high-resolution paleo-climatic data, Zhang et al. (2007) show that long-term fluctuations in the prevalence of interstate war and population size followed cycles of temperature change over the period 1400-1900 CE, with more war during periods of relatively cooler temperatures. They subsequently link cooler periods to an increased prevalence of war via the effect that cooling had on agricultural productivity, with periods of cooling associated with lower agricultural yields and greater competition for resources. However, their analysis is conducted at a global scale, and thus renders forecasts about specific countries or regions impossible. Similar findings, linking cooler periods with more war, have been established for Europe between 1000-1750 CE (Tol and Wagner, 2008).

2.6. Demographic, Social, Political, and Economic Factors

25. Food insecurity is not experienced in a political, social, or economic vacuum: other aspects of the political environment affect the degree to which food insecurity, and grievances more generally, translate into political violence (Tilly, 1978). This section summarizes briefly some of the demographic, political, and economic factors that are associated with political violence.

Demographic and Social Factors

26. Countries with large youth bulges—cohorts of 15-24 year olds—experience more protest and rioting, civil conflict, and terrorist attacks (Urdal, 2006). This relationship is especially strong in highly autocratic and democratic countries, and less so in countries that intermingle autocratic and democratic institutions. This relationship diminishes as the ratio of 15-24 year olds to 0-14 year olds increases, which indicates that countries are experiencing a slowing down of population growth.

27. There is much debate over the link between ethnic and religious diversity and political violence. Simple measures of ethnic and religious diversity, such as ethnic and religious fractionalization, have not been robustly linked to political violence (Fearon and Laitin, 2003; Hegre and Sambanis 2006). On the other hand, rule by ethnic minorities may increase the probability of civil war, though this finding is the subject of disagreement

(Cederman and Girardin, 2007; Fearon, Kasara and Laitin, 2007). Thus, it is not so much ethnic diversity that leads to conflict, but rather the confluence of ethnic diversity, inequality, and exclusionary patterns of rule. While ethnicity may not be the principal factor motivating violence, ethnic and religious cleavages often form the basis for participant recruitment (Fearon, 2006; Iannaccone and Berman, 2006).

28. Finally, urbanization has crosscutting impacts on political violence that interact with food insecurity in complex ways. Rising urban populations increase the ratio of food consumers to producers and make a return to subsistence as a coping mechanism for dealing with higher food prices more difficult. However, urban populations are more easily served by food distribution networks and safety nets and tend to receive more attention from political actors due to their enhanced capability for collective protest and petition of the government (Bates, 1981; Stasavage, 2005).

Political

29. The effects of regime type and coercion on political violence are highly ambiguous, and vary according to the type of political violence in question. Highly repressive authoritarian regimes may create incentives for clandestine collective action, such as insurgency or revolution, but these regimes are generally well positioned to deter and repress public protest and demonstrations (Goodwin, 2001; Hendrix, Haggard, and Magaloni, 2009). These forms of collective action should be more common where citizens are either legally allowed to engage in protests and demonstrations, as in democracies, or where authoritarian governments choose to tolerate such acts of dissent, as in “semi-authoritarian” or hybrid regimes (Magaloni, 2008). Several empirical studies have found a curvilinear, inverted-U relationship between political democracy and political violence, though some argue that this relationship may be definitional, rather than causal (Hibbs, 1973; Hegre et al., 2001, Fearon and Laitin, 2003; Vreeland, 2008).

30. The lack of clear findings regarding autocracy and democracy arises from the divergent effects of democracy on countries at higher and lower levels of economic development (Collier and Rohner, 2008). While political democracy provides accountability mechanisms that may reduce grievances, it also diminishes the government’s capacity to repress violent actors; the accommodative or repressive effect may dominate at different levels of economic development. At higher levels of economic development, democracies experience fewer civil conflicts, riots, political strikes and demonstrations. At lower levels of economic development, democracies experience more.

Economic

31. Most forms of political violence, particularly violent protest, communal violence, and civil conflict, are most prevalent in countries at lower levels of economic development (Blattman and Miguel, 2010; Collier et al., 2003; Fearon and Laitin, 2003). This is perhaps the most robust relationship in the entire literature on political violence, though the causal

mechanisms are still the subject of debate. Due to the high correlations among low per capita incomes, poverty, and food insecurity, it is clear that political violence is largely a phenomenon of the food insecure world. Civil conflict onset and protest and rioting are negatively associated with economic growth rates, though this relationship is likely endogenous (Miguel, Satyanath and Sergenti 2004, Hendrix, Haggard and Magaloni 2009).

32. The empirical relationship between economic inequality and conflict is not robust. Part of this lack of consensus may be definitional, as different notions of inequality may drive differences in conclusions. *Vertical inequality* is inequality among households; *horizontal inequality* is among groups, where groups are defined by region, ethnicity, class, religion or other political cleavages, and thus may be more closely associated with the expression of group grievances and mobilization for violence. Vertical inequality has not been robustly linked to political conflict (Cramer, 2003; Hegre and Sambanis, 2006), though there is some evidence to suggest that vertical inequality makes civil and guerrilla wars more likely, but only when a country's wealth is in the form of immobile assets, such as natural resources (Boix, 2008). Evidence suggesting that horizontal inequality, such as that which characterized the apartheid regimes of Rhodesia and South Africa, makes conflict more likely (Langer, 2005; Nafziger et al., 2000; Østby, 2008; Østby, Nordås and Rød, 2009). See Annex 1 for a comparison of Kenya and Tanzania.

33. Economic shocks are strongly correlated with civil conflict. Blattman and Miguel (2010) argue that transitory shocks, along with low incomes, are among the most robust findings in the literature. Yet, causality is an issue for economic shocks as well. Economic shocks change the incentives for rebellion and reduce the capacity of governments to repress or accommodate potential challengers; it may also affect the expected benefit of taking over the government. They also often change the distribution of economic incomes and political power, and through this mechanism, may contribute to communal violence that does not target or involve the state.

3. Sources of Past Stress

32. Increases in food prices, particularly sudden ones, have contributed to various forms of conflict. Higher food prices have a large effect on the ability to access food among households that spend a large share of their expenditures on food, accounting for as much as 80 percent among the poorest segments of the population, but still 35-65 percent among the middle class (WFP, 2009a). With few coping mechanisms at their disposal, which is by definition the case for poor households, stress levels inevitably increase when food prices rise. Coping mechanisms are also often under pressure from other shocks, related to natural disasters or conflict.

33. Households in fragile states are particularly vulnerable compared to other developing countries and has increased over time. FAO data show that households in fragile states spend on average 57.5 percent of their expenditures on food, which makes them very vulnerable to higher food prices. This share has increased from 57.0 percent in the 1980s or 1990s (see Table 1). In other developing countries, on the other hand,

households spend on average 49.4 percent of their expenditures on food, which declined from 55 percent in earlier years.

34. The increase of the share of food in expenditures in fragile states might be a result of the economic decline. One of the most robust empirical facts in economics is the declining share of food in expenditures when incomes increase (Engel's Law). A higher share of food might thus be a result of a decline in incomes associated with conflicts.

Table 1: The share of food in total household consumption expenditures

Food consumption expenditure			
Share (%) of food in household consumption expenditure	Oldest, all data	Most recent, all data	Absolute change
Countries	< 1990 or 1990s	2000- 07	
Average: Fragile states	57.0	57.5	0.5
Average: Developing countries	55.0	49.4	-5.6
Average: Developed countries	24.4	20.1	-4.3
Bosnia Herzegovina	..	34.6	..
Cambodia	53.0	71.0	18.0
Central African Republic	57.7
Chad	57.8
Côte d'Ivoire	49.0
Georgia	68.0	64.0	-4.0
Haiti	54.0	57.5	3.5
Kenya	..	45.8	..
Myanmar	74.0	70.4	-3.6
Nepal	49.0	59.0	10.0
Pakistan	44.0	47.6	3.6
Sierra Leone	63.7	49.3	-14.4
Tajikistan	79.5	69.6	-9.9
Timor Leste	..	29.8	..
Togo	71.0	63.7	-7.3
Tonga	43.7	43.7	..
West Bank Gaza	..	32.9	..
Yemen	49.0	55.0	6.0
Zimbabwe	35.0	37.3	2.3

Note: Averages and changes only include countries where at least two data points were available.

Source: Authors' calculation based on FAO data.

35. Countries are vulnerable as well to high food prices, particularly net-food importing countries where changes in global food prices are more likely to have an effect. Fragile and conflict-affected states are especially vulnerable because they are often net-food importing countries, have fewer means to stabilize food prices and mitigate the impact on the population.

36. Fragile states are more dependent on net food imports than other developing countries and have become faster dependent on food imports over time. This makes fragile states more vulnerable to international price shocks, which could contribute to higher risk of violent conflicts.

37. FAO calculates the share of food imports in total food consumption based on kilocalories and then divides the countries into categories. FAO also calculates this share for *net* food imports by subtracting the amount of food imports from the amount of food exports, also based on kilocalories. For fragile states, the dependence on net food imports is higher than for other developing countries. On average, fragile states score 2.41 compared to 2.93 for other developing countries, with a lower number indicating higher dependency (see Annex 2). The dependence on food imports as a share of food consumption is also higher in fragile states than in developing countries (2.26 vs. 2.16, with a higher number indicating higher dependency).

38. Moreover, the dependence on food imports has increased much faster over time in fragile states than in other developing countries. This is the case for food imports and for net food imports. The score for net food imports for fragile states declined between 1990-92 and 2003-05 by 10 percent (indicating higher dependency), compared to an increase by 1 percent for other developing countries. The score for food imports increased by 29 percent for fragile states over this period (indicating also higher dependency), compared to 16 percent for developing countries.

39. Levels of stress related to food prices are expected to increase because of increasing import dependency, the mounting effects of climate change, and higher levels and volatility of food prices.

3.1. Global Demand and Supply Factors

40. After a long period of declines, food prices started to increase in 2001. They rose particularly steeply in 2007 and 2008. There are several factors that have generally been attributed to causing this dramatic shift (FAO, 2008a; WFP, 2009a). They can be categorized in demand and supply factors (see Table 2).

Table 2. Factors causing high food prices

	Demand factors	Supply factors
Structural or slowly evolving factors	Higher incomes and changing demand Population growth Demand for biofuels	Low investments in agriculture and low productivity growth Low stocks
Temporary or sudden onset factors	Low US\$ exchange rate Institutional investment (speculation)	Energy prices: fertilizer, mechanization, transport Low US\$ exchange rate Weather-related shocks Export restrictions Violent conflict

Source: Adapted from WFP (2009a)

41. Demand for food has increased as a result of higher incomes in developing countries, particularly Asia. Higher incomes usually mean less cereal consumption and more meat production, which requires intensive use of cereals. About a third of global cereal production is used as animal feed (FAO, 2009a).

42. Demand for food has also risen because there are more mouths to feed. World population has increased from 5.3 billion in 1990 to 6.9 billion in 2010, and is expected to increase to 9.1 billion in 2050 (UN, 2008). The increasing and changing demand for food means that food output will have to increase by 70 percent between 2005-07 and 2050 (FAO, 2009b).

43. The conversion of food crops into biofuels has expanded rapidly in recent years, particularly in developed countries. This has largely been driven by high energy prices and policy measures that aim at reducing the dependence on fossil fuels, such as through mandatory mixing and use requirements, subsidies and tariffs. Most experts agree that biofuels have had a significant impact on demand and prices. Although biofuels account for only about 1.5 percent of global liquid fuel supply, they accounted for nearly half the increase in consumption of major food crops in 2006/2007 (IMF, 2008a). Globally, 138 million MT of grains will be used to produce ethanol in 2009/2010, accounting for about 6 percent of global cereal production and about 40 percent of United States maize production (IGC, 2010).

44. Biofuels pushed up the prices not only of the crops used for energy, such as maize and vegetable oil, but also of other foods, because of substitutions in production or consumption or through cost-push effects. Approximately 60 percent of global maize production is currently used for animal feed, having an effect on meat and dairy prices.

45. Several institutions estimate that biofuels accounted for about 20 to 30 percent of the price increases, but some put this figure as high as 70 percent or as low as 3 percent (OECD-FAO, 2008; von Braun, 2007; IMF, 2008a; World Bank, 2009).

46. The fact that most food commodities are denominated in United States dollars (US\$) affects prices through demand and supply. The lower dollar exchange rate makes commodities relatively cheap for countries whose currencies are appreciating against the dollar, stimulating demand. However, countries with appreciating exchange rates also receive less domestic currency for their food exports, which pressurizes farmers to raise prices to cover costs. The US\$ lost value between 2001 and 2008, about the same period when commodity prices increased. It gained value in the wake of the global financial crisis in 2008.

47. Another major factor that has arisen in recent years is the possible effect of speculation on food prices. Large amounts of money institutional investors have flown into commodity markets. Commodities, including food commodities, have become an important asset class. Investors have been looking for portfolio diversification, as stock markets show low correlation with commodity markets, and higher returns, driven by low interest rates and financial turmoil. There is, however, no consensus on the extent to which the institutional investments – or speculation – have pushed food prices up. The empirical evidence is mixed (IMF, 2008a; Robles et al., 2009; Timmer, 2009, 2010; UNCTAD, 2009; WFP, 2009a; see also Interagency Task Force on Commodity Markets (2008) on the case of oil).

48. Investments by institutional investors have added a new, and sometimes puzzling, dynamic to the market. There are some anomalies that are hard to explain. One anomaly of the commodities markets is that spot and futures prices do not always converge at the time of delivery, which they should. Another anomaly is that the difference between spot and futures prices seems to be widening. Some argue that large amounts of new money from institutional investors are distorting the markets (WFP, 2009a).

49. Some of the price volatility is difficult to explain by market fundamentals. Even if there are clear market and demand factors at play, many of them change only slowly and cannot explain the rapid increase and fall of food prices, such as the jump in rice prices (of Thai, 5 percent broken) from less than US\$400/MT in January 2008 to about US\$1,000/MT in May 2008, or an increase in wheat prices (of US hard red winter) from about US\$200/MT in May 2007 to more than US\$500/MT in February 2008, followed by a fall to about US\$250/MT in May 2008.

50. There seems to be a disconnect between casual observations and more thorough empirical studies. While many economists have a strong inkling that speculation was involved in the price hikes of 2007-08 (“if it looks, feels and smells like an elephant, it must be an elephant”),¹ the results of empirical studies are mixed. Several factors could play a

¹ Timmer, for example, starts an article like this: “Did speculation affect the formation of rice prices during the rapid escalation of prices in world markets late in 2007 and early in 2008? Although debated at the time, in retrospect – after the sudden collapse of most commodity prices ... – the answer is easy. Of course it did.” (Timmer, 2009).

role. First, it is not easy empirically to separate speculation from legitimate hedging operations. Second, there are many actors, ranging from hedge funds to consumers that could be involved in speculation.² Third, there are several forms of speculation, ranging from financial investments in future markets to traders, millers and consumers hoarding physical quantities of food commodities in anticipation of higher prices. Fourth, empirical research is severely hampered by a lack of data, for example, on over-the-counter trade. Fifth, speculation can have several effects, including on the level and volatility of futures and spot prices.

51. On the supply side, global cereal production declined by 3.6 percent in 2005 and 6.9 percent in 2006, largely because of weather-related shocks (FAO, 2008b). These declines were small, but as demand had outpaced supply for a few years, cereal stocks were low and could not fully absorb the supply shocks. Cereal stocks were at that time at their lowest levels for 30 years. This contributed to price volatility.

52. Supply did not keep pace with demand, partly because investments in agriculture have been low and the growth rate of yields has fallen. Yields of maize, rice and wheat generally grew by more than 2 percent a year between 1960 and 1985 – reaching 5 percent for wheat. Around 2000, the annual growth rate for rice and wheat yields was less than 1 percent. Subsequently, this rate has been increasing, but the rate for maize has fallen to less than 1 percent (World Bank, 2007).

53. Policy measures have exacerbated the supply situation. In mid-2008, about 40 countries had agricultural export restrictions, including major exporters such as Argentina, India, Kazakhstan, and Viet Nam (World Bank, 2008a). The rice export restriction imposed by India on 9 October 2007 in particular had a significant and direct impact on the rice price. Countries introduced export restrictions to increase the availability of domestic supplies. In the short run, such measures can be helpful domestically, but have significant negative effects on neighbouring and other importing countries. In the long run, they are not very effective because they are a disincentive to production and trade. They can be ineffective in the short run as well, if borders are porous or traders increase their margins (and prices) because of the restrictions. In the second half of 2008, several countries eased export restrictions, helping to lower prices.

54. Higher energy prices have also contributed to higher food prices. Energy prices have influenced food prices for a long time, because they are an important input cost. Some fertilizers and pesticides are based on hydrocarbons and the production of food is very energy-intensive in many countries (e.g. IMF, 2008a). Food also needs to be transported, adding significantly to cost and food prices. In recent years, however, an additional connection between the output prices of food and energy prices has developed. This phenomenon is largely a result of biofuels' emergence as an alternative to fossil fuels when

² Speculation is defined as buying and selling to make profits from price changes. This is in contrast to buying and selling for use, to generate income as an investment, or to add value through transformation or transportation.

prices are high (Schmidhuber, 2006; World Bank, 2009). As a result, energy and food prices are now connected both through input as well as through output prices.

55. Analysts generally agree that a combination of these factors has contributed to food price increases. However, there is disagreement about the relative weight to ascribe to each factor, particularly for specific commodities and time periods.

3.2. Factors Determining Food Prices at the National Level

56. Higher international prices do not necessarily mean higher domestic prices. The transmission from international to domestic food prices is imperfect and not one-to-one. The transmission of international prices to domestic prices depends on several factors. First there are structural factors that are difficult to change in the short term:

- *Food imports* as a share of domestic food supplies: Countries importing less food are less exposed.
- *Transportation costs*: Areas with expensive transport routes, such as remote, landlocked or mountainous regions, usually face higher prices that are less correlated to international prices.
- *Competitiveness* of markets: More competitive markets are likely to pass through price changes more directly.
- *Cost structure*: Foods with higher processing, transport and retail costs are more insulated because commodities account for a lower share of total costs.

57. Fragile states often suffer from a lack of infrastructure, thin markets, and a lack of entrepreneurs, leading to less competitive markets, less processing and higher transportation costs. As discussed, they also import a high share of their food.

58. Second are the policy measures that governments can take to reduce the transmission from international to domestic prices:

- *Trade barriers* – import tariffs, import quotas, export restrictions: Higher import barriers generally mean higher domestic prices that are less correlated to international prices. Export restrictions can increase domestic food availability and lower prices in the short term.
- Domestic food *taxes and subsidies*: Lower taxes and higher subsidies reduce the pass-through.
- Other government *interventions*: For example, releasing food reserves can reduce the transmission.

59. Exchange rates are another major factor affecting the transmission of international to domestic prices. A depreciating exchange rate makes imports even more expensive, increasing the pass-through. The extent to which governments can influence the exchange rate depends on the exchange regime. If the regime is floating or intermediate (between fixed and freely floating), governments have instruments that influence the rate. Freely floating exchange rates can change very quickly and exacerbate the pass-through. If

exchange rates appreciate exchange rates, the impact of high food import prices would be ameliorated, but which is less likely as the current account would be under pressure because of high food import costs.

60. Dependence on food imports increases the likelihood, *ceteris paribus*, that international prices have an effect on domestic prices. Developing countries have become more dependent on food imports in recent decades as a result of lower transportation costs and market-oriented policies that focused on using international trade as an instrument to food security, rather than achieving food-self sufficiency through government-led activities, and as a safety valve to domestic production shortfalls rather than through buffer stocks.

61. Global cereal trade accounts for a small share of total cereal consumption. Only 7 percent of global rice production is traded, 17 percent of wheat and 10 percent of coarse grains (FAO, 2009a). But, dependence on imports has increased particularly in the Middle East and North Africa, where dependency is the highest, sub-Saharan Africa and Latin America and the Caribbean (WFP, 2009a).

62. Import dependency grew fastest in the poorest countries. Their consumption patterns are increasingly shifting away from the staples that are hardly traded internationally, such as sorghum, millet, sweet potatoes and cassava. In 2003, imports accounted for 17 percent of grain consumption and 55 percent for vegetable oils in the least developed countries (LDCs), compared to 8 and 9 percent, respectively, in 1970. At individual country level, the situation varies significantly. For example, imports accounted for more than half of grain supplies in 11 countries in sub-Saharan Africa (Angola, Cape Verde, Eritrea, the Gambia, Lesotho, Liberia, Mauritania, Senegal, Somalia, Swaziland and Zimbabwe) in 2005–06. In another seven countries (Benin, Cameroon, Cote d'Ivoire, the Democratic Republic of the Congo, Ghana, Guinea-Bissau and Mozambique), this share ranged from 30 to 50 percent (FAO-WFP, 2009).

63. As seen above, fragile and conflict-affected states are especially likely to be dependent on food imports because of the negative effects of violence on food production (see below). Of the 33 countries classified by FAO as requiring external assistance in early 2010, in 20 of them conflict played a role (FAO, 2010a).

64. Imports are an important safety valve for many developing countries facing domestic production shortfalls. Such imports have a dampening effect on prices (Dorosh, 2001). In fragile states, importing food could be difficult because of the dearth of traders, lack of finance, and high transportation costs. High international prices and export restrictions have hampered this safety value in recent years. Moreover, the recent international environment has also highlighted the “tragedy of the commons” (Timmer, 1986). When one country suffers a production shortfall because of a shock, it is often fairly easy to import the difference. However, when many countries face the same situation, they are likely to face higher prices, and imports might not be available, because there are far more importers than exporters. Until recently, the probability that many countries would need to import more food than normal was rather low. This probability is growing,

however, as climate change increases the frequency and intensity of weather-related production shortfalls.

65. Net-exporting countries have benefited from higher food prices, experiencing higher terms of trade. But that applies only to a small number of developing countries. The majority of the developing countries – 55 percent – are net food importers. Almost all countries in Africa are net importers of cereals. Net-importing countries have faced lower terms of trade and larger food import bills. From 2005/06 to 2007/08, the total costs of food imports rose from US\$16.5 billion to US\$37.6 billion in low-income food-deficit countries (LIFDCs) (FAO, 2009c). It subsequently declined and is expected to reach US\$21.9 billion in 2009/10.

66. Rising food prices were accompanied by rising oil prices. Many net food-importing countries are also net oil-importers and faced two price shocks. For nearly all food-importing countries, the oil price shock is greater than the food-price shock in terms of impact on the balance of payments (IMF, 2008b).

67. Given the array of factors that influence the transmission of international to domestic food prices, it is not surprising that the relation between them is imperfect. A recent study in seven Asian countries found that world prices in US dollars increased by an average of 52 percent between the end of 2003 and the end of 2007, while domestic prices increased by only 17 percent in local currencies (Dawe, 2008). Another study estimated that between 1995 and 2008 about 15 percent of the change in international food prices was passed-through to domestic prices (IMF, 2008).

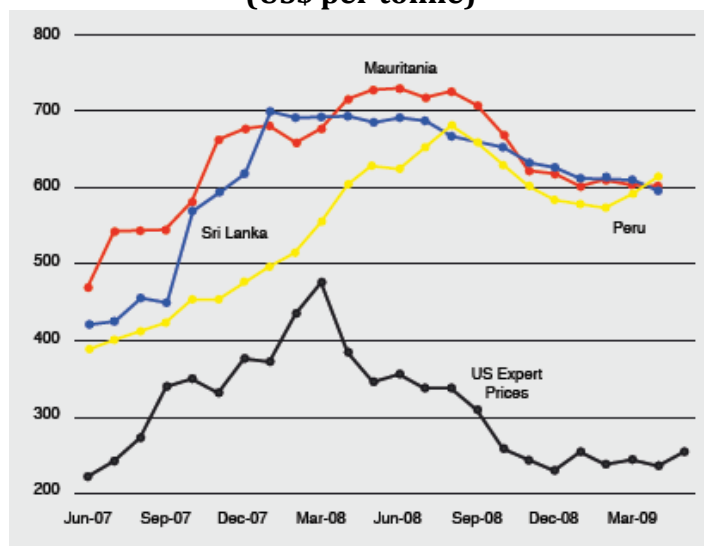
68. For countries where the major food staples are domestically produced rather than imported from international markets, food prices are more likely to be determined by domestic demand and supply conditions. This was, for example, the case during 2007-08 in Burundi and Uganda (Sanogo, 2009).

69. Incomplete pass-through also occurs when prices decline. For example, at the end of 2008, there was evidence that the steep decline in international food prices had not translated into similar declines in domestic prices (see Figure 2). On top of the factors discussed above, there are additional reasons for this, which include a delayed price transmission because of transportation time; sticky prices and the ratchet effect, when prices adjust more easily upwards than downwards, which could be a result of non-competitive markets; the effects of reduced fuel subsidies on food prices; and second-round price effects – higher prices leading to higher wages and back to higher prices (IMF, 2008).

70. As a result, throughout 2008-09, food prices in developing countries remained high compared to historical levels. For example, according to FAO, prices in about two thirds of the 68 countries covered in its database were more than 25 percent higher than in the pre-food crisis period for rice, wheat and millet/sorghum and for maize in about half of the countries (FAO, 2009c). And, in the last quarter of 2009, the cost of staple commodities in

more than 70 percent of the 58 countries monitored by WFP were still more than 20 percent higher than the average for the past five years. This was most evident in Ethiopia, Malawi, Northern Sudan, Somalia, Zambia and Zimbabwe (WFP, 2010a).

Figure 2: US and domestic wheat prices in selected countries (US\$ per tonne)



Source: GIEWS, FAO (2009)

71. The likelihood that food prices have an effect on violence is larger if the changes are more sudden. Food prices are inherently volatile because of low supply and demand responses to price changes. Demand and supply curves are steep (low demand and supply elasticities), and small changes in supply can have large effects on prices, especially when stocks are low. Table 2 identifies a number of factors that could particularly lead to sudden price changes as opposed to more structural factors that change more slowly. Exchange rates can move suddenly, neighbors could impose export restrictions overnight, and natural disasters could affect food prices in a relative short period of time. National policy measures could mitigate some of these effects (see section on capacities below).

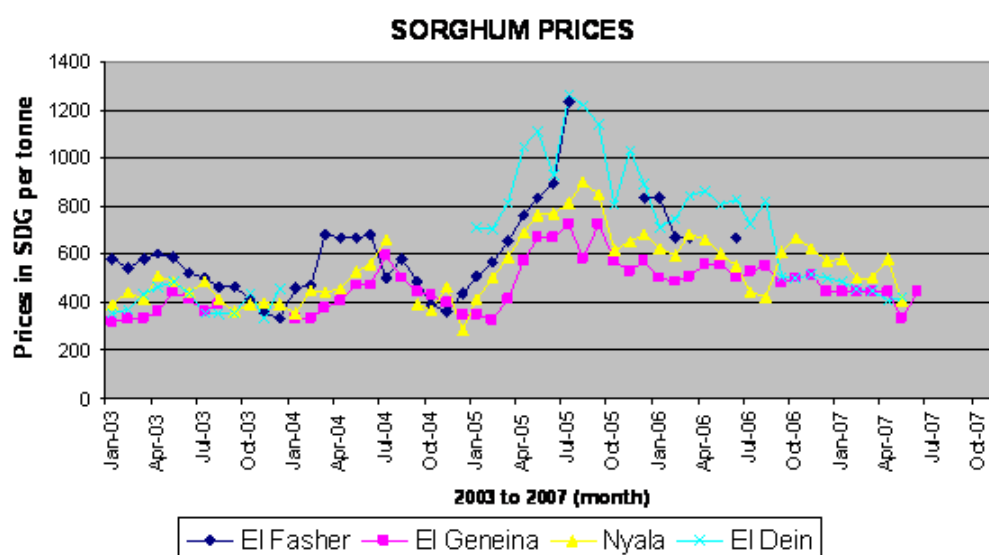
72. Psychological dynamics make these factors, particularly the rapidly changing ones, even more important. Changes can be easily amplified by changes in expectations and panic. Timmer (2010) tells a very convincing story that panicked hoarding among a billion households consuming rice could easily have increased the global demand for rice in a matter of weeks by 7 million tonnes, which amounts to about a quarter of the global annual rice trade.

3.3. Violent Conflict as a Source of Higher Prices

73. Violent conflicts can have an important effect on food prices. In fact, violent

conflicts and civil wars have been a dominant cause of famine in the post-World War II period, including in Angola (early 1980s), Cambodia (1979-80), Ethiopia (1984-85), Mozambique (1980s), Nigeria (1967-69), Somalia (1992), and the Sudan (1987-91) (Drèze and Sen, 1989; Ó Gráda, 2007; United Nations, 1993). Kates (1993) has called civil war the greatest cause of famine in the 20th century. One of the most important causes of famines during wartime is the fact that governments are not able or not willing to prevent it (Devereux, 2007). Military spending and the use of military force, both of which tend to rise during conflict, have negative effects for food security and child hunger (Scanlan and Jenkins, 2001). The ability to produce, trade and access food is often directly or indirectly affected as a result of conflict (United Nations, 1993). Violent conflicts cause death, disease and displacement, destroys physical and social capital, damages the environment, decreases school attendance and discourages investment. Conflict crowds out normal economic activity, such as food production, destroys necessary infrastructure, and cuts off access to food supplies – often as a tool of political terror (Messer, Cohen and Marchione, 2002; Collier et al., 2003). These effects are not confined to the land on which conflict takes place. Civil wars are associated with a 22 percent contraction in a country's marine fish catch, a deficit that takes an average of eight years to overcome (Hendrix and Glaser, 2009). The result is often higher food prices. In Darfur, for example, prices of the main food staples increased rapidly after widespread violence started in late 2003/early 2004 (see Figure 3; Annex 10). The effects are immediate but have long-term consequences, including on the ability to produce or access food. Children in Burundi and Zimbabwe who experienced a violent conflict were significantly shorter (stunted), which affects their lifetime health, education and productivity (Alderman, Hoddinott and Kinsey, 2006; Blattman and Miguel, 2010).

Figure 3. Sorghum prices in Darfur



Source: Government of Sudan et al. (2008)

74. Refugees and internally displaced persons fleeing violence often experience the most acute insecurity. The civil war in Southern Sudan left an estimated 2.6 million people in need of emergency food aid by 2000; since the conflict in Darfur broke out in 2003, roughly 2 million people (one third of the regional population) have been displaced; the WFP has provided monthly food rations to virtually these entire populations. More recently, Somali pirates have begun targeting food-carrying vessels, and the attacks have led to up to 22 percent price increases in staples like wheat and rice (IRIN, 2010). Piracy flourishes because the failed Somali state has been incapable of policing its territorial waters. Food insecurity is one of the legacy effects of civil conflict, and contributes to the relationship between civil conflict, infant mortality, and shorter adult life expectancies that persists long after the shooting stops (Ghobarah, Huth and Russett, 2003).

3.4. Climatic and Environmental Factors Driving Food Prices

75. Food production ebbs and flows with weather patterns. Of the 33 countries experiencing food crises requiring external assistance in early 2010, 13 are largely due to either insufficient rainfall or extreme weather events, such as droughts or cyclonic storms. Though not weather-related, the earthquake that struck Haiti has caused widespread food insecurity due to major loss of livelihoods and infrastructure (FAO, 2010a). Yet not all droughts will lead to food insecurity or conflict; see Annex 3 for a discussion of the divergent responses of South Africa and Somalia to droughts in the early 1990s. Moreover, localized weather events in major exporters can have a dramatic effect on food prices worldwide. Drought conditions in Australia and the Ukraine, two major wheat producers, were a contributing factor to the 2007-8 food price spike, while the rebound in Australia's wheat harvest in 2008 contributed to bringing prices back down after April of that year (Rosegrant, 2008; Timmer 2008).

76. Changes in temperature also affect food production. Higher temperatures diminish worker productivity, decreasing economic growth and agricultural and industrial output in developing countries, and suppress agricultural exports of various kinds (Dell, Jones and Olken, 2008; Jones and Olken 2010). This is especially problematic for many lesser-developed countries that rely on cash crop exports to generate foreign exchange for food purchases on international markets.

3.5. Outlook for Future Stress

77. The crisis of 2007-08 was not unprecedented. Food crises have occurred in the past. Timmer (2010) argues that they come with a certain regularity of three decades or so because of a cyclical nature of shifts between market-led versus government-led approaches. Food crises are almost universally followed by greater government involvement in production, in lowering food prices and in improving access among poor households. But the costs of these interventions and the fading memories of the crisis lead to a heavier reliance on market forces, which sow the seeds of the next crisis by providing not the right signals (e.g., prices are too low) for investments in research and infrastructure. This happened after the 1972-73 crisis, which was followed by a heavy

swing towards markets in the 1980s and 1990s – and very low food prices.

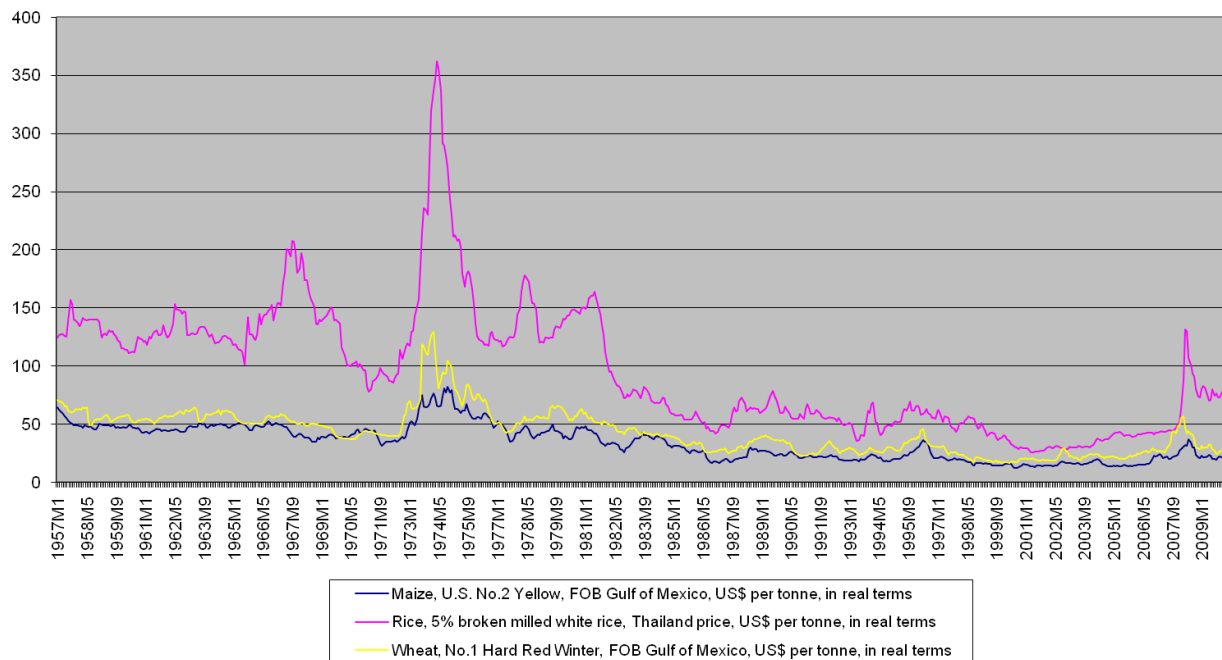
78. There are several parallels between the 1972-73 and 2007-08 crises (see Table 3). With regard to the magnitude, the crisis in 2007-08 seem to have shown a smaller increase in nominal terms and lower levels in real terms (see Figure 4), but lasted longer and showed higher volatility for cereals (WFP, 2009a). Both crises were rather comprehensive in nature, affecting prices of nearly all food commodities.

79. Regarding the causes, drought-related supply shocks played a role in both crises, coming at a time of low stocks. Interestingly, experts were already concluding in the 1970s that, “climate itself is changing” (Time, 1974). Now, climate change is “unequivocal” (Bates et al., 2008). The depreciating dollar exchange rate and rising oil prices also contributed to higher food prices in both crises, although Timmer (2010) pointed out that the oil price increase followed the food price increase in 1972-73 and preceded it in 2007-08. Moreover, in the 1970s, the oil price hike was supply-driven by an embargo, while in recent years the oil price has been fuelled by higher demand. Export restrictions imposed by major exporters were important elements in both crises as well.

80. Rising incomes pushed up demand for meat and feedstocks in both crises, although in the 1970s the increase in demand came primarily from developed countries, while recently it has come from developing countries. Population growth also played a role in both crises, although in the 1970s the rate of growth was high and even increasing, while recently it has declined. Speculation was also blamed in both crises.

81. Despite the similarities and nuanced differences between the 1970s food crisis and the most recent one, perhaps the five most fundamental differences are slow yield growth in recent years – compared to green-revolution fueled yield growth in the 1970s – the recent influx of financial investments into commodity markets, the increasing frequency of extreme-weather events associated with climate change, high energy prices and the demand for biofuels. These changes could herald a new era of high food prices.

**Figure 4. Real prices of maize, rice and wheat
(adjusted with US inflation rate), 1957-2010**



Source: Updated from WFP (2009a)

3.6. Food Prices Are Likely to Remain High and Volatile

82. Food prices have remained high despite declining in the second half of 2008 after it peaked in mid-2008. The FAO cereal index in February 2010 was 60 percent above the 2005 level and nearly double the 2000 level. Several factors behind the fall, such as slower demand growth, lower energy prices, and a stronger US dollar, can be attributed to the global financial crisis that erupted in September 2008 in full force. Other factors, such as the easing of weather-related supply constraints and of export restrictions, played a role as well. Food stocks also increased as a result of good harvests. The stock-to-use ratio of cereals reached almost 23 percent in 2008/09, 4 percentage points more than two years earlier. Wheat stocks in particular have improved with a stocks-to-use ratio in major exporting countries increasing from 12 percent in 2007/08 to 20 percent in 2009/10 (FAO, 2009a).

Table 3. Similarities and differences between the 1972-73 and 2007-08 food crises

	Features of crises in 1972-73 and 2007-08	Features of crisis in 2007-08
Magnitude		Smaller percentage change and lower prices in real terms
	Broad-based, affecting nearly all food commodities	
		Longer lasting high prices
	High volatility	Higher volatility
Supply	Weather-related supply shocks	Climate change is “unequivocal”
		Falling productivity growth
	High oil prices, through input prices	High oil prices are demand- not supply-driven, and linked to the food market through output prices because of biofuels
Demand	Higher demand because of higher incomes	Higher demand in developing rather than developed countries
	Population growth	Population growth rate declining
	Low stocks	
	Export restrictions	
	Depreciating dollar	
	Speculation	Institutional investors

Source: WFP (2009a)

83. The recent increases come after a prolonged decline in the prices of many agricultural commodities, reaching historic lows in the late 1990s. Cereal prices declined because productivity benefited from the green revolution, while demand grew more slowly as a result of slowing population growth, persistent poverty in some countries, and the reaching of medium to high cereal consumption levels in other countries, such as China (FAO, 2002). That era seems to have come to an end.

84. Forecasting is difficult, particularly for the medium and long terms, and economists have been wrong in the past. Fears about rising food prices have often turned out to be exaggerated or just wrong in the past. Most forecasting is done by mechanically extrapolating into the future, and structural changes in underlying dynamics or the model are often not foreseen.

85. Many factors affect future patterns of demand and supply, and most of them are surrounded by considerable uncertainty, for example, regarding the impact of climate change and demand for biofuels. The impact of recent commitments to invest in agriculture, such as the G8's L'Aquila Food Security Initiative, on food production is also unclear. Moreover, investments in research and development to improve yields have a

long time lag. Furthermore, the effect of institutional investors on commodity markets is also unclear, although they are probably contributing at least to increased volatility.

86. Most major institutions that forecast food prices foresee a gradual increase of food prices over the long-term. Figure 5 shows an average of the forecasts, assuming that the average of these forecasts is more likely to be accurate than each individual forecast (Surowiecki, 2004). Average food prices for the next ten years will be significantly higher than the ten years before the recent peaks (say 1996-2005).

87. These annual averages hide intra-annual and inter-annual price volatility, which are difficult or impossible to forecast. Price volatility will remain high and is likely to increase in the coming years. There are a number of major factors fueling volatility. First, agricultural commodity prices are inherently volatile (see above). Investments in creating the resilience of crops to extreme-weather events can contribute to lower volatility. For example, IRRI has developed a rice variety that can stand under water for 30 days, which has been introduced in Bangladesh where flooding is common. Additional investments are required but will take a long time to be effective and will not change the fundamental character of agriculture, which makes food prices volatile.

88. Second, trade in food commodities occurs in very thin markets that are highly concentrated and which can very easily shift (Timmer, 2010). For example, the ten largest exporters of cereals account for more than 90 percent of global cereal exports, with three countries accounting for more than 50 percent, despite a reduction in the concentration over the last two decades. This makes cereal markets very vulnerable, as a production failure in one country affects millions of people in dozens of other countries (WFP, 2009a).

89. Third, climate change and the associated increase in more extreme-weather events have already contributed to fluctuations in the production of food. This is likely to continue in coming years (Parry et al., 2009). The IPCC forecasts an increase of 75 to 250 million people in Africa will be exposed to increased water stress as a result of climate change, and that agricultural yields in some African countries – many of which are virtually totally dependent on rain-fed agriculture – may be reduced by up to 50 percent by 2020. Crop yields may increase up to 20 percent in East and Southeast Asia but decrease by 30 percent in Central and South Asia by 2030. Food insecurity is forecast to remain high in these regions. Drier regions of Latin America are expected to see desertification of agricultural land, and Southern Europe is projected to see higher temperatures, more frequent droughts, and decreases in water availability, agricultural productivity, and summer tourism (IPCC, 2007).

90. Fourth, food commodities have become a financial asset class and the flow of money from institutional investors moving in and out of food commodities will continue to contribute to price volatility.

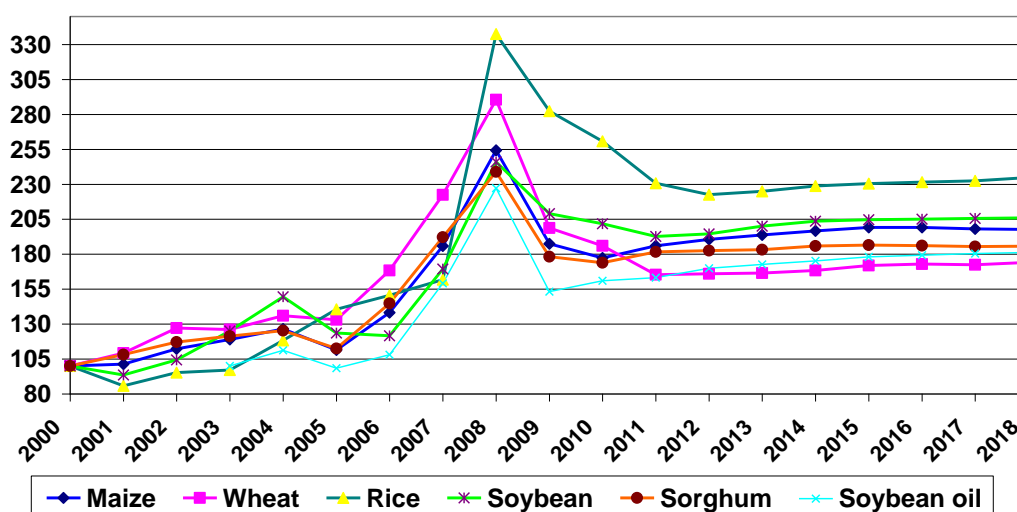
91. Fifth, the interaction between the energy and food markets, driven by biofuels, implies that the volatility in the energy prices will translate into volatility in food prices (Timmer, 2010).

92. Sixth, psychology will continue to play a role. Herd behaviour – and bubbles and crashes – play an important role in financial markets because market participants often do not know the true value of the contracts or assets they are trading. As a result, they act on average opinion. Traders act according to what everybody else believes. New information – true or false, positive or negative – can lead to reactions and overreactions in commodity markets. One expert suggests a link between the emergence of speculative bubbles and the advent of newspapers in the 1600s (Shiller, 2000). He draws attention to information cascades, when one story, perhaps at first judged minor, leads to others. Through these cascades, average opinion changes and bubbles can emerge. The Internet multiplies the possibility of information cascades.

93. Psychology and panics also plays an important role in price volatility in regular markets. Slayton (2009) and Timmer (2010) argue that panic hoarding by probably billions of consumers, millions of traders, processors and retailers and a few Governments, based on the expectation of rising rice prices, led to a sudden surge in demand and a sharp increase in the price of rice in 2008. The bubble was subsequently burst by a simple announcement by Japan that it would release 300,000 tonnes of rice from its stocks for the Philippines (but never did).

Figure 5. Average of forecasts of five institutions (2000=100)

Average of forecasts of EIU, FAPRI, OECD-FAO, USDA and World Bank (2000=100)



Source: Updated from WFP (2009a)

4. Capabilities

4.1. Domestic Sources of Resilience

94. For any given level of food insecurity, two groupings of factors will affect the degree to which political systems can address this insecurity and stave off grievances that may lead to conflict. These factors affect the political will to address food insecurity, and the ability of the state to respond to crisis. Often, the problem is not a lack of political will, but a lack of institutional capacity.

95. Political democracy is one of the key determinants of whether droughts and falling food production lead to famine. As famine is largely a problem of distribution and access, those governments that are beholden to their citizens for office, and that face independent free presses that report on food insecurity, have incentives to ensure that widespread hunger is addressed (Sen, 1981). Of the great peacetime famines of the 20th century (i.e., those not caused by military occupation or endemic conflict), none have occurred in political democracies.

96. Emphasis on the democracy/autocracy distinction masks meaningful differences between authoritarian regimes, and the degree to which they legitimate their authority through mass participation in politics (Gandhi and Przeworski, 2007; Magaloni, 2008). One-party systems have long tenures in office partially because they are successful and incorporating civic organizations, such as trade unions, that might otherwise form the basis of collective action against the regime, but also because this incorporation of society into the regime helps in the design of more effective policy. In contrast, political leaders with minimal institutionalized ties to the population, such as personalist dictatorships, tend not to survive as long and do a much poorer job of providing public goods, among them, basic food security (Bueno de Mesquita et al., 2003). Both democracies and more inclusive autocracies perform better than personalist dictatorships in this respect.

97. Turning from the question of motivation to the question of capacity, there are broad discrepancies across countries in their degree of political capacity to institute policies and effectively implement them. Fragile states by definition suffer from weak capacities to design, implement, and monitor policies and programmes. Moreover, any African, Asian, and Latin American states have experienced recurrent fiscal crises since the early 1980s, and these crises have severely curtailed the ability of these states to intervene in domestic markets and ensure food security. Some of these problems stem from balance of trade problems, as countries with limited resources and large external debts lack adequate reserves of foreign exchange to address domestic food scarcity through imports.

98. Moreover, chronic problems of macroeconomic instability, high external debts, and policy conditionality make it prohibitively costly for many of these countries to borrow in tough times and “smooth” domestic consumption and food security by engaging in counter-

cyclical social spending (Wibbels, 2006). These problems have been particularly acute in Sub-Saharan Africa, as restricted flows of international aid in the post-Cold War era have combined with high levels of political violence to cause widespread retrenchment of state capacity to deliver services and resources to invest in social safety nets (van de Walle, 2001).

4.2. Food Price Stabilization

99. Governments have various means to limit the transmission from higher international food prices. The most important ones are:

- Changes in trade barriers: Reducing import tariffs to lower prices; lowering import quotas and imposing export restrictions to increase availability;
- Changes in domestic food taxes and subsidies: Lowering taxes and increasing subsidies to reduce prices;
- Direct price interventions: Imposing price controls to keep prices stable; and
- Other government interventions: Releasing food reserves to increase supplies.

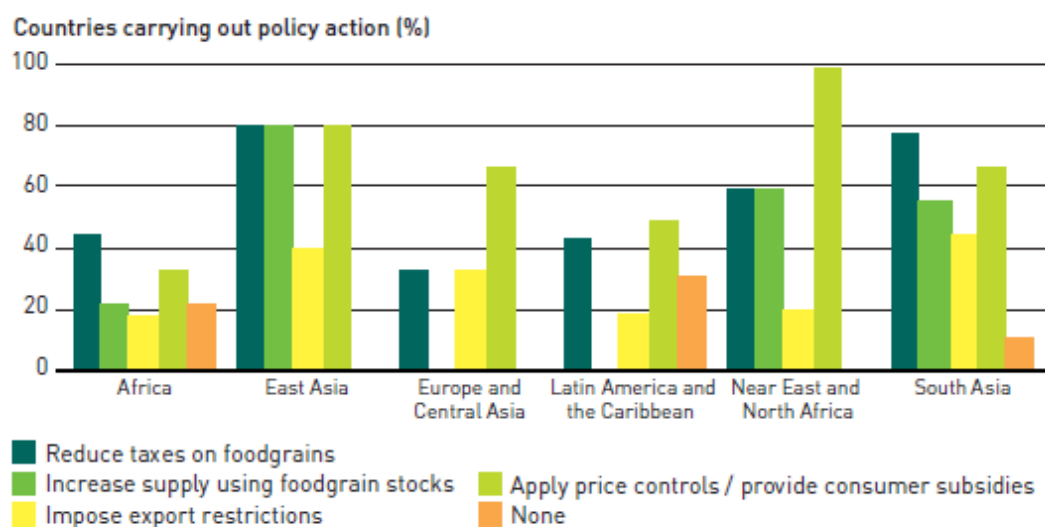
100. In 2007 and early 2008, 84 percent of 77 developing countries surveyed had taken some policy measures to reduce the transmission of food prices (FAO, 2008b; World Bank, 2008a and 2009; see Figure 6). About half of the countries reduced import taxes and more than half applied prices controls and subsidies. About a quarter imposed export restrictions. A similar number of countries released food from a reserve (FAO, 2008b). Middle and lower income Asian countries, especially the major grain producers, responded to the crisis uniformly but instituting export restrictions and consumer subsidies, while all but Indonesia also took steps to increase supplies investing in productive capacity. Latin America's major grain producers did not pursue export restrictions (save for Argentina and Brazil), instead choosing to ease restrictions on food imports and provide consumer subsidies, and increasing investment in productive capacity.

101. Finally, the major economies of sub-Saharan Africa (save for South Africa) responded with more divergent outcomes. While Egypt and Ethiopia pursued a strategy mixing export restrictions with consumer subsidies and investment in food production capacity, Kenya's government responded only with targeted investments in boosting agricultural productivity, and did not attempt to either increase supply or reduce consumer prices directly through government intervention (von Braun, 2008).

102. Some of these measures are easier to design and implement than others and depend, of course, on previous measures. One can, for example, not release food from a reserve or lower subsidies if they are not there in the first place. Moreover, the fact that some measures are easier to implement than others is important in fragile states and countries with limited capacity. Reducing taxes and tariffs is fairly easy to implement, although it does have fiscal implications that need to be managed. Managing, storing, rotating, and timely releasing of food stocks is more complicated and requires capacity. Moreover, food stocks are often targets of looting and theft in conflict-affected countries.

Price controls are difficult in a conflict-affected country because the likelihood of evasion is very high in a situation where government capacity and control is weak. As a result, no actions or reduction of taxes are the most common measures in fragile states (see Annex 4).

Figure 6. Policy actions to address high food prices



Note: Based on preliminary information collected by World Bank staff and amended by FAO (April 2008).

Source: FAO.

Source: FAO (2008b)

103. From an economic point of view, there is an order of preference in the actions countries should take to stabilize prices. Economic arguments related to effectiveness, targeting, incentives to work, and food production and costs, including administrative costs, provide some form of ranking. The World Bank (2008a), for example, gave a green light to the reduction of taxes on food grains, raised some concerns about food stocks, argued against price controls and consumer subsidies and strongly discouraged export restrictions.

104. Political factors are often ignored or under emphasized when economic policy advice is given.³ Yet, they play an important role in decision making. Timmer (2010: 4), for example, argued that “rice [is] a highly political commodity”. China, India and Indonesia did not follow in 2007-08 general advice from economists and were able to largely insulate their societies from international price pressures. Although, each country followed a different set of policies, the end result – stable food prices – was achieved in each of them. Keeping food prices stable, while giving price incentives to farmers (at levels above international prices) and subsidies to consumers, has been advantageous in political terms. The incumbents in India and Indonesia, for example, were both re-elected in 2009, partly because of their success in keeping food prices stable (Timmer, 2010; see also FAO, 2009c

³ Referring to the fact that all countries in Asia intervened in the rice market and not follow the border price paradigm, Timmer (1989: 24) wrote that “[t]his must be one of the widest gaps between theory and reality in all of economics.”

for the case of China). Timmer (1989: 24) wrote: “Nothing is more unsettling politically than rapid shifts in real income and wealth among large sectors of the population. Governments can eliminate at least one important cause of instability by stabilizing rice prices.”

105. Governments or governing elites have played a role in stabilizing prices for millennia. In ancient Greece and Rome, public interventions prevented food crisis (which were frequent) from developing into famines (which were rare) (Ó Gráda, 2009: 197). There was a sense of moral obligation, but the possibility of civil unrest and the spread of disease, which would affect their survival, played a role as well. Governments and elites must also have noted that the likelihood of riots and protests is largest when hunger increases, but is small when starvation and famine is deep and apathy and exhaustion take over (Dirks, 1980; Ó Gráda, 2009: 55). Hence, early action and prevention has a premium. Historically, the most common means to stabilize prices were storage (often at the municipal level) and export restrictions. The Ch’ing Dynasty administered a nationwide granary system to reduce seasonal price volatility and for famine relief (Wright, 2009). Price controls also have a long history, going back at least to AD 362-63 when Emperor Julian imposed them. They were often combined with clampdowns on traders who were accused of hoarding and profiteering – and sometimes followed by public executions (Ó Gráda, 2009).

106. National governments, private traders, processors and farmers store food to smooth over inter-annual and seasonal variations in food availability. Reserves at the local and national level can play an important role in stabilizing prices through accumulation when prices are low and release of stocks when prices are high. Physical food stocks can play important role in emergencies. Strategically storing and releasing stocked food or cash for purchases may increase food availability and access and stabilize prices. If the food is targeted to poorer households, or is of a quality that wealthy people will avoid, the release of stored food may increase access. Strategic grain reserves can be especially useful in areas facing regular seasonal shortfalls.

107. Reserve systems can be particularly useful for countries facing chronic vulnerability to food crises, such as Ethiopia and those in the Sahel. Reserves can also be important for landlocked where supply-chains are relatively long. A food reserve in a disaster-prone country can mitigate food emergencies and stabilize prices. The Ethiopian Emergency Food Security Reserve (EFSR) is financed by international donors and managed by a committee of government officials and donors (Buchanan-Smith, 2002). Having readily available surplus food reduces response lags; depending on the local marketing context and household needs assessments, the food can be released to the market or distributed directly to targeted households. A strategic reserve programme may support producer prices by restocking reserves when prices are seasonally low.

108. Indonesia’s successful food reserve system assigns sufficient space to private trade and provides a good example of striking a balance (Poulton et al., 2006). The Indonesian

Logistic Bureau (BULOG) maintains food prices within a certain band around world prices, allowing private traders to continue trading, and facilitating the functioning of commodity exchange markets while avoiding excess volatility.

109. Until recently, the use of physical food stocks and strategic grain reserves had been steadily declining. Global stocks were in 2008 at their lowest levels since 1981. The relative decrease in importance of food reserves was a result of the costs and difficulties associated with maintaining physical food stocks, the emphasis on markets to cover production shortfalls and hedge against price risk, and lower transaction costs as a result of improved information and transport technology. Because of these factors, a strong tendency has existed against public physical food stocks since the 1980s (Timmer, 2010; WFP, 2009a).

110. There are two arguments for public storage (Wright, 2009). The first is markets only react to demand (WFP, 2009a). The destitute without “food entitlements” may starve without affecting prices and triggering a response from markets. Secondly, in a food crisis governments are pressured by consumers to take action against “hoarders”.

111. The management of food reserves is costly and requires an excellent market and production information system. The quality of food stocks needs to be sustained. When stocks are released, there is a risk of crowding out the private sector and creating disincentives for traders to import food. Releasing stocks may be politicized and dissuade importers and local traders from bringing food to shortage areas, potentially harming longer-run supply chains (Dana, Gilbert and Shim, 2006).

112. Public interventions could discourage private storage (Wright, 2009). The anticipation of a release of public stocks and lower prices reduces the incentive to hold private stocks. These incentives can be minimized if public stocks are only held to release to the destitute when private stocks are exhausted. The knowledge of the existence of public stocks can discourage excessive accumulation of stocks (hoarding). Hoarding and panic buying is often a result of expectations of higher prices. The existence or release of public stocks can discourage speculative hoarding by traders (Ravallion, 1997), which has pushed up prices, as happened recently with rice stocks in the Philippines, where already high food prices were driven even higher (Slayton, 2009), and during the Bangladesh famine of 1974-75 (Devereux, 2001; Ravallion, 1987). If information on government stocks and other government actions can disseminate these actions, they will go a long way towards price stability (Drèze and Sen, 1989). But they have to be credible. Announcements of government imports without the foreign exchange, for example, are not credible. Planned actions that don’t materialize can have worse effects on price stability. Discussions with traders about the timing and amounts of stock sales or transfers can help them to plan so they avoid importing food at a loss. Regular consultation with the private sector and decision rules on government actions could be helpful (WFP, 2009a).

113. Large food reserves also have signaling effects on world and/or regional markets, which can have positive or negative influences on prices and trade volumes. To be cost-efficient and effective, food reserves must be consistent with national and international food and trade policies. Although stocks can help solve seasonal and inter-annual changes, they are less likely to be a solution to long-lasting price shocks. It is also difficult and costly to create reserves when prices are high and availability is limited, as happened in 2008.

114. Storage by households is, of course, also a vital way to deal with fluctuating supplies and prices. Household and community-based reserves are critical in covering inter- and intra-annual (seasonal) production fluctuations. Improvement of storage facilities is key as a large share of the harvest (perhaps as much as 40 percent in sub-Saharan Africa) is lost to post-harvest losses. WFP is working in several countries to support warehouse receipts systems. Warehouse receipts are documents issued by warehouse operators as evidence that a certain quantity and quality of commodities has been deposited at a warehouse. The receipt entitles its holder to withdraw the deposited commodity from the warehouse and can be used sold for cash or used as collateral for loans. Warehouse receipts can reduce the “sell-low-buy-high” phenomenon, where farmers sell their crops during harvest time because they need the cash and buy food during the lean season, when prices are high.

115. With politics dominating in history and across a broad set of countries and given the widespread use of “non-preferred” measures even in established democracies, one could perhaps expect no less in fragile states.

4.3. *Social Protection and Safety Nets*

116. Attempts at stabilizing prices are rarely completely successful. They need to be combined with social protection measures, including safety nets, to mitigate the impact of higher food prices. Social protection can play a critical role in preventing violent conflicts. In the past, safety nets relied heavily on public works, probably starting in the 18th century in India but becoming more common in the 19th century, including in Europe (Ó Gráda, 2009). In recent years, the range of instruments has multiplied. The following categories of measures can be distinguished (World Bank, 2008a, 2008b; WFP 2009):

- Transfers of food, cash or vouchers, which could be conditional or unconditional;
- School meals, which includes meals or snacks for breakfast, mid-morning or lunch and take-home rations and could be complemented by other health and nutrition interventions;
- Cash- or food-for work programmes, which create assets, such as roads, dams or irrigation systems;
- Food subsidies (general or targeted); and
- Weather-based index insurance (see Annex 6).

117. Compared with the narrower “safety net” discussion of the 1990s, current social protection debates are renewing to the focus on innovative ex-ante measures to reduce risk, such as through insurance, in addition to more traditional ex-post safety net transfers

in food, cash or vouchers. There is growing evidence that social protection is not a palliative to food insecurity, but an investment in economic growth (Devereux and Sabates-Wheeler, 2007).

118. Many of the countries that are introducing social protection systems, such as Ethiopia, Kenya, and Malawi, have been hit by emergencies almost every year, implying that the level of needs is to some extent predictable. Rather than responding to recurrent needs, the rationale behind social protection is to meet core needs predictably over many years.

119. Guaranteeing stable support over time may decrease the risks perceived by households, thereby reducing the adoption of negative risk management and coping strategies and fostering more entrepreneurial behaviours and activities. For example, about 75 percent of its beneficiaries reported that they consumed more or better quality foods because of Ethiopia's new Productive Safety Net Programme (PSNP), and 62 percent were able to retain more of their food production to eat rather than selling it for other needs (Devereux et al., 2006).

120. Social protection can reduce risk and promote growth through four key channels: investments in human capital, improved risk management, addressing (some) market failures, and reduced inequality (WFP, 2009a).

121. *Investing in human capital:* Recent evidence indicates that better nutrition among children can lead to higher earnings and income streams when they become adults, because nutrition affects cognitive development, educational attainment and productivity, which contribute to higher incomes (Behrman, Alderman and Hoddinott, 2004; Hoddinott, 2008).

122. *Managing risks:* Higher income opportunities are often associated with higher risks; risk aversion prevents people from investing to gain higher incomes from endeavours that involve higher risks, such as introducing new plant varieties. Studies in south India and the United Republic of Tanzania show that because poor households deploy their assets more conservatively, their return on assets is generally 25 to 50 percent lower than wealthy households' (Alderman and Hoddinott, 2007). By externalizing some of the risks, predictable social protection can provide poor people with the confidence and security to engage in potentially risky income-generating activities. Social protection can also prevent the selling of assets after a shock, keeping vulnerable households out of the hunger-poverty trap.

123. *Addressing (some) market failures:* Safety nets may reduce transaction costs faced by farmers by, for example, creating infrastructure through food-/cash-for-work programmes. Insurance products can reduce uncertainty about the future, hence allowing better allocation of resources. The provision of regular social protection transfers may also help alleviate some household liquidity constraints, thereby partially addressing credit market failures (Dercon, 2004).

124. *Inequality reduction:* The trade-offs between equity and efficiency are less pronounced than often perceived (Ravallion, 2007). More equality can help boost growth, as demonstrated in East Asia (Birdsall, Ross and Sabot, 1995). Inequality can result in policies that favour a small elite, rather than the general population and a lack of social capital. There is a distinction between inequalities that are good for sustainable growth and those that are bad. “Good” inequalities may provide incentives for innovation and investment, while “bad” ones prevent access to markets and limit investments in human and physical capital (Chaudhuri and Ravallion, 2006). Maximizing the good inequalities and minimizing the bad are key ingredients of an inclusive and pro-poor growth strategy.

125. Developing countries have different capacities for introducing and scaling up social protection systems (Chronic Poverty Research Center, 2008; WFP, 2004b). Diverse models could be developed to capture different stages of development of social protection systems, ranging from the absence of such systems in many fragile states, such as in Somalia or the Sudan, to consolidated systems, such as in Mexico or South Africa (Gentilini and Omamo, 2009). Social protection issues in low-capacity, post-conflict countries are different from those in countries with institutionalized and domestically financed systems. There is a need to overcome the policy and capacity constraints that prevent the most vulnerable and food-insecure countries from introducing and scaling up formal social protection systems.

126. Some of these measures are rather difficult in fragile environments. For example, cash-based programmes are often inappropriate or infeasible in fragile situations because they are more complicated to implement and monitor, are easily subject to corruption, require capacities, including among implementing partners, bring additional security concerns, require the presence of financial institutions and necessitate markets that work well, while they are often disrupted because of violence (WFP, 2008; World Bank, 2008b). It is difficult, but not impossible as Harvey (2007, 2009) mentioned three cases where cash has been transferred to beneficiaries.

127. School meals are an important safety net in fragile countries where social protection is weak and safety nets rare. Cash- or food-for-work have played a central role in mitigating the effects of high food prices for centuries. During violent conflicts these programmes are difficult to implement. However, they are critical instruments to provide a safety net, offer jobs and assist in the rebuilding of the country immediately after a conflict, or even during the waning months of a conflict.

128. One constraint to these measures is fiscal. Government expenditures on safety net programmes, food-based and other, have increased, because numbers of beneficiaries, costs per beneficiary, or both have risen. About half the countries surveyed by IMF reported a net increase in the fiscal cost of policy responses; the median annualized increase for 2007/08 was 0.7 percent of GDP, but exceeded 2 percent of GDP in many countries (IMF, 2008c; World Bank, 2009). Many have emphasized the need for targeted approaches – rather than, for example, general subsidies – to reduce costs and increase effectiveness and efficiency. For example, direct compensation of the poor for higher food

prices between January 2005 and December 2007 would amount to only US\$2.4 billion (World Bank, 2009).

129. During a violent conflict, governments have a weakened capacity to operate social protection systems and have great difficulty in mobilizing revenue as the country's instability reduces its economic base and the ability to control its territory, all of which contribute to a weak tax base. The situation often leads governments to divert funds from the social sectors to the military and security sectors. El Salvador is a good example. From 1988 to 1990, military spending was 20 percent of the central government's expenditure and expenditures for education and health were only 2 percent and 1 percent, respectively. By 1990 investment and national savings bottomed out at 12 percent and 5 percent, respectively (Del Castillo, 2001). Another example is Mozambique, where the Government's pre-war expenditure on education was 12.1 percent of total expenditures, which had dropped to 4.4 percent by 1987. An extreme example is Liberia: "During the war in Liberia the state provided virtually no services, it did not pay its employees ... police and army provided predation and almost no protection, schools barely functioned, and medical services were provided almost exclusively by non-governmental organizations." (McGovern, 2008: 337). Conflicts lead governments to have more ad hoc domestic coping mechanisms or activities financed by external donors.

4.4. Breaking the Link Between Food Insecurity and Violence

130. There is a reciprocal relationship between service delivery and fragility (OECD, 2008). This also applies to food assistance. Providing food assistance and improving food security could reduce tensions and reduce fragility. The vicious cycle between food insecurity and conflict can be transformed into a virtuous cycle between food security and stability. Yet, this is not easy and a delicate balancing act needs to be followed, partly because food assistance itself can be a source of conflict (Berdal and Malone, 2000; Deng and Minear, 1992) and can provide disincentives to local food production (see Section 5.5.1) and the development of local capacity.

131. Food and nutrition assistance are critical for development. The cost of hunger is very high, amounting to as much as 11 percent of GDP (CEPAL and WFP, 2007). When young children do not receive the right nutrition, they will face life-long consequences in terms of health, education and productivity (Victoria et al., 2008). In Guatemala, for example, men who had benefited from a nutritious drink when they were under 2 in the early 1970s, were – 30 years later – earning wages that were 46 percent higher, controlling for other factors (Hoddinott et al., 2008). The large negative effects of malnutrition not only affect the individual, but also have a large impact on the growth and development potential of a country.

132. There is a critical window of opportunity between conception and 24 months. If children do not get the right nutrition during that time they are likely to be stunted at 2 years of age, and for the rest of their lives. It is critical that during and after a period of

conflict these children are not condemned for life. In this sense, there is no relief to development gap: Food and nutrition assistance *is* development.

133. The realization of these benefits creates a peace dividend for the populations affected by conflict. Because the situation is often fragile and vulnerable to reversals, it is important that these benefits delivered through food assistance are reached early, equitably, broadly and for a considerable amount of time. Areas affected by violence or neglected during the conflict should receive particular attention.

134. Improving food security can also increase the legitimacy of the State, which might have been undermined during the conflict (OECD, 2008; Shearer, 2000). Yet, State legitimacy can also be negatively affected by corruption or inequitable access. Equity and accountability are the principles that need to guide actions. Capacity of the government to improve food security needs to improve alongside the actual improvement of food security.

135. Use of non-state actors and assistance from the international community could undermine the legitimacy of the State. It is therefore important that their role is clearly defined and reduced over time with the State increasingly taking over functions of non-state or international actors. This can take a long time, as the example of school feeding in El Salvador shows (see Annex 9).

136. If horizontal inequalities, for example in the access to public services, were a contributing factor of the conflict, an equitable distribution of food assistance across various groups and regions is critical for peacebuilding. Thus, if a rebellion in a certain region was partly caused by horizontal inequalities in the delivery of social services, the post-conflict period needs to address these inequities from the very beginning.

137. Food assistance can play an important role in building peace, trust, social cohesion and reconciliation. Besides the destruction of physical capital, violence also destroys social capital. Yet, it is much more difficult to rebuild than physical capital. The rebuilding of social capital is key to peacebuilding. Social capital refers to the trust that is generated by participation in informal or formal groupings (Collier, 2000). A community-based approach to food assistance can contribute significantly to building social capital (see section 4.4).

138. Violent conflicts and wars can be an important instigator for social protection. Both World Wars, for example, triggered a consensus around social policy issues that contributed significantly to the formation of the welfare state in Europe (Thane, 1982). Moreover, Bismarck used social protection measures in a newly unified Germany to maintain social harmony and state control. He was for example the first in the world to introduce insurance against sickness in 1884 (Thane, 1982).

139. School meals are a very important instrument during or in the post-conflict period. It is critical that the schooling of children is not interrupted or resumes as quickly as possible. School feeding programmes have played a vital role in increasing enrolments (see

Annex 5) and to the revitalization of the education sector after a conflict, as was the case in rural areas of Liberia (WFP, 2009b).

140. Cash- or food-for-work programmes are more difficult to implement when violence is still widespread. After violence subsides, they are a very effective instrument, particularly because they create or rebuild assets that are important for the community and the development of the country. They should be initiated as early as possible to create employment and visible peace dividends. They should also accompany reintegration programmes. WFP has offered food assistance as an incentive for ex-combatants to learn new skills and abandon their weapons (see Annex 8).

141. To kick-start production and restore markets after a conflict, infrastructure may need to be restored, rebuilt and constructed. However, it is difficult for poverty-stricken communities hit by an emergency to dedicate themselves to rebuilding infrastructure for redevelopment, because community members are busy looking for food for their families.

142. Food- or cash-for-work programmes aim to help people overcome that dilemma. Workers are paid in money or food rations for building vital infrastructure, such as dams, roads, swamp reclamation structures, hillside terraces, water facilities and catchment areas. WFP has also been involved in demining. These activities create peace dividends, contribute to recovery and lay the foundation for development.

143. To reduce the cost of transporting food and other humanitarian supplies, WFP has conducted a massive road project in South Sudan since 2006. Some 3,000 km of roads have been rebuilt and cleared of mines, improving links between the Sudan and Kenya and Uganda, and between the Nile River and a network of feeder roads. The project has revitalized trade and facilitated the return of displaced people – besides benefiting WFP's food transports. In one year, vehicle movements on the road connecting Juba to Uganda shot up from zero to 200 a day. According to a recent WFP survey, the roads built so far have halved the average travel time to markets, schools and health centres and reduced cereal prices in locations with road access.

144. Food assistance programmes, including food-for-work or food-for-training programmes, not only increase the access to food, create jobs, and enhance livelihoods, they also build peace. This is partly a result of working closely with the communities in the design, targeting, and implementation of programmes. In Liberia, for example, the evaluation of a Protracted Relief and Recovery Operation noted that 90 percent of the 1200 participants interviewed noted that the short-term jobs had helped to promote peace and reconciliation (WFP, 2009b). This percentage was higher than the positive replies in terms of skills learned or improvements in living conditions. However, the evidence for these long-term effects on conflict participants is unclear. One study of DDR in Sierra Leone found that participation in an internationally sponsored DDR program did not have a significant impact on the ex-combatant's likelihood of delinking from their armed faction, holding pro-democratic values, or being reaccepted into their home community. The only

significant effect was to decrease the likelihood that the person would be employed (Humphreys and Weinstein, 2007).

145. Similar results were found by independent academic research. Fearon et al. (2009) report that increased cohesion can result from even a brief exposure to a new community-based participatory institution to select and implement quick-impact projects. These institutions can create social cooperation and cohesion that persists after the programme's conclusion. Specific focus on youth is particularly essential, given the role that (unemployed) youth have played in fueling violence. In Sierra Leone, for example, a new programme targets youth through cash- and food-for-work activities that rehabilitates feeder roads, drainage systems and other community assets.

4.4. *Food assistance and social capital*

146. Food assistance can play a role in rebuilding social capital after a conflict, including when it uses markets. Social capital is increasingly recognized as an important ingredient to stability and development. Social capital is often weak in fragile and conflict-affected states because of violence, yet at the same time particularly critical because of the lack of the rule of law and legal enforcements, including of contracts. Social capital refers to the trust, norms, associations, and networks that facilitate interaction among people and working together. Social capital can also function as an informal safety net. Social capital is a subset of institutions, which refer to the formal and informal rules and norms that shape human interaction. Institutions range from cultural customs to formal laws and government organizations. Together, they define the “rules of the game” or the environment in which social and economic interactions occur (North, 1990; WFP, 2009a).

147. Social capital (and institutions in general) is often severely damaged by violent conflict. Rebuilding it should be a vital element of peacebuilding, reducing tensions, and increasing stability. Strong social capital can manage conflicts better. Social capital also has a positive correlation with market development (Fafchamps, 2004) and economic growth (Aron, 2000; Knack and Keefer, 1997; Rodrik, 2007).

148. Markets require institutions, such as legislation, regulation, oversight, and enforcement. Markets need an institutional framework that provides adequate and efficient incentives (WFP, 2009a). Important institutions that markets require include the protection of property rights; contract enforcement; a system of standards, for example on weights and quality; and accurate information flows.

149. These institutions stimulate the strengthening and expansion of existing markets (North, 1995). They are especially important when markets expand and local exchanges – based on social networks, trust and personal ties – are transformed into impersonal exchange and long-distance trade, when third-party enforcement of rules, generally by government, becomes necessary (Fafchamps, 2004; North, 1990).

150. In fragile states, however, formal and legal market-supporting mechanisms are often imperfect or lacking. In Africa, in particular, they often are replaced by social capital, including interpersonal relations, networks, and trust to receive market information, enforce contracts, share risk and punish cheaters.

151. Food assistance can play a role in rebuilding social capital through the strengthening of communities, networks, and trust. Food assistance can be instrumental in replacing informal safety nets – based on social capital, but damaged during the conflict – with formal forms of social protection. In that sense, conflict can create opportunities, including for reconciliation and reconstruction in divided societies through the formation of universal social protection and broad and diverse networks (Colletta and Cullen, 2000).

152. Food assistance has been used to promote social capital by working locally with the people and nationally with governments in conflict-affected societies by providing opportunities for the most vulnerable people, whose traditional social capital eroded due to war. Social capital is build, for example, through the participation of people living in conflict-affected locations, displaced people, returning refugees, and ex-combatants in community-development projects, such as food for training, food for work, cash for work and school feeding. Participants benefit from increasing their own food security, while learning to trust others, cooperate and contribute to the rebuilding of their communities.

153. Social capital is directly build through WFP's Purchase for Progress initiative (see Annex 11), which works directly with farmers' organizations. WFP, working with partners, builds capacity of farmers' organizations, including through the revision of statutes, internal rules and democratic procedures, such as elections of boards and constituting members assemblies; conflict resolution; and training on contracts, internal accountability and control mechanisms. These elements, especially in post-conflict countries, contribute to social capital and peacebuilding.

154. Partly as a result of P4P, farmers' organizations are expanding their scopes and develop more or new interactions with other actors, including the government, traders, donors, financial institutions, and other service providers (storage, cleaning/sorting, etc). Commercial operations are based upon trust, including among members and with partners. A P4P purchase builds and consolidates trust and social networks along the different chains (from production to marketing), affecting a wide variety of individuals, groups, and entities.

155. Many of WFP's projects in post-conflict countries focus on rebuilding infrastructure, such as feeder roads to markets, and the resilience of communities. They are identified using participatory methods with the communities with the objective of strengthen food security and building social cohesion at the local and national levels.

156. In Sierra Leone, WFP supported the Government's Poverty Reduction Strategy and National Commission for social Action (NaCSA). WFP's projects were prioritized by beneficiaries. They identified food-for-recovery activities for inland valley swamps, tree

crops, and feeder roads. Beneficiaries would actively participate in school feeding management committees. In 2007, WFP supported over 800 small-scale food-for-work projects. Participants formed work groups and rehabilitated smallholder plantations, irrigation systems, and feeder roads, which strengthened social cohesion. The far reaching impact that these activities have had are not easy to measure, but one example is a report made by a beneficiary in Mambolo in northern Sierra Leone, where swamp rice farming is the main economic activity, but had its irrigation structures were destroyed by the war. "This year we had better rice yields and our children will not go hungry. It has also become easier for us to sell our produce because of the improved road conditions."

157. In Côte d'Ivoire, WFP assisted the return of previously displaced populations by promoting self-sufficiency and asset creation through various agriculture-related food-for-work, focusing on rural access roads, small bridges, irrigation systems and wells, and food-for-training activities, concentrating on functional literacy, food processing, food conservation techniques, marketing of crops, and gender awareness. Communities participated in the identification of the activities, organizing local labor and providing raw materials.

158. In most regions, the activities reached fewer beneficiaries than targeted, partly as a result of limited resources. Yet, in the West and North-West regions, for instance, 8 bridges, 65 small bridges, 30 wells, 17 km of rural roads and 120 latrines were built. The projects improved rural infrastructure and agricultural potential in isolated areas, provided alternative job opportunities to marginalized peasants and positively impacted livelihoods, according to interviewed beneficiaries.

159. To give a concrete illustration of the impact on social capital, WFP worked alongside other humanitarian agencies to facilitate the return of IDPs in the Bolequin area of Côte d'Ivoire. Most of the houses, social infrastructures, access roads and bridges were destroyed or severely damaged during the conflict. Water points were out of service. Bitter land disputes erupted as IDPs returned to resettle. One village that was troubled by recent clashes over land is Gohogbehi. It is surrounded by several camps for IDPs, who choose to resettle there. For some time, the two communities had lived in fear of their neighbours, and work on the plantations had come to a standstill. Neither the local inhabitants nor the IDPs would venture onto the land in case there were repercussions from the other community. The two bridges joining the village and the camps to the town had also been left in ruins, further aggravating the situation of both parties. Direct talks between WFP and the two communities led to an agreement where each party would receive a one-month general food distribution followed by a three-month allocation of food for work in exchange for rehabilitating the two bridges. Both communities received their general food distribution at the same location and constructing the bridges gave them an opportunity to learn to live and work together. Today, the two communities co-exist peacefully. Goods and people have been able to circulate freely and access to the town is ensured. Food assistance has helped these communities take another step forward in the development of social cohesion.

4.6. *Transitioning from Relief to Recovery*

160. The route to peace is non-linear and full of contradictions (Call, 2008). This fact applies also to the sequencing of humanitarian relief and recovery activities in countries transitioning from conflict to peace. A country may not linearly, sequentially transition from relief to recovery activities, but may have relief and recovery activities taking place simultaneously in different regions of a country or will have relief or recovery at times that seem contradictory (Maier, 2010). The reason for the variation and the time that it takes to transition can be attributed to a combination of factors, including initial conditions, government capacity and priority setting; priorities of international donors; and remittances (Del Castillo, 2001). These factors affect countries according to their unique situations that can be further affected by the duration of the conflict and the confidence in a peaceful resolution.

161. The transition of food assistance instruments from relief to recovery and development is vital and difficult. The security, timing, targeting, funding, and capacity to implement are critical parameters of this transition. The traditional understanding is that during this transition a switch takes place from general food distributions to recovery activities that include, for example, food-for-work programmes. This has changed in recent years. Blanket food distributions are rarely used anymore. Food assistance is almost always targeted, yet who is targeted and the extent of targeting change over time. During the relief phase, food assistance for affected-populations (e.g. of displaced people) are increasingly supplemented by other interventions, such as school meals and specific nutrition interventions focusing on vulnerable groups, such as pregnant and lactating women and young children. During the recovery phase, the emphasis will switch more towards a broader set of instruments.

162. Often the defining parameter is security, which will determine to what extent activities beyond immediate relief can be launched. In Mindanao, in the Philippines, for example, the renewal of the conflict in August 2008 led to a concentration of efforts of providing food to displaced people (see Annex 7). A similar reversal of emphasis took place in Liberia and Sierra Leone in 2000 and 2001 when the conflict increased again in intensity (WFP, 2004a).

163. What has become clear is that the transition is a long-term process – often taking 10 years or more – should start early and is often inadequately funded and prepared for. It is also a fluid concept that cannot be defined by clear milestones or benchmarks. It is a continuum. It also needs to be a flexible concept in terms of programming so that when the circumstances allow, e.g., in terms of security, activities can be upscaled and downscaled rather quickly (see for example the operations in West Africa; WFP, 2004a).

164. The length of the transition is determined in part by the development of capacity of the government and other partners. In El Salvador, the transfer of the school meals programme, which started during the civil war, took 23 years (see Annex 9). In countries

like Liberia, the recovery activities have been extremely hampered by weak management and implementation capacity at all levels of the government and partners (WFP, 2009b).

165. A WFP evaluation of livelihood recovery activities highlighted that the timeframes are often too short and that there is often pressure from donors and host countries to phase out relief and recovery assistance as quickly as possible (WFP, 2009e). The short duration and limited scale reduces the impact. The evaluation recommended that the timeframes for livelihood recovery activities need to be longer; recovery-related activities often need to be implemented earlier and simultaneously with relief; the volume need to be increased; and that they need to be linked more strongly to other interventions to enable people to build sustainable assets (WFP, 2009e).

4.6. *International Support*

166. In fragile states, where capacities to stabilize prices and provide social protection are limited, international support is often a means of first resort. Fragile states have less capacity to stabilize food prices because they require capacity, for example, in terms of socio-economic and market analysis. Fragile states have also less capacity to mitigate the impact of volatile and high food prices, for example, in terms of capacity to design, target, implement and monitor safety nets. Cash-based programmes require various capacities; food reserves can be looted; weather-based index insurance require weather stations and analytical and implementation capacity; and fiscal capacity for transfers is often severely reduced. As a result, fragile states often rely on international support to stabilize prices and mitigate the impact of volatile and high food prices. Fragile states could benefit from regional arrangements, particularly in terms of food reserves and food trade, including the avoidance of export restrictions. The international community can play a critical and long-term role in early warning of natural disasters, including through remote sensing, and in assessments.

167. Traditionally, general food distributions and food-for-work programmes have been the main instrument. In recent years, the number of tools has increased significantly. Moreover, the assessments have increased in quality, allowing a much better system of targeting and timing food assistance. This has made it possible to reduce the potential negative effects of food assistance.

4.6.1. *Potential Disincentive Effects of Food Assistance*

168. Food transfers are often criticized for providing disincentives to production and trade. In-kind food transfers can lead to lower food prices, creating a disincentive to agricultural production. This has been a long-running debate, since the early days of food aid, and no definitive empirical results have put an end to it.

169. Many have argued that food aid increases the supply of food relative to demand, forcing food prices to decline and providing disincentives for local agricultural production.

Food aid can drive down prices through monetization, beneficiaries reducing demand, and beneficiaries selling food transfers (Lentz et al., 2005).

170. Large-scale monetization of bilateral food aid on open markets often leads to lower prices. It is this kind of food aid, which is not targeted, that triggered much of the negative views about food aid. Yet, the food aid system of “surplus disposal” that emerged in the 1950s and consisted largely of a transfer from one government to another, which then monetized it, has evolved dramatically over time. In 2008, only 6 percent of global food aid went through bilateral channels, while multilateral channels accounted for 70 percent of global food aid – the highest ever. Moreover, 92 percent of food aid was directly distributed to selected beneficiaries (WFP, 2010c).

171. There have been many studies attempting to provide an empirical basis to the disincentive hypothesis. Much of the negative evidence on prices and production dates from the earlier period when monetization were common (FAO, 2006). In general the evidence suggest that negative price effects are common, but the duration was often short and the magnitude of the effect depended critically on targeting and timing (during the harvest) of food aid and on market conditions (FAO, 2006; Lentz et al., 2005). One also needs to keep in mind that lower food prices means easier access to food for net-buyers of food, a benefit that goes beyond the direct recipients of food assistance. This often is important in an environment where violence (or other causes) has lead to higher food prices. In Darfur in 2005, for example, access to food was severely curtailed because of high food prices and the negative effect of food aid on food prices significantly improved access, including for non-beneficiaries (see Annex 10).

172. On the disincentive effects on production, the evidence suggests that there are no negative effects on national level, especially not in the medium to long-term. On the effect of food aid on production at the local level, the evidence is mixed and is dependent on the context. At the household level, studies have found no or even a positive effect on production, which could be a result of food aid alleviating liquidity constraints or allowing more time and resources to be devoted to agriculture (Abdulai, Barrett and Hoddinott 2005; FAO, 2006; Lentz et al., 2005). With regard to trade, the evidence suggests that food aid reduces imports in the short term, but that these effects last for a few years at most (FAO, 2006; Lentz et al., 2005).

173. Recently, food aid is much better timed and targeted and programme and monetized food aid is much less prominent than two decades ago. The fact is that “the key alleged problems surrounding food aid – displaced international trade, depressed producer prices in recipient countries, labour supply disincentives, delivery delays, misuse by intermediaries, etc. – revolve ultimately around the questions of targeting” (Barrett, 2002: 1). If food aid is properly targeted then it should be significantly additional, thus expanding consumption and demand, while not affecting prices and producer incentives.

174. Cash, vouchers and in-kind transfers can have positive effects on markets. In Darfur, for example, food markets have been surviving partly as a result of the influx of food aid

commodities. It was estimated that food aid cereals accounted for 24-36 percent of the traded volumes in Darfur (Government of Sudan et al., 2008). Food aid “has kept the market functioning and has maintained prices at affordable levels” (Buchanan-Smith and Jaspers 2006: 54). There are similar examples where food aid has stimulated market development in more or less hostile environments (Abdulai et al., 2005; WFP 2010b) or where food aid sales have improved competition (Abdulai et al., 2004).

175. Just as in-kind food transfers could have negative effects on prices, cash transfers or local purchases could push up prices, especially if supply constraints are present and markets are not integrated. Little research, however, has been conducted on this. Tschirley (2007) found some evidence of food price surges in Uganda in 2003 and in Niger and Ethiopia in 2005/06, but in most countries at most times, however, evidence suggests that local procurement has not strongly affected local prices. On the other hand, a study in Malawi found that one unit of cash transfer stimulated demand in local markets by an amount more than twice as large (Davies and Davey, 2008).

176. Local procurement of food for use in food assistance programmes can provide an important stimulus to the local economy as well. WFP’s Purchase for Progress (P4P) initiative, supported by the Bill and Melinda Gates Foundation and the Howard G. Buffett Foundation, focuses on connecting smallholder farmers to markets. Liberia and Sierra Leone are among the pilot countries (see Annex 11).

4.6.1. Regional and global reserves

177. Regional reserves could perform similar functions at a regional level as national reserves do at the national level. Advantages of a regional reserve are the cost sharing and risk pooling (Murphy, 2009; Wright, 2009). The political and governance aspects of a regional reserve are also likely to be easier than a global reserve. There is, however, only limited experience with regional food reserves. SAARC established a regional food bank in 2007, which include Afghanistan, Nepal, Pakistan and Sri Lanka. Countries in Southern Africa are planning to create a regional food reserve to avert food shortages similar to that of 2002 (WFP and NEPAD, 2004; SADC, 2009).

178. High food prices have put reserves back into focus as several countries faced difficulties or very high costs when importing food in 2008. The prevalence of export restrictions made it particularly difficult to use trade to cover availability gaps.

179. Several proposals for global reserves have emerged. The International Food Policy Research Institute (IFPRI) has proposed a two-prong approach (Von Braun and Torero, 2008). The first prong is a minimum physical emergency grain reserve (of 300,000 MT) for humanitarian assistance, managed by WFP, which would help address the procurement problems WFP faced in 2008. The second prong is a virtual reserve and intervention mechanism with a fund of US\$12 billion to US\$20 billion. A virtual reserve is a set of commitments to supply funds for buying grains on futures markets at prices lower than

spot prices, thus increasing the supply of future sales and lowering spot prices when grain might be needed to avert a crisis similar to that of 2007–2008. A high-level technical commission, using information provided by a global intelligence unit, to maintain prices within a dynamic price band and to counter speculation, would guide this.

180. It is not likely that global (physical or virtual) reserves can reduce price volatility. The costs and challenges of reserves at the national level are multiplied at the global level. Wright (2009) deems a large international grain reserve “infeasible”. It would be very difficult to agree on a governance structure, cost sharing arrangements and location for a global reserve. Unless a global grain reserve, or part of a system of reserves, is located near areas where food is needed, WFP and others would face the same problem of how to quickly transport and distribute it. Moreover, a global virtual reserve is financially risky, unlikely to win against traders and institutional investors, or even be subject to their manipulation.

181. As an alternative to a global physical reserve, Justin Lin, Chief Economist of the World Bank, proposed an agreement under the auspices of the UN that each country will hold a certain amount of public grain reserve, in addition to private stocks (Lin, 2008). The agreement would include a mechanism that would establish the release of reserves onto the global market and a pledge by exporting countries not to apply export restrictions. Many issues relating to the proposal were unresolved, including the kind of agreement, the decision mechanism, the ability to counter market forces, enforcement and the size of the reserves.

182. Alternatives to physical or virtual reserves are stronger coordination, agreements among importers and exporters and deterrence to the use of export restrictions. Using futures and other sophisticated instruments are generally not an option in fragile states to hedge against risk as they require extensive knowledge and effective institutions. Strengthening of disciplines within the WTO against export restrictions should be pursued.

4.6.4. Sequencing

183. In the last ten years, it has become increasingly evident that the traditional post-conflict approach of sequencing economic reforms after political stability, was not leading to the desired goal of preventing countries from relapsing into conflict. Paul Collier et al. (2006), after estimating a hazard function of post-conflict risks on an annual basis for ten years in the post-conflict period, found that political arrangements of democracy building and elections are not peace enhancing, but can leave a post-conflict country vulnerable to the risk of further conflict. In fact, Collier et al. (2003) noted, 40 percent of post-conflict countries have relapsed into conflict. Results such as these have led many scholars of peacebuilding to reflect on ways to better sequence and prioritize assistance for the future.

184. A critical point to make about sequencing is that there is no standard practice or one-size-fits-all approach to post-conflict recovery. Brahimi (2007) noted: that “[a] clear

understanding of the objective realities in the country concerned is necessary for the international community to establish – in close cooperation with the local partners – the state building process required, and the type of resources, sequencing and time horizon necessary to rebuild.” What challenges the peace process the most are, given the complexity of the needs of a post-conflict country and the limitations on funding, the areas to prioritize in sequencing assistance to prevent a country from relapsing.

185. A review of literature that addresses sequencing recovery activities indicates a general consensus, that “socio-economic” policy reforms and “security” should be prioritized ahead of other recovery activities as there is evidence that they substantially reduce the risk of a country relapsing into conflict. Collier (2007) concludes that: “Unpalatable as it may be, peace appears to depend upon an external military presence sustaining a gradual economic recovery, with political design playing a somewhat subsidiary role.” Collier, Hoeffler and Söderbom (2006) found that expenditure on peacekeeping significantly and substantially reduces the risk of reverting into conflict and that economic policy reform and security are mutually reinforcing. Military presence means often the United Nations peacekeepers, accompanied by external police forces who work with the government and the national police force to restore and maintain security through rule of law and a perceived ability to arrest, prosecute, and punish wrongdoers through the application of a justice system. Doyle and Sambanis (2006) found that United Nations peacekeeping missions are associated with a higher likelihood of peace two years after a war has ended. Fortan (2008) also found that peacekeeping can dramatically reduce the risk of war.

186. Maier (2010) reviewed a number of policy strategies and operational frameworks of: bilateral donors, regional organizations, multilateral institutions, and strategic and operational frameworks, including Post-Conflict Needs Assessment (PCNA) and Poverty Reduction Strategy Papers (PRSP). He concluded that a consolidated framework on early recovery as needing to “integrate a multidisciplinary approach covering humanitarian assistance, economic growth and development, peace-building and security, and governance as well as state-building,” but highlighted that in order to avoid relapsing into conflict priority should be given to economic policy in early post-conflict recovery. The priority areas of early economic recovery he mentions are: 1) Reintegration of ex-combatants and special groups (i.e. IDPs and refugees); 2) infrastructure; 3) employment; 4) agriculture; 5) education; 6) health; 7) fiscal policy and public finance; 8) monetary policy and exchange rate management; 9) financial sector; 10) external finances; 11) trade; 12) private sector development and entrepreneurship; 13) economic governance; and 14) horizontal inequalities. Many of the areas are socio-economic in character and interact with each other. There is growing evidence that addressing them reduces the risk of a country relapsing into conflict. Collier et al. (2003), for example, has recommended that social policy should take precedent over macroeconomic policy. An important reason for this recommendation is the signaling effect of social inclusion of the government, rather than the long-term effects on growth. Through its emphasis on social issues, rather than military ones, the government of a country coming out of war can signal its intent to honor

the peace agreement and reduce horizontal inequalities, which in many cases contributed to the violence conflict. Here are some examples:

- *Employment*: Collier, Hoeffler and Rohner (2009) found that having a certain share of young men in a population to be a major risk factor that explains conflict. Woodward (2002) pointed out that: "Lessons drawn about success or failure (of peace processes) all point to the lack of employment opportunities." Collier (2007) noted that the link of employment could account for why growth is effective in reducing risks.
- *Infrastructure*: Collier (2007) noted that rural roads have been essential for the reintegration of the rural economy into the urban market in Uganda. After the first phase of recovery the government of Uganda demanded that rural roads be a priority. An evaluation by the World Bank estimated that the return rate on this investment was as much as 40 percent.
- *Social protection and food safety nets*: Providing social services and food assistance can create early peace dividends, strengthen the building of state institutions, address the root causes of conflicts by reducing horizontal inequalities, contribute to social cohesion, and enhance the legitimacy of the Government (Brinkman, 2001; Collier et al. (2003); Darcy, 2004; OECD, 2008).
- *Education*: Collier and Hoeffler (2004), using data for 1960-1999 for developing countries, found that education outcomes are linked with the outbreak of conflict and a high level of secondary school attainment is associated with a lower risk of civil war. Furthermore, if the enrollment rate is increased by 10 percentage points above the average in their sample the risk of going to war is reduced by three percentage points.
- *Fiscal policy and public finance*: Gupta et al. (2009) noted that fiscal mismanagement can heighten the risk of conflict by decreasing living standards and that re-establishing fiscal practices and transparent institutions can make peace more sustainable and setting the foundation for economic recovery. Collier et al. (2009) supported this and indicated that if a country's growth rate is increased by one percentage point from the mean, it can reduce the risk of conflict by 0.6 percentage points to 4.0 per cent. Blattman and Miguel (2010) found that low per capita incomes and slow economic growth to be are some of the major factors that are robustly linked to civil war.

187. There are many reasons why socio economic priorities should be supported early and sustained by donors. First, as Darcy (2004) noted: "the provision of social protection (which comes with security and improved economic conditions) is an agenda that can strengthen the legitimacy of the state by allowing it to re-shoulder its responsibilities for ensuring the basic survival of its citizens." Second, aid disbursements often do not match commitments (Forman and Patrick, 2000) and flows often decline after an initial period of high media attention. Collier et al. (2003) argue that during the middle of the first decade in a post-conflict phase aid is most effective and capacity to manage it highest. Third, the risk of recurrence of a conflict has halved after a decade. It is thus critical that international

support for security and socio-economic policy reform are started early and sustained for at least a decade to counter being drawn back into conflict.

188. The instrument of sequencing and prioritization is increasingly becoming the Post-Conflict Needs Assessment (PCNA), which is undertaken by the United Nations Development Group (UNDG) and the World Bank, in collaboration with the national government. The PCNA is currently used by national and international actors to determine entry points for devising a common shared strategy for recovery and development in fragile and post-conflict settings. These decisions are reached at a time when most post-conflict governments are at their weakest and some barely exist at all. This means their governing practices are weak and would affect whether and how well a government would prioritize security and socio-economic policy reforms. This places the onus on the international community to recognize this critical juncture and ensure that security and socio-economic policy reforms are sequenced as a priority over other recovery activities in the PCNAs. Until post-conflict governments have the institutional capacity to provide social protection for its people and are safely drawn away from the edge of relapsing into conflict.

189. Social protection and food safety nets reduce the likelihood that violent conflict will reoccur. As a result, the establishment of these systems and programmes should take priority. Collier et al. (2003), for example, has recommended that social policy should take precedent over macroeconomic policy. An important reason for this recommendation is the signaling effect of social inclusion of the government, rather than the long-term effects on growth. Through its emphasis on social issues, rather than military ones, the government of a country coming out of war can signal its intent to honor the peace agreement and reduce horizontal inequalities, which in many cases contributed to the violence conflict.

5. Conclusions and Recommendations

190. Food insecurity is both cause and a consequence of political violence. There is a small but consistent body of findings linking food insecurity to increased risk of democratic failure and increased protests and rioting, communal violence, and civil conflict. These conflicts, in turn, create widespread food insecurity, malnutrition, and in some instances famine. Thus food insecurity is one of the mechanisms by which conflict can be self-perpetuating, the “conflict trap” (Collier et al., 2003). Food security is key for political stability.

191. Safety nets at the domestic, regional, and international level are critical instruments that can mitigate the effect of short-term spikes in food prices on food insecurity and thus help to prevent violent conflict and contribute to long-term development. However, these safety nets cannot focus only on stabilizing consumer prices. They must also address income instability among food producers, particularly young males in rural areas of less-developed countries. This is the demographic most likely to work in agriculture and also most likely to participate in political violence. Safety nets have an added benefit of mitigate horizontal inequalities in times of food stress, which are a contributing cause of conflict.

192. International food assistance plays an important role both during conflicts and in the post-conflict recovery period. Intergovernmental organizations and NGOs are particularly important in these situations because of reduced government capacity to provide basic services in states experiencing conflict and the perceived impartiality of aid workers, which makes them less likely to be targets of violence. Attacks on aid workers, however, are lamentably common.

193. Funding of food and nutrition assistance in post-conflict situations is often problematic, especially in the recovery stage. Food is one of the better-funded areas in relief operations but in the recovery, transitions and early development stages, food is often out-phased too quickly, leaving populations at risk and potentially reversing earlier gains in building peace. Transition and peacebuilding are long-term processes. Food plays a critical – but often underemphasized – role in these processes. Recovery activities, focusing on improving food access, are often too late, too short, poorly funded and too small in scale.

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Annex 1: A Comparison: Kenya and Tanzania

Kenya and Tanzania share much in common. The two East African nations are both former British colonies that gained independence in the early 1960s. They have comparable populations (38.5 and 42.5 million, respectively), levels of economic development (GDP per capita (PPP) of \$1751 and \$1414) and Comparable Human Development Index scores (0.54 and 0.53). Both are experiencing rapid population growth (2.79 and 2.86 percent annually) and both have large youth populations (percentage of population aged 0-14: 43 and 45 percent, respectively). Until 2002, hegemonic political parties (KANU and TANU-CCM) that faced little meaningful opposition governed both countries, and both countries are among the most ethnically diverse. Finally, both are characterized by significant food insecurity. Thirty-one percent of Kenyans and 44 percent of Tanzanians are undernourished (IFPRI, 2009). These numbers are in part attributable to endemic poverty, but also acute periods of drought and episodic flooding (WFP, 2009).

Despite these similarities, conflict is much more prevalent in Kenya. Since independence, Kenya has experienced only a single, brief episode of civil conflict (an attempted coup in 1982 that left 159 people dead). Communal conflict has been much more significant, having caused over 2600 deaths since 1990 (Hendrix and Salehyan, 2010). Over 1700 of these deaths have been associated with ethnic competition over land, water, and animal resources. In contrast, Tanzania has been marked by a virtual absence of internal political violence. Since 1990, political violence has been responsible for only 116 deaths. Of these, only 31 are attributed to communal clashes between farmers and pastoralists during a single outburst of violence in 2000.

Explanations for this divergence are varied. Economic growth rates have been higher and less variable in Tanzania than in Kenya, and higher rates of economic growth are associated with lower incidences of popular unrest (Hendrix, Haggard, and Magaloni 2009). Kenya also has higher income inequality. Kenya has made more progress toward democracy, and democratization is associated with an increase in political violence and contestation in lower income countries (Collier and Rohner, 2008).

The differences may be attributable also to the trajectory of state- and nation-building in the post-independence period. While both countries are ethnically diverse, Kenya is composed of a smaller number of comparatively larger ethnic groups, and these ethnic cleavages are the main basis of political competition. Tanzania is home to over 120 ethnic groups, but ethnic groups have heretofore not formed the basis for political divisions, and national identity is much stronger.

While the relative lack of ethnic strife can be traced to a shared language (Kiswahili), much of it may be traced to different governance strategies adopted in the post-independence era. Under President Julius Nyerere, the Tanzanian government instituted educational and language policies designed to promote the creation of a Tanzanian identity. Moreover, Tanzania undertook an overhaul of local government institutions, creating elected village and district councils that enjoyed broad legitimacy across ethnic lines. Conversely, Kenyan politics were marked by fewer attempts to create a national identity, and successive Kenyan presidents have pursued educational and language policies that reinforce, rather than mollify, ethnic identities and divisions. Moreover, Kenya retained a local governance structure built around centrally appointed

tribal chiefs, which had the effect of making local governors the political clients of the ruling party and discouraging consensus-driven decision-making at the local level. Finally, central government resources were distributed much more broadly and equitably in Tanzania than in Kenya, which had the effect of decreasing incentives to compete over political and economic spoils (Miguel, 2004).

Annex 2: Share of Food Imports and Net Food Imports in Food Consumption

Role in food consumption of:	food imports (categories)			food net-trade (categories)		
Country name	1990-92	1995-97	2003-05	1990-92	1995-97	2003-05
Average: Fragile State	1.76	1.88	2.26	2.67	2.62	2.41
Average: Developing country	1.86	1.89	2.16	2.91	3.04	2.93
Average: Developed country	3.0	3.4	3.8	3.7	3.4	3.0
Angola	2	2	3	2	2	1
Bosnia and Herzegovina	2	2	4	3	2	1
Burundi	1	1	1	3	3	3
Cambodia	1	1	1	3	3	3
Cameroon	1	1	2	3	3	3
Central African Republic	1	1	1	3	3	3
Chad	1	1	1	3	3	3
Comoros	2	2	2	2	2	2
Congo	2	2	3	2	2	2
Côte d'Ivoire	1	1	2	5	4	4
Democratic Republic of the Congo	1	1	1	3	3	3
Djibouti	3	4	5	1	1	1
Eritrea	2	2	3	2	2	1
Gambia	3	3	4	1	1	1
Georgia	3	3	5	1	1	1
Guinea	1	2	1	3	3	3
Guinea-Bissau	2	2	2	2	3	3
Haiti	2	3	3	2	1	1
Kenya	1	1	2	3	3	3
Kiribati	3	3	3	4	4	3
Liberia	2	3	2	2	2	2
Myanmar	1	1	1	4	4	4
Nepal	1	1	1	3	3	3
Occupied Palestinian Territory	na	3	3	na	1	1
Pakistan	1	1	1	3	3	3
Sao Tome and Principe	3	2	3	2	3	1
Sierra Leone	1	2	1	3	2	3
Solomon Islands	2	2	2	6	6	6
Sudan	1	1	2	3	4	3
Tajikistan	4	3	3	1	2	2
Timor-Leste	1	2	2	3	2	2
Togo	1	1	2	3	3	3
Yemen	3	3	3	1	1	1
Zimbabwe	2	1	2	3	4	3
Categories	1) 0%- 25%			1) -50% or less		
	2) 25%- 50%			2) -25% — -50%		
	3) 50%-100%			3) 0% — -25%		
	4) 100%-150%			4) 0% — 25%		
	5) 150%-over			5) 25% — 50%		
				6) 50% — over		

Source: Author's calculation based on FAO data.

Annex 3: A Comparison: South Africa and Somalia, 1991-1993

The differing experiences of South Africa and Somalia in the early 1990s clearly illustrate the importance of conflict, political democracy, state capacity, and access to international markets as trumping environmental factors in determining when food insecurity will result in famine and large-scale loss of life (see, e.g., United Nations, 1993). Between 1991 and 1993, an estimated 300,000 Somalis died of hunger despite experiencing two years of moderate drought (1988 and 1992) and normal climatic conditions thereafter. During the drought of 1992-1993, South Africa witnessed no deaths from famine, despite two consecutive years of extreme drought followed by two years of moderate drought (Gerlak and Hamner, 2010) and declines in domestic maize and wheat harvests of 62 and 38 percent and widespread food insecurity that affected 20 million people in the region (FAO, 2010b).

As in many acute food crises, the fundamental problem in Somalia was one of distribution and access. Civil conflict played a large role in choking off the food supply to the hinterland. Though Siad Barre's government had been skirmishing with the Somali National Movement (SNM) since 1983, the outbreak of large-scale violence in 1988 created a large number of refugees, as the SNM and hundreds of thousands of civilians in the north fled across the Ethiopian border. The conflict eventually led to the fall of Siad Barre's government in 1991 and continued fighting between rebel factions and UN and US troops. Rebel fighters looted food aid intended for famine-stricken regions, leading to charges that the rebels, particularly those loyal to Mohamed Farrah Aidid and Ali Mahdi Muhammad, were choking off the food supply as a weapon against the ousted Barre's forces and supporters in the southwestern Gedo region.

Even prior to the collapse of central state institutions in 1991, the Somali state was in the bottom 10th percentile in bureaucratic quality, indicating that central government responses to any acute crises would be haphazard and plagued by inefficiency (Political Risk Services, 2006). Moreover, the central government had few resources (total government revenue as a percentage of GDP was only 4.5 in 1988, in the first percentile worldwide) and was largely reliant on foreign aid. Once the conflict had escalated, a lack of central political authority and capacity undermined distribution networks and attempts to deliver food aid, though the effects of state failure were not the same in all regions.

Initially, the worst famine and food insecurity was isolated in the southwestern regions dominated supporters and coethnics of the ousted Barre and the regions around Mogadishu, which saw the worst of the fighting and existed in protracted conditions of political anarchy. Food security was greater in the northern regions of Somaliland and Puntland, which quickly declared independence and established quasi-state structures of governance, facilitating aid distribution (Lewis, 1993). Later, however, a territorial dispute between these quasi-states brought increased food insecurity.

Finally, Somalia's low levels of economic development and difficulty accessing international markets exacerbated the crisis. Somalia was a lesser-developed country that relied primarily on agricultural products to generate foreign exchange, and was characterized by persistent current account deficits that left it in a poor position to cope with decreased food production through purchases on international markets.

Though the South Africa drought was comparatively worse, South Africa was much better situated to address its crisis. First, South Africa's decades of ethnic violence had come to an end by 1988. By 1990, the ruling National Party had begun dismantling the institutions of apartheid, paving the way for the country's first multiethnic elections in 1994. Though apartheid created massive horizontal inequalities between white and black Africans (86 percent of farmland was held by 60,000 white families, with the remaining 14 percent split among 16 million black Africans and others), the central government was highly capable and resource-rich. Bureaucratic quality was high (in the 90th percentile worldwide) and total revenues ran at 26.5 percent of GDP in 1992-1993. Thus, when the drought came, the South African government was able to devote significant material resources to hunger alleviation and income replacement, and the relief was relatively quickly disbursed. In 1992, the South African government increased its agricultural subsidies from \$356 million to \$1.1 billion dollars⁴, with \$240 million distributed to the ethnic homelands (Piesse, Thirtle and Van Zyl, 1993).

Finally, South Africa's diversified economy enhanced its ability to address shortfalls in production without running massive trade imbalances and current account deficits. Despite a large agricultural sector, South Africa's economy is dominated by exports of mining and manufactures, facilitating balance-of-payments surpluses averaging \$4.1 billion during the drought years.⁵ South Africa thus had plenty of foreign exchange with which to purchase food on international markets. Thus, in spite of significant horizontal inequalities, South Africa weathered the drought without significant loss of life due to better governance, greater state capacity, and a diversified economy.

⁴ Values are in constant 2000 US dollars.

⁵ Author's calculations from WTO trade data:

<http://www.dti.gov.za/econdb/raportt/South%20Africawto.html>

Annex 4: Responses of Fragile States to High Food Prices in 2007-08

Country	Economy-wide policies				Existing Social Protection Programmes			
	Reduce taxes on food grains	Increase supply using food grain stocks	Export restrictions	Price controls / Consumer subsidies	Cash transfer	Food for work	Food ration / stamp	School meals
Afghanistan	?					?		
Angola	?					?		?
Burundi	?				?	?		
CAR								
Chad								
Comoros								
DRC	?							
Congo, Republic of				?				
Cote d'Ivoire								
Djibouti								
Eritrea				?		?		?
Gambia, The								
Guinea								?
Guinea-Bissau								?
Haiti								
Kiribati								
Kosovo				?	?			
Liberia			?					
Myanmar								
Nepal			?		?			?
Papua New Guinea								
Sao Tome and Principe	?	?						
Sierra Leone			?					
Solomon Islands	?			?				
Somalia								
Sudan	?	?	?					
Tajikistan	?					?		?
Timor-Leste		?		?		?		?
Togo						?		
Tonga								
Yemen		?	?	?	?			
Territories								
West Bank & Gaza	?				?		?	?
Western Sahara								
Blend								
Bosnia & Herzegovina		?		?				
Georgia								
Zimbabwe	?		?	?	?			?

Color codes can be interpreted as follows:

	Consistent with longer run policies to improve food security
	Some concerns relating to longer run food security
	Likely to create problems for longer run food security depending on duration and targeting
	Highly likely to create problems for longer run food security and/or create serious problems for neighboring countries

Source: World Bank (2008a)

Annex 5: School meals as a safety net that contributes to peacebuilding

School meals can play an essential role in countries affected by conflict. Some form of school feeding exists in 155 countries, including in dozens of fragile and conflict-affected states. In 2009, WFP provided food to 22 million children in schools or as take-home rations in 62 countries. Because school meals are often one of the few existing safety nets in a fragile state, they are a vital tool to address various objectives related to education, gender, nutrition, peacebuilding, and the wider economy through local sourcing, providing an important foundation for recovery and development (World Bank-WFP, 2009).

Education during conflicts can give a sense of structure and normalcy and protection against harm, abduction, and recruitment into armed groups (Penson and Tomlinson, 2009). It builds social capital and cohesion. School feeding can play a key role in terms of peacebuilding to establish normalcy or even help reconciliation or rebuilding social capital and social trust after a conflict through school committees and community involvement. School feeding during emergencies, shocks and conflicts offers a key entry point for children and their families hit by these shocks.

After the initial shock, the school system can provide an effective way to scale up existing safety nets and prevent negative coping strategies. School feeding activities have been quickly and effectively scaled up in many countries in the face of crises, averting the negative effects of crises for millions of vulnerable children and households. It is often the only safety net that can deliver these benefits in a short period of time. It has proven to be effective in protecting vulnerable people while providing nutrition, education and gender equity benefits, along with a wide range of socio-economic gains. Additionally, school feeding via its transfer value creates household savings which benefit the entire family. In 2008, as a response to the high food prices, WFP scaled up school feeding projects for five million children and their families in 14 countries, including in: Benin, Central African Republic, Ghana, Guinea, Guinea Bissau, Haiti, Kenya, Liberia, Mozambique, Pakistan, Palestinian territories, Senegal, Sierra Leone and Tajikistan. These interventions encouraged food-insecure households in urban and rural areas to keep children in school, discouraging parents from taking their children out of school to earn immediate income.

In 2008 and 2009, school feeding programmes under conflict-related emergency operations (EMOPs) and protracted relief and recovery operations (PRROs) were implemented in six conflict-affected states: Afghanistan, Haiti, Pakistan, the Philippines, Somalia, and the Sudan, with clear impacts on stability and peacebuilding.

In 2009, WFP in Afghanistan reached 1.4 million beneficiaries with food-for-education interventions aimed at strengthening both formal and informal education. High-energy biscuits (HEB) and school meals were provided to improve school enrolment and attendance in primary schools and for literacy and vocational training for young adults. Take-home rations of oil to girls were provided to encourage them to continue their education and to bridge the gender gap.

Haiti is a good example of the expansion of an existing school feeding in the face of high food prices through seasonal support to the poorest and most vulnerable families in both urban and selected marginal rural zones. A daily hot meal was provided for an additional 325,000 school children, increasing by 23 percent as new needs were identified in the south-east and north-west of the country. School feeding was also extended to

summer schools for 200,000 children to alleviate the additional expenditures that families face due to the food crisis. Take-home rations for family members of children attending school were distributed through the WFP schools network reaching another 1,100,000 beneficiaries.

School feeding is now one of the many responses being adopted after the earthquake in January 2010. Following large general food distributions, school feeding was the quickest intervention to scale up to reach over 500,000 school children using a network of lead NGOs in specific geographic areas. School feeding has been an excellent safety-net intervention in an environment of limited infrastructure and capacity. The commitment to school feeding by the Government was strongly articulated in the March 2010 “Action Plan for National Recovery and Development of Haiti”, presented at the Donor Conference in March 2010. It is expected that school-based feeding interventions will be scaled up to around 1 million (with an estimated 800,000 children reached by WFP and some 200,000 children to be met by Government and NGOs) in the recovery phase.

In Pakistan, on top of significant vulnerability and poor human development indicators, protracted fighting in the northwest has compounded difficulties facing the poorest strata of the population. Since late 2008, about 3 million people have been displaced by the conflict; and, while many have now returned to their places of origin, their capacity to maintain adequate food consumption and access socio-economic opportunities has been critically compromised. Recent assessments place the proportion of individuals suffering from poor or borderline food consumption in areas of return at almost 60 percent. The instability has caused disruption to educational systems, amid extensive damage to schools and long periods of closure. By providing assistance to primary schoolchildren in the form of take-home rations of wheat and oil, and HEB for on-site consumption, WFP aims to provide a crucial safety net, avoid destructive coping mechanisms, and promote the development of social and human capital among conflict-affected groups. The income transfer embodied in this in-kind assistance adds to the household food budget, offsetting the domestic cost of sending children to school.

A rapid study in the North-West Frontier Province (NWFP) found that regular attendance was maintained in assisted schools and enrolment increased by 20 percent during the 2008/09 school year. Similarly, children displaced from conflict zones in the Federally Administered Tribal Areas (FATA) were successfully accommodated in schools already assisted by WFP in neighbouring areas. Of more than 200,000 students benefiting from school feeding activities in conflict-affected areas of Pakistan in 2009, more than 40 percent were girls – a considerable achievement in the face of mounting pressure from extremist elements to restrict their participation. In 2010, almost 750,000 schoolchildren will benefit from this programme through 5,700 schools across NWFP and FATA, for a total of 4.5 million beneficiaries. As the conflict has been symptomatic of rapidly-spreading militancy, measures to support educational opportunities will help to address some of the underlying factors fuelling instability and promote recovery and stabilization.

In the Philippines, for the 2008/09 school year, WFP provided on-site meals to 71,000 school children in 428 schools in conflict-affected areas of Mindanao as well as take-home rations for the families of these school children, benefiting a total of 425,000 people. Despite ongoing conflict and insecurity, enrolment in WFP-assisted schools increased by 29 percent and average attendance was stabilized at 94 percent. As internally

displaced persons in Mindanao are now in the process of returning to their places of origin, the WFP-assisted programme will now shift to target schools in remote return areas and provide on-site emergency school feeding as a means for reintegration of an estimated 70,000 displaced children in schools and society.

The Parent Teacher Community Associations play a pivotal role in the implementation of the programme, contributing to the peace process through strengthening the dialogue and allowing for opportunities to communicate between targeted communities and other stakeholders. Furthermore, through “Farmers Field Schools” supported by WFP, young women and men will also receive training in vegetable gardening and other livelihood activities, with a view to mainstreaming the returnees into the local-area development and peacebuilding.

Children in Somalia continue to face a wide range of protection issues, including recruitment as child soldiers, landmines, and child labour. School feeding in Somalia makes the difference in helping conflict affected beneficiaries. Despite the hostile environment, WFP is one of the few agencies on the ground, reaching 2.5 million vulnerable people. Somalia has one of the lowest school enrolment and literacy rates in the world, especially for girls. According to UNICEF, only 28 percent of school-age children are enrolled in primary school, of which only 38 percent are girls. With the near collapse of the education sector, school feeding for 92,500 children in 2009 ensured access to two meals a day. This includes 38,600 girls who benefited from the take-home ration of oil, which encourages girls’ enrolment in school. Results indicate that school feeding in Somalia has been effective in increasing enrolment and retention rates, as well as lowering the gender gap.

In the conflict-affected region of Darfur in the Sudan, WFP reached over 935,000 school children in 2008 with a daily cooked meal. School meals have helped to alleviate hunger, stabilize attendance and narrow the gender gap in primary education. The implementation, however, has been difficult because of violence and a lack of partners with implementation and monitoring capacity

Annex 6: Index-Based Weather Insurance

Index-based weather insurance can become an important tool to manage risk. Traditional insurance for millions of small farmers is very difficult because of the large monitoring and transaction costs. An objective, third-party monitoring of rainfall would trigger a payout if cumulative rainfall over a period of time is below a certain threshold at which significant crop losses occur. This reduces the costs significantly and also could increase the speed at which money is disbursed and reaches the farmers.

In 2005, the Government of Ethiopia initiated the Productive Safety Net Programme (PSNP) as its primary instrument for addressing food insecurity, with a focus on building productive community assets and protecting assets during shocks. PSNP has shifted the emphasis from emergency humanitarian aid to long-term initiatives that address major underlying causes of food insecurity.

In this context, in 2006, WFP entered into a humanitarian aid weather insurance contract with a leading European reinsurer, Axa Re. The contract provided contingency funding for up to 62,000 vulnerable households in case of extreme drought during Ethiopia's 2006 agricultural season. Although there was no pay-out because rainfall was adequate, the pilot demonstrated the feasibility of using market mechanisms to finance drought risk in a least developed country; developed objective, timely and accurate indicators for triggering drought assistance; and put government contingency plans in place for earlier response to shocks.

In 2007, WFP, the World Bank and the Government of Ethiopia began to develop a broader risk management framework for droughts and floods in the context of PSNP. Although PSNP delivers timely livelihood protection to the chronically food-insecure, the transiently food-insecure remain subject to the vagaries of the emergency relief system. The second phase of PSNP (2008–2010) includes a drought risk financing component, clearer contingency planning, capacity building and more robust early-warning systems. It will facilitate early and predictable disbursements of resources for less predictable shocks. Donors are interested in scaling up this facility beyond the PSNP areas.

Index-based financing instruments – be they contingent grants, loans or risk transfer tools – are designed to relate an index, based on objective indicators that capture a systemic risk such as drought, to financing needs. Indices are monitored during a given period, and if certain index trigger levels are reached, pay-outs are made. Because pay-outs are settled on an objective index representing a geographic area affected by the risk, these mechanisms have fewer transaction costs and avoid some of the operational problems associated with traditional insurance approaches based on loss assessment of individuals.

Index-based risk financing tools are an innovative and potentially effective way of assisting poor people – and those who support them – whose livelihoods are threatened by extreme weather conditions and natural disasters. Experience of index-based risk transfer products in developing countries is increasing, and interest in these risk management solutions growing.

Extreme-weather events, such as droughts and floods, are by far the most common shock suffered in many parts of Africa and elsewhere across the developing world. Droughts mean failed harvests for small farmers who depend on rainfall for production. They contribute directly to severe local, national and even regional food supply shortages.

And they can send the price of staple grains soaring at times when the poor are least able to afford them. To cope, vulnerable households are often forced to migrate or sell productive assets, with devastating consequence for future growth and development.

WFP, together with IFAD, and in partnership with local governments and private insurance companies, WFP has been working to improve the access of the rural poor to innovative weather index-based insurance in China and Ethiopia for the past few years.

Based on this work in Ethiopia, and other successful financial risk management examples – such as the World Bank’s work in Malawi and the Caribbean – WFP is now looking at opportunities to expand this approach and build a larger and more sustainable risk pool for natural disasters across Africa. The aim of WFP’s Climate and Disaster Risk Solutions project, funded by the Rockefeller Foundation is to support more effective natural disaster risk management in Africa. The project is focused on extreme droughts and floods and emergency responses that are needed when national capabilities become overwhelmed.

The basic premise is that you need to understand and quantify the risk that needs to be managed before you can focus on enhanced risk management, including emergency preparedness, contingency planning, contingency financing.

Africa RiskView is based on a standard-setting methodology that WFP has developed to convert weather data into high-level food security response needs and therefore costs given today’s conditions. It translates real-time and historical weather data into current and potential food security needs for the whole of sub-Saharan Africa.

It provides decision-makers with expected and probable maximum costs of weather-related responses before an agricultural season begins and as the season progresses every 10-days for every first-level administrative district in sub-Saharan Africa. The model calculations correlate well with the past 145 WFP drought-related needs estimates in the past decade across the continent.

The first operational prototype of Africa RiskView was completed in January 2010. Climate and Disaster Risk Solutions is now providing technical assistance to the African Union Commission for Rural Economy and Agriculture in the preparation of a proposal for a pan-African Disaster Risk Pool for Food Security. With the support of the Climate and Disaster Risk Solutions team, Commission staff will shepherd the official proposal for creation of a risk pool through the appropriate policy organs of the African Union with the intent of formal adoption by Member States during the July 2010 AU Summit in Kampala, Uganda.

Source: WFP (2009a)

Annex 7: Food Assistance for Conflict-Affected Populations in Mindanao, the Philippines: Peacebuilding Before Peace

After a ten-year absence, WFP returned to the Philippines in 2006 to support the peace process in Mindanao. Indicators for poverty, nutrition, and education in Mindanao are below the national average. According to the 2007 WFP food security assessment, 47 percent of the target population in the conflict-affected areas of Mindanao is food insecure, of which 12 percent suffer from severe food insecurity. Similar results were found by a 2004/5 World Bank-led Joint Needs Assessment.

The programme has supported the Government's peace process and addressed the needs of the conflict-affected populations. It required a combination of immediate interventions to meet the humanitarian needs and medium to longer-term measures that support rehabilitation, recovery and the development. The activities included in the programmes are school meals (take-home rations and on-site meals), Mother Child Health and Nutrition (MCHN), Food for Work and Food for Training (FfW/FfT), and assistance to the Internally Displaced Persons (IDPs). All activities were concentrated in municipalities of Mindanao which were identified by the Government and the Moro Islamic Liberation Front (MILF) as affected by conflict and where over 50 percent of the population was poor. Before the increase in the conflict in August 2008, funding was inadequate. Funding increased after the large-scale population displacement. This also triggered a large shift in focus towards providing food assistance to the internally displaced. Donor earmarking funds to IDPs further reinforced this.

The main government counterpart for WFP has been the Department of Social Welfare and Development (DSWD), which provides overall guidance and monitoring for WFP activities in Mindanao. WFP also has worked closely with the Office of the Presidential Advisor on the Peace Process and the Mindanao Economic and Development Council on peace and development planning and support, and with provincial and municipal authorities to plan and implement food-supported programmes.

WFP commissioned an evaluation of the activities between June 2006 and March 2009. It included the following findings.

Beneficiaries, food distribution and costs of WFP activities

Year	Beneficiaries	Actual food distribution (MT)	US\$ (in millions)
2006	420,772	3,816	4.4
2007	1,611,980	19,740	15.6
2008	1,361,177	8,827	11.4

IDPs

The impact of the WFP emergency operation has been significant given the short period of time it has been implemented, the challenges of setting up a completely new programme and the ongoing security problems. The evaluation found that WFP responded

effectively to the rapid increase in the number of IDPs in August 2008, and has continued to address the food security needs of the most vulnerable in the conflict-affected areas.

WFP's activities have indirectly supported the peace process. Beneficiaries reported that the international presence gave them hope for the future, and assurances for eventual return. Although there was some concern about creating a dependency on outside food aid from some government officials, the IDPs themselves informed the evaluation mission that they would return as soon as the security conditions permitted.

School meals

School meals were effective in addressing two problems: bringing more children to school and improving food access at the household level at a constant and regular level. The evaluation found a strong and direct correlation between implementation and increased school attendance: there was approximately a 20 percent increase in school attendance in the targeted areas. The programme served to decrease the dropout rate in those schools, reducing the number of out-of-school youth who otherwise would be planting corn or chopping fuel wood to help parents earn a living, or participating in military activities. Another positive outcome was the strengthening of participation by community members as volunteers, particularly parents of schoolchildren. Parents claimed to have grown closer as a community, and in their capacity to trust members and be more sensitive to others' needs. They began to participate in other community activities including FfW programmes. School meals also strengthened the dialogue and opportunities to communicate between government and the targeted communities.

FfW/FfT

Food-for-work or training took only place on a limited scale. The evaluation found that WFP's presence had a positive impact on the community where people became more cooperative and were inspired to take on new projects together. The FfW projects did not increase dependence on external support, but provided valuable in-kind support to families who worked on a project that benefited the community.

MCHN

Given the limited period of implementation, it was not possible to assess the effects of the programme, or measure if malnutrition had been reduced.

The peace process

WFP's presence and activities promoted peacebuilding in the region. Beneficiaries and other stakeholders told the evaluation mission that WFP's presence provided a cushion or buffer, not only against hunger but against hopelessness. Aside from the food aid, WFP activities encouraged concerned populations to work together and had a positive psychological impact on the affected population, particularly among the displaced. The provision of rations for the displaced, the distribution of food for school children, the

support for health care for mothers and young children, and opportunities for work and training, all provided peace dividends that helped foster a sense of stability among the people most affected by the conflict in Mindanao.

WFP has a significant role to play in promoting the peace process, especially because it is the only UN agency with a consistent large-scale presence and the lead UN agency providing humanitarian assistance to the IDPs in the conflict-affected areas. It also provides logistics support and information on the displaced population and the conditions in the villages of origin. It is working with local government and the communities to promote peace and recovery in the area. All components of the WFP programme support the peace process; additional efforts through the FfW, FfT and school meals could be developed further to promote peace in Mindanao. In cooperation with the government, donors, other UN agencies and NGOs, WFP should continue to identify activities which support the peace and encourage the recovery, rehabilitation, and development of Mindanao.

In general, the evaluation mission found that WFP's presence and the programmes implemented with its partners have had a positive impact on the target population. Not only have the WFP activities addressed the main food security needs of the targeted population, they have had a positive influence in promoting peace and bringing the people together to address issues they have identified as priorities in their communities.

In early 2010, WFP signed a Memorandum of Understanding with the Autonomous Region in Muslim Mindanao for a programme to restore and rehabilitate small-scale agricultural infrastructure in poor and food-insecure areas in Mindanao. The food-for-work and food-for-training programmes, funded by the European Union, will assist some 1.1 million people and focus on irrigation schemes, storage, farm-to-market roads, communal gardening, tree planting, and skills training.

Source: WFP (2009c)

Annex 8: WFP Assistance to Demobilization and Reintegration of Ex-Combatants

The objective of the disarmament, demobilization and reintegration (DDR) process is to contribute to security and stability in post-conflict environments and speed along the recovery and development process. Fundamentally, the objective is to reduce the possibility that ex-combatants are lured back into fighting, which emerges when ex-combatants are left without livelihoods and social support networks that would assist them to sustainably reintegrate into community life. For the most part, DDR is politically driven and the conditions under which parties agree to disarm are usually drawn up in a ceasefire agreement or comprehensive peace accord. The UN often provides some form of assistance for DDR. Many soldiers join factions for the simple benefit of having enough money, food, and shelter to survive. A study of 1,400 Liberian ex-combatants indicated that 13 percent would consider returning to fighting to ensure their survival and escape poverty (Hill et al., 2008). Thirty one percent of ex-combatants were promised something after the war, most commonly money, which would give them access to food, followed by educational opportunities. Food is one of the elements that play a pivotal role in the post-conflict period in swaying ex-combatants away from conflict.

The *Operational Guide to the Integrated Disarmament, Demobilization and Reintegration Standards (IDDRS)* states that food assistance “... should be distributed to disarmed combatants and other DDR programme participants and beneficiaries admitted to the DDR programme” (United Nations, 2006: 234). Food assistance, according to the standards, ideally should be used in the three phases of DDR:

1. Demobilization with respect to cantonment and/or mobile demobilization in order to meet immediate needs;
2. Demobilization reinsertion as part of a transitional safety-net benefit package; and
3. Reintegration and rehabilitation to provide assistance to a wider group of beneficiaries, including those of receiving communities, returning IDPs and refugees, war-disabled, chronically ill, women and children, and ex-combatants through community-based, participatory rehabilitation efforts.

This, however, does not happen systematically in practice. It is evident that when we compare the well-funded case of Mozambique to other countries (El Salvador, Liberia and Sierra Leone; see Table) underfunding of food for ex-combatants’ DDR leave the process “incomplete”. Mozambique provided ex-combatants with the Reintegration Support Scheme (RSS) a US\$95 million package of cash payments, transport, material benefits, training and small-scale project grants targeted to 93,000 demobilized soldiers (Barnes, 1998a: 26). In mid-1993, before assistance to ex-combatants became available, ex-combatants engaged in looting of relief warehouses, blocking roads, and taking hostages, which forced donors to look for programmes to provide assistance. DDR processes in El Salvador, Liberia, and Sierra Leone suffered from underfunding of food for ex-combatants. As a result, ex-combatants are vulnerable to unemployment, hunger, and poverty. This increases the likelihood of frustration being expressed in riots and a return to behavior that promotes violence.

An example of this is Sierra Leone. On 7 July 1999, the Lomé peace agreement was signed and in October 1999, the United Nations peacekeeping mission in Sierra Leone

(UNAMSIL) was established. Part of its mandate was to assist the Government of Sierra Leone with DDR, but there was no trust fund to implement the agreement. As a result, the basic needs of the soldiers who were to disarm were not met as they still had to depend on the leadership of the Revolutionary United Front (RUF) for food. This almost derailed the whole peace process when the RUF began to take UNAMSIL personnel hostage on 1 May 2000. One day earlier, Foday Sankoh, the RUF leader, speaking with the Canadian Foreign Minister, Lloyd Axworthy, explained that the RUF would not disarm until the Lomé structures were in place and RUF members could take up political appointments, and that in DDR meetings people were not listening to what was needed (Olonisakin, 2008: 56). This highlights the fact that the failure to respond quickly to the most pressing needs (food and shelter) and willingness of soldiers to demobilize can be decisive in determining the success of a peace agreement.

It took one year following the hostage takings for the RUF to renew their commitment to the peace plan, which only came after sufficient funds were raised by the international community (Olonisakin, 2008: 104). By 18 January 2002, the President Kabbah of Sierra Leone announced that 47,000 former combatants had turned in their weapons and disarmament was complete (Olonisakin, 2008: 111). However, within one year the reintegration process was running out of funding, which was cited by an evaluation team as being due to: "Lack of donor interest in the economic rehabilitation of the country and lack of economic opportunities for former combatants [which] could result in the renewed movement of fighters and weapons throughout the region" (WFP, 2004a: 22). It was also very concerned about the situation of the youth, particularly the demobilized ones and their sustainable reintegration/reinsertion.

El Salvador and Liberia have also been cited as countries where low funding of the DDR process has resulted in incomplete reintegration programmes, which had the potential to cause a relapse into conflict. McGovern (2008) wrote about Liberia: "There was a significant gap between disarmament and reintegration, which has left many ex-combatants milling around towns like Monrovia, Ganta, Zwedru, and Voinjama aimless unemployed and angry".

Similarly, the Salvadoran Peace Accords, signed in January 1992, aimed at ending the civil war, resolving the roots of the conflict and reducing violence by demobilization of ex-combatants. Yet, the failure to complete this plan resulted in "[F]ailure to fulfill the expectations of demobilized ex-combatants (and) had serious implications for public security. ... Moreover, protests by ex-combatants periodically threaten(ed) to rekindle organized violence. In January 1995, for example, ex-soldiers occupied the Legislative Assembly and other government buildings in San Salvador for two days, taking hundreds of hostages and blocking key highways. The weekly journal *Proceso* commented: "The actions taken by the demobilized soldiers demonstrate the extremes to which desperate people without jobs or a future, can resort" (McGovern, 2008: 2074).

Table: Countries with WFP-assisted DDR

Countries	Dates	Ex-combatants	Dependents	Rations
Afghanistan	Sept. 2003-March 2005	40,000 – 60,000	n/a	<ul style="list-style-type: none"> Targeted ex-combatants only 126 kg per person (one off distribution)
Angola	Oct. 2002-June 2003	54,986	270,248	<ul style="list-style-type: none"> Targeted ex-combatants and dependents Standard 2,100 kcal for both categories Family rations to last for two harvests Multiple versus one-off distribution not specified in response.
Burundi	Sept. 2004-no end date provided	55,000 and 5,000 child soldiers	n/a	<ul style="list-style-type: none"> Targeted ex-combatants and demobilized child soldiers Standard 2,100 kcal for both categories Additional 2 standard 2,100 kcal take-home rations for the family members of demobilized child soldiers Multiple versus one-off distribution, not specified in response
Congo, Republic of	2001 (no specified date)	2,071	n/a	<ul style="list-style-type: none"> Targeted ex-combatants only Standard 2,100 kcal ration Multiple versus one-off distribution not specified in response
DRC	Jan. 2004-Dec. 2005	30,000	n/a	<ul style="list-style-type: none"> Targeted demobilized child soldiers only Daily on-site ration of 400g maize meal, 120g pulses, 30g oil, 5g salt Multiple distributions
Guinea	Late 2004-March 2005	4,000	n/a	<ul style="list-style-type: none"> “General Food Ration” followed by FFW/FFT and family food ration to support reintegration – no additional information provided
Liberia	Nov. 2003-Dec. 2004	64,540	193,620	<ul style="list-style-type: none"> Targeted ex-combatants, dependents, and vulnerable groups Ex-combatants receive a one-off distribution of 18.736kgs, standard 2,100 kcals Dependents receive one-off distribution of 16.06kg; standard 2100 kcals Vulnerable groups receive a one-off distribution of 19.06kg; above standard ration
Rwanda	Aug. 1997-Dec. 2002	16,125	n/a	<ul style="list-style-type: none"> Targeted ex-combatants and dependents 545g; below standard rations distributed to both beneficiary categories Multiple distributions
Sierra Leone	April 2000-Oct. 2001	45,000	n/a	<ul style="list-style-type: none"> Targeted ex-combatants and dependants Ex-combatants received 50.85kg; standard 2100kcal, multiple distributions Dependants received standard 2,100 kcal, multiple distributions
Somalia	Jan. 2004-Oct.	180	n/a	<ul style="list-style-type: none"> Targeted ex-combatants only 104.4 kg per person/month, standard 2,100 kcal Multiple versus one-off distribution, not specified in

	2004			response
Tajikistan	May 2001-Sept. 2003	402 males and 329 females: 731	n/a	<ul style="list-style-type: none"> Targeted ex-combatants only Received 1.5kg; above standard rations Multiple distributions Each combatant received 1.5kg of WHF per work day in 3-9 month project
Uganda	April 2002-Dec. 2002	1,930	n/a	<ul style="list-style-type: none"> Targeted ex-combatants and vulnerable groups Ex-combatants received standard 2,100 kcal rations, multiple distributions Vulnerable groups received standard 2,100 kcal rations, one-off distribution

Table DDR in El Salvador, Liberia, Mozambique and Sierra Leone

Country	Disarmament / Demobilization	Demobilization reinsertion	Reintegration, rehabilitation	Result
Mozambique	May-Nov 1994, 57,540 GoM soldiers and 20,538 RENAMO were disarmed / demobilized. Food, blankets, health care, etc were provided.	Soldiers were provided with civilian clothes, seeds and tools, and cash payments for financial support for eighteen months. 30,000 ex-combatants were absorbed into the new Mozambique army.	Donors funded bilaterally and multi-laterally for UN agencies and NGOs organized Quick Impact Projects) economic activities. These included food-for-work activities rehabilitating agriculture, roads, railways, hospitals and water-supply.	Complete DDR process
El Salvador	Peace accord (1992) the rebel group (FMLN) and the GOE were to hand over all weapons to UN Mission. No evidence of food distribution to ex-combatants.	In return for complying with the peace accord a max. 47,500 ex-combatants were to have land transferred to them. This plan was not implemented but was substantially pared down.	Programmes were developed for training ex-combatants in agriculture, in technical-vocational training and business training. However, many were severely underfunded.	Incomplete DDR process.
Liberia	Limited one time food ration was distributed and cash was given for the return of arms.	No reinsertion activities	Some food-for-work rehabilitation projects but many were underfunded leading to not an effective targeted reintegration process, lack of funding.	Incomplete DDR process
Sierra Leone	1999 basic needs were not met.	Reinsertion opportunities were	Though disarmament is considered a success, the	Incomplete

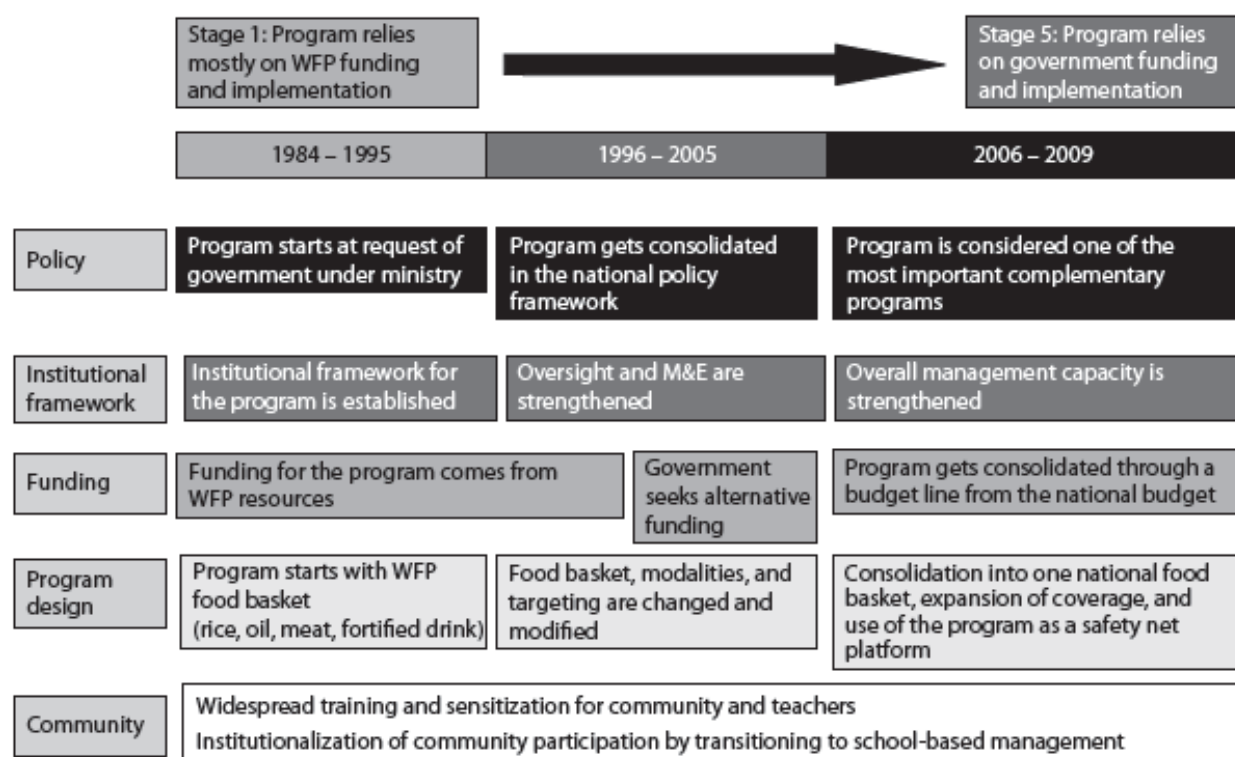
	May 2001 funding was in place to provide for the basic needs, food and non-food supplies of ex-combatants.	developed, but lack of funding weakened their effectiveness. Some food for work activities, but limited due to lack of funding.	actual rehabilitation of ex-combatants is not. Donors lacked interest in the economic rehabilitation of the country and rehabilitation activities involving food for work and other activities were underfund.	
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Annex 9: Transitioning School Feeding in El Salvador

In El Salvador, a school-feeding programme was started during the civil war in 1984, reaching about 200,000 students. After transiting through various phases the Government took over the programme in 2007, feeding about 870,000 children ages 5-15 years. Currently, WFP only provides technical assistance regarding procurement and logistics.

The transition went through various phases as depicted in the figure below. In 1984, the programme completely relied upon WFP for funding and implementation. During the first phase (1984-1995), WFP assisted with the building of the institutional framework for school feeding, including through the creation of a technical and steering committee and a designated unit in the Ministry of Education.

Figure School feeding transition in El Salvador



The second phase (1996-2005), started with the insertion of the programme into the national school health programme (Escuela Saludable), championed by the First Lady. A concrete handover strategy was adopted in 1997. In this period, oversight was strengthened and the government explored alternative funding. Starting in 2000, the government and other donors became additional donors besides WFP. In the final phase (2006-09), a budget line for school feeding (adopted in 2005) came into effect. In 2006 about half and in 2008 all of the costs were covered by the government. The official handover took place at the end of 2007, after several postponements because of its

vulnerability to natural disasters. Under an agreement signed in 2008, WFP is assisting with logistics, procurement, redesigning of the food basket, targeting, and training.

One of the lessons learned is that the transition takes time (23 years) and requires a significant amount of planning and resources. The government slowly built capacity and took over the management of schools, with WFP first withdrawing from the non-vulnerable regions. The transition of the logistics and procurement was the last and most difficult.

Source: World Bank-WFP (2009)

Annex 10: Food Prices and International Food Assistance in Darfur

The conflict in Darfur, which started to escalate in 2003, severely disrupted normal patterns of food production and trade (Buchanan-Smith and Jaspars, 2006; Young et al., 2005). Markets closed; demand fell; normal trade routes disappeared or changed; borders were blocked; livestock trade collapsed; food flows declined; and transportation costs increased. For example, between early 2004 and early 2005, transport costs between Omdurman and El Geneina increased by 150 percent and fuel prices by more than 130 percent. The protection payments demanded at frequent roadblocks added to these costs (Hamid et al., 2005). In an assessment in 2007, in South and West Darfur, 50 percent or more of the traders interviewed regarded insecurity as the first constraint to trade. In North Darfur, this was reported by 6 percent of traders (Government of Sudan et al., 2008).

Decades of conflict had already reduced food production. The widespread violence that erupted in 2003 made it worse. Even if farmers planted, they often were not able to harvest because of insecurity. For example, production of sorghum (the main food staple) dropped to only 35 percent of the five-year average in 2004/05, according to the FAO/WFP Crop and Food Supply Assessment Mission. Darfur had relied on cereal flows from the central and eastern regions of the Sudan to cover deficits.

As a result, food prices increased (see Figure 3); in some areas of Darfur for some commodities by as much as 700 percent (Young et al., 2005). Widespread violence in 2003 restricted assessments and international assistance. Humanitarian access to Darfur improved after the signing of the Humanitarian Ceasefire Agreement on 8 April 2004. WFP was widely credited with overcoming huge logistical challenges and scaled up its operations from 600,000 beneficiaries in 2003 to 3.25 million in 2005 (Young, 2007). Food aid flows increased to 57,000 metric tonnes (MT) in November 2005, reaching 438.821 MT for the whole year.

Food aid has been a vital instrument to provide access to food in Darfur as food production and trade were severely curtailed. Food aid partly filled the gap left by lower production and trade flows. Food aid has reduced prices for food insecure net-purchaser households in Darfur while avoiding adverse impacts on producer incentives in the rest of the Sudan because markets between Darfur and the rest of Sudan are not well integrated. In 2007, food aid accounted for 55 percent of sorghum availability in Darfur (Dorosh and Subran, 2009).

Food aid has had beneficial effects, as it has increased availability, lowered food prices (see Figure 3) and increased relative stability in Darfur. This has improved access to food for the population as a whole, including those who are not direct beneficiaries.

In Darfur, the discussion on the disincentive effects of food aid is somewhat moot given the violence and security constraints to agriculture. Buchanan-Smith and Jaspars (2006: 120-121) and Hamid et al. (2005: 34-35) argued that there were no disincentive effects of food aid and that insecurity prevented farmers from reaching their first priority: growing their own crops. Food assistance can be phased out only after security is improved and farming has reached pre-conflict levels.

There is also evidence that food aid kept markets functioning and liquid and traders in business (Buchanan-Smith and Jaspars, 2006; Hamid et al., 2005). The traders interviewed during the 2007 assessment (Government of Sudan et al., 2008) had a mixed

view of the impact of food aid on markets. The stability of prices was cited by 25 to 30 percent of the traders as the first or the second main impact of food aid sales in all three states in Darfur. They also attributed the lower prices to food aid sales, particularly in South and North Darfur, and suffered from lower demand in all three states. On the other hand, they noted an increased availability of food to buy and a higher demand for non-food items, especially in West Darfur. Overall, traders gave the impression that they were satisfied with the food aid in the markets – despite the fact that profits on food aid were probably lower than on local grains (because prices of food aid cereals were lower than of local grains, but the transportation and handling costs per metric ton were likely to be about the same).

According to the household survey conducted in 2007 (Government of Sudan et al., 2008), selling or bartering of food aid among households was common, but not widespread. 17 percent of the households said that they sold or bartered any food aid commodity.

The households who sold food aid, sold a relatively large share. For example, they sold on average 34 percent of their cereals and 36 percent of their pulses, but more than 50 percent of vegetable oil and corn-soya blend (CSB). One of the reasons for selling food aid was to pay for milling cost. IDPs, for example, who had fewer income sources to pay for milling, sold much higher volumes of food aid than residents. Food insecure households were more likely to sell food aid, and more likely to sell it to buy food or pay for milling. This suggests that food aid was sold out of necessity.

Where there is a seller, there is a buyer. There is evidence that many food aid recipients are both sellers and purchasers – at different times – of food assistance commodities (Buchanan-Smith and Susanne Jaspars, 2006). This is probably similar to the sell-low-buy-high phenomenon found often among African farmers (WFP, 2009a). Farmers often sell cereals during harvest time, even though prices are low, because of urgent cash needs and liquidity constraints and then must purchase cereals during the lean season, when prices are high. The cost of this system where food aid functions as an informal credit system is high, but probably not compared to interest rates charged by informal money lenders and traders.

Anecdotal evidence shows that food aid commodities are bought by local residents and IDPs mostly for consumption, although some is also used for animal feed and brewing of liquor. Although the low prices for food aid commodities hurt food aid sellers (recipients), they benefit food aid buyers. Research have shown that food aid recipients sell food aid in order to get access to essential nutrients, such as vitamin C (Reed and Habicht, 1998; WFP, 2009a). For households that lack other income sources, selling food aid is an important strategy for obtaining access to a diverse diet. And the terms of trade for certain nutrients is not always as bad an exchange as food prices might suggest (WFP, 2009a), although there are often more cost-efficient ways of addressing micronutrient deficiencies among beneficiaries.

The amount of food aid sold can be calculated by multiplying the amount of food aid distributed per household (in MT) by the total number of households who sold food aid and by the percentage of food aid sold. Food aid cereal sales per month amounted to about 2000 MT in July 2007 and 1200 MT in August 2007 (5 percent of distribution in both months) (see table).

It could be that respondents did not reveal the full extent of the food aid sales, perhaps because they feared that it would affect their rations. Anecdotal evidence and focus group discussions suggested that the 15 percent is underestimated. Yet, if one assumed that all households sold cereal food aid, the percentage of cereal food sold would be 34 percent. This simulation was performed for all commodities. In the last column, the maximum of food aid that could end up in the market was simulated. If all households sell food aid (rather than 15 percent), the volumes increase by a factor 6.7 (100/15), assuming that they all sell the same amount as before (34 percent). This would mean about 13,600 MT in July and 8,300 MT in August, accounting for 33 percent of the food aid distributed.

The amount of food aid in the market was significant compared to the total volume. Thus even if few households sold food aid (15 percent), the fact that 3.2 million beneficiaries (in August 2007) received food aid and sold some food aid (34 percent of cereals) added up to a sizable amount. And compared to the size of the market, which had declined because of the conflict, food aid easily represented an important share of the total food aid market.

In August 2007, more than 80 percent of the 72 traders interviewed in Darfur engaged in trading food aid cereals (wheat and sorghum). Most of the traders (72 percent) stated that their main source of food aid was beneficiaries selling part of their ration. The most common other source was other traders.

Food aid trade accounted for an important share of trade for the traders interviewed. Food aid took up more than half of their trade for 31 percent of the traders, and for 53 percent of the traders, food aid accounted for more than a quarter of their trade.

The table below shows the volumes and shares of local grains and food aid cereals in Darfur. Traders were asked about the volumes they traded last week and last year. The figures for last week should be more reliable as the recall period is much shorter. For Darfur, food aid cereals account for 24 percent of the traded volumes over the past year, but 36 percent for the previous week.

These percentages appear somewhat low compared to anecdotal evidence and key informants interviews. Some estimate the food aid cereal trade as a percentage of total cereal trade at more than 50 percent. There might be several reasons why the numbers based on the traders interviewed are, or appear to be, biased. The figures might have an upward bias because of low volumes of local grains during August (before the harvest) and large food aid distributions in July and August 2007. They might have a downward bias because traders interviewed were probably relatively big and, therefore, less likely to trade food aid.

If all households sell food aid, there will also be more food aid in the market. Assuming that the percentage increase in the amount of sorghum sold in July and August 2007 if all households sell food aid sorghum is the same as the percentage increase in the cereal food aid traded, the share of food aid in the total cereal trade increases to 70 percent.

Cereal food aid sales

	Total	Simulation
Household survey		
Households selling sorghum food aid (in %)	15	100
IDPs	22	
Residents	5	
Sorghum food aid sales as % received	34	34
Sorghum food aid sales in metric tonnes		
July 2007	2,043	13,619
August 2007	1,243	8,288
Sorghum food aid sales as % of distribution		
July 2007	5	33
August 2007	5	33
Trader survey		
Annual cereal food aid trade in metric tonnes, based on:		
One week in August 2007	118	787
Past year	102	680
Cereal food aid sales as % of trade:		
One week in August 2007	36	71
Past year	24	67

Annex 11: Connecting Farmers to Markets in Sierra Leone

In Sierra Leone, WFP's Purchase for Progress (P4P) initiative is supporting the Government's Smallholder Commercialization Scheme (SCS) as the first five-year investment plan of the National Sustainable Agricultural Development Plan for 2010-2030, which aims at integrating rural areas into the national economy and eradicating deep-seated rural poverty and hunger. The Ministry of Agriculture, Forestry and Food Security and partners have mainly focused on increasing production to improve food security, including through farmer field school training. From these farmer field schools, farmers' organizations often develop at district level. P4P targets these emerging farmers' organizations.

P4P is operational in the areas where agricultural and development partners support the development of farmers' organizations and farmers have difficulty accessing markets. P4P is creating synergies between supply-side support of partners and the purchasing power of WFP. WFP places conditions on purchase of commodities from farmer's organizations, such as the minimum quantity, quality standards, and bagging requirements. Partners support the farmers in meeting these conditions. Through sales to WFP and capacity building provided by the partners, the farmers' organizations can grow into marketing associations and or tap into other markets.

The farmers are starting to approach farming as a business to improve their income and livelihoods, especially for women because they are responsible for the majority of agricultural activities. P4P local purchase injects cash into rural communities. Farmers can plan for surplus production, add value to produce, sell in bulk, and save for themselves and their farmer's organizations instead of selling in small quantities for immediate cash for survival. Increased farming activities bring about development of service providers, such as transporters, inputs and machinery shops, processing plants/market centers, and credit services, which in turn solicits improvement in the road network, banking, power supply, and marketing facilities.

In March 2010, WFP took delivery of the first batch of 25 metric tonnes of rice for WFP's school meals programme. It is the first ever purchase of food by WFP in Sierra Leone. A total of 500 metric tonnes have been contracted at the end of 2009 from 10 different farmers' organizations.

P4P is at the heart of the commercialization of farming, building social capital and the reduction of poverty and hunger and, thus, a crucial element in the creation of lasting peace and stability in Sierra Leone.

Annex 12: Transition in Mozambique

The sequencing of relief to recovery and safety nets can played a vital role in consolidating peace, as the example of Mozambique illustrates. Conversely, underfunding or failure to provide food assistance early enough can threaten the fragile peace.

The civil war began in 1984 and led to massive numbers of internally displaced people (IDPs) and refugees fleeing the country. When the war progressively depleted government capacities to address social needs, WFP began to provide more and more assistance to address food insecurity, including through school feeding. In 1987, the Government of Mozambique introduced an economic and social rehabilitation programme (ESRP) that was directed at revitalizing the economy to which donors were lukewarm. As a result of security problems caused by the war and the lack of resources, the Government was not in a position to provide adequate basic services to large parts of the country, including the urban/peri-urban population.

Part of the strategy of ESRP was to provide safety nets of direct and indirect income transfers for the poorest households in urban and peri-urban areas, particularly to address food insecurity. WFP introduced a project to provide food assistance for displaced persons affected by food shortages and civil strife in the regions controlled by the Government of Mozambique. This project not only provided basic food support, but was designed according to the ESRP strategy to help rehabilitate the economic and social structures to link emergency assistance to development, recognizing that free food was only a short-term solution and that longer-term projects were needed at the same time. The project included activities to rehabilitate agriculture, roads, railroads, hospitals, and water systems.

When the war came to an end with the signing of the General Peace Agreement in October 1992, the most immediate need was for food aid, as was voiced by President Chissano: “food had to be delivered rapidly and efficiently to the drought victims, as well as to the soldiers of the two armies – FRELIMO-FAM and RENAMO that were awaiting demobilization ...” because incidents were occurring that threatened to destabilize the peace process (Barnes, 1998a: 19). Up to the end of the war, WFP had only delivered to government-held areas, as only the ICRC was permitted to operate in RENAMO-held areas during the war. WFP gained access to the whole country with the signing of the GPA. In October 1992, there were 3.1 million Mozambicans receiving food aid, increasing quickly to 3.8 million by May 1993. As the situation further stabilized it was estimated that another 2.4 million IDPs and 600,000 refugees returned in the first year after the GPA was signed (Barnes, 1998b). Many of the people had been deprived of basic services during the war and immediate support was needed to restore the services.

Because of its presence and experience with various food assistance modalities, including school meals and food for work, WFP was able to expand in 1992 to include RENAMO-held areas in the immediate aftermath of the war. In October 1992, WFP added a pilot project for urban basic services in Maputo to contribute to a) the rehabilitation of community infrastructure, such as roads, drainage, schools and sanitation; and b) increase the rate of enrolment and attendance of street children (orphans) and training of women. This project was later hailed in evaluations as a community development success. By late 1993, after conducting assessments it was projected that the number of displaced people

still requiring general food assistance in 1994 would decrease to 250,000 for the twelve months July 1994 to June 1995.

A year after the signing of the GPA, President Chissano and Mr. Dhlakama (RENAMO) signed on 22 October 1993 an agreement for a timetable for demobilization of soldiers. The troops were to enter an assembly camp from December 1993 and begin demobilization from January 1994 to May 1994 from where they would later enter in September 1994 the new army. The assembly area was provided with food, cooking equipment, tarpaulins, blankets, healthcare, water, and civilian clothes. In November 1994, it was reported that 78,078 soldiers had demobilized (57,540 from the Government and 20,538 of RENAMO). By mid 1994, a provincial fund was created to provide small- and medium-sized grants to employ ex-soldiers and assist them to reintegrate into community based economic activities (United Nations, 1995).

Some of the lessons regarding the sequencing of food assistance are:

- Establish hunger-alleviation programmes that target war-affected members of the population in close collaboration with the government.
- School feeding programmes are an important safety net during a period of conflict, especially because governments lack resources and divert public funds for military purposes.
- Where possible, during the conflict, initiate programmes that contribute to rehabilitation and development.
- Provide assistance to the government for capacity building within their ministries to encourage hand-over.