July 2016

The Nigerian economy in turmoil – what does it mean for food insecurity in the conflict-affected states of the north-east?
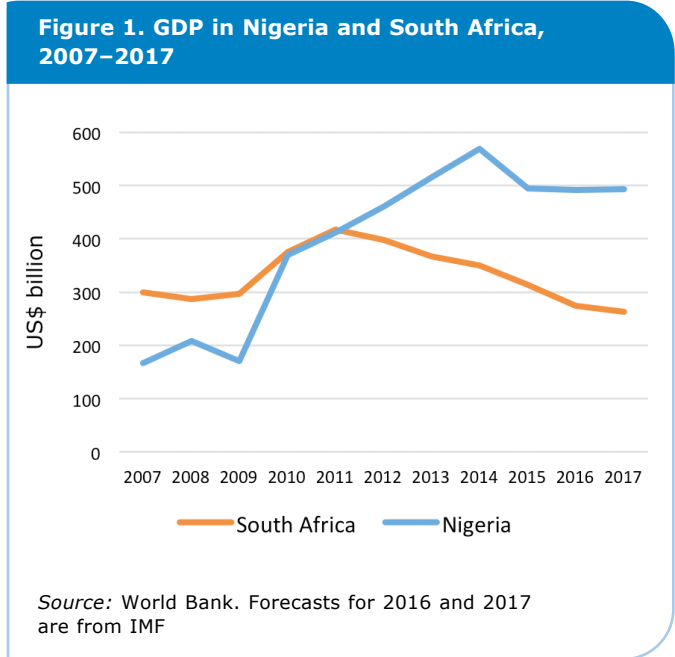
Special Focus
Nigeria

- **Nigeria**, the largest economy in sub-Saharan Africa, entered the club of lower-middle income countries in 2014 thanks to good economic performance; but since 2015, it **has experienced an economic slowdown** started by falling global oil prices. Real GDP growth fell from 6.3 percent in 2014 to 2.7 percent in 2015. Since 70 percent of government revenues come from the oil sector, the slowdown has posed **major challenges for public finances**.

- **Our simulations confirm that the economic situation has a detrimental impact on food security in conflict-affected and already food-insecure states in the north-east.** Commodity prices have soared because of pressure on the currency and import restrictions. Inflation is likely to rise further because of the recent unpegging of the naira and its consequent devaluation, as well as the increase in fuel prices. **We estimate that this risks more than doubling the number of food insecure people in the states of Adamawa, Borno and Yobe from 2.5 million in March–May** (as estimated by Cadre Harmonisé) **to 5.5 million in September**. In line with seasonal trends and if all else remains the same, food insecurity is expected to fall slightly to 4.4 million people in December 2016.

- The availability of government safety nets was already very limited before the crisis. In 2014, 0.03 percent of GDP was used on safety nets programmes, which is less than most other countries spend in sub-Saharan Africa. To tackle the problems of poverty and inequality, the new government has put social protection high on the agenda and allocated 9 percent of the 2016 budget to social protection activities. This includes transferring NGN5,000 per month to an estimated 25 million poor and vulnerable people. As the 2016 budget was signed in May, it is still unclear if and when these safety nets will be implemented. **Our simulations show that the implementation of safety nets would** not only offset the increase in food insecurity during the lean season, it would **more than halve the number of food-insecure people in the north-east by December, potentially to 1.9 million.**

- A **slight economic recovery is expected in 2017**, from a growth rate of 2.1 percent in 2016 to 2.8 percent in 2017 as global oil prices are expected to rise again. However, the recovery could be hampered by record-low oil production. Production is likely to continue to fall because of unrest caused by the terrorist activities of a new generation of militants in the Niger Delta and policy uncertainty which restricts investments. At the moment, the rebels in the Niger Delta are likely to be a bigger threat to the recovery of the Nigerian economy than Boko Haram.
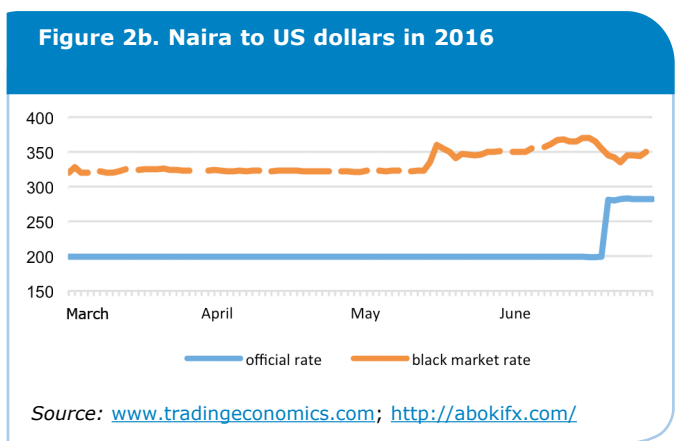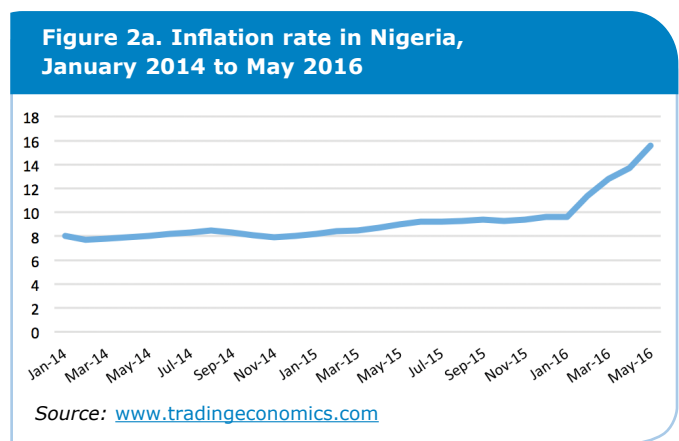
WFP

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The troubles of the Nigerian economy

With 177.5 million people and a GDP of US$494 billion, Nigeria is Africa's most populous country and its largest economy. It is the fourth-largest net exporter of crude oil worldwide and has one of the top ten natural gas endowments in the world. Thanks to a strong performance mainly in services, but also in industry and agriculture, combined with a rebasing of GDP,[1] Nigeria entered the club of lower-middle income countries in 2014, surpassing South Africa (see Figure 1). After impressive economic growth with a 6.3 percent increase in real GDP in 2014, the slowdown started in 2015, with growth rates dropping to 2.7 percent. This was initiated by the fall in global oil prices but has been exacerbated by internal policy decisions. President Buhari's response to the crisis has been threefold: (1) contain inflation by keeping the naira pegged at 197-199 to the US dollar (this decision was reversed 20 June 2016); (2) protect the dollar reserves and stimulate local production by limiting imports and restricting the supply of dollars; and (3) stimulate the economy with a US$32 billion expansionary budget.[2]

The drop in global oil prices initially resulted in a devaluation of the naira. The decision to peg the official exchange rate to the US dollar and thus keep it artificially strong did not stop inflation as intended. Prices kept rising and Nigeria has been experiencing two-digit inflation since February 2016, reaching 15.6 percent in May (Figure 2a). After the de-pegging, the value of the naira relative to the US dollar plummeted from NGN197 to NGN282 (Figure 2b). While the unpegging of the currency might have some price impacts, The Economist Intelligence Unit forecast that much of the inflation associated with devaluation
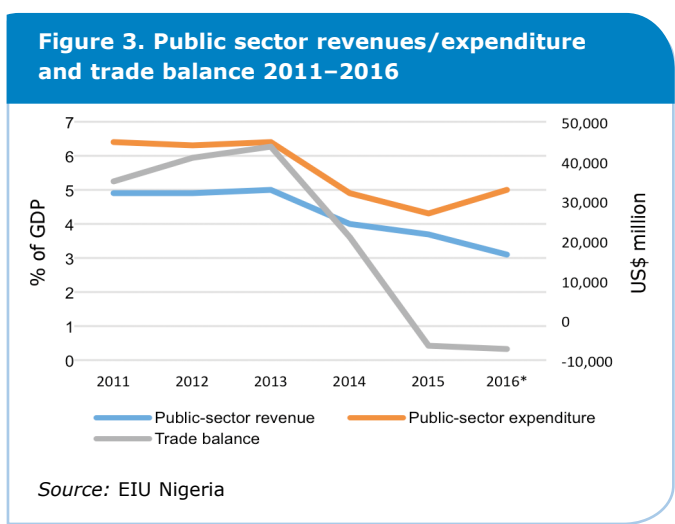
Figure 1. GDP in Nigeria and South Africa, 2007–2017

Source: World Bank. Forecasts for 2016 and 2017 are from IMF

has already occurred given the depreciation of the naira on the black market.[3] The parallel market was trading around NGN345:US$1 on 5 July, compared with around NGN370:US$1 before the de-pegging of the rate in the official market. The soaring prices are also a consequence of Buhari's strategy to restrict imports. The import restriction[4] has caused a shortage of goods so firms have either closed down due to lack of supplies or obtained US dollars on the black market. The difference between the official and black market rates is expected to persist given that a number of import restrictions are still in place.[5]

Figure 2a. Inflation rate in Nigeria, January 2014 to May 2016

Source: www.tradingeconomics.com

Figure 2b. Naira to US dollars in 2016

Source: www.tradingeconomics.com; http://abokifx.com/

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1. Along with the rebasing of its GDP, Nigeria increased the number of industries it measures from 33 to 43. Among the new sectors of the economy are telecommunications, movies and retail, which were previously not captured or were underreported. In 2014, when the change happened, Nigeria's GDP was rebased from about US$270 billion to US$510 billion for 2013. *Source:* http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2014/07/23/000470435_20140723133415/Rendered/PDF/896300WP0Niger0Box0385289B00PUBLIC0.pdf

2. This budget was only signed 6 May 2016, four months after the fiscal year started.

3. EIU 16 June 2016, available at: http://country.eiu.com/article.aspx?articleid=434319227&Country=Nigeria&topic=Economy&subtopic=Forecast-&subsubtopic=Exchange+rates&u=1&pid=344310818&oid=344310818&uid=1

4. Imports of 41 goods are not banned, but importers of these items no longer qualify for foreign exchange from the central bank or the official market.

5. EIU 16 June 2016, available at: http://country.eiu.com/article.aspx?articleid=434319227&Country=Nigeria&topic=Economy&subtopic=Forecast-&subsubtopic=Exchange+rates&u=1&pid=344310818&oid=344310818&uid=1

The stimulation of the economy with an expansionary budget has proved difficult since oil counts for 70 percent of government revenue and generates almost all of Nigeria's foreign earnings. Thus, the sharp decline in oil prices since the third quarter of 2014 has posed major challenges to the country's external balance and public finances (Figure 3). A key strategy to cover this gap – in addition to fighting corruption and increasing taxation – has been to cut petrol subsidies, which in 2012 were estimated to equal about 20 percent of the total public budget.[6] This forced the Nigerian Petroleum Products Pricing Regulatory Agency to increase the price of the Premium Motor Spirit (PMS) – popularly called petrol – by 67 percent in May 2016 compared to the earlier regulated retail price band.

Oil production is now at a two-decade low. Already in 2012/2013, Nigeria's oil production shrank because of regulatory constraints and security risks which hampered new investments.[7] The recent surge in terrorist activities from the new generation of militants in the Niger Delta has caused huge loss and disruption of the oil production. The combination of unrest, lower oil prices and policy uncertainty – which restricts investment – will intensify fuel shortages and result in a continuing fall in oil production during 2016.[8] It is worth remembering that at the height of the Delta conflict in 2008, militants managed to knock out 70 percent of the country's oil production.[9]

Figure 3. Public sector revenues/expenditure and trade balance 2011–2016

Source: EIU Nigeria

Infrastructure in Nigeria is also in a dilapidated state. The ranking of overall infrastructure is among the worst in Africa.[10] The country suffers from an inadequate power supply, which is a major impediment to development: 44 percent of the population has no access to electricity. Electricity power consumption per capita, which has been going up since 2009, was only 142 kWh in 2013 compared to an average of 742 kWh for all lower middle income countries and 4,328 kWh in South Africa.

Social indicators poor even before the economic downturn

There is a high degree of social deprivation in Nigeria. Income disparities seem to reflect four different economies within the economy: (1) a middle/high income economy (Lagos state, with a GDP per capita of US$3,000); (2) resource-rich economies (the Niger Delta states); (3) fragile state economies (the north-eastern states); and (iv) low income economies (the rest of the states).[11] Table 1 shows the most recent official poverty statistics for the country as a whole versus some of the states in the north-east. Income distribution is highly skewed and according to the latest figures, 61 percent of the population lives below the poverty line of US$1/day. Before the crisis, these rates were higher for Adamawa (74.3 percent) and Yobe (68.9 percent) but lower for Borno (55.1 percent). The food poverty rates that use a poverty line based on food expenditures, stand at 41 percent. The pre-crisis food poverty rates follow largely the same patterns as the general poverty rates.

Table 1. Poverty rates in Nigeria (2010)				
Indicator	**Whole country**	**Adamawa**	**Borno**	**Yobe**
Dollar/day PPP adjusted	61.2%	74.3%	55.1%	68.9%
Food poor	41.0%	55.4%	33.2%	58.5%

Note: The food poverty line is NGN39,759.49. This food poverty is an aspect of absolute poverty measure which considers only food expenditures for affected households.

Source: The Harmonised Nigeria Living Standard Survey 2009/2010

6. Umar and Umar, 2013. "An Assessment of the Direct Welfare Impact of Fuel Subsidy Reform in Nigeria", *American Journal of Economics* 3 (1) (2013), pp. 23–26.

7. http://www.africa-eu-renewables.org/market-information/nigeria/

8. EIU 9 May 2016, available at: http://country.eiu.com/article.aspx?articleid=1794202563&Country=Nigeria&topic=Politics&subtopic=Forecast-&subsubtopic=Political+stability&u=1&pid=1894395573&oid=1894395573&uid=1

9. *African Confidential*, Vol 57, No 11.

10. African Development Bank Group 2013: Federal Republic of Nigeria, Country Strategy Paper 2013–2017.

11. Ibid.

Even during the years of strong growth, Nigeria's social indicators have lagged behind the average for sub-Saharan Africa. Life expectancy stood at 57.7 years compared to 65.7 in the rest of sub-Saharan Africa, and access to safe water at 58 percent versus 65.7 percent. There are huge regional disparities in income and social outcomes. Household members in the North-West and North-East regions are four times more likely to have no education than those in the South-South region; the prevalence of malnutrition is highest in the North-West and North-East and lowest in the South-East and the South-South regions; access to safe drinking water ranges from 30 percent in the North-East to 74 percent in the south-west; and access to basic sanitation ranges from 45 percent in the North-East to 70 percent in the South-East.[12]

Safety nets almost non-existent but government wants to step up

The availability of government-provided safety nets is very limited in Nigeria. According to the World Bank, Nigeria spent just 0.03 percent of GDP on safety net programmes in 2014. This was among the lowest in sub-Saharan Africa, only surpassing Sudan, Senegal, Cameroon and Tanzania. Only 1.67 percent of the population was covered by safety nets in 2014 and only 11.2 percent of the transfers were estimated to go to the poorest quintile of people. Safety nets contributed just 2.15 percent to the household resources of recipients. Based on the latest Living Standards Measurement Survey from 2012/2013 by the World Bank and the National Bureau of Statistics, the north-east is the region that reports the largest relative presence of safety nets. Of the households in this region, 5.1 percent receive free food and maize distributions compared to 1.6 percent in the country as a whole. Direct cash transfers from government, food/cash for work programmes and inputs for work programmes are reported by less than 1 percent of households.

Social protection ranks high on the new administration's development policy agenda. To tackle the problems of poverty and inequality, the government allocated 9 percent of the 2016 budget to social protection activities, including a base transfer of NGN5,000 per month in 2016 to an estimated 25 million poor and vulnerable people. In addition to the base transfer, households among the most vulnerable will be eligible for a monthly benefit of NGN5,000 a month via conditional cash transfers; conditions will relate to children's school attendance and immunization.[13] As the 2016 budget was signed in May, it is still unclear if and when this safety net will be implemented.

In the absence of safety nets, the cut in fuel subsidies will harm the food insecure

How will the economic downturn impact the poor and food insecure? The fuel subsidy is said to alleviate poverty but a large part of this subsidy accrues to importers and wholesalers and involves corruption and inefficiencies.[14] Thus, fuel subsidies harm the economy as a whole and their removal is a welcome move. However, if a subsidy is removed without putting in place other policy interventions, such as targeted safety net transfers, it will negatively affect private household income as fuel prices rise. As the government is keen to fill the gap in public finances, it is unlikely to be able to make such accompanying interventions.

Moreover, the removal of subsidies and the consequent price increase is not the only challenge facing Nigerians. There has also been a significant rise in the price of cooking gas and diesel (AGO) – the latter is largely used for transportation and by manufacturing firms. These increases have had clear direct and indirect negative effects on poor households, even though the channels by which rural (poorer) and urban (less poor) households are affected differ.[15] Urban households are impacted to a greater extent through their direct purchases of petroleum products. Rural households are affected through their consumption of products and services which use petroleum products, such as transportation and electricity.

For populations already affected by displacement and conflict, the impact could be detrimental as conflict is a key cause of food shortages and higher food prices. Figures 4a–4c show food prices in markets in Maiduguri (Borno), Damaturu (Yobe) and Mubi (Adamawa). The price increase is substantial in 2016, particularly for rice.[16]

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12. Ibid.

13. See http://www.worldbank.org/en/news/press-release/2016/06/07/world-bank-commits-half-a-billion-dollars-to-provide-social-assistance-to-ni-gerias-poorest

14. Siddig et al (2014). Impacts of removing fuel import subsidies in Nigeria on poverty. Energy Policy, June 2014.
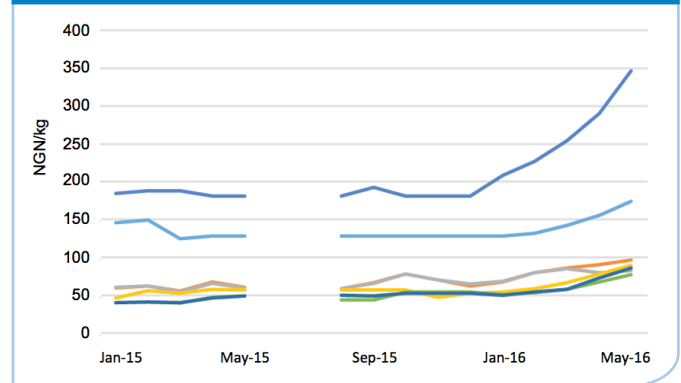
15. Ibid.

16. A more comprehensive analysis of food prices in north-eastern Nigeria is given in WFP (2016). *Lake Chad Basin crisis. Regional market assessment.*

Figure 4a. Food prices in Maiduguri, Borno state
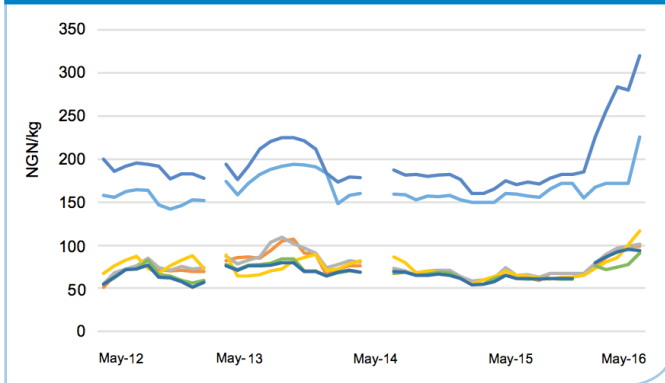
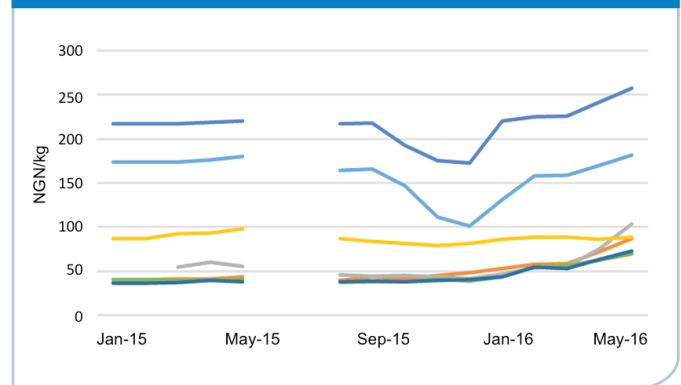**Figure 4b. Food prices in Damaturu, Yobe state**

Legend

— Local milled rice — Maize, white — Maize, yellow
— Millet, pearl — Rice, broken — Sorghum, brown
— Sorghum, white

Source: FEWS NET

Figure 4c. Food prices in Mubi, Adamawa state

To estimate the impact of the economic slowdown on food security in north-east Nigeria, we have used the Shock Impact Simulation Model (SISMod), a partial equilibrium model jointly developed by FAO and WFP.[17]

Since household-level data is limited, we have used the Emergency Food Security Assessment (EFSA) conducted in May 2016 as the baseline data. The EFSA was conducted in eight wards[18] in two local government areas surrounding Maiduguri in Borno state. Since the survey is not representative on any larger geographical level, we have not used the estimated food insecurity levels to estimate the number of food insecure but only the changes due to the shock. As baseline levels of food insecurity, we have used the state-level estimates by *Cadre Harmonisé* for March–May 2016 (IPC Phase 3–5). By applying the estimated changes to the *Cadre Harmonisé* estimates, we obtain the total number of food insecure.

In the model, we assumed a 30 percent increase in the diesel (AGO) price in order to determine the indirect effect of fuel price rises on poor households. We have assumed that the Consumer Price Index (CPI) will be in line with the projection made by The Economist Intelligence Unit for 2016, thus resulting in a 16 percent increase in the food CPI over the year. We have also forecast monthly grain prices until the end of the year, based on current trends and historical values. These forecasts pick up both expected seasonal trends and the effects due to the unusually high prices this year.

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17. We have used the 'light' version to overcome some data availability problems. Details on the model can be found in the Annex. For more information, see http://faowfpmodel.wix.com/sismod
18. Auno, Bale Galtimari, Dala, Gongulong, Maimusari, Ngubala Bamma, Old Maiduguri, Dusuman and Chab.

Figure 5. The states of Adamawa, Borno and Yobe in north-eastern Nigeria: estimated number of food insecure people by September 2016 without safety nets, in million

Yobe
Host: 1.77
IDPs: 0.99

Borno
Host: 2.38
IDPs: 1.06

Adamawa
Host: 0.18
IDPs: 0.01
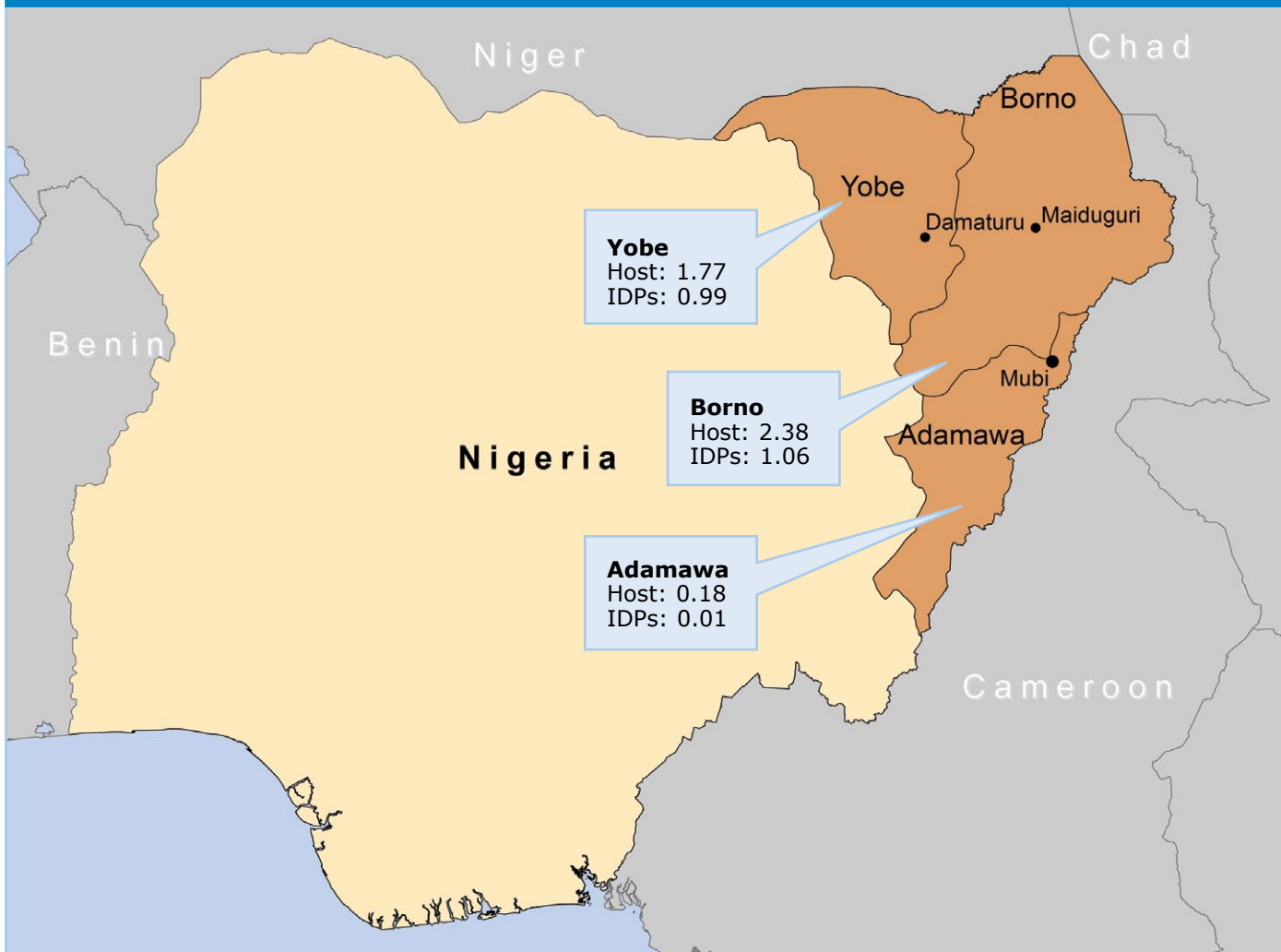
Source: VAM WFP

We conducted the simulation by host population and internally displaced people (IDPs) in the states of Adamawa, Borno and Yobe (see the map in Figure 5). Projected population numbers by state[19] are corrected for the in- and outflow of IDPs. Since we do not have separate food insecurity numbers for these population groups from the *Cadre Harmonisé* estimates, we estimated them from the EFSA data by using the observed differences in food security between the host and IDP populations. This suggests that the level of food insecurity is 60 percent higher among IDPs compared to the host population. We made the projections for September 2016, the top of the lean season, and for December 2016 after the harvest. Since the government has budgeted for a safety net for poor people, we also made one set of simulations based on the implementation of a blanket safety net of NGN5,000 per household per month. In total, we made four different simulations:

1) Simulation with predicted prices for September 2016, no safety net transfers applied;

2) Simulation with predicted prices for September 2016, safety net of NGN5,000 per household per month;

3) Simulation with predicted prices for December 2016, no safety net transfers applied; and

4) Simulation with predicted prices for December 2016, safety net of NGN5,000 per household per month.

Table 2 shows the population numbers, corrected for displacement, and the percentage of food insecure in March–May 2016 as estimated by *Cadre Harmonisé.* While most of the IDPs are in Borno (27 percent of population), food insecurity is high in both Borno and Yobe.

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19. The projections are based on the population census in 2006 and use state-specific population growth rates.

| Table 2. Population totals and percentage of food insecure in March–May 2016					
State	Population 2016 (corrected for IDP movements)	IDPs April 2016	Percentage of IDPs in April 2016	Food insecure March–May 2016 (CH)	Percentage food insecure in March–May 2016
Adamawa	4,131,294	150,718	4	82,000	2
Borno	5,219,130	1,427,999	27	1,627,300	31
Yobe	3,170,758	134,415	4	823,200	26

Source: Displacement Tracking Matrix April 2016 (IOM) & Cadre Harmonisé 2016
http://www.fao.org/fileadmin/user_upload/emergencies/docs/Fiche-Nigeria_Vfinal.pdf

Figure 6 shows the estimated number of food insecure people at baseline and under the different scenarios in the three states (for state-specific numbers, see Table 3 in the Annex). The simulation shows that the high fuel and food prices risk having a detrimental effect on household food security unless action is taken. The numbers of food insecure could double at the top of the lean season. The simulation shows estimates of 5.5 million for September. This is much higher than the *Cadre Harmonisé* estimates of 4 million for the same states, and it re-emphasises the seriousness of the situation as reported by FAO, FEWS NET, CILSS and WFP in an alert published on 7 July.[20] According to our estimates, over 60 percent of the food insecure are in Borno and only 3 percent in Adamawa. Numbers in December are estimated to decrease slightly to 4.4 million in line with seasonal trends in food prices. The simulations indicate that a substantial share of the food insecure are in the host population. While IDPs are more food insecure than the host population at the outset, the economic turmoil will drive relatively larger shares of the host population into food insecurity.

The simulations also show the substantial impact of a safety net of NGN5,000 for poor households each month. Safety nets would not only offset the increase in food insecurity during the lean season, they would more than halve the number of food-insecure people by December, to a potential 1.9 million. Without safety nets, the increase in food security would be higher in rural than in urban areas, but with them, this difference would even out. If implemented effectively, government safety nets could have a considerable impact in lowering food insecurity. In the absence of government safety nets, humanitarian assistance will be required to ease the suffering of both IDPs and host populations.

Figure 6. Estimated number of food insecure by host population and IDPs in Adamawa, Borno and Yobe
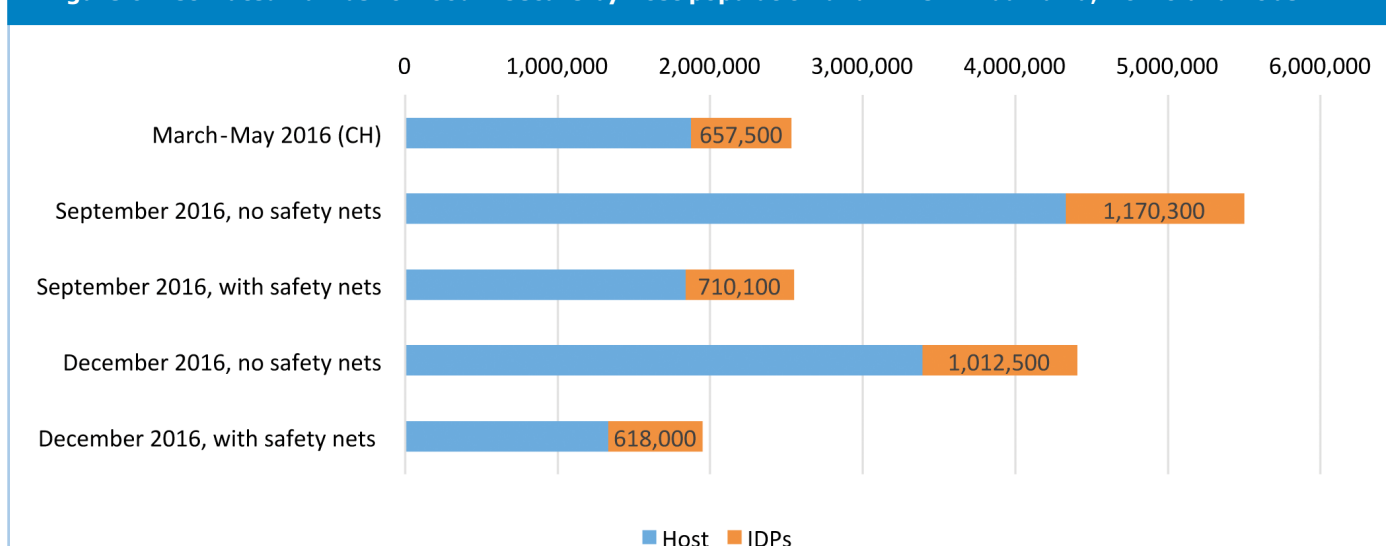
Source: Baseline figures (March–May 2016) from *Cadre Harmonisé*. Split between host population/IDPs and all figures estimated by the authors using extrapolations from SISMod

20. See http://www.fews.net/west-africa/nigeria/alert/july-7-2016

Looking ahead: slight recovery expected but record-low oil production is a threat

A slight recovery of the economy is expected in 2017, from a growth rate of 2.1 percent in 2016 to 2.8 percent in 2017 as global oil prices are expected to rise again. However, the recovery could be hampered by record-low oil production. Unrest caused by the terrorist activities of a new generation of militants in the Niger Delta and policy uncertainty which restricts investments are likely to result in a continuing fall in oil production. At the moment, the rebels in the Niger Delta are likely to be a bigger threat to the recovery of the Nigerian economy than Boko Haram. If the economy recovers as forecast, the government is probably more likely to be able to stick to its current plans regarding improved social protection policies. Safety nets could then become increasingly available, which would help improve the recovery of food-insecure households. If the economy does not recover, the poor are likely to increase in numbers and continue to be marginalised.

Annex

Table 3. Number of food insecure people in north-eastern Nigeria						
	Population group	**Percentage change from baseline**	**Adamawa**	**Borno**	**Yobe**	**Total**
March–May 2016 (CH)	Host		77,200	1,030,100	767,600	1,874,900
	IDPs		4,800	597,100	55,600	657,500
	Total		**82,000**	**1,627,300**	**823,200**	**2,532,400**
Sept 2016, no safety nets	Host	131	178,300	2,379,600	1,773,100	4,331,000
	IDPs	78	8,500	1,062,900	98,900	1,170,300
	Total	**128**	**186,800**	**3,442,500**	**1,872,000**	**5,501,300**
Sept 2016, with safety nets	Host	-2	75,600	1,009,500	752,200	1,837,400
	IDPs	8	5,200	644,900	60,000	710,100
	Total	**-1**	**80,800**	**1,654,400**	**812,300**	**2,547,500**
Dec 2016, no safety nets	Host	81	139,700	1,864,500	1,389,300	3,393,600
	IDPs	54	7,400	919,600	85,600	1,012,500
	Total	**79**	**147,000**	**2,784,100**	**1,474,900**	**4,406,100**
Dec 2016, with safety nets	Host	-29	54,800	731,400	545,000	1,331,200
	IDPs	-6	4,500	561,300	52,200	618,000
	Total	**-28**	**59,300**	**1,292,700**	**597,200**	**1,949,200**

Source: Baseline figures (March–May 2016) from *Cadre Harmonisé*. Split between host population/IDPs and all figures estimated by the authors using extrapolations from SISMod

SISMod methodology

To estimate the impact on food security of the economic slowdown, we have used the Shock Impact Simulation Model (SISMod), a partial equilibrium model jointly developed by FAO and WFP.[21] The simulation aims at replicating the economic behaviour (consumption patterns) of households in the event of a shock. The translation of a shock in economic terms will result in a shock impact, expressed in ratios between the baseline period and the simulated period in food prices, consumer price indicators and cereal production. All shocks require some assumptions regarding their impacts.

The economic behaviour of each household is modelled through a Linear Expenditure System (LES) and a Linearized Almost Ideal Demand System (LAIDS). This results in a matrix of coefficients that express how the allocation of disposable income to food and non-food items will change and how this change will affect the diet of the household, by either securing or undermining its level of food consumption.

The simulations in this paper use a 'light' version of the model to overcome some data limitations.

The simulations use the Emergency Food Security Assessment conducted in May 2016. Data was collected in eight wards[21] surrounding Maiduguri, in Borno State, covering a range of information:

- Demographics
- Sources of income
- Residence status and displacement-related information
- Expenditures in food and non-food items
- Days in which any food item from distinct groups has been consumed by household members over a seven-day recall period
- Household consumption and livelihood coping strategies
- Agricultural activity information
- Accessibility of the market

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21. We use the 'light' version to overcome some data availability problems. For more information, see http://faowfpmodel.wix.com/sismod
22. Auno, Bale Galtimari, Dala, Gongulong, Maimusari, Ngubala Bamma, Old Maiduguri, Dusuman and Chab.

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food security analysis

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