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Views here presented do not always correspond to that of the funding organization.

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The attached interview with Yara Norway was done by Helene Hoggen and Merete Skjelsbæk (NCA).

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CONTENTS

5 THEOLOGICAL REFLECTION:
Atle Sommerfeldt, Secretary General, Norwegian Church Aid

6 BACKGROUND AND SUMMARY OF FINDINGS:
Helene Hoggen, advisor, Norwegian Church Aid

8 YARA, THE FERTILIZER INDUSTRY AND THE IMPACTS ON SMALL FARMERS IN MALAWI
Stein Holden and Rodney Lunduka, Department of Economics and Resource Management, Norwegian University of Life Sciences

38 INTERVIEW WITH YARA NORWAY:
By Helene Hoggen and Merete Skjelsbæk from Norwegian Church Aid.
**GIVE US TODAY OUR DAILY BREAD**

"It is a brief and simple word, but it has a very wide scope. For when you mention and pray for daily bread, you pray for everything that is necessary in order to have and enjoy daily bread and, on the other hand, against everything which interferes with it."  
"... this petition includes everything that belongs to our entire life in the world," The Book of Concord: The Confessions of the Lutheran Church.

This is how Martin Luther explains the fourth petition of the Lord’s Prayer: Give us this day our daily bread. In Luther’s time, and at the time of Jesus or Joseph, the son of the patriarch in Pharaoh’s Egypt as well as in our time, the struggle for daily bread is the main occupation for most people. This is why it is so important to find out what can ensure this daily bread, and what thwarts it. In Luther’s time, war and conflicts, natural disasters and high prices frustrated people’s food security. A large proportion of the world’s population face the same situation today, especially the poorest billion of them.

Daily bread is not simply the food on the table - it is also the income that secures food and clothes, house and health. Many people – perhaps as many as 70 per cent of the population in poor countries – have food production as their source of income. And in many poor countries, where the majority of the population lives in rural areas, income from food production constitutes the mainstay of the national economy and the basis for export revenues. At the same time, these countries face great problems feeding their own populations. In today’s world, it is necessary to increase food production volumes and ensure that the poor and small farmers have opportunities for production, income, access to local markets, and can earn income through exports.

To do this, all the actors - national and international, nation states, local authorities, enterprises and multinational corporations, together with farmers’ and fishermen’s associations, must mobilise for the common good. But all the actors must also be responsible for the effect of the contributions they make so that they do not become counter forces, but are rather contributors that join in the endeavour to secure all men our daily bread.

Norwegian Church Aid shall bring forth the perspective of the world’s poorest people. This report attempts to provide a closer look at the good results achieved by Malawi, to which Yara has contributed. We hope that this report will serve to further improve the work to secure all people – and especially the poorest among them – their daily bread.

Atle Sommerfeldt,  
General Secretary
BACKGROUND AND SUMMARY

SUMMARY OF FINDINGS AND BACKGROUND

BY HELENE HOGGEN, ADVISOR, NCA

This preface sets out to put this report, commissioned by Norwegian Church Aid, into a broader context, as the food situation in the world today is very serious. The number of hungry has increased to over one billion, according to FAO (2009). In spite of record breaking harvests across the world, there is still 1,02 billion undernourished people in the world. This is 100 million more than in 2008. While trillions of dollar have been made available for saving banks and insurance companies, only 10-15% of the 20 billion dollars promised have been made available by the G8 to support subsistence farmers in developing countries.

This is an escalation of the food crisis. The cause of poor people’s deteriorating access to food, is a combination of high food prices, low income and increasing unemployment (FAO, 2009). Further effects for poor people of the current food situation will be less money for health and education. Additionally, an increase in infant mortality is expected, especially for girls.

Norwegian Church Aid holds that we need to focus on building up the agricultural sector in developing countries, and in parallel to this we must secure employment in other sectors in rural and urban areas.

This report is building on the previous Understanding the issue 2/2007: Deadly Combination: The Role of Southern Governments and the World Bank in the Rise of Hunger written by Mark Curtis. It was commissioned by Norwegian Church Aid, Dan Church Aid, Bread for the World and Church of Sweden. The former report looked at how liberalization policies had affected hunger prone areas in three case countries (Malawi, Zambia and Ethiopia).

Some of the findings in the report were that firstly, lack of inputs like fertilizers, seeds and credits contributed to the difficult situation for poor farmers in hunger prone areas. Secondly, the report found that there was a need for subsidized inputs among these farmers. Thirdly, low or unstable prices on outputs from agriculture added to the difficulties.

Mark Curtis also noted the strong presence of the Norwegian multinational company Yara on the African continent. As Yara was making big profits in Africa it seemed important to look closer into its activities in the African continent. Furthermore, the food crisis in 2008 made it even more urgent to do this report.

Norwegian Church Aid therefore decided to do a follow-up report on the link between Yara and small farmers in Malawi. Malawi was singled out because it has been hailed as a success case, which has done much better than its neighbors faced with the food crisis. We were curious to see what role fertilizers and subsidies had played for small farmers in terms of food security, increased production and price stability.

YARA IS EARNING MONEY WHILE AFRICA IS STARVING

Income numbers from Yara International stands in stark contrast to the food crisis. Yara is the only multinational fertilizer company [MNC] in Africa. The market shares of Norwegian Yara shares went up from 40 in 2004 to 450 as they peaked in 2008. The fertilizer prices doubled from January 2007 to January 2008. This coincided with the food crisis in 2008 and was one of the causes of the crisis.

The report clearly illustrates that the price increases for fertilizers in 2008 has impacted on the national budget in Malawi, in that the subsidy program for fertilizer surpassed the original budget with more than 100 percent in 2008/9. The main reason for this was Malawi’s fertilizer subsidy program. For a country like Malawi fertilizers and seeds has, among other things, been prioritized at the expense of essential services, like education.

Nevertheless, Malawi is referred to as a “success case”, which has managed better than other African countries to face up to the challenges of the food crisis. This could partly be explained by the subsidy program, which contributes to keep the prices of seeds and fertilizers more stable in Malawi than in other countries. Consequently, food prices have been more stable in Malawi than in other developing countries. It could also be explained by Malawi not experiencing any serious drought period the last three years.

Furthermore, Malawi prohibited all trade and exports with maize in 2008, and demanded that Malawi’s marketing board ADMARC should be responsible for all big trade operations with maize and secure reasonable/decent prices for consumers. Production of maize has the last three years established food security in Malawi. It has made Malawi almost independent of imports and able to export to its neighbor countries.

Yara is a skilled promoter of the fertilizer subsidy program and is proudly claiming that it is one of the actors that the government in Malawi confers with when making policy choices. In spite of Yara’s decreasing market shares in the country, Yara’s income in Malawi has been secured by the increase in fertilizer prices. Yara sits at both sides of the table in this situation.
and Norwegian Church Aid would claim that there is reason to question whether it is possible for a multinational company (MNC) like Yara to balance its different roles in Malawi.

CRITICISM OF YARA’S GREEN REVOLUTION

Yara is one of the strongest promoters of green revolution in Africa. Yara is hosting platforms of multilateral donors and private industry with direct lobby results such as the Declaration of Abuja 2007 that subsequently led to a change of World Bank policy allowing subsidies for fertilizers.

Green revolution involves improved and patented seeds, irrigation methods, as well as agricultural chemicals such as fertilizers and pesticides. The main criticism of this model is that it is very water consuming, promotes monocultures which can reduce acute hunger, but which leads to malnutrition and reduced biodiversity over time.

Furthermore, the chemicals in fertilizers and pesticides can pollute the environment and cause injuries to people. It therefore requires knowledge at the consumer end, related to how to apply the product. Lastly, patented seeds and the required fertilizers contribute to make farmers dependent on buying inputs for their agriculture. Some of these weaknesses are reflected in the report.

The report documents weaknesses in the subsidy program and Yara has actively supported the program. The subsidies are vulnerable for corruption and subsidies are not sufficiently reaching the poorest people. The poorest part of the population would need another type of social support, in the form of credits or employment in other sectors. When asked, Yara Norway also admits that fertilizer subsidies are not necessarily the right answer to food challenges in Malawi and other developing countries, and that credits is one option that could work better for the poorest.

Furthermore, the interview with Yara Norway uncovered that Yara does not take responsibility for providing product information to consumers, in the relevant language. Yara leaves this responsibility to local distributors. Norwegian Church Aid questions whether this is good enough. Right use of fertilizers is vital for small farmers both in order to avoid damages to people and soil, and order to maximize production.

Lastly, the report finds that fertilizer subsidies contributes to crowd out organic farming, which in most cases would be better for the soil and demands less water, and demands less finances for inputs, such as seeds and fertilizers. The IAASTD report concluded that small-scale, agro-ecological farming will be more effective at meeting today’s climate challenges than conventional farming. Organic farming is not part of the solution for most promoters of green revolution, but perhaps it should be? This report illustrates that organic farming could be promoted both in itself and in combination with farming based on fertilizers, in order to improve the soil.

NORWEGIAN CHURCH AID’S ASKS TO YARA

Norwegian Church Aid is worryed by that fact that Yara is one of the closest advisors of the government in Malawi in its policy choices. Norwegian Church Aid therefore asks:

• More openness and information around Yara’s role as an advisor
• That Yara takes the initiative to more and better inclusion of civil society organizations in the political processes Yara is involved in, in Malawi or other developing countries

WE NEED TO PRODUCE MORE FOOD IN THE NORTH IN ORDER TO FACE UP TO THE FOOD CRISIS?

The argument of the Norwegian minister of agriculture and his European colleagues is that we need to produce more food in the North in order to handle food challenges in the years to come. This report, however, illustrates that food production can successfully be increased in the South in order to end hunger, and that some kind of subsidy program directed towards subsistence farmers in general and women in particular is necessary to achieve this. Furthermore, the report points out that increased food production in Malawi can have positive effects for food prices and consequently food security in neighbor countries in the region.

On the other hand, import of subsidized food from the North will often distort Southern markets. In conclusion, although there are certain problems with the fertilizer subsidy regime in Malawi, problems are even worse when it comes to subsidy regimes in the North. Therefore, the answer to the food crisis must be to promote and support sustainable agricultural production among small farmers in the South.

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1 Right to Food and Nutrition Watch, 2009
YARA REPORT

YARA, THE FERTILIZER INDUSTRY AND THE IMPACTS ON SMALL FARMERS IN MALAWI

1. INTRODUCTION

BY STEIN HOLDEN AND RODNEY LUNDUKA

This study focuses on the role of a Multinational Company (MNC), Yara International, as the only MNC fertilizer producer and trader in Africa (Bistandsaktuelt, 2008). It made large profits during the period with very high fertilizer, oil and food prices until the financial crisis hit the global economy in October 2008. The market value of Yara shares increased from 40 in 2004 to 450 at the maximum in 2008 after which it fell down to 100 before it has picked up again to above 200 in June 2009. It may therefore be questioned whether Yara makes large profit due to its monopoly position in Africa. At the same time the fertilizer prices in Africa are higher than anywhere else and some may also wonder whether this is due to the strong monopoly position of Yara.

Yara International ASA is the largest fertilizer producer and distributor in the world with assets in 50 countries and distribution to 120 countries. (http://citizenship.yara.com/en/citizenship_approach/global_industry/index.html).

1.1. AFRICA AND FERTILIZERS

Africa is a net exporter of Nitrogen and Phosphate fertilizers and a net importer of potash fertilizers (FAO, 2008). The fertilizer prices surged in 2007-2008 with the high oil and grain prices and it appears that the 30 year trend of falling food prices has been broken. Strong economic growth in China and India and changing demands for food and increasing demand for land for biofuel production triggered this change. Land scarcity is becoming severe also in parts of Africa which has been seen as a land-abundant continent. Population growth has, however, been strong in many decades and some African countries face problems with emerging landlessness and severe land scarcity. Malawi is one of these countries which is experiencing diminishing farm sizes especially in the southern parts of the country. Household food security has therefore become critical and this is exacerbated by droughts, limited off-farm employment opportunities and high dependence on a single crop, maize, as the main staple food. Maize is also a crop that is highly responsive to fertilizer application when rainfall is adequate in the typical soils in Malawi and other African countries. At the same time the availability of alternative organic fertilizers is limited for poor smallholders, causing maize yield levels to be very low for households that are unable to obtain fertilizers for their crops. Due to droughts and bad policies Malawi faced severe food shortages in 2003/2004 and this led to a reintroduction of fertilizer subsidies from 2005/2006 and the following three growing seasons. This is likely to continue also next year since President Bingu wa Mutharika was re-elected in the elections on May 19th, 2009, and one of his main policies is the continuation of the targeted fertilizer subsidy program where the targeted beneficiary households only have to pay below 10% of the market price for the fertilizer package they receive.

Fertilizer prices rose from January 2007 to January 2008 in the case of di-ammonium phosphate (DAP) from $252 to $752 (U.S. Gulf price); Urea rose from $272 to $415 per ton (Arab Gulf price); and muriate of potash (MOP) rose from $172 to $352 (International Center for Soil Fertility and Agricultural Development, 2008). In Malawi fertilizer prices were controlled by the government in the case of subsidized fertilizer while the unsubsidized fertilizer prices largely rose with the world market prices.

The costs of fertilizer subsidies for the Malawian government have also increased with the increase in fertilizer prices. In 2006/07 the fertilizers represented 40% of the Agricultural Budget (Dorward et al., 2008). With the very high fertilizer prices in 2008/09 the spending on fertilizer import and the fertilizer subsidy program exceeded the initial budget of 19 billion MKw by more than 100% (Logistic Unit, 2009).
This study focuses on the agribusiness activities of Yara in Malawi and its potential and real effects for small farmers. The interaction between Yara and the Government of Malawi, Yara’s position in the fertilizer trade and distribution in the country, and how Yara’s strategy and national fertilizer policies affect small farmers, are central issues of the report.

The study aims to answer the following research questions:

a. Agricultural spending in Malawi has produced successful results over the last years, but has the full potential been achieved for exporting farmers as well as subsistence farmers and poor people who purchase food?

b. What characterizes the role of Yara fertilizers and its impacts on the broad economic situation in Malawi and in the region?

The first of these research questions requires a broad assessment of the national agricultural policy and how it has been implemented and consequently has affected the economy and the different stakeholder groups. Furthermore, Yara’s role in this bigger picture is discussed within a wider global perspective. It is necessary to understand that Malawi is a small country for Yara while Africa may become an important future market. Yara has therefore taken an active role to promote an African Green Revolution.

A wide variety of sources of information are used in the study, including information from media, the research literature, internet sources, national and local Malawian government sources, representatives of Yara and of Yara’s distributor in Malawi (Agricultural Resources Ltd.), donor sources (DFID, NORAD, World Bank), NGOs, small farmers’ organizations in Malawi, and about 150 small farmers interviewed in Kasungu and Zomba districts of Malawi.

Part 2 of the report focuses on the first of the broad research questions while part 3 focuses on the second of the broad research questions. Each of the parts are organized by answering a set of more specific research questions that were included in the Terms of Reference (TOR) for this study. Additional parts were added when it was felt that the TOR was too limited and it was important to bring in additional dimensions.
2. FERTILIZER SUBSIDIES FOR AGRICULTURAL DEVELOPMENT IN MALAWI

2.1. WHY DID THE GREEN REVOLUTION FAIL IN AFRICA?
The Green Revolution that was very successful in Asia from the 1960s did not make any significant impact in Africa and grain yields remained stagnant there until the end of the Millennium. This has been explained by the lower potential of African soils, poorer market access due to poorly developed infrastructure, including irrigation, abundant land and bad policies. Attempts at increasing agricultural production were made through state interventions including provision of subsidized fertilizers, improved seeds and credit through parastatal organizations while input and output prices were controlled. A debt crisis hit many African countries from the early 1980s and they went through stabilization and structural adjustment reforms where removal of fertilizer subsidies was one of the requirements from the World Bank and IMF to balance national budgets, repay their loans and to qualify for new loans. The past policies created problems due to the highly inefficient and corrupt parastatal organizations in charge of distributing fertilizers, providing credit, and collecting and distributing the crop output.

The new policies were, however, also unsuccessful in stimulating economic growth and fertilizer use remained very low or declined and so did the land productivity, therefore leading to higher food insecurity. It was easier said than done to leave the agricultural development to the market forces and the private sector. Upon the start of the new Millennium fertilizer rates in Africa were only 8 kg/ha, compared to 96 kg/ha in East and Southeast Asia and 101 kg/ha in South Asia (Morris et al., 2007). After that a number of the poorest countries have been granted debt relief and this has given them a better starting point for moving forward with a new policy. At the same time the private sector has been given a chance to develop gradually.

2.2. THE MALAWIAN ECONOMY AND THE ROLE OF FERTILIZERS
Malawi is among the poorest countries in Africa with about 13.1 million people, is landlocked, highly dependent on export of a single commodity, tobacco, and is food insecure due to high population pressure, low yields, unreliable rainfall and politics. More than 80% of the population is rural and depends on agriculture as the main source of income. Maize is the main staple food and provides 60% of the calorie intake. Almost the whole production is rain-fed and produced in a single rainy season from November to April. Average maize yields have until recently been about 1.3 tons/ha. With shrinking farm sizes due to population growth, these yield levels cause an increasing share of the rural population to become net buyers of maize. However, fertilizers have the potential to make Malawi self-sufficient with maize and even become a surplus producer.

2.3. BACKGROUND FOR THE FERTILIZER SUBSIDY PROGRAM IN MALAWI
After some years with substantial maize deficits in Malawi in the mid-1990s a Starter Pack program for maize production was introduced in 1998/99 and 1999/2000. This consisted of a package of 15 kg fertilizer, 2 kg hybrid maize seeds, and 1 kg of legume seed. This was sufficient input for 0.1 ha of land with recommended levels of inputs. In 2000/01 the program was scaled down and targeted only towards the poorest households, and further scaled down the following year with only 1 million packs (Levy, 2005). Following a new maize deficit in 2001/02, the program was again expanded to 2 million packs in 2002/03 and self-sufficiency was again achieved in that year. The packs were capable of increasing the maize production by 100-150 kg per household. The packs were distributed free and were for that reason popular among the people. It was also cheaper for the government to provide input subsidies than to import the maize deficit that would be there without the starter packs and provide it as food aid.

The 2004/05 growing season had a severe drought during January-February causing average yields to fall to only 0.76 tons/ha and this caused maize deficit of about 40% for the country. A large share of the population, 5 million people, needed food aid. This led to the reintroduction of targeted fertilizer subsidies in the following growing season with support from several donors. However, the decision was controversial and was criticized by several donors due to the high cost and the lack of an exit strategy.

Starter Packs were motivated both by them being a tool to introduce new technologies and as helping poor households to become more food secure. The first of these objectives may indicate more strongly that Starter Packs should be only a temporary solution as also the name ”Starter Packs“ signals. The program therefore had to involve targeting of the poor in order to defend its continuation primarily as a safety net instrument.

The scaling back of the Starter Pack Program in 2000/01 while the aim was to target it to the poorest households revealed substantial problems with achieving this targeting objective. It was rather the friends and relatives of the chief that received the packs than the poorest households in the villages (Øygard et al., 2003). Another problem with the Starter Packs was the administration as less-well established traders were excluded from the distribution, there were delays in obtaining funding also affecting the timeliness of the distribution of the Starter Packs. A third problem was the drain it represented on the financial resources of the government and the need for donor support for its financing. A fourth problem may be that provision of
free inputs may not enhance their efficient utilization. However, the importance of each of these effects is an empirical issue. A review of studies on this follows in the next section.

The new fertilizer subsidy program introduced from 2005/2006 has boosted the national maize production and made the country self-sufficient with maize. With the sharp increases in energy, fertilizer and food prices in 2007 and 2008, the costs of the fertilizer subsidies also rose sharply. In 2007/08 Malawi even exported 400,000 tons of maize to Zimbabwe. Also tobacco fetched high international prices in 2008 and the country also introduced a fertilizer subsidy for 10,000 tons D compound and 10,000 tons CAN for tobacco production in 2008/2009. The fertilizer prices for the 2008/09 season were as high as 9,000 to 10,000 MKW per 50 kg bag, but with the financial crisis reducing the international demands for fertilizer the market prices for fertilizer had dropped to 4,000 to 5,000 MKW in May 2009.

2.4. A REVIEW OF STUDIES ON IMPACTS OF FERTILIZER POLICIES WITH SPECIAL FOCUS ON MALAWI

Fertilizer promotion policies in Africa
There are many studies of the fertilizer policies and programs in Malawi and other African countries. A brief review of their focus and findings follows. It is clear that these programs, driven by government policies, have a strong impact on the private fertilizer sector, the functioning of input markets and input use, on production, degree of self-sufficiency, prices, and therefore the welfare of small farmers and other consumers.

Crawford, Jayne and Kelly (2006) discuss alternative approaches for promoting fertilizer use in Africa. They conclude that there is not one approach that is better than other approaches as such programs can have different objectives and weight these objectives differently as well. Use of fertilizer or other input subsidies is only one of several approaches that can be used. Other approaches include:

a) Improvement of markets for inputs and outputs by investing in infrastructure to reduce transportation costs and promoting the development of the private sector to enhance competition
b) Reduce taxation on agriculture
c) Investments in agricultural research, extension, and education
d) Provide alternative types of safety nets for the poor, like food-for-work, work-for-fertilizer, cash-for-work

Use of subsidies may also be based on different objectives. Such objectives can be economic, environmental, social, financial and political and may be short-term or more long-term. In the end it becomes an empirical issue which approach is better in a given setting, where the local and country-specific conditions also will affect the performance of the alternative approaches.

Arguments for the use of subsidies include:

i) Enhance the dissemination of improved technologies
ii) Alleviate financial constraints that cause suboptimal use of fertilizers in environments with market imperfections
iii) Reduce poverty by targeting subsidies towards the poor
iv) Provide subsidized inputs to enhance food security (safety net) as a cheaper approach than providing food aid
v) Enhance more sustainable land use when too low fertilizer use lead to more rapid land degradation due to nutrient mining (Holden and Shanmugaratnam, 1995; Holden, Lofgren and Shiferaw, 2005)

vi) Inorganic fertilizers are needed in addition to organic fertilizers to meet the food needs of poor, land-constrained farm households (Pender, Nkonya and Rosegrant, 2004)

vii) Fertilizer subsidies are important in a package to break the poverty trap and enhance economic development (Sachs et al., 2004; Sanchez, 2002)

viii) Fertilizer subsidies can facilitate land use intensification and reduces the use of extensive cultivation methods like shifting cultivation that lead to more rapid deforestation (Holden, 1991; 1993)

Arguments against use of fertilizer subsidies include:

i) They are costly and represent a drain on government resources

ii) They can lead to overuse and misallocation of resources

iii) They can crowd out use of organic fertilizers

iv) They can lead to mono-cropping of crops like maize instead of crop diversification and favor crops that are “fertilizer hungry”

v) Subsidies on fertilizers that lead to soil acidification can have long-term negative productivity impacts on acidic soils (Holden, 1991)

vi) Corruption and inefficient administration can cause targeting failures and misuse of government funds (elite capture) (Pender, Nkonya and Rosegrant, 2004; Donovan, 1996)

vii) Unpredictable subsidy policies can increase uncertainty for the private sector and crowd out private sector development

The existence of a lot of opportunistic agents both within the government sector, the private sector and civil society has strong impacts on the performance of subsidy programs and can itself be a major reason for the instability and breakdown of such programs and cause a need for frequent changes in the programs.

There are alternative views on the environmental sustainability effects of fertilizer subsidies. On the one hand Shalit andBinswanger (1984) have argued that such fertilizer subsidies only make sense in areas with high population density and where wages are high (justifying a substitution of inorganic fertilizers for labor-intensive organic fertilizers). Pender, Nkonya and Rosegrant (2004) and Sanchez (2002) have argued that application of organic materials are insufficient to arrest soil fertility decline without use of inorganic fertilizers as well. A recent focus on enhancement of sustainable agriculture in Africa (e.g Pretty, 1999) argues that it may be possible to feed Africa’s population based on low external input methods. More research may be needed to investigate this potential in specific African settings.

**STARTER PACK PROGRAM**

Crawford, Jayne and Kelly (2006) characterized the Starter Pack program in Malawi as successful in making improved technology available to poor farmers who otherwise would not have been able to afford these inputs, and therefore to contribute to poverty alleviation, especially when the program had wide coverage. The problems with the program were identified as its high cost when the coverage was universal, the problems with targeting the poorest groups when the distribution was more restricted to reduce overall costs, and crowding out of commercial demands for fertilizers.

Levy (2005) provides a comprehensive assessment of the Starter Pack program in Malawi. The Starter Pack program had many similar features as the current fertilizer-seed subsidy program but the packs were smaller and therefore the costs were also smaller. Levy emphasizes that the Starter Pack was invented in a setting before market liberalization when prices were more stable and that it was meant to kick-start production and create sufficient cash for households themselves to buy inputs in the following years. However, one may question whether the packs were big enough to produce a surplus for sale as most households remained net consumers. The instability of prices and markets, both due to unreliable weather and changing policies and other shocks, makes it also unrealistic to think that a one-shot Starter Pack would be sufficient to do the trick in an environment where only 15% of the producers were producing a surplus for sale. It is no doubt that the Starter Pack contributed to national food security and food price stability and therefore also complemented the other safety net programs. The Starter Pack program also experienced targeting problems and one study was carried out on the communities’ attitudes to beneficiary selection and poverty targeting. It found that narrow community targeting did not work in Malawi based on the experiences in 2000/01 and 2001/02 (Chinsinga, 2005).

**TARGETED FERTILIZER SUBSIDY PROGRAM (2005–2008)**

Ricker-Gilbert and Jayne (2008) use household data from Malawi to assess the impacts of the 2006/07 fertilizer subsidy program in the country and how it has affected their decisions to purchase commercial fertilizer (at market price). They use econometric methods to control for unobservable characteristics of households and endogeneity related to how subsidized fertilizers are acquired. They find that subsidized fertilizers crowd out the purchase of commercial fertilizers such that one kg extra access to subsidized fertilizer reduces the purchase of commercial fertilizers by 0.61 kg. They conclude that the government subsidy programs should be designed to target households without effective demand in order to ensure that fertilizer subsidy programs maximize their impacts on total fertilizer use and hence contribute to their cost-effectiveness.

A problem with this analysis is that it ignores the indirect effect on fertilizer use efficiency. Those who do not demand commercial fertilizers may also be less efficient fertilizer users and the amount of maize produced per kg fertilizer is likely to be lower with such a targeting strategy for the targeted fertilizer. The advantage of course is that it increases the availability of fertilizer to cash-constrained and other poor households. The question is whether this is the best approach to target these
households or whether better approaches may exist. This will vary as this is also a heterogeneous group of households. Cash-poor households with sufficient labor force and other resources, like land, are likely to be able to utilize the fertilizer efficiently. Cash- and labor-poor households may not be able to do so and may resort to sell the fertilizer coupon or use it in a more inefficient way. Such very poor households may benefit more from direct food aid.

Dorward et al. (2008) made a more comprehensive assessment of the 2006/07 agricultural input subsidy program in Malawi. A brief summary of their main findings follows. The program distributed 2 million seed coupons and 3 million fertilizer coupons initially and was supplemented with more than 1 million extra fertilizer coupons. The total cost was estimated at 10.3 billion MKW (91 million USD) where GoM funded 87%. These expenses were 25% above what had been budgeted and represented 40% of the budget of the Ministry of Agriculture. Overall the program was assessed to contribute positively to a pro-poor growth in the country, however, several weaknesses and room for improvement were identified. The total maize production was estimated at 3.4 million tons, 30% above the record harvest the year before but some reservations were made as this estimate may be too high. They estimated the incremental output effect of the subsidy program to be 670,000 tons or to be in the range 500,000-900,000 tons. The uncertainty was related to the possible crowding out effect on commercial fertilizer use. The subsidy program appears to have improved household food security by improving subsistence production, lowering of maize prices to net consumers, and improving wage rates. The private sector was involved in procuring or distributing 180,000 tons of fertilizer which was higher than in the previous year but lower than before the subsidy program was implemented. Dorward et al. indicated that the subsidized fertilizers displaced an equivalent amount of 30-40% commercial purchases, reducing the overall efficiency of the program as well as its targeting efficiency. They found a significant proportion of the subsidized fertilizers to have gone to less poor households and that is where the crowding out effect on commercial fertilizers are largest. They emphasized that better targeting towards poorer households would reduce the crowding out effect. At the same time they recognized that the targeting issue was a difficult and sensitive issue. They also thought that the private sector should be allowed to supply a larger share of the fertilizer market in order to reduce the program costs and to strengthen the private sector by mobilizing many of the small entrepreneurs as agro-dealers. The uncertainty due to erratic policy changes may also reduce the investments of the private sector. Other weaknesses identified were the lack of integration of the fertilizer subsidy program and the safety net programs, lack of coordination with other policies and programs stimulating rural development.

Denning et al.(2009) give a very favorable assessment of the Malawian input subsidy program as a step towards an African Green Revolution. The article provides some additional insights from the Millennium Villages where the maize package was combined with the “Sasakawa planting method” for maize that was advocated by the Sasakawa Global 2000. They were using a closer distance between ridges, 75 cm instead of 100 cm, and single seeds per station at 25 cm spacing in the rows rather than multiple seeds per station at 50 cm spacing as is traditionally used. The advantage of this planting method is that a small package of seeds can cover a larger planted area and therefore increase the total output from a package of fertilizers and seeds where the seed component is in short supply. Yields obtained in the Millennium Villages from 11,000 farmers were 5.18 t/ha as compared to an average of 2.21 t/ha for other areas demonstrating a clear advantage of this planting method. Better utilization of the seed component can therefore also greatly enhance fertilizer use efficiency, but it is important that the households get both seeds and fertilizers, including both types of fertilizers. Denning et al.(2009) recognize the operational challenges that Dorward et al.(2008) identified, such as; delays in program design and implementation leading to delays in input delivery in some areas, cumbersome coupon processing and redemption systems, the need to improve program information sharing with the intended beneficiaries and general public, shortage of fertilizers and mismatch of coupons and fertilizer types in some areas, absence of agro-dealers in some remote areas, and limited government financial and human resources to meet the demands. They conclude, however, that each year of implementation has resulted in design improvements and are also inspiring other countries to emulate the Malawian experience. It is this incremental improvement of the design and implementation that we are able to assess in the 2008/09 program that we review below.

Denning et al. also provide a financial assessment of the program demonstrating that provision of input subsidies is less costly than provision of food aid. The cost of importing food in 2004/05 was 110 million USD and donor aid to Malawi was 578 million USD in 2005 (44 USD/person). They concluded that the fertilizer subsidy program, costing 50 million USD in the following year, provided food self-sufficiency although they seem to forget that the subsidy was not implemented in a drought year.

2.5. BASIC CHARACTERISTICS OF THE TARGETED FERTILIZER SUBSIDY PROGRAM OF 2008/09

This section draws on information obtained from the Logistic Unit in charge of monitoring the fertilizer and subsidy program as well as informal interviews in two districts as well as other sources of information.

The program in 2008/09 had a similar basic structure as that in 2006/07 but there were also some significant differences; a) more emphasis was given to targeting poor and vulnerable households, b) the program was more politicized due to 2009 being an election year, c) the costs of the program had increased sharply because of the very high international fertilizer prices in 2008.
The program in 2008/09 was stated to be more targeted towards the poor than in the earlier program years. The beneficiary selection criteria included; vulnerable households like child-headed, female-headed and orphan-headed households; households with disabled persons; households with land that are residents in the village. However, these targeting criteria are not very clear.

The main aim of the targeted program where the poor are given coupons is to increase food self-sufficiency in the villages. The argument used by the government and President Bingu wa Mutharika is that a universal subsidy will only help the rich to make huge profits. The opposition leader, John Tembo, MCP, has on the other hand stated that he would introduce a universal fertilizer subsidy if he were to win the election (something he did not do). His argument against the targeted subsidy is that it is riddled with controversies including allegations of corruption and favoritism (The Nation, May 11, 2009).

THE FERTILIZER COMPANIES INCLUDED IN THE PROGRAM

The selection of companies responsible for importing and supplying fertilizers was made by the Government of Malawi in 2006/07 and 2007/08 without including Yara International or Agricultural Resources Ltd. as the local dealer with monopoly position to deliver fertilizers from Yara, as one of the suppliers. It is not clear what the criteria were for selection of suppliers. The following companies were used in 2006/07: Export Trading Company, Mulhi Brothers, Niombo, Optichem, Sealand, Smallholder Farmers Fertilizer Revolving Fund, and Transglobe Produce Exports. The same companies were used in 2007/08 and in addition Rab Processors and Simama. The GoM apparently put the fertilizer supply for the subsidy program out on tender for the first time in the 2008/09 season and Agricultural Resources Ltd. was then competing with other companies for delivering fertilizers in the country. A committee had been given the role to choose among the companies but its recommendations were not followed by the GoM. Also this time ARL or Yara were not successful in being one of the suppliers. This appeared to be because their offered prices were not good enough (Logistic Unit, 2009). Mainly the same companies as those that delivered the fertilizers in the previous years were also given contracts in 2008/09, but the additional companies Agora, Farmers World, MFC and Pioneer were included. None of these fertilizer supply companies are large international companies and each of them have a fairly small market share in the country. This may have been intentional from the GoM side but we have no official confirmation of this.

The fertilizer suppliers were only asked to provide tenders for delivery of the four basic fertilizers, NPK (23-21 and D-compound) and Nitrogen (Urea and CAN) at specific delivery points, specifying quantities and prices. Other fertilizer types cannot therefore be sold at subsidized prices.

SUBSIDIZED PRICES

The identified target households for maize production were to receive coupons (vouchers) for one 50 kg bag of 23-21-0 basal fertilizer, one 50 kg bag of urea [Nitrogen topdressing] fertilizer, and one bag of seeds, either 2 kg hybrid (HYV) or 4 kg open-pollinated variety (OPV) of maize. These inputs were considered sufficient to plant one acre (0.4 ha) of land with maize. The recipient of a fertilizer coupon could go to the ADMARC depot and get a fertilizer bag by paying 800 MKW and submitting one coupon, while the market price for fertilizer in 2008/09 was 9000-10000 MKW per bag. This implied that the subsidized price was less than 10% of the market price.
According to Logistic Unit (2009) 1.96 million fertilizer packages for maize and 1.15 million maize seed packages were distributed in 2008/09. This was sufficient to reach 50 and 31% of the total number of households that had been registered in their household data base that consisted of 3.8 million households. The calculation is presented in Table 2.5.1. There is a basic problem with this data base, however. With an average household size of 4.5, this gives a total population of 17.1 million. This is 3 million higher than the total population of Malawi as estimated by the recent population census. This implies that there are some who are registered more than once, and there may even be fake households and villages in the registry. This problem has been pointed out to the Ministry of Agriculture and Food Security but nothing has been done to correct it, e.g. by integrating it with the recent population census.

It is assumed that the beneficiaries received two 50 kg bags of fertilizer. The numbers in Table 2.5.1 indicate that each village should have received at least as many bags of fertilizer as there are households in the village. However, given that the total number of households is inflated, we may correct the rural population by assuming that it should be 85% of a population of 13.1 million, based on the recent population census. We then get the following distribution (Table 2.5.2): 

<table>
<thead>
<tr>
<th>Total beneficiaries for fertilizer for maize</th>
<th>Total maize seed beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of maize fertilizer beneficiaries, first round distribution</td>
<td>Number of maize seed beneficiaries, first round distribution</td>
</tr>
<tr>
<td>Number of maize fertilizer beneficiaries, second round distribution</td>
<td>Number of maize seed beneficiaries, second round distribution</td>
</tr>
<tr>
<td>Number of maize fertilizer beneficiaries, third round distribution</td>
<td>Number of maize seed beneficiaries, third round distribution</td>
</tr>
<tr>
<td>Total number of maize fertilizer beneficiaries</td>
<td>Total number of maize seed beneficiaries</td>
</tr>
</tbody>
</table>

These corrected figures imply that there should be an average 1.5 bag of fertilizer per household, taking all three distributions in 2008/09 into account. In other words, 77% of households should have received two bags of fertilizer for maize if no single bags were distributed. In addition to this, 0.2 million packages of fertilizers for tobacco were distributed and these should have reached about 8% of the households, giving a total average coverage of 85% of the households with two bags of fertilizer, or an average of 1.7 bags per household through the subsidy program.

**Table 2.5.1.**
Overview of maize fertilizer and seed vouchers for distribution in 2008/2009

<table>
<thead>
<tr>
<th>Population</th>
<th>Number of households</th>
<th>Percent of total registered households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered number of households in the database of Logistic Unit</td>
<td>17100000</td>
<td>1.00</td>
</tr>
<tr>
<td>Number of maize fertilizer beneficiaries, first round distribution</td>
<td>1500000</td>
<td>0.39</td>
</tr>
<tr>
<td>Number of maize fertilizer beneficiaries, second round distribution</td>
<td>118500</td>
<td>0.03</td>
</tr>
<tr>
<td>Number of maize fertilizer beneficiaries, third round distribution</td>
<td>338400</td>
<td>0.09</td>
</tr>
<tr>
<td>Number of maize seed beneficiaries, first round distribution</td>
<td>1000000</td>
<td>0.26</td>
</tr>
<tr>
<td>Number of maize seed beneficiaries, second round distribution</td>
<td>68500</td>
<td>0.02</td>
</tr>
<tr>
<td>Number of maize seed beneficiaries, third round distribution</td>
<td>84700</td>
<td>0.02</td>
</tr>
<tr>
<td>Total beneficiaries for fertilizer for maize</td>
<td>1956900</td>
<td>0.51</td>
</tr>
<tr>
<td>Total maize seed beneficiaries</td>
<td>1153200</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Source: Logistics Unit (2009).

**Table 2.5.2.**
The distribution of maize fertilizer and seed packages with corrected rural population

<table>
<thead>
<tr>
<th>Population households</th>
<th>No. of rural total</th>
<th>Percent of registered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected total number of rural/ agricultural households</td>
<td>13100000</td>
<td>2530680</td>
</tr>
<tr>
<td>Number of maize fertilizer beneficiaries, first round distribution</td>
<td>1500000</td>
<td>0.59</td>
</tr>
<tr>
<td>Number of maize fertilizer beneficiaries, second round distribution</td>
<td>118500</td>
<td>0.05</td>
</tr>
<tr>
<td>Number of maize fertilizer beneficiaries, third round distribution</td>
<td>338400</td>
<td>0.13</td>
</tr>
<tr>
<td>Number of maize seed beneficiaries, first round distribution</td>
<td>1000000</td>
<td>0.40</td>
</tr>
<tr>
<td>Number of maize seed beneficiaries, second round distribution</td>
<td>68500</td>
<td>0.03</td>
</tr>
<tr>
<td>Number of maize seed beneficiaries, third round distribution</td>
<td>84700</td>
<td>0.03</td>
</tr>
<tr>
<td>Total beneficiaries for fertilizer for maize</td>
<td>1956900</td>
<td>0.77</td>
</tr>
<tr>
<td>Total maize seed beneficiaries</td>
<td>1153200</td>
<td>0.46</td>
</tr>
</tbody>
</table>

**DISTRIBUTION OF FERTILIZERS IN KASUNGU**

Let us now look at the actual distribution in the villages we visited in Kasungu. This is also a tobacco producing area where tobacco fertilizer packages were distributed. The distribution took place in three rounds. In Kasungu ADD we were informed that in the first round 42% of the households were to get vouchers. In the villages we visited, however, about 5 households in each received a maize package in the first round. One of these villages had 60 households, this implied that less than 10% of the households received a maize package in the first round. As a result the villagers shared the fertilizer packages two and two, while the villages complained to the ADD and after some time they received...
a second and third allocation, and we were told that almost all households then received a coupon for fertilizer or seed and this was better than most other villages in the area.

The program was set out to target especially poor households including orphans, elderly, sick and disabled households. The communities were themselves to identify the needy households and provide a list of those to the agricultural extension officers in their area. They had previously submitted lists with all households in the village as a basis for establishing the list of beneficiaries as a sub-sample of these. The submitted lists of beneficiary households were often found not to satisfy the criteria of the agricultural officers and tended to have more names than the number of vouchers that had first been allocated to the village. Many villages and households thought that they had received too few vouchers and complained about it. Such complaints may have contributed to the two additional distributions of vouchers within the same year. A larger share of the households therefore received vouchers, although this was also achieved by splitting the maize voucher packages such that; a) one household got one of the fertilizer bags, another household got the other fertilizer bag, and a third household got the seed voucher, b) each bag of fertilizer and the seeds were shared among two households. It is not possible from the available data to assess whether it was primarily the households that should have been targeted (the poorest of the poor) or whether more wealthy households obtained the free vouchers.

**ILLEGAL MARKET OF FERTILIZER VOUCHERS**

Another complicating problem was that an illegal market for vouchers had developed. Both selling and buying of vouchers were considered to be illegal and people that were caught could be put in prison. Still this market was very active and transferred coupons from those who needed cash and were less able to obtain or use the fertilizer to; a) vendors making a business out of trading vouchers and/or also trading subsidized fertilizer, b) other farmers who saw this as an opportunity to obtain cheaper fertilizer. This implied that there could be a range of fertilizer and voucher prices in an area. The fertilizer prices were from 800 MKW per bag if the coupon was brought to ADMARC or SFFRFM depots and no “top up” had to be paid to get the fertilizer there. The cost of getting this fertilizer could, however, also include having to wait for 1-2 weeks in cue at the depot and having to travel and transport the fertilizer from a depot that could be at quite some distance from the home of the household. It is obvious that these additional transaction costs could be too much for the poorest households that were to get the coupons unless they had some relatives or friends that could help them. Many such households that were lucky to get one coupon or two therefore opted to sell the coupon as they were not in a position to even pay the 800 MKW or the additional transaction costs and may also have been short of the additional complementary inputs, such as land, labor, tools, transport equipment, etc. that would be required to produce a good maize crop. They may also have been more in need of the cash they could obtain from selling the coupon for buying food, medicines or other commodities to meet their short-term basic needs. The prices for coupons were therefore often found to be as low as 2000 – 2500 MKW for poor households selling them. On the other side of the market for vouchers, vendors were able to obtain as much as 5000 – 6000 MKW for them in some areas.

A new element that came in the 2008/09 season was that the coupons had district-specific numbers and could not be changed into fertilizer outside the district they were intended for (not the case for all coupons). Many households who bought coupons to get additional fertilizers did not know this, however. They then risked, after having bought a number of coupons and having been waiting in cue outside the ADMARC depot, that they were unable to obtain fertilizer for these illegally purchased coupons. The cash spent on such coupons was therefore lost and they may therefore also have been unable to buy fertilizer at the commercial market price. The specific numbering system for the vouchers (district-specific numbers and two consecutive numbers for the 23-21 basal dressing and urea top-dressing fertilizers) sold in the northern districts (e.g. Kasungu) in the country caused this to be a more likely outcome while it appeared not to be a problem in the southern districts (e.g. Zomba). We found that 8 out of 20 households we included in a group interview had bought such coupons that they later were unable to obtain fertilizers for. They had paid MKW 3500 – 6000 per coupon. Four of these households were female-headed and had managed to buy just one coupon. One had bought as many as six coupons.

**RENT-SEEKING AND ILLEGAL ACTIVITY**

The number of coupons reaching the villages appeared also to be lower than it should have been based on the total numbers at national and district levels. There was evidence of rent-seeking behavior and illegal activity at all levels from:

a) A top political party member being caught with coupons that he had obtained from a minister in the government
b) a paramount chief being caught selling coupons and therefore put in prison until the president himself reacted quickly to get him released
c) illegal extra printing of coupons and no proper records provided to the Logistic Unit for how printing was organized and the related costs
d) use of the subsidy system in relation to the parliamentary elections to buy votes,
e) partly distributing coupons to and through the chiefs to get their support and have them to organize the identification of beneficiaries with use of village level committees where they were found
f) ADMARC depot workers being told to ask for a top-up of 200 MKW per bag of fertilizer in many cases
g) no audit being carried out on the 800 MKW per bag that has been collected and transferred to the Ministry of Agriculture (the money is said to have disappeared by informed sources)
h) numerous other leakages due to the inflated numbers of households, lack of transparency and poor accountability due to the involvement of many political and rent-seeking interest groups.

It is therefore very difficult to detect the actual distribution to different types of...
stakeholders, especially at the higher levels. During this study it was not even possible to obtain any information, like the official plans for the subsidy program for the last season, plans for next season etc. from the Ministry of Agriculture and Food Security that is in charge of the fertilizer subsidy program, as the PS had made it clear that any information given should be cleared by him. After many failed attempts to get an appointment with him or a clearance from him to his staff, we therefore had to rely primarily on other sources for information. Luckily, these sources were much more willing to provide relevant information for this study.

Some of the reasons why MoAFS did not like to reveal information were that the fertilizer subsidy program has become politically sensitive and our study came at a time just 2-3 weeks before the parliamentary elections. The initially cleared budget for fertilizer subsidies had been 19 billion MKW, later adjusted up to 29 billion MKW, and by the Logistic Unit (2009) found to be 40 billion MKW, not including the operation costs of ADMARC and SFFRFM, Ministry headquarter and district operational costs, costs of retrieval and unit markets, and bank charges on 2007/08 “buy back” stocks. The current stock of fertilizers, estimated at 74 000 tons, is also “sold” to banks (52 000 tons to Standard Bank) for “buy back” for next season to hide some of last season’s costs. One problem for next season is that the fertilizer prices have dropped to less than half of what they were purchased for during 2008. The plan is to buy another 170 000 tons the coming season and the President promised in his political campaign that people have to pay only 500 MKW per bag. The market prices for fertilizers in the country have dropped from 9000-10000 MKW per bag to 4000-5000 per bag from the beginning of 2009 till May 2009, meaning that the new subsidized price may still be only about 10% of the market price. However, the total cost of the program for 2009/10 should also go down due to the reduction in international fertilizer prices.

2.6. FINDINGS FROM OUR HOUSEHOLD SURVEY IN KASUNGU AND ZOMBA

Based on interviews of 150 households in Kasungu and Zomba districts about their experiences with obtaining fertilizers and other inputs, their access to the targeted input subsidies and their perceptions of the related impacts we present the main findings in this section. Table 2.6.1. gives an overview of the responses related to input access for the interviewed households.

We see that the % of households that obtained fertilizer coupons increased from about 59% in 2006/07 to 69% the year after and to 82% last season (2008/09). We also see that the % of the households that have received either one or two fertilizer coupons have increased over the three years. Notice however, that the “optimal” package of seeds and fertilizers should have contained two coupons of fertilizer, one bag of basal dressing and one bag of topdressing. The percentage of households that received the “full package” of fertilizers was only 17% in 2006/07, 21% in 2007/08 and 32% in 2008/09. The implication is that most of the packages have been split to achieve a wider coverage of households. This may indicate that the targeting has not worked efficiently and this is likely to have affected the fertilizer use efficiency, that is the amount of maize produced per kg fertilizer used. This efficiency is likely to be higher with a combination of improved seeds and appropriate amount of both basal and topdressing fertilizers.

The table also shows that the coverage with improved seeds was poorer than that of fertilizers. The recipients of improved seeds increased from 25% in 2006/07 to 42% in 2008/09. This means that at least 40% of the households that received fertilizers did not have improved seeds to apply the fertilizer on. Another factor that may explain sub-optimal utilization of seeds and fertilizers is indicated by the responses about delivery time of the inputs. More than 40% of the households

### Table 2.6.1. Fertilizer and seed access, use, and costs

<table>
<thead>
<tr>
<th>Variable description</th>
<th>2006/07</th>
<th>2007/08</th>
<th>2008/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of households receiving fertilizer coupons</td>
<td>58.7</td>
<td>69.2</td>
<td>81.8</td>
</tr>
<tr>
<td>% of households receiving one fertilizer coupon</td>
<td>46.2</td>
<td>38.5</td>
<td>35.0</td>
</tr>
<tr>
<td>% of households receiving two fertilizer coupons</td>
<td>16.8</td>
<td>20.9</td>
<td>31.5</td>
</tr>
<tr>
<td>% of households receiving more than two coupons</td>
<td>5.6</td>
<td>7.7</td>
<td>15.4</td>
</tr>
<tr>
<td>Average amount of fertilizer obtained per household, kg</td>
<td>81.9</td>
<td>91.0</td>
<td>126.9</td>
</tr>
<tr>
<td>% of households receiving maize seeds</td>
<td>25.2</td>
<td>32.2</td>
<td>42.7</td>
</tr>
<tr>
<td>% of households receiving hybrid seeds</td>
<td>18.9</td>
<td>25.9</td>
<td>29.4</td>
</tr>
<tr>
<td>% of households receiving open-pollinated varieties (OPVs)</td>
<td>6.3</td>
<td>5.6</td>
<td>12.6</td>
</tr>
<tr>
<td>Average fertilizer cost per household, MKW.</td>
<td>4098</td>
<td>5778</td>
<td>10631</td>
</tr>
<tr>
<td>Average fertilizer cost/kg fertilizer, MKW.</td>
<td>37.7</td>
<td>40.9</td>
<td>54.3</td>
</tr>
<tr>
<td>Average fertilizer price per 50 kg bag</td>
<td>1985</td>
<td>2045</td>
<td>2715</td>
</tr>
</tbody>
</table>

**Did sufficient fertilizers and seeds arrive on time? % responding:**

<table>
<thead>
<tr>
<th></th>
<th>2006/07</th>
<th>2007/08</th>
<th>2008/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>43.4</td>
<td>52.0</td>
<td></td>
</tr>
<tr>
<td>Too late</td>
<td>31.0</td>
<td>15.8</td>
<td></td>
</tr>
<tr>
<td>Insufficient supply</td>
<td>14.2</td>
<td>16.5</td>
<td></td>
</tr>
<tr>
<td>Too late and insufficient supply</td>
<td>10.4</td>
<td>15.8</td>
<td></td>
</tr>
</tbody>
</table>
in 2007/08 and above 30% in 2008/09 indicated that the inputs arrived too late.

The average price that households had to pay for the fertilizer is an indication on whether the fertilizer was obtained by cashing in coupons that they received through the fertilizer subsidy program or not. In 2008/09 this “cashing in price” for fertilizer coupons was 800 MKW while the average price paid was about 3.5 times this price, 2715 MKW. A closer inspection of the data revealed that 45% of the households received fertilizers at the fully subsidized rate in 2008/09, the others had to pay more, at least for some of the fertilizers. These households that had to pay more, paid on average 5020 MKW per bag. This could be because they partially purchased fertilizer at the full market price and partly received coupons, or they managed to buy fertilizer coupons or subsidized fertilizers through the (illegal) markets for these. A further inspection of the data revealed that only 6% of the households purchased fertilizer at the full market price only, while in addition to that 12% of the households that did not get any coupons managed to purchase fertilizer at a reduced price through the “illegal” markets. This was also the case for many households that received coupon fertilizer. They managed to buy additional fertilizer as well at a reduced price. The implication is that even if targeting had been perfect in reaching only the vulnerable and poor households, there would be substantial leakage to other households through these informal (“illegal”) markets for coupons and subsidized fertilizer. One may also question the appropriateness of making these markets illegal as these markets also have some positive effects in form of providing a payment to poor households that are unable to utilize the coupons themselves. At the same time they transfer the fertilizer to more efficient producers and they are therefore likely to contribute to enhance fertilizer use efficiency.

Table 2.6.2 shows that there was no big change in the production of maize from 2006/07 to 2008/09 for the interviewed households while the fertilizer use had increased more than 50%, and this points in direction of lower fertilizer use efficiency.

We will then look at some other potential social effects of the fertilizer subsidy program based on the perceptions of households, see Table 2.6.3.

Table 2.6.3 includes information on other perceived social effects of the targeted fertilizer and seed program. About 26% of the households indicated that it has contributed to improved health of the children in the household while 4% indicated that it has contributed to worsened health situation of the children. About 28% stated that it has contributed to improved school attendance while hardly any perceived the opposite to be true. Perceptions of crime level effects were “balanced” as about 13% indicated an increase or a decrease in crime levels due to the subsidy program. This may relate to the next question and say something about what is perceived as “crime”. As much as 41% of the households stated that the subsidy program has contributed to more conflicts in their village while 27% perceived the conflict level to have been reduced. We will also return to this issue after presentation of the findings in the following two tables as they provide additional explanations in relation to this issue. Finally, the table revealed that as much as 58% of the households perceived that all households benefit from the
subsidy program, while 21% perceive that the wealthiest households benefit and 20% perceived that the poorest households benefit.

The following table (2.6.4) summarizes the qualitative responses from households on what they perceived as the main problems with the current input supply system, while the next table (2.6.5) summarizes the qualitative responses to what they thought should be done to improve upon the current input supply system.

We can see that a large share of the households perceived the supply of coupons was insufficient and that this caused corrupt and dishonest behavior of the chiefs, conflicts and hatred among the people, favoritism and improper allocation. As much as 39% of the households perceived there to be administrative problems related to the distribution of coupons.

The responses have been grouped, first, into problems related to insufficient supply of coupons and how the distribution of coupons is carried out, and second, into problems related to fertilizer and seed supply. We can see that a large share of the households perceived the supply of coupons was insufficient and that this caused corrupt and dishonest behavior of the chiefs, conflicts and hatred among the people, favoritism and improper allocation. As much as 39% of the households perceived there to be administrative problems related to the distribution of coupons.

There were also problems with late, unreliable, and insufficient supply of the inputs themselves. Such problems resulted in long waiting time in cue for fertilizer when they should have been working in the field, few and wrong fertilizer types available, use of bad seeds, and having to go very far to get access to the inputs. Overall, more than 50% of the households indicated that they had experienced such types of problems.

For the input supply there were also many recommendations for improvements. These included delivery of inputs before the rains start, increase of quantities supplied, better variety of inputs supplied, increase in the number of delivery points, and increase the number of suppliers

<table>
<thead>
<tr>
<th>Problem category and sub-category</th>
<th>% of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Insufficient supply of coupons</td>
<td>30.7</td>
</tr>
<tr>
<td>2. Insufficient supply of coupons leads to corruption (and lack of honesty by chiefs)</td>
<td>12.6</td>
</tr>
<tr>
<td>3. Insufficient coupons leads to conflicts and hatred among people</td>
<td>9.8</td>
</tr>
<tr>
<td>4. Insufficient coupons leads to favoritism and improper allocation</td>
<td>7.0</td>
</tr>
<tr>
<td>5. Lack of transparency by village headmen and sellers of the fertilizer</td>
<td>2.8</td>
</tr>
<tr>
<td>6. Poor distribution procedures and administration</td>
<td>2.1</td>
</tr>
<tr>
<td>7. Unfair distribution (the rich exploit the system, not everybody benefit, some rationed out)</td>
<td>2.8</td>
</tr>
<tr>
<td>Total points 2-7 indicating administrative problems with coupon distribution</td>
<td>38.5</td>
</tr>
<tr>
<td>8. Late and unreliable supply of inputs</td>
<td>13.3</td>
</tr>
<tr>
<td>9. Insufficient supply of fertilizer and other inputs</td>
<td>19.6</td>
</tr>
<tr>
<td>10. Long distance to market points for fertilizer/too few market points</td>
<td>7.0</td>
</tr>
<tr>
<td>11. Long waiting time in cue for fertilizer (instead of working in the fields)</td>
<td>4.2</td>
</tr>
<tr>
<td>12. Few fertilizer types available</td>
<td>4.2</td>
</tr>
<tr>
<td>13. Lack of competition in fertilizer supply</td>
<td>0.7</td>
</tr>
<tr>
<td>14. Inputs not available when they want to buy</td>
<td>1.4</td>
</tr>
<tr>
<td>15. Lack of seeds cause them to recycle seeds</td>
<td>0.7</td>
</tr>
<tr>
<td>Total points 8-15 indicating inadequate input supply</td>
<td>51.7</td>
</tr>
</tbody>
</table>
corruption and rent-seeking behavior that targeting system generates a lot of the most severe problem seems to be that the changed into an even better program. The mean that it cannot be improved or welfare effects for people. That does not generally agreed that it has had positive ration of the program even though it is many concerns about the current ope-

All in all, this illustrates that there are leakage.

to get a more reliable estimate of this this has to be assessed at a broader scale estimate of the leakage on the way. However, below 75% of this share, as a simple es-

to work for fertilizer scheme for investment in the Starter Pack system, c) combining a subsidy for basal fertilizer only, b) distribute smaller quantities to each household like in the Starter Pack system, c) combining a work for fertilizer scheme for investment in public goods with another safety net program for the poorest of the poor that are unable to work.

We will finally look at some of the responses from households regarding their production system and how it is affected by the subsidy program. The issues relate to how fertilizer subsidies for maize affect the production of other crops, whether it crowds out organic manure, and what the perceived residual effects are on crops grown after maize.

Only a small share of the households (5%) stated that they had increased their maize area due to the fertilizer subsidy program. This means that the production increase is primarily due to a yield increase and not so much a chance in the area under maize. Another 8-10% of the households stated that the subsidy program has made them able to expand their area under tobacco, because they could use the fertilizer on their tobacco crop. It was particularly the basal fertilizer for maize that they could use on the tobacco, while the Urea top dressing fertilizer intended for maize was less suitable for tobacco. For other crops there were very few households that stated that the area under these crops had been affected by the fertilizer subsidy program. We may therefore conclude that the effects on the cropping patterns have been small in the two districts where we carried out our survey.

A fairly large share of the households (26.4%) perceived manure and fertilizers to be close substitutes. Many households that failed to obtained coupons or buy fertilizer at a high price resorted to production and use of organic manure. This was seen as a labor-intensive alternative and if they were successful in obtaining fertilizer they could save labor and produce less organic manure. Others stated that because they obtained insufficient amount of fertilizer they complemented it with organic manure. This implies that fertilizer subsidies contribute to crowd out the production and use of organic manure.

**RESIDUAL EFFECTS OF FERTILIZERS AND ORGANIC MANURE**

The other and related issues for which we investigated the households’ perceptions, were the residual effects of fertilizers on the yields of crops grown on the same land in the following years. The responses were mixed as 21.8% of the households stated that they had experienced a positive yield response and 12% of the households stated that they had experienced an negative yield response. This is not surprising given that such effects may depend on the types of soils (e.g. more or less acidic), the types of fertilizers used, and the types of crops grown in the following years. That more households stated a positive effect is likely to be due to the residual nutrient effect from the fertilizers, while the negative effect may be related to soil acidity although we are not in a position to involve the private sector more. Overall, about 41% of the households had specific recommendations for improvements in the input supply system. Finally, as the aim of the fertilizer subsidy program was to target households with a proportional share of fertilizer to the population in each district and village it may make sense to assess whether our surveyed households and villages received their fair share of the credit fertilizers. We find that they received below 75% of this share, as a simple es-

timate of the leakage on the way. However, this has to be assessed at a broader scale to get a more reliable estimate of this leakage.

**GENERATION OF CORRUPTION**

All in all, this illustrates that there are many concerns about the current ope-
ration of the program even though it is generally agreed that it has had positive welfare effects for people. That does not mean that it cannot be improved or changed into an even better program. The most severe problem seems to be that the targeting system generates a lot of corruption and rent-seeking behavior that also leads to conflicts, in addition to the high financial costs of the program. The danger is that these problems can grow worse as the program is scaled down because of lack of funding. Three possible ways out would be to: a) go into a general subsidy for basal fertilizer only, b) distribute smaller quantities to each household like in the Starter Pack system, c) combining a work for fertilizer scheme for investment in public goods with another safety net program for the poorest of the poor that are unable to work.

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### Table 2.6.5. Solutions to the problems with the current input supply system suggested by households

<table>
<thead>
<tr>
<th>Solution category and sub-category</th>
<th>% of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increase number of coupons per household</td>
<td>20.3</td>
</tr>
<tr>
<td>2. Distribute coupons through farmers’ clubs</td>
<td>7.7</td>
</tr>
<tr>
<td>3. Abolish coupon system and introduce general subsidy</td>
<td>14.0</td>
</tr>
<tr>
<td>4. Lower fertilizer prices in general</td>
<td>6.3</td>
</tr>
<tr>
<td>5. Improve administrative system for coupons</td>
<td>2.8</td>
</tr>
<tr>
<td>6. Distribution of coupons by neutral people</td>
<td>0.7</td>
</tr>
<tr>
<td>7. Distribution by government officials, not by chiefs</td>
<td>1.4</td>
</tr>
<tr>
<td>8. Agricultural officers should not be involved in the distribution because they steal</td>
<td>0.7</td>
</tr>
<tr>
<td>9. Involve more police officers to avoid bribes</td>
<td>0.7</td>
</tr>
<tr>
<td>Total points 2-9 indicating needed improvements in the administrative system for coupons</td>
<td>34.3</td>
</tr>
<tr>
<td>10. Timely supply of inputs before the rains start</td>
<td>11.9</td>
</tr>
<tr>
<td>11. Increase quantities supplied</td>
<td>14.0</td>
</tr>
<tr>
<td>12. Increase supplies of all types of fertilizer</td>
<td>2.1</td>
</tr>
<tr>
<td>13. Increase the number of selling points</td>
<td>7.7</td>
</tr>
<tr>
<td>14. Government should involve more suppliers to improve the access</td>
<td>3.5</td>
</tr>
<tr>
<td>15. Transparency by selling officers (no bribes)</td>
<td>0.7</td>
</tr>
<tr>
<td>16. Quick response when inputs finish</td>
<td>0.7</td>
</tr>
<tr>
<td>Total points 10-16 indicating needed improvements in the input supply</td>
<td>40.6</td>
</tr>
</tbody>
</table>
check this. One thing we observed by closer inspecting the data, however, was that a fairly large share of the households that experienced a positive residual effect were also using organic manure while none of those who had experienced a negative effect were using organic manure. This may be more than a coincidence as organic manure may protect against negative effects from soil acidification and may enhance the positive nutrient effects from the inorganic fertilizers. However, more studies should be carried out to investigate these issues.

As an overall assessment of the program and whether there have been any further improvement in the design that Denning et al. (2009) have identified in earlier years, our findings on the situation in 2008/09 are compared to earlier years. However, last year’s program appears to suffer from the same weaknesses demonstrating a lack of incremental improvement. Even there it appears to be signs of deterioration while the financial costs of the program have escalated from 50 million USD in 2005/06, to 72 million USD in 2006/07, and to more than 300 million USD in 2008/09. In 2007 the total donor assistance was 500 million USD, which was 12% of the GDP (Curtis, 2007). The high fertilizer prices is the main reason for the high increase in financial costs in 2008/09 but there appears also to be a lot of leakage of fertilizers even though a better targeting of the poorest households have been attempted.

It is possible that the political elections have contributed to the increasing problems. The government organs in charge of the program seem to be unwilling to reveal information and are clearly not doing enough to improve the program as they are not taking the necessary action to reduce the problems that have been pointed out. Rent-seekers seem to have become cleverer in this period, leading to large leakages and severe targeting errors that have greatly reduced the benefits from attempting to target the poor and has also reduced the input use efficiency by the fertilizer/seed packages being split such that the synergy effects of combining them are being lost. It appears that a lot of entrepreneurial skills are now devoted to unproductive rent-seeking and doing illegal business and therefore also undermining the moral standards in the country, the trust in traditional leaders as well as government officials. This may be a too high cost to pay in the long run although these have to be weighed against the positive effects of the program.

2.7. GENERAL DISCUSSION OF EFFECTS OF THE PROGRAM

This part provides responses to a number of more specific questions raised in the TOR. While data and time is not available for a rigorous analysis to answer these questions it is possible to provide answers.
based on economic theory and the general and more specific information available. This in particular relates to the national/regional economy and effects on the poor:

1) What kind of impact has Malawi's increased export of maize had on food prices internally in Malawi and in the region?

One should expect that increased maize export would lead to higher internal maize prices in Malawi and possibly lower prices in the countries/areas to which the maize is exported. It appears that in 2006/07 some maize was exported and even too much such that some additional imports had to be made to meet the national demand. This may indicate poor ability to predict the production related to the consumption needs but there may also have been uncontrolled export that was not accounted for. Unlike for fertilizer imports, where procedures are very strict, for exports the control is less limited. Leakages can also go across borders in several directions and can be very hard to control. The export of maize is definitely good for poor consumers in Zimbabwe and in other neighboring countries that may benefit from it.

The level of inflation was estimated at 10% in 2003, 14% in 2004, 17% in 2005, and then to have fallen to 9% in 2006, and to 6-7% in 2007, 2008 and 2009 (GoM, 2008). The rate of GDP growth is estimated at 4% in 2003 and 2004, 2% in 2005, up to 8% in 2006, and 6% in 2007 and 2008 (GoM, 2008). This pattern is correlated with the drought in 2004/05, and the following introduction of the new fertilizer subsidy program which stimulated production and contributed to lower maize prices, which also affected the rate of inflation.

2) How have prices on fertilizers impacted on food prices in Malawi and in the region?

The link between fertilizer prices and maize prices is not direct and simple. However, higher fertilizer prices lead to lower fertilizer demand. The output supply effect of that depends on the substitutability between fertilizer and other inputs and the substitutability between different types of outputs that depend more or less on fertilizer as one of the inputs. In Malawi cereals, and especially maize, represent the main staple food, and maize yields respond strongly to fertilizer and there is a shortage of alternative organic manures, therefore total output, and especially maize output, will respond negatively to higher fertilizer prices. With lower output supply of maize, the price will go up if the demand curve is unchanged. With substitutes to maize, like cassava, rice, wheat or sorghum that people are willing to switch into when maize prices go up, this will reduce the price increase for maize but can also contribute to an increase in these substitutes. Therefore the food price effect of an increase (decrease) in fertilizer prices is likely to be positive (negative). However, the main reason for high food prices over the recent years is not primarily due to high fertilizer prices but due to falling food stocks at global level and high energy prices, causing a closer link between food and energy prices because of biofuel crop production. Especially the decision by the USA to use a high share of its maize production for biofuel had a strong positive effect on food prices.

3) Have government spending on fertilizers in Malawi affected other spending (health and education etc.)?

It is obvious that the fertilizer subsidy program is taking a substantial part of government resources. Especially in the 2008/2009 season it exceeded even the initially cleared budget by more than 100%. Partly this is because of the extremely high fertilizer prices in the period before the financial crisis hit the global economy, and the delays in the tendering process from the GoM side during a period of increasing prices. Partly it was due to higher purchases than initially planned, and partly many other types of costs related to the targeted program and lack of careful budgetary and financial monitoring. This could also be explained by this being an election year and the subsidy program being highly political and essential in the short-term competition for votes in the election in May 2009. However, it is highly likely that this will backfire in the post-election period. IMF is one of the international observers that have posed critical questions regarding the lack of budgetary discipline and have imposed the requirement that the Ministry of Finance shall have a closer control in the next year program. Ministry of Agriculture has also failed to carry out an audit that had been required by IMF due to lack of continuity of staffing in IMF according to reliable sources (not disclosed).

The total cost has therefore been estimated to be around 43 billion MKW, against the initial approved budget of 19 billion MKW, that was later increased to 29 billion MKW (Logistic Unit, 2009).

Budget allocation is largely a zero-sum game and the large expansion in the budget for fertilizer subsidies must obviously be compensated by reducing some other budgets/spending or increasing the debt. For example, the share of education spending averaged 29 percent between 2001/02 and 2004/05, but dropped to 21 percent in 2005/06 as a result of the emergency food operations. The share of health expenditures averaged around 12 percent in 2001/02-2004/05, but increased to 18 percent in 2005/06 probably due to the extra health problems that came with the drought and food shortages showing a trade-off between short-term health needs and more long term educational needs (http://www.imf.org/external/np/vc/2007/051707.htm).

A mission from IMF visited Malawi in September 2008 and in the report on the mission it was stated: “The mission discussed with the authorities the implications of the recent sharp increases in fertilizer prices on the fertilizer subsidy program. The IMF team agreed with the government’s intention of meeting any spending increases on the fertilizer program though a combination of increased support from donors, improvements in domestic revenue performance, and spending restraint elsewhere in the budget” (http://imf.org/external/np/sec/pr/2008/pr08209.html).
IMF has a controversial position in Malawi after it was partly blamed for the food crisis in 2001/2002 (Devereux, 2002; Owusu and Ng’ambi, 2002; Menon, 2007). A closer examination indicates that the crisis was caused by a complex of factors including mismanagement of the Strategic Grain Reserve by government officials, inadequate information about local food reserves from the Early Warning System, bad price policies by GoM, poor confidence in the GoM among many donors, and supply chain constraints when new information about the food shortage situation was finally received. (Owusu and Ng’ambi, 2002; Menon, 2007; http://www.imf.org/external/np/vc/2007/051707.htm, http://mediinkz.org/news/news2.asp?NewsID=10563; http://www.sarpn.org.za/documents/d001213/P1344-Do_no_harm.pdf; Øygard et al., 2003).

4) How are the fertilizer subsidies funded?

The seed component is financed by a group of donors (Norway, Ireland, UK and EU). The agricultural budget is used for fertilizer subsidies as a part of the total GoM budget which again depends on general budget support from various donors. The government funds used for subsidies obviously compete with other uses.

5) How stable are prices internally in Malawi and are any price stabilization measures considered?

Food is a necessity and the demand for food responds relatively little to food price changes; that is food demand is inelastic. This implies that if there is no trade in food, the supply of food is coming only from internal production. If supply is dependent on weather conditions, like rainfall, and rainfall is highly variable, supply will also shift from year to year and this will cause large changes in food prices. The possibility of trading food across the borders and between surplus and deficit areas will reduce such price swings. Better infrastructure, less restrictions on trade, and lower transportation costs help to stabilize prices. The Government of Malawi has also attempted to stabilize prices by proclamation of minimum prices for crops, like maize and tobacco. However, such attempts may not be very efficient as they are very difficult to enforce. One example is the tobacco auctions where tobacco is exported and producers and international traders come and buy the tobacco. The government tried also this year to set a minimum price for tobacco but the existence of a large surplus of tobacco, partly due to fertilizer subsidies for tobacco production, has resulted in tobacco prices falling below the minimum price set by the government. The total production was in May estimated at 25 million kg, and the international “quota” for export at 20 million kg. It is obvious that this reduces the bargaining power of the producers and consequently the price they can achieve. It is better to get a low price than being unable to sell your tobacco.

Malawi has imported food in years with deficit production to meet the food needs of the people and this has also contributed to keep food prices down in such years. Likewise, the export of surplus maize in recent years, has prevented food prices from falling to very low levels. However, in May 2009, when we carried out our fieldwork, there was again a situation with surplus of maize and we were told that the price for a bag of maize had fallen to 800 MKW in villages not too far from Lilongwe. The prices had been 2500 MKW not long ago. According to the official statistics from MoAFS, the maize price doubled from January 2008 to January 2009, from 1709 MKW to 3461 MKW, so the drop down to 800 MKW implies a drop to less than 25% of the average price in January, four months ago. However, one must be aware that there is large variation in the maize prices within Malawi due to market imperfections, poor infrastructure, high costs of transportation, and poor flow of information. To illustrate this the average price in 2008 varied across locations from a minimum of 1317 MKW to a maximum of 2796 MKW, that is the maximum average price was more than the double of the minimum average price across locations. The average across locations at a specific point in time will even be higher for the same reasons. As an example, the average monthly price across locations from which prices were collected, in February 2009, varied from 2329 MKW to 5157 MKW for a 50 kg bag.
Some basic lessons to draw from this is that the government has limited capacity to control prices. The "laws of demand and supply" tend to overrule price regulations in form of minimum or maximum prices unless extremely strict and consequently very costly price control mechanism are implemented. For a poor government it is likely to be better and more feasible to use various price stabilization mechanisms, like improving the system for information dissemination of prices, have a good monitoring system for production as a basis for social protection and disaster risk management, allow import and export of maize to get a better balance between internal supply and demand, improve the infrastructure, and strengthen the private sector that can help to reallocate the production within the country to reduce the internal price differentials. In addition it is relevant to have a buffer stock of maize in case droughts hit but the size of this stock should also be seen in relation to the availability and cost of importing food if need arises.

6) Do export revenues improve the lives of only a small group of people or are poor people included?

Export of the maize surplus is good for the producers and traders who carry out such export. It is good for producers because the reduction in supply of maize inside the country leads to higher local maize prices. In the short run this is not good for the net buyers of maize who have to pay a higher price but even they may benefit in the longer run as such export may stabilize prices over time and ensure that producer profits vary less and that they are therefore more likely to stay in the business. Because of the inelastic demand for food there can be large price variation in response to supply changes unless these can be leveled out through international trade. If such export is taking place due to subsidies in normal and good years, this is also good for net buyers of food in the neighboring countries receiving the surplus food. The internal demand for maize per year is estimated at 2.2 million tons while the production in 2008/09 season is estimated at about 3.6 million tons. A recent study revealed that crop forecasts may be too high, or at least they seem to have been so in the 2006/07 and 2007/08 seasons ([http://brightsonani.wordpress.com/2009/01/13/malawi-sexed-up-the-maize-estimates%E2%80%94us-study-maize-supplies-may-be-depleted-before-harvest-time-point-at-inaccurate-crop-estimates-as-the-main-cause/]). Even if this estimate is on the high side, the surplus of maize is likely to be more than one million tons. Not allowing any export would in such a case be irresponsible and lead to a drastic fall in maize prices. However, one should not rule out the possibility that here is a political game where the surplus producing commercial farmers who also may have succeeded in obtaining cheap fertilizers, want to increase their profits by exporting more. It may also result in large unaccounted leakages across the borders to the neighboring countries. An export tax to cover up for the input subsidy may seem to be appropriate. However, it goes beyond this study to assess whether and how this could be implemented.

Higher export of tobacco from Malawi may even affect the international market for tobacco unless they stay within their quota. This year (2009) there is an excess production of 50 million kg that has no market. Partly this high production is due to the new subsidy program for fertilizer for tobacco and one effect now is that in the auctions in the country the realized tobacco prices are on average below the minimum prices that have been set by the government. Excess production may therefore in this case lead to even lower total revenue to the country because of the large surplus. This may imply that there will be more losers than winners from the tobacco fertilizer subsidy program. The winners will be those who managed to get cheap fertilizers and sell their tobacco at a reasonable price and those that trade fertilizer coupons with a profit. The losers will be those who bought fertilizers at ordinary market price but failed to sell all their tobacco and/or got a low price for their tobacco.

GoM in 2008 banned trade and exports of maize by large traders and required ADMARC to take responsibility for large maize trade operations and for ensuring reasonable maize prices to consumers ([http://www.fews.net/docs/Publications/Malawi_outlook_2008_10.pdf]; http://www.busrep.co.za/index.php?fArticleId=4578807). GoM also introduced a minimum sales price for maize. There may be difficulties in implementing the ban on exports by private traders as Malawi has a long border and considerable leakage may occur if there are large price differentials across the border. The success will also depend on the efficiency of ADMARC in implementing its new role. Farmers’ Union of Malawi has expressed strong reservations against giving such a dominant role to ADMARC ([http://forum.uniterre.ca/documents/Texte ReflexionFarmers.pdf]). This can also be another opportunity for ADMARC officials’ rent-seeking activity and careful studies and full accountability requirements from the GoM should be expected, followed up with proper auditing. Similar requirements should be established for the private traders.

7) Have the lives of poor people who do not produce own food improved or not, in terms of ability to buy food?

The general effect of the fertilizer subsidy program is a surplus of maize, which is the main staple food in the country. This has resulted in lower food prices (compared to a situation without such subsidies) and this has made the purchase of staple food more affordable. Still, maize prices have been very high until recently due to the international pressure on food and energy markets and many poor people may not have been able to buy sufficient amounts of maize and may have had to switch to cheaper substitutes, like cassava or other crops, or have been undernourished. The fertilizer subsidy program has clearly reduced this problem in Malawi. This is also why most people in the country perceive the overall effect of the program to have been positive. However, the country is still very vulnerable to droughts as maize is very sensitive to droughts.
3. YARA INTERNATIONAL AND ITS ROLE IN AFRICA

3.1. YARA’S ROLE AND POSITION IN MALAWI

Yara was separated out from Norsk Hydro in 2004. The Norsk Hydro Agri division of Norsk Hydro then became Yara International. From 2005 Yara decided to drop retailing in Africa and to concentrate on manufacturing, wholesale, and trade. The African retail offices that Yara had were offered the opportunity to make management buy-out. The management team in Malawi then decided to take this opportunity and formed Agricultural Resources Ltd. in October 2007 as a separate company with exclusive rights to sell Yara fertilizers in Malawi. This team had been running the Norsk Hydro/Yara retail system in Malawi for 12 years and continued without restructuring this retail system.

Yara has a global fertilizer market share of 7%. Yara’s annual sale of fertilizers in Africa is about 1.7 million tons. The total fertilizer use in Malawi has been about 225,000 tons per year and last year Yara supplied less than 10%, 17,000 tons of this while the market share was considerably higher a few years back, 105,000 tons at the most in a year (64% market share in 2004).

Which farmers and products are targeted and what are the priorities of the GoM, and what characterizes the role that Yara plays? Yara via ARL tried also in 2008/09 to compete by bidding to deliver fertilizers for the GoM fertilizer purchases of 170,000 tons, however, without success.

Other activities supported by Yara in Malawi:

a) African Institute of Corporate Citizenship

Yara International has supported the African Institute of Corporate Citizenship (AICC) in Malawi to promote public-private partnerships. One of the issues this organization works with is to reduce corruption, which is a substantial problem. Another is the formation of the Malawi Agricultural Partnership (MAP) which is an agreement between AICC and NORAD and related to a partnership agreement between Government of Norway and Yara (Yara memo to Minister Erik Solheim, May 2009). A three year plan for the roll-out of the MAP includes a cotton development partnership component, a rice partnership component, a value chain support component, and a general development and facilitation component for commodity partnerships. This involves a value chain approach to enhance efficiency and profitability for all partners in the chain. This implies that Yara has no ambitions of linking up directly with farmers but that they rather leave this responsibility to their local partners and provide these partners the necessary information about their products.
b) Development of new fertilizer for maize production

This is a new basal dressing, 23-10-5 with additional S, Mg and Zn and which has nutrients that are more available to the plants than the standard NPK fertilizer (23-21-0 + 4S) used on maize in Malawi. It also contains Zink in addition to sulfate as Zn-deficiencies have been observed in soil samples. The standard fertilizer also does not contain any potassium (K) and that could also lead to deficiencies.

Yara covers the costs of testing of this new fertilizer and this has been going on for 6 years in the country at the Chitedze Research Station. They focus primarily on the needs of specific crops, like maize, when determining the nutrient mix of the fertilizers. With better information about local soil variation and a consequent change in the demand for more specific fertilizer types Yara may consider to blend new fertilizer types in the new bulk storage facility that they are establishing in Beira in Mozambique. However, the subsidy policy of GoM has implied a focus on only four standard fertilizer types that are well known and this has made it more difficult to introduce new fertilizer types to small farmers in Malawi. The investment in new fertilizer types may therefore only have an impact in the longer run.

c) Improving market access in Africa by fast tracking agricultural growth corridors

This is not only concerning Malawi but has important implications also for Malawi. Yara International has actively promoted investment in developing agricultural growth corridors as an important component of an African green revolution which is based on public-private partnerships. The Beira Agricultural Growth Corridor (BAGC) in Mozambique is an example of such a public-private partnership where Yara International has played an active role as one of the private partners. This growth corridor is one of Southern Africa’s main transport routes with the road and railway network linking Malawi, Zambia, Zimbabwe and Mozambique to the Indian Ocean through the Beira port. The infrastructure decayed during the Mozambican civil war and later but new investments are now coming. The Government of Mozambique, private investors, farmers’ organizations and international donors are now working together to speed up the process of developing this corridor by boosting investments in improved infrastructure.

A new concept note on Agricultural Growth Corridors was launched at the UN General Assembly meeting in New York in September 2008 to stimulate this initiative, and was followed up by meetings in the World Economic Forum in Davos in January 2009. Yara International and AGRA chaired
this meeting where it was agreed to fast-track a process where Mozambique should take a leading role in developing the BAGC. Follow up meetings have been held in Maputo in March 2009 and in Cape Town in June 2009. These meetings were held to mobilize the local partners in identifying priority investments and potentials to come up with a plan of action. Major investments are now undertaken not only for agricultural development but also for expanded mining activity, particularly coal mining, which will require a large expansion of the capacity of the port.

Other projects to be served are large forestry and ethanol projects and Yara International is planning a 35 million USD investment to develop a bulk fertilizer handling terminal and blending unit at the Beira port (BAGC, 2009). Other investment funds are provided by the EU, the European Investment Bank, The World Bank and the Japanese International Cooperation Agency (JICA), among others. These investments are meant to reduce transportation costs, increase transportation capacity and improve market access for imports and exports. They may improve access to fertilizers and reduce fertilizer prices in Malawi.

3.2. FERTILIZERS AND SUSTAINABLE FARMING

8) How is the link secured between the fertilizer producer Yara and the small farmers?

The GoM fertilizer subsidy program has largely delinked Yara from the small farmers and Yara’s market share has been much reduced. Since Yara is not supplying any of the fertilizer for the subsidy program, most of its fertilizers are sold to commercial growers and to smallholders who can afford to pay the full price.

9) Is this link as good as with exporting farmers?

Agricultural Resources Ltd. appears to have a stable set of customers in Malawi that are commercial growers outside the subsidy system. Even though they have lost many customers in the recent years the business has been good due to the high fertilizer prices. With prices being reduced by 50-60% in 2009, the profit margins for ARL may also be squeezed, like they are for Yara.

10) Does Yara consider the different needs of different types of farmers when advising on products and is sufficient information (“bracket recommendation”) about products provided?

Yara International is not in a good position to give direct advice to Malawian farmers since they no longer have a distribution network in the country. It is the Malawian research and extension branch that should be responsible for such advice as well as local partnership organizations. If Yara can convince the Malawian research and extension branch that their products are better than other products and even have some influential “model” farmers to test their products, this may open a market for their new fertilizer that they have developed for Malawian maize growers. Products from commercial producers should preferably always be tested by neutral scientific experts that themselves have no direct benefits due to their recommendations. However, if invited, Yara or ARL or other fertilizer suppliers may provide their information and participate in meetings on product quality etc.

It is a general knowledge that some fertilizers have strong acidifying effects on soils and this can be a serious problem on soils that already are acidic and low in organic matter and where large quantities of such fertilizers are applied. It should be the responsibility of the national research and extension system to provide such knowledge to farmers and farmers’ organizations may help in the dissemination of such information. Farmers’ organizations, like NASFAM and Farmers Union of Malawi have become more active in recent years and they may also help to bridge the gap between the industry and farmers.

It is clearly a problem that only one fertilizer recommendation exists for maize in Malawi. This implies that there are no adjustments in the recommendations for the variation in the soils in the country. This is clearly highly unsatisfactory since there are large variations in soil quality in terms of soil texture, pH, and nutrient composition and contents.

A new project has recently been implemented that will change this, however. CIAT has announced a four year project to construct a digital soil map for sub-Saharan Africa. The map will be made available through an interactive online map, known as the African Soil Information Service (AfSIS) [http://bioversitylibrary.wordpress.com/2009/02/18/ciat-announces-soil-map-for-africa/]. The Tropical Soil Biology and Fertility (TSBF) Institute of CIAT, based in Nairobi, will lead the work. They will begin by making ground observations at 60 so-called “sentinel” sites [areas of 100 square kilometers] proposed for 21 African countries. This will be combined with soils data from other sources. This information is then used to predict soil quality in detailed maps. The information will include crucial elements like basic composition and constraints like Aluminum toxicity on acid soils. From this the map will then be continuously updated and improved as new soils data are made available. The best soils maps in Africa have a resolution of about 10 by 10 km. With the new map this will be improved to a resolution of 1 ha (100 by 100 meters). Scientists will be able to post soils data online by the end of 2009. The next step will be to train agricultural extension workers to interpret and utilize the soil map for making recommendations to farmers. This also has a potential then for improving the basis for formulation of fertilizer recommendations in Malawi.

11) Do current fertilizer recommendations and use ensure that the soil is treated in the best possible way?

Farmers’ decisions on fertilizer use will typically be affected both by the availability of information [extension advise, advise from others], availability of inputs as well as their prices, expected output prices and food needs, and their available resources, including cash. If acidifying fertilizers are cheaper than non-acidifying fertilizers because they are cheaper to produce and give higher short-term returns to the cash expenditures than other fertilizers that are
not acidifying and better balance soil nutrient for the future, poor farmers who tend to have high discount rates (meaning that they think less about future effects) will prefer the fertilizers that give high short-term returns. If such acidifying fertilizers also are subsidized, this will enhance the use of such acidifying fertilizers. Both Urea and CAN are acidifying Nitrogen fertilizers that are subsidized by the government program for maize and tobacco production. Although these are less acidifying N-fertilizers than sulfate of ammonia and ammonium nitrate, the effect can be substantial in production systems where maize is mono-cropped or rotated with tobacco on acidic sandy soils (like in Kasungu). From a sustainability perspective it may then make more sense to subsidize only the non-acidifying basal dressing fertilizer so that its short-term yield effect is as good as for the acidifying N-fertilizers. But it is also very important to enhance the use of organic manures. Subsidized seed packages for N-fixing legumes like groundnuts, beans, soybeans and pigeon peas may therefore be defended on environmental grounds (reducing the need for N-fertilizers). These are valuable in rotation or as intercropped with maize, and on health/nutrition grounds (valuable sources of protein). It could even be relevant to put an environmental tax on the most acidifying N-fertilizers. One may also think of alternatively using subsidies or provide credit to stimulate livestock production that can enhance positive crop-livestock interactions.

Here it is relevant to ask how the current fertilizer subsidies affect the use of alternative organic fertilizers. In our surveys in Kasungu and Zomba we included questions on this to the farmers we interviewed. The responses revealed that about 26.5% of the households saw a clear link between fertilizer use and manure use. Manure making and use was considered labor-intensive and therefore many preferred fertilizer if that was available through the distribution of coupons. Many households that received fertilizer coupons therefore indicated that this allowed them to spend less labor on making manure. Many also stated that because they received very few or no coupons for fertilizer, they instead prepared manure as an alternative strategy. Ownership of livestock improved access to manure and some saw the need to complement the limited access to fertilizers with extra use of manure. We may conclude that fertilizer subsidies may potentially crowd out the use of manure, particularly for households that face labor constraints and lack livestock. At the same time these may be among the poorer households who also potentially may be forced to sell their fertilizer coupons.

12) How does Yara ensure that small farmers have necessary information to make the best possible use of fertilizers, and how is this communicated to end users that does not read?

It is unrealistic and not preferable that Yara should have such a role. Farmers are better served by a research and extension system that partly may be driven by farmers’ own organizations. Yara’s role should be to provide relevant information to the researchers and possibly farmers’ organizations. Yara only provides the basic required information on the fertilizer bags that they deliver. In some countries they may provide some additional leaflet information. Besides that they only provide the information to their partnership organizations that are responsible for disseminating this information.

13) Does Yara provide information about the cheaper products and advantages of alternatives, like other products than maize or organic farming, to the Government of Malawi and to small farmers?

Yara has developed its new fertilizer product as explained already. Yara is not in
a position to tell GoM what crops should be
grown in the country and should clearly
not be expected to be an authority of
organic farming since organic farming does
not accept the use of mineral fertilizers.
Yara has supported the MAP with focus on
public-private partnership for cotton and
rice production in Malawi. The core custo-
mers of ARL in Malawi are producers of
sugar, tea, cotton, rice, coffee, tobacco and
macademia and are commercial farmers.

3.3. YARA’S BUSINESS RELATIONS

14) What kind of relationship does Yara have
with providers of seeds and pesticides to
Malawi (cooperation on products or is
advice on prioritization of plants only pro-
vided by seed producers)?

Yara’s value chain and partnership
approach implies that they interact with
their partners on how to identify the bottle-
necks and opportunities that should be
developed. Yara may engage in supporting
such activities where feasible. Yara does
not directly engage in partnerships with
seed or pesticide producers. The seed
industry for maize seeds is a separate
industry and delivers the maize seed
packages for the subsidy program and EU
and Government of Norway covered much
of the cost of this seed component for the
2008/2009 year. Yara supports the Green
Revolution initiative for Africa (AGRA) and
sees the combination of provision of seeds
and fertilizers as important elements to
enhance land productivity in Africa. The
value chain approach also implies that they
see the need for development of better
storage facilities for small farmers so that
they are able to store their products for a
period to achieve a better price than just
after harvest. This would help reduce post-
harvest losses and improve their bargaining
power towards the buyers of their
products. This may also be linked to a
better system for financing storage and
relaxing the liquidity constraints that
farmers may face. The cotton and rice
development partnerships in Malawi are
examples where Yara has played a role.

15) What relationship does Yara have with
the local fertilizer company in Malawi
(competition or capacity-building)?

It is not clear what local fertilizer company
that is indicated but it may be the fertilizer
factory that a Taiwanese company has
attempted to establish until recently. The
company has now given up as the
relationship between the Malawian and
Taiwanese governments has been
terminated and the plant is for sale but
there are no interested buyers (Victoria
Keelan, pers. com.). Yara is no longer
a direct fertilizer distributor in Malawi as
explained earlier. ARL has signed a contract
with Yara International, becoming the
exclusive agent for Yara’s products in
the country. ARL also has a distribution
agreement with Yara. ARL is one of many
importers of fertilizer to Malawi. Two other
organizations (ADMARC and SFFRFI) are
responsible for the import and distribution
of subsidized fertilizers to smallholders,
especially for maize.

Yara has not played an important role in the
recent expansion of the maize production
in the country through the fertilizers
subsidy program. This is an outcome of the
political decisions made by the GoM as well
as ARL not getting any of the fertilizer
contracts with GoM. These changes make it
less relevant for Yara to spend more
resources in Malawi, especially after the
financial crisis which at least temporarily
has reduced the profits in the fertilizer
industry, reduced the global demand for
fertilizer and reduced the international
fertilizer prices. The politics involved in
the fertilizer program in Malawi makes it both
difficult and highly risky for a company like
Yara to establish a distribution network. In
this perspective it therefore makes more
sense for Yara to invest in the Beira
Agricultural Growth Corridor which may
facilitate fertilizer supply to several
countries in a more efficient way.

3.4. ENVIRONMENTAL,
HEALTH AND SOCIAL DIMENSIONS

16) Does Yara get involved in activities in
Malawi beyond its core business, like
water management, irrigation, drinking
water, seeds and pesticides?

The type of activities that Yara has
supported that may not directly be seen
as their core business in Malawi is the
support to AICC and establishment of
various public-private partnerships
through MAP. Sean de Cleene, who is the
vice president of the Global Business
Development and Public Affairs at Yara was
involved in founding the AICC, was based
in Malawi for a period and then engaged
more heavily with the local partners there.

17) Do Yara’s activities or products cause
any environmental problems in Malawi?

Fertilizers applied at the wrong place at the
wrong time can cause environmental
problems but the high price of fertilizers
provided by Yara, especially since Yara does
not supply any of the subsidized fertilizers,
are likely to reduce the probability of exces-
sive use. Yara also supplies some of the
acidifying nitrogen fertilizers that are
cheaper than other fertilizers and this can
be bad on acid soils. However, ARL claims
that these fertilizers are only used on the
lakeshore soils where soil pH is very high
(sugarcane production). It is a general
problem for farmers, extension agents, the
fertilizer industry, the GoM, and donors
that no good data exist that are easily
available on the soils in the different parts
of the country such that more location-
specific recommendations can be made.
The potential negative effects of current
fertilizer use are therefore also unknown.
The plan to prepare easily available soil
maps in many countries in SSA, including
Malawi, is a welcome exercise.

18) Does Yara realize its responsibility to
protect natural resources for instance
in catchment areas for water supplies,
or does it perceive this as the responsi-
bility of the GoM?

The main activity of Yara that has
environmental, health and therefore social
dimensions is its development of a
fertilizer that has a better composition for
sustainable maize production. Some of the
problems with the existing fertilizers are
that they are not well balanced in the
composition of nutrients, not all nutrients
are easily released for the crops, and they
are acidifying the soils to varying degree.
The new fertilizer is better with respect to
all these three properties. It is considered
a better alternative than the 23-21-0-4S
basal dressing that is now used for maize. The composition is 23-10-5-3S-2.5Mg-1Zn. Sulfur (S) and Zinc (Zn) deficiencies have been found to be common in soil samples in the country. According to Victoria Keelan, ARL, the new fertilizer should increase maize yields particularly by filling the maize cobs better towards the ends. It should also have positive effects on health by strengthening the immune system of people. ARL and Yara think that the best would be to use it instead of the Urea topdressing which also has an acidifying effect. The fertilizer has been developed and tested at a research station in Malawi over the last 6 years and the composition gradually modified. Trials are also set up with well known farmers. Also the current and former PS of Ministry of Agriculture are trying this new fertilizer at their farms, according to Keelan. When I contacted the Director of Research in MoAFS, however, she had no specific knowledge of this fertilizer, and indicated that this fertilizer has to go through the national system for testing etc. before it could be recommended for use. ARL is currently selling small amounts of this new fertilizer from its depots in the country at commercial (un-subsidized) prices. Yara’s involvement on the environmental side is otherwise primarily linked to their support of a Green Revolution in Africa where they emphasize the need for increase land productivity to provide food security and to conserve carbon in the soils given the climate change situation (Arne Cartridge, pers. com.).

The basic problem is that the better fertilizers may be a bit more expensive, especially more expensive than the acidifying nitrogen fertilizers like Sulfate of Ammonia, Ammonium Nitrate, CAN and Urea. However, these acidifying fertilizers will have long-term negative effects on the productivity of the soils that are acidic. This will especially be the case on such soils for farmers with very small farm sizes and where most of the area is used for maize production every year (mono-cropping) and if they have little organic manure to apply in combination with the fertilizers. Subsidizing such fertilizers is therefore really questionable but currently Urea for maize and CAN for tobacco are subsidized. The Sulfate of Ammonia is used for production of sugarcane along the lake shore where soil pH is very high, that may not be too problematic.

In our survey we asked the households what their perceptions were of the residual effects of fertilizers as already discussed in part 2 of the report.

19) How does Yara look at the agricultural subsidy scheme that has been established in Malawi?

Yara realizes the need for better incentive packages to increase land productivity in Africa and the GoM has achieved this with its targeted subsidy program. Still, Yara has a mixed feeling about the subsidy scheme as it has a number of dilemmas; like the need for tender processes that have their problems; use of subsidies and their financing has problems, subsidies may create dependencies; and there are corruption risks. The volatility of prices of fertilizers also contributes to uncertainties about the costs of subsidies. GoM is also climbing a steep learning curve in how to handle the targeted subsidy scheme but appears to have been successful in reaching small farmers. The G8 have now promised more funds to stimulate smallholder agricultural production in Africa and that sets the stage for more investment in agricultural production (Arne Cartridge, pers. com.).

3.5. CORPORATE SOCIAL RESPONSIBILITY

Yara International has declared itself as a global responsible citizen since 2007 (http://citizenship.yara.com/en/citizenship_approach/index.html). Yara puts itself into a global sustainable development perspective with a focus on energy, climate, food and health, issues that were high on the agenda in 2007 when food and energy prices reached very high levels and the awareness of the impacts of human activities on the global climate was strengthened through the studies by the Intergovernmental Panel on Climate Change (IPCC) and the UN Climate Conference in Bali. Based on this Yara declares on its webpage: “Throughout the company we drive performance not only through operational excellence and profitable growth but also through developing our people to meet high health, safety, environmental, ethical and social standards. We aim to work with our stakeholders, partners and communities to promote sustainable corporate practice. Our being a signatory to the UN’s Global Compact is a testament to that commitment”.

Furthermore it states: “Within this volatile and challenging global framework of politics and economics, ecology and technology, Yara is developing its strategy for sustainable business development, closely interlinked with a determined global environmental focus, linked to sustainable agriculture. The company sees global corporate citizenship as key to its future success, and recognizes commitment to society as being closely tied to commercial focus. In short, Yara considers corporate citizenship as a long-term opportunity rather than a short-term liability. It will help the company to create shared value for stakeholders and society at large, while building momentum towards sustainable agriculture and a sustainable future.”

As part of its global strategy Yara International established the Yara Foundation for an African Green Revolution in 2005. The objective of the foundation is to support the African Green Revolution. The foundation is also responsible for awarding the Yara Prize since 2005 to honor work that increases food productivity, security or availability through improvements in food systems, advancements in sustainable agriculture and development of local markets. The prize consists of a financial grant of USD 100,000, a diploma and a trophy. The prize aims to encourage innovation and entrepreneurship (http://www.yara.com/sustainability/africa_program/the_yara_prize/). The receivers of the Yara Prize have been the Ethiopian Prime Minister Meles Zenawi in 2005, Celina Cossa from Mozambique and Fidelis Wainaina from Kenya in 2006, Akinwumi Adesina from Nigeria and Josephine Okot from Uganda in 2007, and Florence Wambugu from Kenya and Victor Mfinanga from Tanzania in 2008. This demonstrates a strong focus on Africa and promotion of a Green Revolution in Africa.
In 2009 the Yara Prize was awarded to Peter Munga, Chairman of Equity Bank in Kenya and the National Smallholder Farmers’ Association of Malawi [NASFAM] for their transformational contributions to the reduction of hunger and poverty in Africa. The explanation for selection of NASFAM is that it has been playing a key role in achieving Malawi’s recent progress. It has given farmers an effective voice in policy negotiations, built their commercial capacity, catalyzed the development of a successful agricultural commodity exchange and promoted the use of sustainable agricultural practices (http://allafrica.com/stories/200907210876.html).

Arne Cartridge, Secretary General of the Yara Foundation states the following: “Making progress against some of the world’s most ambitious development goals starts with the smallholder farmer. Both Equity Bank and NASFAM are prime examples of a locally driven value chain approach that engages farmers directly, increases their yield and improves access to markets. Both of the winners of this year’s Yara Prize deserve praise and recognition for helping to innovatively strengthen agricultural value chains and increase Africa’s food security.”

Yara has since 2006 participated in the United Nations Global Compact and has worked towards implementing its ten principles throughout the organization in the areas of human rights, labour, the environment and anti-corruption. (http://en.wikipedia.org/wiki/United_Nations_Global_Compact).

Yara’s Africa Program supports the African Green Revolution by focusing on business development, in particular through public-private partnerships and aims to act as a catalyst in designing and establishing partnership projects on the African continent. Yara is involved in such projects in Ghana, Malawi, Mozambique and Tanzania. Yara established a value chain project in 2007 that aims to build on the success of Malawi’s fertilizer subsidy program (http://www.yara.com/sustainability/africa_program/partnerships/malawi/).

Yara International has supported the African Institute of Corporate Citizenship (AICC) in Malawi to promote public-private partnerships. In a Memorandum that Yara has submitted to the House of
Contrary to views held by certain NGOs, initiatives that can go to scale. The ground to promote and drive sustainable but this requires an investment from DFID on scaling up agricultural production in Africa support for a multi-sector approach to agricultural value chain. It would seem to growth orientated partnerships along the subsidies that promote private-public sector schemes can be developed into smart sub-sectors that promote private-public sector growth orientated partnerships along the agricultural value chain. It would seem to us that at present there is unprecedented support for a multi-sector approach to scaling up agricultural production in Africa but this requires an investment from DFID on the ground to promote and drive sustainable initiatives that can go to scale.

20. Contrary to views held by certain NGOs, what African farmers need is not to reduce fertiliser use from nine kilograms a year to none; they need to increase it from nine to 50 to meet the commitment made by agricultural scientists in Africa through the New Economic Partnership for African Development (NEPAD). As fertiliser usage increases across the continent there is however a critical need for a joined up approach to educating farmers as to appropriate use of inputs and to develop the capacity of local agro dealer networks and extension service delivery officers to ensure fertilisers are applied appropriately and in moderation in a way that is suited to the needs of local environments” (http://www.publications.parliament.uk/pa/cm200809/cmselect/cmintdev/220/220we17.htm).

This shows that Yara International has a commitment to promoting a Green Revolution in Africa and largely represents the same kind of strategy as proposed by Jeffrey Sachs, Pedro Sanchez and other proponents for the “big push” approach to development. They believe that we have sufficient knowledge and that it is largely about providing sufficient funds and if those are provided for a long enough period, the “take-off” will come. While this idea is far from new it has gained new support recently and private funding has also increased substantially recently with the entrance of the Gates Foundation and also other private donors as a complement to the public donors’ contributions. The letter to DFID also reflects Yara’s critical assessments of the fertilizer subsidy program in Malawi and DFID’s role there as one of the major supporting donors.

It is definitely a step in the right direction that private companies, like Yara, signal this kind of support and demonstrates their public concerns. Still, private as well as public actors should always be critically assessed in order to make them improve their actions. However, one should not forget that these are profit-making companies that have clear implications for what roles they should be given and not given in society. Promotion of healthy competition in the private sector may be one important way to prevent private companies from taking advantage of their market power. Having government regulations and public institutions with

Another area which could be important to focus on is how Yara operates in the countries where its fertilizers are produced or extracted. Phosphate fertilizers are mainly extracted in a few countries in Northern Africa. Many multi-national companies that are involved in resource extraction in Africa, like oil, gas and diamonds, are known to have used unscrupulous methods, like Shell and Chevron in the Niger basin, as well as some of the perhaps worst case examples. Going into these issues is also beyond this study. But this should be an area of high concern for the Norwegian Government that is promoting Oil for Development and with Statoil as one of the operators in Africa and the scandal with Norsk Hydro in Libya that was revealed when it was merged with Statoil in 2007. Although Yara is not directly involved in phosphate extraction/production in Africa, it was recently revealed that it has bought phosphate from Western Sahara even though such purchases have been banned by the Norwegian Government (http://www.afrol.com/articles/16718, http://www.vest-sahara.no/index.php?cat=71&art=1073). Morocco, which controls more than 50% of the phosphate reserves in the world, also controls large phosphate reserves in the occupied territories in Western Sahara.
4. CONCLUSIONS

We may conclude that the commercial role of Yara International in Malawi has diminished after it pulled out of the retail business in the country and the government-led fertilizers-seed subsidy program was re-introduced from 2005/06 and to date. Currently it supplies less than 10% of the fertilizers to the country and most of these fertilizers go to commercial growers and are sold at unsubsidized prices. The report focuses on the importance of fertilizers for small farmers and how the fertilizer subsidy program has affected smallholders. Overall, it has contributed to improved household food security by stimulating national maize production at a lower market price and has even lead to export of maize to neighboring countries. This is important for all net consumers of maize in the country.

The very high international prices for fertilizer and oil have caused the national expenses on the subsidy program to have escalated from about 50 million USD in 2005/06 to above 300 million USD in 2008/09 and this is a substantial drain on national funds. The targeting efficiency of the program seems not to have improved due to corruption and rent-seeking behavior and there is a risk of increasing tensions and problems if or when the program is to be scaled down. Errors of inclusion and errors of exclusion in the program are still large and there are no signs of incremental improvements of these aspects of the program over the last two years. Rather, the elections have contributed to a deterioration of the program.

The unofficial markets for coupons and subsidized fertilizers contribute to the targeting errors but also reflect that the poorest households that receive coupons prefer to sell them at a low price rather than using them to obtain cheap fertilizers. This also means that the buyers of coupons and cheap fertilizers are those that reap the lion’s share of the benefits from the fertilizer subsidies. It implies that fertilizers are transferred to more efficient producers who have the necessary complementary inputs (land, labor, skills). A general subsidy on basal dressing fertilizers that have no negative effects on the soils may have achieved the same at a lower social cost and with much less generation of rent-seeking and corrupt behavior which currently appears to attract a lot of innovative agents and lead to a decay of moral standards. These agents would have to go for more productive activities if these rent-seeking options were unavailable. There may also be better ways to reach the poorest of the poor households that lack complementary resources to be able to utilize fertilizers.

It is not yet known how the fertilizer subsidy program will work in a situation when Malawi again faces severe droughts. Certainly maize production will be severely affected by a severe drought that hits in one year and the buffer stock from the previous year will provide some protection. The timing of the drought will affect whether and how much fertilizers have been applied and partly lost or retained for the following season.

The narrow focus on fertilizers for maize production may crowd out organic manures and other crops than maize that may be produced with less use of external inputs. Some fertilizers are also contributing to soil acidification but national fertilizer recommendations and the subsidy program does very little to deal with these issues.

Yara International has demonstrated a willingness to engage itself to promote a Green Revolution in Africa. Currently, its involvement in developing growth corridors to improve the market access of land-locked countries, like Malawi, may be the most important as this could lead to better access to inputs at more affordable prices. Besides that Yara has engaged in partnership collaboration with local organizations with a crop and value chain approach to improve input access and profitability of crop production. The establishment of the Yara Foundation and the Yara Prize also signals the commitment to promoting African development. NASFAM received the 2009 Yara Prize together with Peter Munga, Chairman of Equity Bank in Kenya, and this should also be a stimulation of agricultural development in Malawi. Yara is also giving strong emphasis on its Corporate Social Responsibility and participation in the UN Global Compact. This is a long-term commercial strategy of Yara, and is founded on a holistic value chain and partnership approach. Public focus on the way Yara operates in practice may therefore help to improve how the company operates and should educate persons inside the company and create a higher moral standard for how to conduct their business. This can also be a good example for other MNCs operating in Africa.
RECOMMENDATIONS
What the Government of Malawi should be encouraged to do
1. Since the current president and government have committed to continue the targeted fertilizer subsidy program, pressure should be put on them to improve the system of targeting by improving the transparency and accountability to reduce corruption and leakages. There exist no good excuses for continuing the current flawed system which breeds corruption. This can be done by:
   a. Providing full public access to the registry of all households and targeted households at local level to eliminate ghost households. This information should be put up on the wall at a public place in every village.
   b. Develop clear criteria for who should be targeted with explicit prioritization of these criteria to allow assessment of the existence of targeting errors.
   c. Provide full information about the printing of coupons to the Logistic Unit and develop a system to avoid printing of false coupons and prevent misuse of coupons.
   d. Make ADMARC accountable for money collected from households in relation to the targeted fertilizer subsidy.
   e. Identify a way that organized export of maize through ADMARC can be used to recover some of the large costs of the 2008/09 fertilizer subsidy program. Make ADMARC fully accountable for this activity and follow up with careful auditing.
2. The government should test out alternative methods of reaching the poorest households. Poor households are a heterogeneous class because they have a portfolio of assets and face risk and liquidity constraints.
   a. Allow poor households that cannot utilize the fertilizer coupons themselves because they are labor- and cash-poor to cash in the coupons or buy food for them instead so that they can get a higher share of the subsidy benefit.
   b. Establish a system for Work-for-fertilizer for labor-rich and cash-poor households that have land and can utilize fertilizer efficiently but lack the cash to buy it. After drought years, it may be more relevant to replace or combine this with Food-for-work.
   c. Involve the communities themselves and NGOs and civil society to identify projects that can benefit from such local...
labor mobilization and in organization of such Work-for-fertilizer schemes. This should be a good way of building social capital as well as physical capital (infrastructure, health, school, orphan care-taking, etc.).

d. Establish an alternative low-cost food storage system to tackle future droughts. This could be encouraged by providing cuttings of improved cassava varieties to poor households and legume seeds for intercropping with cassava. E.g. each household could be advised to plant at least 0.1 ha with cassava as a food safety bank and provided free legume seeds (soyabeans, pigeon pea, cowpea, beans, and/or groundnuts) as a reward. Cassava can be stored for several years in the ground and could be replanted from own cuttings afterwards. It produces a high yield without fertilizer, and can be an important energy supplement while the legumes provide protein. This could substantially improve the food security of cash- and labor-poor households and especially so in drought years and when maize prices go very high.

3. The government should give priority to developing a better system for fertilizer recommendations which takes into account the local variation in soils by building on the new initiative by CIAT to develop better soil maps for Africa.

4. The government should pay closer attention to the possibility of obtaining improved fertilizers and use the fertilizer subsidy program to target fertilizers that do not acidify the soils.

5. The government should give more emphasis to crop diversification to reduce the vulnerability of the country to droughts, to reduce the costs of keeping a strategic food reserve, and to reduce the dependence on donor assistance.

What donors including NORAD should be encouraged to do

1. Donors should put more pressure on the government to reduce the leakage and corruption problem that has not been properly dealt with by the government.
   a. This can be done by requiring transparency and accountability and serious efforts to arrest the problems that cause large leakages and targeting failures.

b. Targeting donor funds such that they are more likely to achieve the intended objectives of the donor support
   i. A general fertilizer subsidy on e.g. basal dressing would stimulate production and lead to lower food prices and thus benefit all net consumers with much less bureaucracy and corruption problems than the current targeted subsidy program.
   ii. Collaboration with Civil society organizations (NGOs) may be developed to achieve more successful targeting of the poorest of the poor and to build local social capital with strong requirements for transparency, accountability and professionalism in execution of the work. This would require establishment of better monitoring and evaluation systems in combination with a piloting system to test alternative approaches with efficient incremental learning. Such piloting projects could include establishment of cassava-legume gardens as an alternative low-cost food reserve for poor households, work-for-fertilizers schemes for cash-poor and labor-rich households.

2. Donors may support the development of a better system for provision of fertilizer recommendations that are adjusted to the local soil qualities. Neutral expertise should be used in assessing the best way to do this, including assessing the new fertilizers that Yara has developed. Building national competence to take advantage of the new soil map for Africa that is in the process of being developed by CIAT, improving it by providing additional soil analysis information, and developing a system for development of location- and crop-specific fertilizer recommendations, may be something that could be supported. A dialogue with the GoM would be required to start this. Strong involvement of Farmers’ own organizations would also be crucial.

3. Donors should carry out careful studies of the performance of ADMARC in relation to the execution of the targeted subsidy program and the new role as sole large trader and exporter of maize in 2009. It should be investigated how this could be used to recover some of the large costs of the fertilizer subsidy program in the 2008/09 season on behalf of the GoM.

What NCA and other NGOs/civil society can do

NCA can operate at the local and national levels in Malawi as well as interact with the Royal Norwegian Embassy and NORAD in Norway and perhaps even have some influence on Yara International in Norway (I am doubting the latter). In Malawi, NCA can have a useful role as a watchdog and collaborator with local civil society organizations that advocate and promote transparency, accountability and professionalism by local [traditional] authorities, government officials, private businesses, and civil society organizations. NCA may also assess the extent to which it can get more involved in alternative approaches to target poor households stimulating investment in public goods by mobilizing local labor resources and providing complementary inputs. They should also be in a good position to develop safety nets in collaboration with local communities and build social capital. Piloting a system with household level food banks in form of cassava-legume plots could be something to explore as a low-cost insurance system in case of future droughts. This could be related to establishment of safety nets including Work-for-fertilizer and Food-for-work linked to investment in local public goods, teaching of sustainable agricultural methods linked to the seed packages that the Royal Norwegian Embassy has supported, and in collaboration with Farmers’ organizations. To maximize the learning and facilitate scaling up, it is advisable to get strong professional backing in relation to design of pilot experiments, monitoring and evaluation/impact assessment.
REFERENCES


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<thead>
<tr>
<th>Date</th>
<th>Person</th>
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<tr>
<td>May 4th</td>
<td>Ms. Idrissa Mwale</td>
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<tr>
<td>May 5th</td>
<td>Households</td>
<td>Village in Kasungu</td>
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<td>May 5th</td>
<td>Hastings Yotam</td>
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<td>May 5th</td>
<td>Hastings Kalima</td>
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<td>May 5th</td>
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<td>May 8th</td>
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<td>Marita Sørheim-Rensvik, Norwegian Embassy</td>
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<td>May 8th</td>
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<td>Travel to Zomba with the survey team</td>
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<td>May 9th</td>
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<td>Land Resource Desk Officer, Ngweleroe, Mayaka</td>
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INTERVIEW WITH ARNE CARTRIDGE AND SEAN DE CLEENE FROM YARA INTERNATIONAL

For Norwegian Church Aid it has been important to give representatives for Yara a possibility to respond to the main issues that were raised in the research-report. The following interview with Arne Cartridge and Sean De Cleene from Yara Norway was done by Helene Høggen and Merete Skjelsbæk from Norwegian Church Aid.

NCA: What has been the role of Yara in Malawi over the last three years?

A. Cartridge: For the last three years Yara has played a smaller role in Malawi commercially than it did before 2006. However, in terms of partnerships we have been more active in Malawi during that period than we were previously - promoting the role of smallholders within the agricultural value chain. Starting with the Sustainable Agri Business Initiative (SABI), which has transformed more recently into the Malawi Agricultural Partnership (MAP).

In the past, Yara’s Africa business was more made up of a series of disparate entities that had built up over time. More recently Yara has seen the need to develop a more integrated regional structure building on its strength as a wholesaler. Consequently, Yara pulled out of an active distribution role in markets such as Malawi where a management buy-out was effected by Agricultural Resources Limited (ARL), and started to build a regional hub approach. In so doing we have also seen it as important to play a role in helping to support the development of the wider agricultural sector as a whole. In this capacity Yara is involved in a number of public-private value chain and growth corridor partnerships projects in Ghana, Malawi, Mozambique and Tanzania. In 2007 in Tanzania, Yara established a value chain partnership, the Tanzanian Agricultural Partnership, which was then replicated in Malawi in 2009. It looks to build up the capacity of different agricultural crop specific value chains identified as being important in a given country.

Yara has also been instrumental in developing the Agricultural Growth Corridor partnership model. The development of the Beira Agricultural Growth Corridor (BAGC) in Mozambique is an example of such a public-private partnership. This particular growth corridor builds on the backbone of one of Southern Africa’s main transport routes with the road and railway network linking Malawi, Zambia, Zimbabwe and Mozambique to the Indian Ocean through the Beira port. The concept of Agricultural Growth Corridors was launched at the UN General Assembly meeting in New York in September 2008. This was followed-up by a high level roundtable meeting jointly chaired by Yara and the Alliance for a Green Revolution (AGRA) at the World Economic Forum in Davos in January 2009, at which it was agreed to fast-track a process where Mozambique should take a leading role in developing the BAGC. Follow-up stakeholder meetings have been held in Maputo in March and August 2009 as well as January 2010, and at WEF Africa in Cape Town in June 2009.

These meetings were held to mobilize local partners and identify priority investments and the scope for coming up with a multi-stakeholder plan of action. Yara International is looking into the possibility of developing bulk fertilizer handling terminals both in Beira port and Dar es Salaam ports, which would act as anchor investments into the corridor.
In the last years there have been enough rain in Malawi for giving stability in the agricultural sector (Photo: Hege Opseth).
These investments and the wider corridor initiatives are meant to help reduce transportation costs, increase transportation capacity and improve regional and international market access for both smaller and larger farmers alike.

In the current situation with both hunger and population size continuing to increase and with issues such as climate change and water management starting to take on more urgency, we need to be asking ourselves as a company – is there a role we can play? Can we be part of the solution? Part of Yara’s mandate to date has been pushing for agriculture to be at the forefront of international discussions. Furthermore we need to work – along with other stakeholders - in achieving large-scale, on the ground, transformative change to ensure the development of efficient and sustainable agricultural value chains works to the benefit of all.

NCA: How will Yara achieve capacity building through a public-private partnership approach in Malawi? And regarding green revolution; there are some dilemmas with a subsidy program, for instance that they will eat up the funds for other issues?

Sean de Cleene: A key capacity-building role is through the development of the Malawi Agricultural Partnership (MAP). MAP, which began in mid-2009, was developed in active consultation with a range of stakeholders including the Government of Malawi, NASFAM, Farmers Union of Malawi, Bunda Agricultural University, the Natural Resources College, I-LIFE, Research into Use among others and is formalized in an agreement between the African Institute of Corporate Citizenship (AICC) and NORAD. MAP currently consists of a three-year plan, which includes catalyzing a cotton value chain development partnership, establishing a rice value chain partnership, developing a value chain support component and promoting the general development and support for broader commodity partnerships with the aim to improve efficiency and profitability of all partners in the value chain, including smallholder farmers. An important next step will be linking the value chain partnerships promoted through MAP into the Governments Green Belt Initiative or the Agriculture Growth Corridor strategies.

On subsidies Malawi is an interesting case in point. The Malawi government led the wider African subsidy debate through its actions of deciding to subsidize inputs. The subsidy program itself has been a learning journey for the government in Malawi as well as others involved in the process including Yara.

The background for the current situation is that in the late 1990s and in early 2001-2 Malawi faced a particularly challenging situation with several periods of drought and food shortage having a significant negative impact on the development of the country as a whole. In recent years through a combination of subsidy support and good rains Malawi has achieved significantly more stability in the agricultural sector.

With more stable food security a key next step is to develop the capacity of agricultural value chains, which are often overly complex and uncompetitive in a developing country context. The challenge is that as the subsidy program in Malawi develops it is important to have a clear roadmap for getting to where one wants to go – that is to develop smart subsidies that play an active role in promoting sustainable and widespread agriculture sector growth for the country. A lot of the discussion, in Malawi, is on this point – that is how do you convert the current subsidy approach into smart subsidies to make them more effective or appropriate. The government has done a continuous re-evaluation of the subsidy program, with a number of changes to the original approach having been undertaken, but would probably admit there are more changes that could be made.

Yara does not “support” or “not support” the Malawi subsidy program. We feel there is generally a need to be looking at how we use incentives in a smart way such that they promote responsible growth and cut out the scope for malpractice. Subsidy for inputs or outputs is one option. Innovative financial mechanisms that promote responsible business development is another, this may be in the form of challenge funding, patient capital, guarantee funds etc that are targeted at bringing smallholder farmers actively into existing value chains while crowding-in early stage agricultural investment along those same value chains. Increasing the scope for microfinance and small-scale finance (including insurance) that is appropriate to the needs of smallholder farmers is also key if agriculture is to develop. Ensuring there is capacity to link small scale farmer groups into infrastructure networks in support of initiatives such as the Malawi Government Green Belt initiative, is also key.

Basically the critical challenge in bringing this about is to realise that effective change is beyond the scope of any one individual player and we need to be actively working together on this. Rather than taking a conflicting view we should be looking to work out how we can bring our different and relevant skills to the fore in such a way as to optimize responsible agriculture sector growth in Africa in a way that benefits all farmers in Africa. In this capacity, partnerships and multi-sector engagement at various levels is critical. Equally is the need for developing those independent and neutral facilitator and partnership brokerage institutions, at the local level, that can bring the various parties together to promote a transformative approach to agricultural development.

It is important to note that in Africa there are also a large number of subsistence farmers who will need significant support over the coming years to either develop into becoming small-scale commercial farmers or be in a position to migrate out of subsistence farming altogether. NGOs should advocate for separate safety nets for the very poorest of these subsistence farmers in order to help them make the transition beyond subsistence farming and ensure they are in a better position to absorb exogenous shocks brought about by challenges such as climate change.

A Cartridge: If we are to double productivity by 2050 to meet anticipated global demand whilst addressing challenges like
population increase, climate change and water management, then in that context more funds should be targeted to reach smallholder farmers. The G8 have now promised more funds to stimulate smallholder agricultural production in Africa and sets the stage for more investment in agricultural production. If subsidies continue, more attention needs to be made on developing smart subsidies that promote both improved food security as well as widespread agricultural growth.

There are a lot of dilemmas in relation to subsidies: How do you create a sustainable platform? How do you mitigate against fluctuations and volatility in prices that contribute to the cost of subsidies? How do you develop smart subsidies that promote growth across the whole sector? The Government of Malawi has been on a steep learning curve in how best to handle the targeted subsidy scheme, but appears on the whole to have been relatively successful in reaching small farmers.

NCA: Is Yara committed to its relations in Malawi? How does Yara engage the Government on the above issues?

S de Cleene: If Yara was not actively engaged in Malawi over the longer term, it probably would just have quit the market when it was not selected for the fertilizer subsidy program in Malawi neither in 2006, 2007, 2008 nor 2009. However, Yara has stayed committed and has hosted or facilitated discussions involving a number of key stakeholders to look at what different ways exist to develop agriculture value chains in Malawi and maximize efficiencies in a way that work best for the country as a whole.

On important issues in Malawi we have also supported is the development of the local fertilizer association in order for them to speak on behalf of the whole industry. It is important that the private sector, government, donors and civil society talk and find common ground on which national progress can be made. Yara looks to actively work with a number of institutions in the value chain and sees this as an important feature of our partnership approach in Malawi, as Yara does in other countries where we have adopted a partnership approach, such as Tanzania, Ghana and Mozambique.

NCA: How does Yara reach smallholders?

A Cartridge: Yara generally does not sell to farmers directly, but tends to act as a wholesaler product to procurement agents or retailers. Yara will then traditionally pass on information to its agents or partners. At the same time, in weaker markets where there is less information available to farmers generally, we have seen the need to promote a value chain partnership approach. This is how Yara can have a wider impact. And this is why Yara has chosen to work through initiatives such as the Malawi Agriculture Partnership, which includes farmers’ organizations such as NASFAM and local agents such as ARL so that if support or additional information is seen as needed there is an institutional framework locally that can follow through on this.

NCA: Is there any information about the product on the packages?

A Cartridge: Product information is made available mainly on the bag. In some markets Yara will use printed material in addition to the bags.

NCA: Does Yara make assessments on how well information reaches consumers in Malawi?

No formal assessments have been made by Yara regarding consumer information in Malawi. This is in part a consequence of Yara not being included in the government fertilizer subsidy program and not having a large smallholder farmer market. Yara however sees the role of smallholder farmers as crucial to Malawi’s future and a key part of any future business model. In Africa, if global challenges (climate change, food security and water scarcity etc) are to be addressed, it is vital that productivity and efficiency among smallholders is increased and that public-private partnerships are developed in such a way as to support farmers in getting accurate and informed knowledge of products and the markets they operate in.

In Malawi, the fact that there is already a fairly strong retail network together with a strong network of support institutions, for instance the farmer organization NASFAM, means effecting these kinds of partnerships should be easier.
UNDERSTANDING THE ISSUES 1/2010

Norwegian Church Aid is an ecumenical organization that is mandated by the churches of Norway and founded in the belief that all human beings are created in God’s image as equals with the same basic rights and obligations. Norwegian Church Aid works in a comprehensive way, through churches, church-based, faith-based and value-based organizations in order to save and protect lives, develop sustainable living conditions, and influence the attitudes and actions of the wealthy and powerful.

Norwegian Church Aid’s mission is to manifest God’s love in the world by challenging indifference, improving the living conditions of the poor and promoting basic human rights regardless of gender, political beliefs, religion or ethnic origin. Norwegian Church Aid bases its work around the five core values: compassion, global justice, human dignity, inclusive communities and the integrity of Creation.