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Achieving food security

What next for sub-Saharan Africa?

Halving hunger and extreme poverty by 2015 is the first Millennium Development Goal (MDG). However, persistent hunger is still prevalent worldwide, slowing progress towards all other MDGs, particularly in sub-Saharan Africa.

Without major changes in development practices, the International Food Policy Research Institute (IFPRI) predicts that globally by 2015:

- 600 million people will suffer from hunger
- 900 million people will live in absolute poverty
- 128 million pre-school children will be malnourished.

Most experts agree with IFPRI's 2005 assessment that food security is achieved when households can 'reliably obtain food of adequate quality and quantity to support a healthy and active life for all members'. The African Union estimates that 27 percent of Africans are undernourished, a 2 percent decline since 1995. However, since Africa's total population has increased from 589 million to 764 million over this period, the estimated absolute number of undernourished people has risen from 176 million to 210 million.

International human rights laws recognise the right of all people to adequate food and eradicating hunger also stimulates economic growth, as undernourished people have a reduced capacity for productive work. Large numbers of hungry people who are marginalised from work can also create social instability and conflict.

While a national increase in food production generates more food and income, it does not always deliver food for everyone. Food production, food affordability (dependent on food and non-food prices and wages) and access to food (which can be affected by gender, age or illness) are also important. Many regions have progressed towards achieving food security, notably South Asia since the Green Revolution. However, this issue of *id21 insights* focuses on sub-Saharan Africa, the only developing region where food security has worsened in recent decades. **Monty Jones** and **Frances Kimmins** explain why an alternative approach to Asia's Green Revolution is needed in Africa, due to differences in farming systems, climate and infrastructure.

Many problems facing Africa today are due to decreasing investment by donor and African governments in agriculture over the last 20 years. The Organisation for Economic Co-operation and Development estimates that global financial assistance for African agriculture decreased from US$6.2 billion to US$2.3 billion between 1980 and 2002, with funding going to other sectors instead. This was because donors and governments felt that agriculture had failed to achieve sufficient progress towards food security. The situation is now changing; African leaders and development partners once again recognise the importance of agricultural development to achieving economic growth, poverty reduction and food security.

The Headman's wife in Kabila, Zambia, pounds cassava to feed her family. Many farmers now grow subsistence crops (such as cassava) rather than export crops, as these require fewer expensive inputs, such as fertilisers.
Source: Jennifer Leavy, Institute of Development Studies, UK

The CAADP framework

To improve upon past efforts to achieve food security, the New Partnership for Africa's Development (NEPAD) has developed the Comprehensive Africa Agriculture Development Programme (CAADP). The African Union Assembly endorsed the CAADP in July 2003. The CAADP has four priorities (pillars) for investment and action:

- Extending the area under sustainable land management and reliable water control systems, for example by increasing access to irrigation.
- Increasing market access through improved rural infrastructure and other trade-related interventions.
- Increasing food supply and reducing hunger across the region by increasing smallholder farm productivity and improving responses to food emergency crises.
- Improving agricultural research, improving systems to disseminate

▶

In this issue

- appropriate new technologies and increasing support to farmers to adopt these.

So how will these four pillars be achieved?

Increasing investment in the agriculture sector

To achieve the first MDG, the CAADP sets a goal of improving agricultural productivity at an average growth rate of six percent each year. To realise this, several African governments have committed to allocating at least 10 percent of their national budgets to agriculture within five years. This was agreed at the African Union meeting in Maputo, 2003. Many have already achieved this and NEPAD will monitor these commitments.

Stronger and expanded partnerships

Achieving food security will require researchers, private sector bodies, policymakers and civil society to work together in a more integrated fashion. **Tsedeke Abate** shows how this approach to agricultural research is increasing crop yields and farmer incomes in Ethiopia. The challenge now is to scale up these successes throughout the region. This will also require agricultural policymakers and researchers to work closely with health, education and infrastructure sectors: **Todd Benson** urges policymakers to consider the importance of nutrition, food safety and quality as well as quantity. The spread of HIV and AIDS is another fundamental cause of food insecurity, reducing food production through death and illness amongst agricultural workers and a loss of farming knowledge. Strengthening links between agriculture, health and education is vital.

Investments in infrastructure

Improving Africa's roads and transport networks will increase agricultural productivity. **Jennifer Leavy** and **Howard White** describe how poor infrastructure in rural Zambia reduces farmers' access to markets and agricultural inputs, such as fertilisers. Developing transport networks between cities and rural areas will help farmers to benefit from new technologies and agricultural inputs, as well as raising incomes if they can sell their crops at markets. Better infrastructure will also speed up the delivery of food aid in crisis situations.

Reforming aid policies

Many international donors are realigning their development assistance around the CAADP agenda, promising additional investment to the agricultural sector. The G8 leaders committed themselves to ending famine and raising agricultural productivity in line with CAADP in 2004. Not all donor investment policies are straightforward, however. Subsidising fertilisers is particularly controversial. **Paul Thangata** claims that fertiliser subsidies encourage farmers to risk investing in poor quality soils; **Malcolm Blackie** argues that fertilisers can be expensive and distort local markets. A NEPAD conference in Nigeria focuses on this debate in June 2006.

Food aid is another contentious issue: it saves lives and can improve livelihoods if it sources food locally and is well-targeted and reliable. Critics argue, however, that long-term reliance on food aid distorts local economies and creates dependency. **Edward Clay** and **Tony Worthington** analyse the potential for policy reform and improved practice. Systems to predict food shortages also need reviewing: **Robert Cheke** analyses experiences in Niger and southern Africa and concludes that early warning systems are of limited use without an effective response from policymakers.

Will the CAADP achieve food security in sub-Saharan Africa?

How will the CAADP work when other initiatives have failed in the past? The CAADP was conceived in Africa and is an African-owned vision that has the support of African leaders. No previous development efforts in sub-Saharan Africa have had this level of political endorsement and continent-wide focus. The CAADP does not tackle many new issues, but provides the first comprehensive effort to address them as an integrated process. This framework, with common objectives and targets, should enable lessons to be shared and successes to be scaled up more effectively than before.

Working with partners including farmers' organisations, agri-business operators and the Regional Economic Communities, NEPAD can coordinate the actions and policies of African governments. NEPAD must help to ensure that policies are implemented rapidly after consultation with these stakeholders. This will help to ensure coherence and coordinated action on important regional policies such as trade, food safety standards and the control of transboundary pests and diseases. The key challenge for NEPAD is to balance national and regional priorities so that both receive adequate support ■

The CAADP: new wine in old bottles?

Some experts argue that the CAADP approach is too similar to previous efforts. What are the main policy differences in the CAADP?

Policy	Past approaches	The CAADP approach
Expand partnerships with other sectors for policy dialogue (including civil society, private sector organisation, researchers, national governments and donors)	• Rhetorical commitments only • No institutional coordination	• A 'Business Unusual' approach that focuses on institutional coordination
Mutual investment and shared ownership by development partners and African national governments	• Financing largely through donor investment	• Greater use of African resources in addition to donor resources • A tracking system to monitor commitments
Acceptance of joint responsibility for successes and failures by African leaders	• A common view that Africa's problems are generated by the actions and policies of other regions	• Acceptance that many of Africa's problems are internal, being linked to insecurity, conflict and poor governance
Coordination of development efforts	• Each donor has individual plans for the agriculture sector • Potential duplication of efforts and gap areas for investment	• Greater harmonisation of donor assistance around CAADP agenda, leading to greater impact
Systematic peer review and lesson-learning	• National successes not systematically captured and tested for applicability elsewhere	• Policies that enable regional 'spill-over' from national efforts to promote agricultural and economic growth
Main focus of development approach	• Many donors focusing on poverty alleviation and reaching 'poorest of the poor'– this has proved to be unsustainable	• Market-based approach to development focusing on economic growth • Continue to advocate social protection for the very poorest people
Advocacy in agriculture and its contribution to poverty reduction	• Support for agriculture subject to changes in development agendas • Contribution of agriculture not prominently recognised in the MDGs	• A continental demand for adequate and sustained investment in agriculture • Recognition of the potential of agriculture to help achieve the MDGs

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Research works in Ethiopia

Agricultural research in Ethiopia has not achieved a consistent increase in crop productivity over the past 40 years. Ethiopia is still economically underdeveloped and food aid imports are estimated to be more than 0.6 million metric tonnes each year. However, recent developments are more encouraging.

Agricultural research previously focused on developing new technologies that were then disseminated to farmers by extension workers. Today, the Ethiopian Institute of Agricultural Research (EIAR) advocates integrated agricultural research for development (IAR4D). This involves partnerships between stakeholders (including farmers, extension workers, researchers, farmers' cooperatives unions, political administrators, exporters and foreign buyers) at every stage of the research process: marketing is considered crucial from the start.

Case study: haricot beans

The haricot bean is poorly managed by Ethiopian farmers despite the fact that exports bring in nearly US$10.5 million annually. EIAR has developed bean varieties of commercially acceptable quality; it has also recommended improved management practices such as ploughing two to three times a year, planting in rows and weeding as necessary. These were tested on 700 plots in three *woredas* (districts) in the Rift Valley in partnership with all stakeholders.

- Using new technologies such as improved seed and improved management practices, farmers obtained crop yields of 1.9 to 2.3 metric tonnes per hectare – three times more than conventional practices.
- Each farmer obtained an average gross income of upwards of 3,500 *birr* (local currency) - more than 3.5 times the average per capita annual income.

EIAR managed an agreement whereby the Lume-Adama Farmers' Cooperative Union helped farmers to set a fair price for beans (they also provided credit and improved seeds). The cooperative guaranteed a price of 175 *birr* per 100 kg for dry beans and the British company Portman agreed a deal (initially for one year) to purchase the beans from the union at 190 *birr* per 100 kg. The Italian company ACOS is agreeing a similar deal with the union for its new canning plant close to where the beans are produced.

Clearly, innovative agricultural research and strong partnerships can improve the livelihoods of smallholder farmers and contribute towards achieving the Millennium Development Goals of ensuring food security and poverty reduction. Similar research into potatoes, onions, lentils, durum wheat, finger millet, pyrethrum and sericulture (silk worm farming) has resulted in further successes.

The challenge now is to translate these pilot findings into more widespread practices by farmers. EIAR is now aiming to accelerate this process. This will require:

- A greater recognition by the Ethiopian government that investing money in agricultural research is highly beneficial. Promoting success stories from research projects will persuade governments to invest greater amounts.
- Involving farmers as partners in the development and dissemination of technology. This 'Farmer to Farmer' approach will speed up the spread of technologies ■

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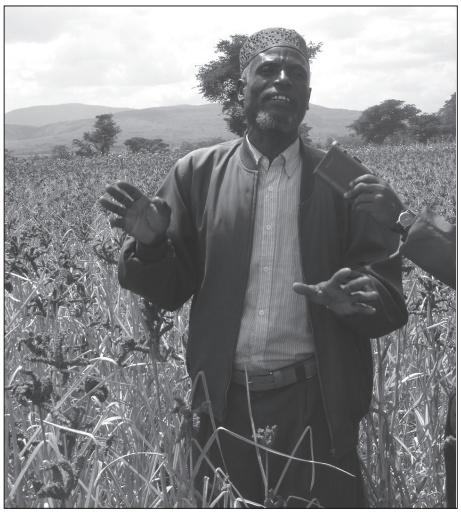
Mr. Sado, a farmer in Siraro district of Ethiopia, is talking about his successes with farming finger millet crops. He has been able to deposit 13,000 *birr* in the bank from last season's crop and expects more than double that amount from his 2005 crop.
Photo credit: EIAR



Would a green revolution work in sub-Saharan Africa?

The Green Revolution in the 1960s increased food production in many parts of the world. However, the number of malnourished people in sub-Saharan Africa has increased by 20 percent since 1990. Would a green revolution succeed here?

The term 'Green Revolution' describes the contribution of agricultural research outputs, such as high-yielding varieties, fertilisers, irrigation and agrochemicals, to increasing the production per unit area of food crops. It achieved food security across large areas of Asia and Latin America. Many experts argue that sub-Saharan Africa now needs its own green revolution to achieve food security, especially as the region cannot rely on converting new land (such as forests, wetlands and marginal lands) to agriculture.

However, some evidence disputes that the first green revolution was entirely positive:

- The spread of hybrids (the offspring of two plants of different varieties) and use of agrochemicals (such as pesticides) caused a loss of biodiversity, less varied diets and exposure to toxic pesticides, affecting ecosystems and human health.
- The benefits of new technologies were unevenly distributed. Labourers found that their wage rates increased only a little while land prices increased substantially, reducing labourers' share of income. The gap also widened between those who owned or rented land and the landless, particularly women, as rural employment opportunities diminished.

Reviewing the potential of green revolution technologies in sub-Saharan Africa, the InterAcademy Council concluded in 2004 that a revolution similar to Asia's was unlikely to occur because of the region's diversity, reliance on rainfed smallholder systems, its immense size and poor infrastructure.

Rather than attempting to introduce changes across the whole region, sub-Saharan Africa requires a series of smaller 'rainbow evolutions'. These are smaller, localised technological developments from agricultural research institutes that respond to different farming systems in the region.

To facilitate agricultural change in sub-Saharan Africa, research and extension services must focus on:

- Expanding partnerships with stakeholders (such as producers, suppliers, marketers, policymakers and farmers) which can validate the demand for research and support the uptake of technologies.
- Addressing market access issues (such as food quality and safety) as well as productivity.
- Offering stakeholders technological choices to improve their livelihoods, rather than one single technology.
- The environment is severely degraded: policies must concentrate on increasing yields using sustainable technology and sound natural resource management practices from the start.
- Empowering women is especially important because they provide most of the labour and increasingly head rural households.
- Governments in the region must release the ten percent of budgets pledged for agriculture at Maputo, Mozambique, in 2003.

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Can fertiliser subsidies help farmers out of poverty?

For farmers in sub-Saharan Africa to produce similar crop yields to other countries, they will need to use more fertilisers and improved seeds. Many development scientists and policymakers are demanding subsidies to increase fertiliser use.

About 83 percent of the land suitable for agriculture in Africa has low soil fertility or other limitations, such as no irrigation and variations in growing conditions. Yet, in the 2002/03 season, average fertiliser use intensity in sub-Saharan Africa was only 9 kilos per hectare (kg/ha) of harvested land, compared to 100 kg/ha for South Asia, 135 kg/ha for East and Southeast Asia and 73 kg/ha for Latin America. Policies need to encourage farmers to use more fertilisers in sub-Saharan Africa.

Subsidising prices to farmers is one way to increase fertiliser use in sub-Saharan Africa

However, farm-level fertiliser prices in sub-Saharan Africa are among the highest in the world, due to high transport costs and limited market development. Between 1991 and 1992, fertiliser prices in sub-Saharan Africa were US$232 to $487 per tonne for urea and phosphates; prices in Asia were between US$68 to $201 over the same period. The use of fertilisers in sub-Saharan Africa is thus low, resulting in the world's lowest crop yields.

Lower cost fertilisers

One option for increasing fertiliser use in sub-Saharan Africa is subsidising the price to farmers. There are several good reasons for doing this:

- Using fertiliser is risky in sub-Saharan Africa's rain-fed agricultural systems. Unreliable weather can make crop response to fertiliser highly variable. Reducing costs increases the chances of farmers taking that risk.
- Many farmers have difficult raising enough cash to buy inputs. A subsidy may make purchasing inputs more attractive.
- Subsidies offset high fertiliser prices, reducing input: output price ratios. They also protect poor farmers from volatile world market prices for fertilisers.
- Higher soil fertility is essential for increasing crop yields. Improved yields can break the vicious cycle of poverty and food insecurity and enable farmers to experiment with new seeds and invest in their land. This can increase agricultural productivity in the medium or long-term.

Who will pay for fertiliser subsidies?

Subsidies are an expensive policy option – but sub-Saharan Africa desperately needs long-term, stable interventions. Every year, rich countries respond to emergencies with financial and food aid but average living standards in sub-Saharan Africa have declined in the last 20 years. If more aid was invested into subsidising inputs, these emergencies would be reduced. It is more important to help smallholder farmers permanently escape the poverty trap than just respond to crises.

Many researchers criticise subsidies as ineffective and poorly managed. Policymakers must ensure fertiliser subsidies really benefit farmers who need them by:

- Investing in transport, power and communications infrastructure: smallholder farmers need all-weather roads to get fertiliser into villages and crops out to markets.
- Using vouchers, 'fertiliser for work' and other pro-poor mechanisms to ensure that subsidised fertilisers do not go to commercial farmers or into wealthier countries.
- Creating reliable delivery systems, such as improved rural markets. Supporting both large- and small-scale private traders will ensure the availability of fertilisers to farmers when they are needed.

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Maize production in Zambia

Maize production has fallen in Zambia since liberalisation in the early 1990s as fertiliser became less affordable and subsidies did not reach many farmers. The country's poor agricultural performance is negatively affecting nutrition: the proportion of stunted children has risen from 36 to 47 percent since 1990.

Diversification into cash crops has partly offset this trend, but this is mainly by commercial farmers and is concentrated in Eastern, Central and Southern Provinces. Smallholder farmers, especially in remote areas, have gone back to traditional staple crops to feed their families, mainly cassava and millet, as these require less fertiliser and seed. As a result, incomes have fallen and diets are less varied, with limited access to fruit and vegetables.

Research in three villages in the Northern Province by the UK Institute of Development Studies demonstrates what has happened in Zambia over the last two decades. In Ngulula, Lufubu and Kabila farmers have moved into maize production and out again. Today, cassava and millet are the most widespread crops, although maize production remains common, especially local varieties. Yet many farmers told researchers how they used to grow and sell maize until fertilisers became unaffordable.

The Zambian government has reintroduced fertiliser subsidies in the last two years, but access to these is uneven. Even with a subsidy, fertiliser use is constrained by poor infrastructure, especially for remote, 'off-road' communities. Problems with water availability and the high cost of other inputs, including seed and herbicide, further limit opportunities to grow high-value export crops.

Farmers are caught in a poverty trap: they cannot afford the necessary inputs to increase production, and lack access to markets even if they could. Improving market access alone will not improve livelihoods. Supply-side measures – particularly improved infrastructure and the formation of farmer cooperatives – must be complemented by policies to stimulate demand, such as public works (for example, road construction and irrigation infrastructure) and feeding programmes using local produce.

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Are fertiliser subsidies necessary? Yes, but...

Many African farm households depend on land cultivated so many times that its fertility is hugely reduced. Smallholder farmers must consistently raise the productivity of their land to escape from poverty and produce enough food for their family.

Farmers in Karinyaga District, Kenya, are maximising crop yields from maize plants by using the appropriate farm inputs – fertiliser and the right blend of nutrients and disease-tolerant high-yielding varieties.
Photo by: Paul Seward, Farm Inputs Promotion Africa (FIPS Africa)

Improved seeds can help, but unless the crop is well fed, it will never reach its potential. Purchased fertiliser is often essential but is one of the most costly cash inputs for poor farmers. Furthermore:

- Some isolated farmers have difficulties reaching fertiliser suppliers.
- Farmers are often unwilling to risk buying additional inputs unless they have a guaranteed market for their produce.
- Fertiliser recommendations typically ignore the high variation in soil and climatic conditions. Consequently, the yield response to fertilisers often declines, reducing profitability.

Blanket fertiliser subsidies (a subsidy on the price of fertiliser) simply obscure these problems and inefficiencies at enormous and unnecessary expense.

Starter Packs – an alternative?

In 1998, with Malawi facing a food crisis, the Universal Starter Pack programme gave every smallholder enough appropriate maize seeds and best quality fertiliser to plant 0.1 hectares of land (an area-based subsidy). For two years, maize production:

- increased by an average of 125-150 kg per household
- reached approximately 2.5 million tonnes each year - 500,000 tonnes higher than ever before or since, and 67 percent higher than the twenty-year average.

The Starter Pack programme performed well compared to blanket fertiliser subsidies, subsidised commercial food imports and food aid

In terms of cost effectiveness, the programme performed extremely well compared to blanket fertiliser subsidies and subsidised commercial food imports. Compared to food aid, the programme rewarded initiative and good husbandry, encouraging development rather than dependence.

As a long-term development plan, this approach provided a reliable exit strategy. However, after two years, the programme changed. Instead of providing seeds and fertiliser best suited to local environmental and economic circumstances ('best bets'), the programme provided whatever was cheap and available. This change aimed to help very poor people produce at least some extra food, but the programme was no longer a development tool to reduce chronic food insecurity. The programme changed because the original pack was seen by key donors as disrupting agricultural input markets. In fact, few recipients were involved with these markets as they were too poor.

The future for Starter Packs

Starter Packs should still be considered as an alternative to blanket fertiliser subsidies. To improve the programme, the team behind the Starter Pack programme recommended building on the Kenya-based Farm Inputs Promotion Programme (FIPS), formerly the Sustainable Community Orientated Development Programme. This involves:

- Making small packets of improved seeds and fertiliser available through local dealers so that farmers can purchase inputs when they have cash available. A recent review of FIPS in Kenya shows this helps farmers diversify their incomes as food security increases.
- Supporting well-organised farmer field schools to enable farmers to experiment with new technologies (such as best seed and fertiliser combinations) and share experiences in a relatively risk-free situation.

Sadly, these developments were never implemented, largely due to the decision to change the programme to a 'safety net' rather than a long-term development project. The revised safety nets programme has now been terminated; an enhanced 'starter packs' proposal is being developed (including components from FIPS) ■

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Forthcoming issues

Transport

Pro-poor tourism

Crisis states

Fisheries

Social and economic impacts of HIV/AIDS

Urban governance

Budget support

Malaria

Education and language

Is food aid effective?

The future role of food aid is controversial. The G8 summit in 2005 committed the world's most developed nations to doubling financial aid, but there is no similar consensus about food aid.

Some agencies and experts advocate increasing developmental food aid because of continuing high levels of poverty-related malnutrition (the Food and Agriculture Organization reports that over 850 million people suffer globally). Some also see a growing need for emergency food aid because of the increasing frequency and scale of natural disasters and conflict situations.

However, many argue that food aid distorts local markets by discouraging agricultural development and displacing trade. It can even contribute to long-term food insecurity. Untimely and excessive food imports cause prices to fall and, whilst benefiting those buying food, this hurts poor farmers and limits links to and growth of the wider agricultural sector. Food aid can also create dependency amongst recipient populations and governments. Evidence-based research, for example by the Organisation for Economic Co-operation and Development, helps to narrow the areas of disagreement and indicate where there is scope for better practice.

How effective is food aid?

Any assessment of the impact of food aid must consider the different types of food aid and donor practices:

- Emergency food aid saves lives and limits nutritional stress in crises caused by conflict or natural disasters. However, tying aid can restrict what foods are available (see box below). Late arrival frequently hampers post-crisis agricultural recovery.
- Food-based longer-term programmes, including so-called 'protracted' relief and developmental projects to reduce the impact of shocks are overlapping categories and therefore an area of ambiguity. The decision to fund local purchases or imported food depends on risks of distorting the local economy, whether the transfer of food is efficient and whether other poverty reduction objectives are addressed.
- Monetisation, where tied imports are sold to finance development projects, is seen as a useful additional resource by some USA–based non-governmental organisations, but is controversial because of the high risk of distorting local and regional markets.
- Programme food aid for budgetary support to governments has declined with the reduction in stored surpluses, especially from the USA. Assessments have highlighted ineffectiveness, especially in promoting national economic development, poor transfer efficiency and likely trade displacement.

Food aid can distort local markets by discouraging agricultural development and displacing trade. It can even contribute to long-term food insecurity

Food aid is becoming more volatile and pro-cyclical (least available when international prices are high). The increasing priority given to humanitarian crises means that some countries are excluded or marginalised. How can food aid provide effective support to long-term poverty reduction and other development objectives?

- Financial aid or cash is almost always the most effective and efficient way of funding either food distribution or providing budgetary support. A context-specific justification should always be provided for using food aid in preference to financial aid.
- Food-based interventions are more likely to succeed as part of a wider properly-resourced sectoral programme, for example in health or education.
- There is a need to address the underlying causes of hunger and vulnerability to shocks and emergencies ■

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Does tying matter?

Most of the food aid channelled through the World Food Programme (WFP) and non-governmental organisations (NGOs) come 'in kind', sourced in the donor country. This is also known as 'tied aid'.

The WFP and NGOs would prefer to receive cash (untied aid), which enables them to buy food locally or in neighbouring countries when this provides more appropriate and timely food. This is more likely to benefit local economies.

Untied aid is also usually cheaper. A Development Assistance Committee study by the Organisation for Economic Co-operation and Development estimated that in 2002:

- tied aid cost at least 50 percent more than food aid acquired locally
- tied aid cost 33 percent more than imports from other developing countries
- if donors untied their food aid completely, approximately US$750 million could be released for further aid.

Over 70 percent of all aid, excluding technical cooperation, was untied in 2002, whilst around 90 percent of global food aid was tied. The proportion of tied food aid fell to 74 percent in 2004, but remains at over 99 percent for the USA who favour tied food aid because it supports their own farmers, food processors and USA-registered shipping. In contrast, European donors buy most of their food aid in developing countries.

During 2004 to 2005 Australia, Canada, Denmark and France, all important food exporters, moved to further untie their food aid. USA aid administrators are trying to change the law so that the United States Federal Government can finance some developing country food purchases for distribution in crisis situations. However, the Congress has so far rejected such proposals. As the biggest contributor of food aid to the WFP and NGOs it is vital that the USA achieves this policy change.

The wide differences in donor practices, combined with inefficiency costs and the risks of trade distortion, help explain the intense negotiations over food aid within the Doha Development trade talks. But the negotiators in Hong Kong in December 2005 at least committed themselves to finding a formula for assuring genuine emergency aid, whilst preventing food aid being used as a loop-hole to subsidise donor exports.

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See also

Factsheet: How Does Food Aid Work?, AlertNet: Reuters, September 2005
www.alertnet.org/thefacts/reliefresources/11268811061.htm

The Development Effectiveness of Food Aid: Does Tying Matter? Organisation for Economic Co-operation and Development: Paris, by Edward J. Clay, Barry Riley and Ian Urey, 2005

Nutrition and food quality

Most governments in Africa accept their duty to ensure that citizens have access to enough food. However, many ignore the quality of the food produced.

Agricultural productivity is important for ensuring enough food and as an early stage of economic growth. However, poor quality food can have negative impacts on human health and nutritional security.

Food quality refers to whether the food available meets people's micronutrient requirements – iodine, Vitamin A and iron in particular. Many Africans do not consume the relatively small quantities of these nutrients that they need, which contributes to a spiral of malnutrition and deprivation (see diagram). The effects throughout Africa are staggering:

- Children born to undernourished mothers will be stunted in height, low in weight and more prone to disease and learning disorders.
- High levels of iron-deficiency anaemia cause serious cognitive and productivity losses, reducing the ability of women to work and care for their children.
- Thousands of children have lower intellectual capacities due to iodine deficiency.
- Insufficient Vitamin A intake in children reduces their ability to resist infection and contributes to the death of over half a million children in Africa annually.

Food and economic growth

Governments in Africa must address the close links between poverty and malnutrition, which stem from inadequate health services, an unhealthy environment, insufficient and improper care and food insecurity. Sustained economic growth is one way to achieve this, but progress is slow. To end hunger by 2050, Africa must reach a 3.5 percent annual average growth rate in per capita GDP. In the past decade, however, only seven sub-Saharan African countries had growth rates above even 2.5 percent. Economic growth alone will not improve nutrition sufficiently to achieve the Millennium Development Goals (MDGs).

Malnutrition: a nutritional disorder or condition resulting from faulty or inadequate nutrition.

Undernourishment: food intake that is continuously inadequate to meet dietary energy requirement.

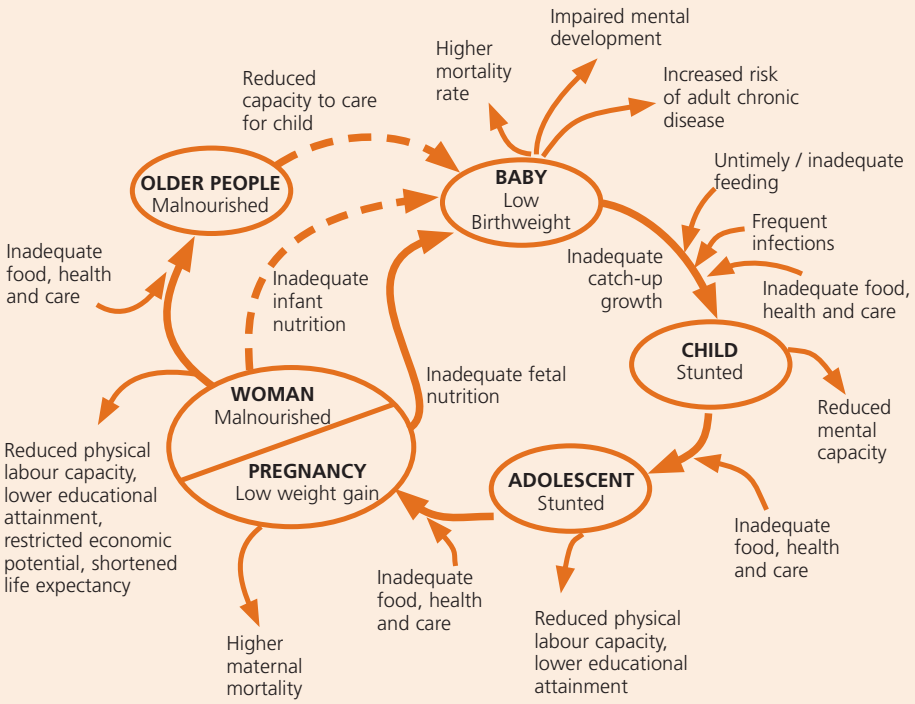
Undernutrition: the result of undernourishment, poor absorption or poor biological use of nutrients consumed.

Source: Standing Committee on Nutrition (SCN) 5th report on the World Nutrition Situation, 2004
www.unsystem.org/scn/Publications/AnnualMeeting/SCN31/SCN5Report.pdf

Malnutrition and the intergenerational transmission of chronic poverty

A girl born to an undernourished mother is likely to be small and low in weight. If she survives, her growth is likely to falter due to a poor diet. As a result, her ability to learn and develop skills will be irreversibly damaged. During her child-bearing years, she will also have low birth weight babies and the cycle of intergenerational poverty and ill-health continues. This happens in many African households, demonstrating the close links between malnutrition and persistent poverty.

Nutrition through the life cycle



Modified from: Fourth Report on the World Nutrition Situation, ACC/SCN-IFPRI: Geneva, 2000
www.unsystem.org/scn/Publications/4RWNS/4rwns.pdf

Direct interventions

However, if economic growth is combined with direct nutrition interventions, the chances of reducing poverty increase. Governments must provide information and make necessary public investments to provide many resources, including:

- Adequate preventive and curative health services, particularly for children under two years of age and pregnant and lactating women. These groups are the most nutritionally vulnerable, for whom the effect of disease and poor nutritional support practices have the greatest long-term cost for society.
- Relatively inexpensive solutions to enhance micronutrient consumption, such as iodizing salt, promoting the consumption of micronutrient-dense foods available locally and the fortification of commonly consumed commercially processed foods.
- Providing women and children with supplemental doses of Vitamin A and iron and teaching care-givers within households about the importance of diverse, balanced diets.
- Clean water for household use and adequate sanitation services for all households. This maintains the environment necessary for individuals to maintain their health and properly utilise the nutrients they consume.

The nutritional challenges facing Africa are immense, but progress has been made in the past 15 years. With dedicated cross-sectoral and coordinated efforts to address both food and nutritional security, Africa can expect significant progress towards poverty reduction, economic growth and achieving the MDGs ■

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See also

Africa's Food and Nutrition Security Situation, Where Are We and How Did We Get Here?, IFPRI 2020 Discussion Paper 37, by Todd Benson, International Food Policy Research Institute: Washington, DC, August 2004
www.ifpri.org/2020/dp/dp37.htm

Ending Hunger in our Lifetime: Food Security and Globalization, Johns Hopkins University Press: Baltimore, by C. Ford Runge, Benjamin Senauer, Philip G. Pardey and Mark W. Rosegrant, 2003

Responding to early warnings

Food aid in Niger arrived too late in 2005, despite widespread predictions that famine was imminent. The world has known for months that famine is also coming to southern Africa but policymakers are still not responding to the warnings.

On 20th October 2003, the United Nations Food and Agriculture Organization (FAO) warned that desert locusts would cause damage in Niger and appealed for help. However, funds were not forthcoming until the plague was well under way and the FAO were still US$17 million short of their needs in May 2004. The locust invasion, the biggest in 15 years, combined with an early end to the rainy season, caused poor harvests – worse than the annual 'hungry season' – and led directly to the famine that began in January 2005.

Pest outbreaks

The FAO forecasts desert locust outbreaks, but there are few early warning systems for other pests. The UK Department for International Development has sponsored three early warning systems across the Southern African Development Community region:

- The Information Core for Southern African Migrant Pests is an internet-based system that provides information and early warnings of several pests.
- Forecasting models for red-billed quelea birds (cereal crop pests) use satellite-derived rainfall estimates to show where conditions have become suitable for the birds to breed.
- Community-based forecasting for African armyworm (a cereal crop pest) relies on villagers counting moths from pheromone traps, collecting local rainfall data and running the information through simple rules to provide localised forecasts of moth outbreaks.

In contrast to Niger, policymakers in southern Africa do act against migrant pests and heed warnings, saving large quantities of crops. Estimates from South Africa suggest that current quelea control programmes save at least 100 million Rands worth of wheat crops each season.

Why are warnings ignored?

The Niger famine was preventable but why do policymakers, donors and national governments seldom take serious notice of early warning systems? There are several possible answers:

- They have a 'seeing is believing' mentality and refuse to provide funds until they can see the problem. Political gains come by visibly helping in emergencies, but less so from prevention strategies where lives saved or economic gains are not immediately obvious.
- They have little or no scientific training and do not understand prevention strategies. There is a lack of scientists in key policymaking roles and, in the UK at least, in positions able to provide advice.

Few governments raised awareness of the Niger crisis until very late. There should be some requirement amongst governments to check the output of the systems that are already in place and for researchers to formally document and promote successful new systems. The new United Nations Central Emergency Response Fund promises to have funds available to facilitate fast delivery of coordinated donor aid to crisis areas. Time will tell as to what difference this makes ■

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See also
FAO issues Desert Locust alert
www.fao.org/ag/locusts/common/ecg/241_en_24019_en.htm
The SADC Quelea breeding forecast for Southern Africa
www-web.gre.ac.uk/directory/NRI/quel
Information Core for Southern African Migrant Pests
http://icosamp.ecoport.org

Useful web links

The Africa Fertilizer Summit, 9-13 June 2006 in Abuja, Nigeria
www.AfricaFertilizerSummit.org

Development Gateway: Food Security
http://topics.developmentgateway.org/foodsecurity

Eldis: Food security in Africa
www.eldis.org/food/africa.htm

Famine Early Warning Systems Network (FEWS NET)
www.fews.net

FoodFirst Information and Action Network (FIAN) international
www.fian.org

Food and Agriculture Organization (FAO): The State of Food Insecurity in the World
www.fao.org/sof/sofi

FAO Food security statistics
www.fao.org/es/ess/faostat/foodsecurity

IFPRI: Conference on Assuring Food Security and Nutrition in Africa by 2020
www.ifpri.org/2020AfricaConference/pubs.asp

Save the Children: Food security and Livelihoods Unit
www.savethechildren.org.uk/foodsecurity

World Bank: Agricultural Trade and Food Security
http://lnweb18.worldbank.org/ESSD/ardext.nsf/12ByDocName/KeyTopicsFoodSecurity

World Food Programme
www.wfp.org

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