

Pathways to success

Success stories in agricultural production
and food security

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INTRODUCTION

Faced with increasing global hunger, which exceeded a billion people following the food and financial crises, the international community is committed to redouble its efforts to fight hunger and malnutrition. This paper argues that whereas the overall global picture is not good, there are several examples of success—where success is defined along three dimensions: reducing hunger, transforming the agriculture sector, and enhancing smallholder productivity. It is important to study those success stories, and try to derive lessons and examples of good practice that can be used by other countries.

Dismal global figures hide the fact that the number of hungry people has been declining in thirty one countries during the fifteen-year period from 1991 to 2005. The paper analyses four examples of countries that are on track to achieve 2015 food security targets: Armenia, Brazil, Nigeria and Vietnam. Based on these examples, it argues that success in the battle to halve hunger will usually be characterised by: (1) creation of an enabling environment for economic growth and human wellbeing, (2) outreach to the most vulnerable and investment in the rural poor, (3) protection of gains, and (4) planning for a sustainable future.

Several developing countries have succeeded in transforming their agriculture sectors, turning them into important sources of growth and export earnings, and thus increasing their contribution to poverty and hunger reduction. The paper studies three examples of countries who have transformed their sectors. Algeria and Turkey have succeeded in significantly increasing their agricultural exports and Algeria has also boosted cereals production significantly. In both countries success was due to government policies that promoted international trade, as well as sustained efforts to promote the agriculture sector as a pillar for future development of the economy. In Malawi, it is the performance of its staple crop, maize, which has responded to the new government policy of a smart subsidy for fertilizers; enabling the country to cover domestic demand and generate an exportable surplus.

Supporting smallholder farmers is one of the best ways to fight hunger and poverty. It is estimated that 85 percent of the farms in the world measure less than 2 hectares, and that smallholder farmers and their families represent 2 billion people, or one-third of the world's population. Indonesia, Mexico and Sierra Leone are examples of countries that have developed innovative approaches to empowering and supporting smallholders. The paper describes how initiatives that began as pilot projects are now being scaled up to help improve the productivity of large numbers of smallholders and thus increase their incomes and enhance food security for their households and the nation as a whole.

The examples presented here provide a message of hope - the battle against hunger can be won. What is required is an unwavering commitment from developing country governments themselves and strong support from the international community.

PART I HALVING HUNGER

Food security exists when all people, at all times have access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

WORLD FOOD SUMMIT PLAN OF ACTION, 13 NOVEMBER 1996

Achieving MDG and WFS Targets

The definition of food security cited above is framed in terms of the conditions necessary to realise the right to food. This right was reaffirmed in the Rome Declaration of the 1996 World Food Summit, and reduction in the number of undernourished people was adopted as the measure of success.

Since 1996, the number of undernourished people has been monitored on the basis of statistical estimates of the proportion of a country's population that is consuming less than the minimum number of calories required for an active and healthy life. Complementary data relating to prevalence of malnutrition in children under the age of five

is also monitored, in order to assess the nutritional adequacy of the foods consumed.

Of the seventy-nine countries whose food security status is monitored regularly by FAO, thirty-one exhibited a trend decline in the number of undernourished between 1990-92 and 2004-06. Of these, eight have already halved both the proportion and the number of undernourished, thus achieving both the Millennium Development Goal (MDG) and World Food Summit (WFS) targets for 2015. Five have achieved just the MDG target, and three others are on track to achieve both targets by 2015.

COUNTRIES ON TRACK TO ACHIEVE MDG AND WFS TARGETS BY 2015

		Total population 2004-06 (million)	Number of people undernourished		Progress towards WFS target =0.5	Proportion of total population undernourished		Progress towards MDG target =0.5
			1990-92	2004-06		1990-92	2004-06	
			(million)			(percent)		
AFRICA								
Congo [4]		3.6	1.0	0.8	0.8	40	21	0.5
Ghana [2]		22.5	5.4	1.7	0.3	34	8	0.2
Nigeria [2]		141.4	14.7	11.3	0.8	15	8	0.5
WESTERN ASIA								
Armenia [4]		3.0	1.6	0.7	0.4	46	23	0.5
Azerbaijan [3]		8.4	2.0	0.9	0.4	27	11	0.4
Georgia [3]		4.5	2.5	0.6	0.2	47	12	0.3
EAST AND SOUTHEAST ASIA								
China [3]		1320.5	177.8	127.4	0.7	15	10	0.6
Myanmar [3]		48.0	18.1	8.3	0.5	44	17	0.4
Thailand [3]		63.0	15.7	10.7	0.7	29	17	0.6
Vietnam [3]		85.0	18.7	11.2	0.6	28	13	0.5
LATIN AMERICA AND CARIBBEAN								
Brazil [2]		186.8	15.8	11.9	0.7	10	6	0.6
Ecuador [3]		13.1	2.5	1.7	0.7	24	13	0.5
Guyana [2]		0.7	0.1	0.0	0.3	18	6	0.3
Jamaica [2]		2.7	0.3	0.1	0.5	11	5	0.4
Nicaragua [4]		5.5	2.2	1.2	0.5	52	21	0.4
Peru [3]		27.3	6.1	3.6	0.6	28	13	0.5

Some Lessons from Experiences of Successful Countries

In order to ascertain what factors explain the success achieved by the listed countries, FAO has examined trends for selected indicators relating to the macro-economy and each of the four components of food security (availability, accessibility, stability and utilization) in these countries over the fifteen-year period from 1991 to 2005.

From this initial review, it appears that certain factors are generally present in all successful countries, irrespective of their geographical location, size or level of development. These may be summarised as:

- creating an enabling environment for economic growth and human wellbeing,
- reaching out to the most vulnerable and investing in the rural poor,
- protecting gains, and
- planning for a sustainable future.

The four country stories reported in the remainder of this section illustrate different ways in which countries that are on track to achieve 2015 food security targets conform to this overall pattern.

DIMENSIONS OF FOOD SECURITY INDICATORS FOR CASE STUDY COUNTRIES

Dimension	Indicator	Time Period	Armenia	Brazil	Nigeria	Vietnam
Macro-economic performance	Average Annual GDP Growth Rate (constant 2000 US\$, percent)	1991-2005	2.3	2.6	3.0	7.6
Agriculture sector performance	Average Annual Net Agricultural Production Growth Rate (percent, 1999 – 2001 base)	1991-2005	2.9	4.7	4.8	5.4
Distribution of wealth	Poverty Gap Ratio (less than USD 1.25 per day, percent)	1996	5	3	32	24 (93)
		2002	3	2	30 (04)	11
Availability (Sufficient food supply)	Dietary Energy Supply (kcal per capita)	1990-92	1960	2810	2540	2180
		2004-06	2290	3090	2650	2680
Accessibility (For all people)	Road Network (km per 1000 rural persons)	1990-92	7.2	44.5	2.2	1.8
		2004-06	6.9	58.1	2.6	3.7
Stability (At all times)	Food Price Index (coefficient of variation, percent)	1990-2007	16.8	21.5	20.2	27.0
Utilization (Safe food)	Share of Population with Access to Clean Water (percent)	1990	-	83	49	65
		2004	92	90	49	85
Utilization (Nutritious food)	Prevalence of Anaemia in Non-Pregnant Women (percent)	Most recent year	12.4	23.1	62.0	24.3
	Prevalence of Vitamin A Deficiency (serum retinol < 0.70 µmol/l) in Preschool-age Children (percent)	Most recent year	0.6	13.3	29.5	12.0
Outcome (Active life)	Number and Share Undernourished (million persons/percent)	1990-92	1.6/46	15.8/10	14.7/15	18.7/28
		2004-2006	0.7/23	11.9/6	11.3/8	11.2/13
Outcome (Healthy life)	Prevalence of Stunting in Children under Five (percent)	Most recent year	18.2	7.1	43.0	43.4
	Prevalence of Wasting in Children under Five (percent)	Most recent year	5.5	1.6	11.2	6.1

CREATING AN ENABLING ENVIRONMENT FOR ECONOMIC GROWTH AND HUMAN WELLBEING

Making the transition from planned to open market economies has dominated the experience of **Armenia** during the past two decades. After some initial difficulties, Armenia succeeded in creating a strong enabling environment for private sector

enterprise and reached out proactively to its small farmers to facilitate their transition to market-oriented operations.

Public sector investments of any kind are only possible if a country's economy is capable of generating a tax base sufficient to sustain them. Although the economy of **Brazil** has not been particularly stable in the past, it is

large and strong and has become increasingly competitive in world markets, allowing it to sustain an economic growth rate above that of the global economy in recent years.

In 2001, the Government of **Nigeria** introduced macro-economic reforms involving de-regulation and privatization in many sectors and began a major drive to develop agriculture within the framework of a National Special Programme for Food Security (NSPFS) which it launched with technical help from FAO. The non-oil economy of Nigeria is now growing at a rate of over 7 percent per annum, twice that of a decade ago. In 2008, the agricultural sector contributed 42 percent of GDP and employed about 70 percent of the active population.

The economy of **Vietnam** has made remarkable progress since adoption of the open economy principle in 1986. On average, real GDP grew by 7.3 percent per year from 1995 to 2005 and per capita income by 6.2 percent per year. The strong macro-economic performance has been made possible by domestic reforms that dismantled controls on economic activity and strengthened the investment climate, and by increasing integration into the world economy, allowing agricultural exports to become an important driver of growth.

REACHING OUT TO THE MOST VULNERABLE AND INVESTING IN THE RURAL POOR

Armenia was greatly helped by a multi-dimensional Food Security Programme (FSP) financed by the European Union. The FSP implemented an approach similar to the twin-track model introduced at the World Food Summit: *five years later* in 2001 and incorporated in the Comprehensive Framework for Action (CFA) following the food price hikes in 2007. The combination of support for productive activities of rural people and provision of social security and health care benefits for families below the poverty line and mothers giving birth has permitted Armenia to reach both MDG1 and WFS targets well before the 2015 deadline.

In **Brazil**, starting in 2003 President Lula introduced a Zero Hunger strategy that, as in Armenia, followed a twin-track approach. Local government institutions and representatives of civil society were mobilised, and public sector resources were allocated to finance the strategy. It combined

cash transfers to increase the purchasing power of the poor with investments in family farming to meet resulting increases in demand for food and raise the incomes of the farmers themselves. Rapid reduction in the prevalence of undernourishment and malnutrition ensued, with achievement of both MDG1 and WFS targets for 2015 now in sight.

Nigeria is pursuing a policy of investment in small farmers as the core of its food security strategy. The National Special Programme for Food Security (NSPFS) promoted technologies that enabled small farmers to increase productivity and income significantly by introducing double and triple cropping. It also helped develop rural communities by enhancing access to extension, credit, and marketing services and nutrition and health education. This integrated approach is now being implemented nationwide, with benefits for the economy as a whole, as well as for participating farmers. Nigeria has already achieved its MDG1 target and is on track to achieve its WFS target by 2015.

Vietnam coupled its open market policies with significant investment in a nationwide social security system which provides financing for health care, pensions for retirees and support for the temporarily unemployed. It also implements a number of targeted programmes of direct benefit to poor and vulnerable people, especially in remote and mountainous parts of the country. It too has reached its MDG1 target and has already achieved a 40 percent reduction in the number of undernourished.

PROTECTING GAINS: COMBATING RECESSION AND SOARING FOOD PRICES

The government of **Armenia** invested heavily and successfully in a stimulus package that prevented the economy from suffering too much from the recent financial and economic crises.

During the recent financial and economic crises **Brazil** allowed its exporters to draw on the country's strong foreign currency reserves to avoid business failures. Moreover, Zero Hunger activities provided a safety net for consumers and family farmers which enabled the country to weather the crisis with relatively less adverse impact than in many other countries.

To respond to soaring food prices, the Government of **Nigeria** released 65 000 metric tonnes of assorted grains from the National Strategic Food Reserve, which it maintains for emergencies such as this. In addition, the government procured and distributed fertilizer to ensure that farmers could maintain productivity, despite tightening of agricultural credit markets.

Vietnam was hit hard by the global recession. A stimulus package was prepared in December 2008. It combined tax cuts and interest rate assistance to ease firms' financial difficulties with public sector investments in infrastructure, housing, schools and hospitals to create new jobs and stimulate demand. High levels of fiscal deficit, trade deficit and inflation, as well as decreasing oil revenues, have limited the government's capacity to implement this package, but USD1 billion has so far been spent to uplift the economy.

PROTECTING GAINS: MANAGING DISEASE EPIDEMICS AND NATURAL DISASTERS

Armenia is developing a comprehensive approach towards the forecasting and prevention of natural and man-made disasters. The government has established a regional disaster prevention centre to promote a regional approach to prevention, carry out research on post-emergency best practice and build up regional monitoring databases.

Brazil has engaged in a high profile campaign against HIV/AIDS, and operates a number of sophisticated early warning systems to enable the government to respond rapidly to natural disasters such as the floods that affected the Southern region in 2008.

The Government of **Nigeria** has set up a three-year HIV/AIDS Emergency Action Plan to promote wider use of antiretroviral therapies and treatment of pregnant women

to reduce the risk of mother-to-child transmission of HIV. An Emergency Centre for Transboundary Animal Disease has also been set up to monitor and control the spread of Avian Influenza in the country.

Vietnam took strong measures to deal with the SARS virus and has begun restructuring its poultry sub-sector and strengthening the veterinary services system to deal with other potentially destructive outbreaks of infectious animal-borne diseases such as Avian Influenza.

PLANNING FOR A SUSTAINABLE FUTURE

Armenia's plans for the future include continuing to enhance competitiveness, upgrading its water infrastructure to reduce leakage, investing in rural development to reduce disparities between the capital and the rural areas, and protecting biodiversity.

The successes achieved by **Brazil** thus far provide a solid basis for tackling remaining issues such as agrarian reform, protecting the Amazon, and developing sustainable sources of bio-energy.

Major challenges remain for **Nigeria**, particularly in the energy sector, which is highly inefficient, and in the functioning of rural financial institutions and the provision of agricultural credit. A "desert-to-food programme" is planned as part of the Green Wall Initiative for preventing encroachment of the Sahara desert onto arable land.

Investment in agricultural research and promotion of environmentally-sustainable watershed management and irrigation technologies are a priority for **Vietnam**. The country will also need to tackle a number of public health challenges, including sharp increases in the prevalence of tuberculosis and HIV/AIDS, and food safety issues in the agro-processing industry.

ARMENIA

Armenia's small farmers have made great strides since the economy was liberalised in 1991, thus creating an enabling environment for commercial agriculture. Irrigating with Alpine water has large potential, but water use is highly inefficient due to leaky infrastructure. Upgrading the water delivery system is a high priority for the government.

Creating an Enabling Environment for Economic Growth and Human Wellbeing

MARKET LIBERALIZATION

Armenia became independent in 1991, after the collapse of the Soviet Union. Following a 53 percent decline in real output from 1991 to 1993, the economy rebounded and grew by an average of 5.4 percent per year between 1994 and 2000. This was largely due to the successful implementation of economic reforms. The government liberalized trade and prices, and started to phase in the required legal framework for a market economy. It privatized most small and medium-sized state-owned enterprises and significantly reduced its intervention in the economy. It also maintained macro-economic stability and kept inflation low.

Initially the economy's rapid growth failed to yield a significant impact in the nation's fight against poverty. Weaknesses in the business environment and in the rule of law and fair competition discouraged private sector development and job creation. After 2000 reforms accelerated. These were aimed mainly at improving the business environment, strengthening financial regulations and promoting better quality in public service delivery. Subsequently, annual average growth rates of 12.6 percent were achieved for the period 2001 to 2007.

AGRICULTURAL REFORM

During the past five years, on average agriculture has generated over 18 percent of Armenia's GDP and employed about 46 percent of the labour force. About a third of farmers do not cultivate all their land, mainly due to the poor quality of land, lack of water or distance of the land from the farm buildings.

From 1998 to 2004 the government implemented an Agricultural Reform Support Project that focused on creating an enabling environment for private sector farming and agro-processing. The project strengthened agricultural institutions and services so as to

address key knowledge constraints in agricultural technology. It also provided training and consultancy services to farmers and agri-business enterprises for the preparation of business plans to facilitate their access to existing credit lines. Support was given for the development of a network of village credit associations, and funds freed up from the downsizing of some of the state's agricultural research programmes were channelled to them through participating rural financial institutions. Agricultural reforms are continuing, though a number of problems have yet to be solved. The majority of small farms are now able to cover their own consumption requirements, but are not yet always able to produce the volume required for commercial enterprise.

ACHIEVEMENT OF MDG AND WFS TARGETS

Economic growth and improved performance of smallholder agriculture led to a fall in poverty from over half of the population in 1999 to less than 25 percent in 2007, and an even sharper fall in severe poverty from 21 percent to around 3 percent. Similar declines in the proportion undernourished were also achieved (from 46 percent in 1991 to 23 percent in 2005), leading to a 60 percent reduction in the absolute number of undernourished over the same period.

Reaching out to the Most Vulnerable and Investing in the Rural Poor

THE FOOD SECURITY PROGRAMME (FSP) AND THE POVERTY-FAMILY BENEFIT SYSTEM

Armenia's FSP played a key role in implementation of the country's Poverty Reduction Strategy between 1996 and 2005. The Strategy focuses on the underlying causes of food insecurity at three different levels: (i) inadequate food availability at the national and/or regional level; (ii) poverty that results in insufficient access to food at household level; and (iii) poor diets and nutritional inadequacy at individual level. Funding from the European Union allowed the FSP to support agricultural sector

programmes and services such as animal health, drainage and soil preservation, seed development and forestry. The FSP had an important impact on the country's land reform, notably by supporting modernization of land tenure processes in rural areas. It also played a wider role by supporting the state's social security system, including child protection and childcare services and the Poverty Family Benefit System for families registered as having incomes equivalent to less than USD1 per capita per day.

CHILDBIRTH ONE-OFF BENEFIT

As an incentive to encourage mothers to register childbirth and gain access to health care services, the government offers a one-off benefit payment at the time of registration. Since October 2003 the amount of the childbirth one-off benefit has increased to the tune of 50 000 drams. As a result, the number of mothers failing to register childbirth has lowered, making the combat against childhood diseases easier to fight.

RURAL DEVELOPMENT PROGRAMME

In 2008 a comprehensive national programme of territorial development was drawn up. The chief aim of the Programme is to prevent the infrastructure gap between the capital city Yerevan and the rural communities from deepening further. It also aims to reduce the discrepancies in living standards between Yerevan, other cities and rural areas of the country.

Protecting Gains

ANTI-RECESSION STIMULUS PACKAGE

In response to the recent economic crisis, the government developed a strategy which provides State guarantees for additional financial resources, uses subsidising tools, and allows for state participation in the equity of enterprises meeting government-set criteria. It also invested in a series of new agricultural projects based on the principle of public-private sector partnership, as well as new road-building projects, such as the construction of the Meghri-Batumi highway, and new initiatives in the energy sector.

DISASTER PREPAREDNESS AND RESPONSE

Armenia is developing a more comprehensive approach towards the forecasting and prevention of natural and man-made disasters. This includes introducing risk assessment information systems, establishing a crisis management centre with strong links

to the general population and reforming the national seismic service system. Plans have also catered for post-emergency responses, with insurance systems being modernized. The state reserves have been expanded and storage and shelter systems have been built. The government has established a regional disaster prevention centre in Armenia to promote a regional approach to the prevention of emergency situations, to carry out research on post-emergency best practice and to build up more coherent regional monitoring databases.

Planning for a Sustainable Future

ENHANCING COMPETITIVENESS

The government believes that a successful recovery of the Armenian economy from the recent global recession will need a slightly altered growth model than the one that has served so well for the last ten years. The new model will entail a stronger and more diversified integration into international markets that enhances external competitiveness for Armenian exports. Another key element will be the implementation of pan-Armenian projects, based on the public-private sector partnership principle, including the building of a new nuclear power plant and an Iran-Armenia railway line. It is hoped that the creation of a new pan-Armenian bank and an influx of new investment/mortgage funds will spur the financial sector.

INFRASTRUCTURE INVESTMENT

In recent times, efforts have been made to invest in the country's leaking water infrastructure. During the last five years, more than USD100 million has been spent to increase capacity and strengthen Alpine water reservoirs. Nonetheless, Armenia's irrigation system still needs huge investments, as the current irrigation system transfers water with more than 50 percent losses.

PRESERVING BIODIVERSITY

The National Environmental Action Plan includes a review of issues relating to biodiversity conservation and sustainable use of biodiversity, and a number of priority areas for action are being pursued. Most biodiversity conservation activities in Armenia are managed by the government. In-situ conservation of biodiversity occurs both in protected areas and in the wider landscape,

mainly on lands under State ownership. The Law on Privatisation makes biodiversity conservation on private lands the responsibility of the owner. However

economic factors and lack of information mean that the level of protection for biodiversity on private land is poor.

BRAZIL

Brazil's food security policies affect the entire population and not exclusively the poor. Those relating to food distribution and improved food supplies, food and nutrition education, information and product labelling, food quality and safety, among others, are good examples of policies that benefit all Brazilians, irrespective of their income.

Creating an Enabling Environment for Economic Growth and Human Wellbeing

MACRO-ECONOMIC STABILITY AND GROWTH

During the 1990s important steps were taken toward fiscal sustainability, as well as to liberalize and open the country's economy, but these were not enough to prevent a major financial crisis in 2000. Since then the country has achieved much-needed macro-economic stability and boosted its competitiveness internationally, allowing it to sustain an economic growth rate above that of the global economy.

SHARING THE WEALTH

Economic stability and growth are necessary preconditions to reduce hunger but are not sufficient where the main issue is one of lack of income and purchasing power of a significant proportion of the population. In Brazil, there was a need to make the growth more equitable. Moreover, although Brazilian agriculture has always been well diversified and is an important contributor to GDP, its modern agribusiness sector coexists with family farmers whose potential to produce is only now beginning to be explored.

Reaching out to the Most Vulnerable and Investing in the Rural Poor

ZERO HUNGER

The Government of President Luiz Inácio Lula da Silva launched Zero Hunger in January 2003 to make it possible for every Brazilian to have three meals a day by the end of his administration. Zero Hunger was conceived as a broad and integrated strategy that would apply a twin-track approach, guaranteeing both access to food and its availability, and ensuring a nutritionally adequate diet from a sustainable perspective. It is also inclusive in the sense that it stimulates and to a certain

degree depends upon the active participation of the civil society. Main elements include:

Cash transfers and school meals. A Food Card Programme operated for less than one year and was replaced in 2004 by the Bolsa Familia (Family Grant), a conditional cash transfer program that unified all the previous existing ones in the whole country. Today this cash transfer, together with the meals provided at schools, is the main means for low-income households to access food.

Local food distribution programmes. Peoples' restaurants, community kitchens and food banks, operated in partnership with the private sector and civil society, make food available at little or no cost, and provide local markets for family farmers.

Nutrition education. A comprehensive media-based food and nutrition education programme promotes the principles of healthy eating habits.

Health and nutrition programme. Food supplementation is provided for specific groups that require greater care, and to address illnesses caused by vitamin and micronutrient deficiencies. Cisterns that provide access to clean drinking water and water for farming in the semi-arid region of Brazil are being installed.

Stimulus programmes for poor family farmers. Different programmes seek to tap the potential of small-scale farmers, creating markets and disseminating technologies to increase yields, thus making it possible to live off the land. Among them is the PRONAF credit line and a direct-purchase programme in which family farmers can sell up to USD800 worth of produce each year to the government. Promoting a virtuous circle, the purchased food creates reserves and helps maintain prices, something formerly done

through food purchases from large-scale producers and cooperatives. Part is also used for school meals in public primary and secondary schools.

REDUCING HUNGER AND MALNUTRITION

In 1991 15.8 million Brazilians suffered from undernourishment. This figure remained little changed until 2001, even increasingly slightly to 16.6 million. Between 2001 and 2005, however, the number had been reduced to 12.0 million, and the share of the undernourished in the national population had dropped from 10 to 6 percent. Moreover, Brazil has experienced one of the most impressive declines in child malnutrition anywhere in the developing world. In the Northeast, a region which had suffered acutely from undernourishment, stunting decreased from 22.2 to 5.9 percent, bringing it in line with levels of the more developed Central and Southern Regions.

Protecting Gains

NAVIGATING THE FINANCIAL AND FOOD PRICE CRISES

The strength of the country's foreign currency reserves helped Brazil negotiate the recession by drawing on them to help its exporters weather the global financial crisis, maintain and increase support to family farmers and expand the Family Grant safety net, both in terms of the number of participating families and in the amount of grant received. Domestic food consumption and markets for family farmers were maintained, in part because of actions that are part of the Zero Hunger strategy. Brazil's state of readiness made it one of the countries least affected by and first to surface from, the international turmoil.

THE MORE FOOD PROGRAMME

Expanding and complementing the Zero Hunger strategy, in July 2008 the government launched the More Food Programme to address the impact of soaring food prices and boost family farm production. It provides credit for investments to increase farm income and maintain food supplies for the cities. During the first year of operation, it financed the purchase of 14 350 tractors by family farmers, and extended credit for automation of production by coffee producers and cattle, pig, chicken, goat and sheep farmers.

CONTROLLING EPIDEMICS AND MANAGING NATURAL DISASTERS

Brazil has engaged in a high profile campaign against HIV/AIDS, and operates a number of sophisticated early warning systems to enable the government to respond rapidly to natural disasters such as the floods that affected the Southern region in 2008.

Planning for a Sustainable Future

ACCESS TO LAND

Access to land has always been a problem in Brazil. The agrarian reform process aims to ensure the social role of property and the distribution and development of income-generating assets, and promotes food production for subsistence purposes. It does so by creating rural settlements in unproductive, government-owned or illegally occupied land; and providing credit and technical assistance. According to the National Institution of Colonization and Agrarian Reform (INCA), 530 000 families were settled between 2003 and 2009, more than half of the total number of previous settlements in the country's history. Some 40 million hectares of land have been set aside for future land reform. Data from the Ministry of Agrarian Development indicate that the amount of resources allocated to improving the quality of agrarian reform settlements, such as infrastructure, support credits and development loans, increased steadily to USD900 million in 2009.

TERRITORIES OF CITIZENSHIP

The Territories of Citizenship programme uses a holistic approach that takes into consideration all problems and challenges faced by communities living in economically depressed rural areas. It targets small cities and communities with low Human Development Index scores and a high proportion of Family Grant beneficiaries. Its goals are to promote economic development and provide universal access to basic citizenship programmes. Participation of the civil society and the integration of federal, state and municipal level actions are fundamental features of the approach.

RURAL ELECTRIFICATION

The Light for All programme provides poor households – prioritizing Family Grant beneficiaries – with electricity connections free of charge. The goal is to ensure universal access to electricity by 2010.

INVESTING IN BIODIESEL AND BIOENERGY

Family farmers receive technical assistance, credit and training, allowing them to participate in producing raw materials for biodiesel processing plants. Over 200 000 family farmers already participate in the programme. Industries who buy from small farmers receive the "Social Fuel Seal"; they are encouraged to do so through different incentives.

Brazil has also invested a great deal of resources into biofuels, as an instrument of economic and social change. Biofuels have had success in generating income and employment, especially in rural areas. It is felt that if developed with care, they can act as a crucial instrument for lifting countries out of food and energy insecurity.

The Brazilian Government has been careful to pursue this initiative with an eye towards sustainability. The production of ethanol from sugar cane, for example, is seen as a sustainable way of producing energy. It is recognized, however, that such farming should not encroach on the food production area and that the rainforest region should be protected from over-farming.

PROTECTING THE AMAZON

Preserving the natural resource base is a must for sustainability. In the past, land clearing for the expansion of agricultural activity by both large-scale commercial farmers and ranchers and impoverished subsistence cultivators has led to unsustainable encroachment on Brazil's rainforest. This has already resulted in increased soil erosion and loss of biodiversity. Moreover, the practice of burning forested area to clear land contributes to global warming, due to the carbon dioxide emissions that are released.

Since 2005, the Government has begun to implement an ambitious environmental plan which reduces incentives for deforestation and imposes serious penalties for environmental crimes. Under the National Plan for Climate Change a progressive reduction of deforestation in the Amazon is foreseen. It is envisaged that Brazil may accomplish this by expanding plantations and natural forests under sustainable management, providing incentives for sustainable management, investing in capacity building, creating credit lines, developing technology, regulating public land concessions and monitoring the rainforests more intensively.

NIGERIA

In oil-rich Nigeria, the agriculture sector contributes 42 percent of GDP and employs about 70 percent of the active population. So focusing on development of smallholder, rain-fed agriculture made good economic sense. By learning how to grow two or three crops each year instead of one, farmers have tripled production and now earn a good living.

Creating an Enabling Environment for Economic Growth and Human Wellbeing

ECONOMIC REFORM

Under Nigeria's former military rulers the economy of Nigeria became overly dependent on the capital-intensive oil sector, which provides 20 percent of GDP, 95 percent of foreign exchange earnings, and about 65 percent of government revenues.

Nigeria has now had democratic governance for ten uninterrupted years. Since 2001 a series of economic reforms has achieved important positive results through the privatisation of several major companies in steel, petrochemicals and mining. A bank

consolidation programme which strengthened the financial sector is enhancing the Government's ability to provide credit to the newly flourishing private sector.

In 2006, Nigeria bought back the bulk of its foreign debt for a cash payment of roughly USD12 billion and the country now has no major foreign debt. The fiscal space created by the debt deal with the Paris Club creditors has made it possible to allocate resources for the achievement of MDGs and poverty reduction.

The non-oil economy is now growing at a rate of over 7 percent per annum, twice that of a decade ago. In 2008, the agricultural sector

contributed 42 percent of GDP and employed about 70 percent of the active population.

FOCUS ON SMALLHOLDER AGRICULTURE

Besides its petroleum reserves, Nigeria's natural resource endowment also includes a total agricultural land area of 79 million hectares, a diverse and rich vegetation capable of supporting a large livestock population, abundant surface and underground water, ample rainfall, and an extensive coastal region that is very rich in fish and other marine products. Previous administrations had initiated state-run programmes to boost food production and ensure food security, but with little success.

In 2001 the Government began a major drive to develop agriculture within the framework of a National Special Programme for Food Security (NSPFS) which it launched with technical help from FAO. The NSPFS promoted technologies that enabled small farmers to diversify their farming systems and increase productivity while using natural resources more sustainably, and helped develop rural communities by enhancing access to extension, credit, and marketing services and nutrition and health education.

The NSPFS was nationwide in coverage, and complemented the more focused National Fadama Development Project, funded by the World Bank. Widespread adoption of improved irrigation technologies enabled participating farmers to harvest more than one crop each year. Aggregate production increased by more than 300 percent in some cases, and incomes improved significantly through sale of high value crops. These positive results contributed both to aggregate growth of the agricultural sector, and to achievement of the Government's poverty reduction objectives in rural areas. The NPFS benefited from hands on technical advice provided to the farmers under the South South Cooperation initiative with China.

The NSPFS was succeeded in 2007 by a National Programme for Food Security that will run through 2011. In each Local Government Area, production and demonstration sites are being established in locations with potential to serve as models for area-wide outreach programmes. In addition, the programme is introducing a real-time marketing information service and improving the linkages between the rural communities and the formal banking sector.

PROGRESS TOWARD 2015 TARGETS

Nigeria has already achieved its MDG target for food security by reducing the proportion undernourished from 15 percent in 1991 to 8 percent in 2005; it is on track to achieve the WFS target of reducing the number of undernourished by half by 2015.

Reaching out to the Most Vulnerable and Investing in the Rural Poor

FOOD PRICE STABILIZATION

Through the Buyer of Last Resort Grain Programme the government operates a minimum price scheme whereby licensed buying agents purchase excess cereal production and resell it in other communities where it is needed.

CHILD HEALTH

During National Child Health Weeks, Nigeria implements immunisation campaigns against preventable childhood diseases such as polio, which is contracted through contaminated food, water and faeces. A pilot school feeding programme was introduced in 2008.

Protecting Gains

NATIONAL FOOD RESERVE RELEASES

Nigeria's Food Reserves Agency manages a National Strategic Reserve that consists of stocks of commodities purchased through its Buyer of Last Resort Grain Programme and a mandatory buffer stock equal to 10 percent of grains harvested by state governments. To respond to soaring food prices, the Government released 65 000 metric tonnes of assorted grains from this reserve.

FERTILIZER DISTRIBUTION

In addition, the government procured and distributed fertilizer to ensure that farmers could maintain productivity, despite tightening of the market for agricultural credit. Under its market stabilization programme the federal government procures and distribute fertilizers to farmers at 25 percent subsidy; some states and local governments provide further subsidies, bringing the total to between 40 and 50 percent. Future plans call for expanding the national gas grid to enable establishment of fertiliser manufacturing plants located close to the agricultural-producing areas.

CONTROLLING DISEASE EPIDEMICS

The President's Committee on AIDS and the National Action Committee on AIDS were

created by Olusegun Obasanjo after he became the president of Nigeria in 1999. In 2001, the government set up a three-year HIV/AIDS Emergency Action Plan. By 2006 it was estimated that 10 percent of HIV-infected persons were receiving antiretroviral therapy and 7 percent of pregnant women were receiving treatment to reduce the risk of mother-to-child transmission of HIV.

An Emergency Centre for Transboundary Animal Disease has been set up to monitor and control the spread of Avian Influenza in the country. Targeted surveillance in live-bird markets as well as in different poultry production systems is carried out to define the prevalence of the disease in the country, and implement control measures if needed.

Planning for a Sustainable Future

MEETING DEMAND FOR ENERGY

One of the most urgent challenges still facing Nigeria is the reform of the highly inefficient energy industry, which is constraining industrial growth and adversely affecting living standards. Nigeria has abundant energy resources, but, despite being a major exporter of liquefied natural gas (LNG), its gas-dominated electric grid experiences frequent system collapse. Radical reform of the sector is required to enhance accountability and minimize corruption, create a more competitive energy market, and eliminate concerns about security of supply of gas from the Niger Delta.

AGRICULTURAL CREDIT

The new Agricultural Development and Natural Resources Funds (ADF and NRF) will

make disbursements through the national banking system for land development, agricultural production, inputs, extension services, storage and processing, product marketing, research and development. By requiring borrowers to access funds from commercial banks and publishing the list of beneficiaries monthly, it is hoped to create a transparent process and avoid problems of non-repayment that have plagued previous agricultural credit systems in Nigeria.

PROTECTING BIODIVERSITY

The World Conservation Union's Red List of Threatened Species includes 148 animals and 146 plants found in Nigeria. The National Biodiversity Strategy and Action Plan identified poverty as the biggest threat to the conservation of biodiversity in Nigeria, so providing economic incentives to the rural poor to protect the environment will be vital.

GREEN WALL INITIATIVE

An initiative to establish a Green Wall for the Sahara was launched by President Obasanjo on the margins of the African Food Security Summit in December 2006. The objective is to combat further desert encroachment by recovering the ecosystem along a 1 500-km band that runs through eleven frontline African states. Under a "desert-to-food programme" land is to be reclaimed by planting leguminous ground cover and tree crops that will replenish the organic nutrients of the soil, reduce erosion and conserve water. Areas will also be designated for human settlement, tourism and creation of non-agricultural employment opportunities.

VIETNAM

A nationwide social security system, investment in rural infrastructure and several targeted programmes of direct benefit to vulnerable mountain people have enabled Vietnam to cut its poverty gap ratio (USD1.25 per day base) from 24 percent in 1993 to 11 percent in 2002, while simultaneously integrating the economy into global markets.

Creating an Enabling Environment for Economic Growth and Human Wellbeing

OPENING UP THE ECONOMY

In 1986, Vietnam adopted the new principle of *Đổi mới* or the open economy. Its achievements since then are one of the most spectacular success stories in economic development. On average, real GDP grew by

7.3 percent per year from 1995 to 2005 and per capita income by 6.2 percent per year. The strong macro-economic performance has been made possible by domestic reforms that dismantled controls on economic activity and strengthened the investment climate, and by increasing integration into the world economy. Macroeconomic policies in Vietnam have been generally prudent and key

economic balances have been maintained at manageable levels. The government's fiscal and monetary stance reflects a determination not to repeat past mistakes that resulted in a short period of hyperinflation in 1992-1996.

EXPORT AGRICULTURE AS THE DRIVER OF GROWTH

Agricultural exports have been one of the main drivers of growth; others have been the influx of private capital from abroad and the rising importance of the private sector. Vietnam has implemented a proactive agricultural extension policy that introduced improved practices for rice production, pest management, horticulture, small-scale irrigation and aquaculture, to the benefit of both the nation's small farmers and the agricultural sector as a whole. The government also took a major step in its agricultural policy when it stopped undercutting Thailand's rice price and entered into a new grain reserve and price stabilization arrangement with its neighbour.

INVESTING IN RURAL INFRASTRUCTURE

Rural infrastructure has already been considerably improved, with 84 percent of paddy land being irrigated, 93 percent of communes having road facilities into their centres, nearly 70 percent of communes gaining access to electricity, 98 percent of them having primary schools, 92 percent of them possessing health care stations and 40 percent accessing safe water. The government has pledged to establish an efficient regulatory framework for infrastructure and fill remaining supply gaps in energy, transport and water.

MDG SUCCESSES

Vietnam has already achieved the Millennium Development Goal targets of reducing by 50 percent the proportions of its population that are extremely poor and undernourished - well before the deadline of 2015 set by the UN. Whereas 28 percent of the country's population was estimated to be undernourished in 1991, the share had fallen to 13 percent by 2005.

Reaching out to the Most Vulnerable and Investing in the Rural Poor

SOCIAL SECURITY SYSTEMS

The nationwide social security system provides financing for health care, pensions for retirees and support for the temporarily unemployed. The government considers overall economic growth to be the decisive

factor for reducing poverty and ensuring food security, but it recognises that not all regions or population groups of the society will benefit uniformly. Administrative reform and democracy in the communes have made it possible to implement a number of targeted programmes of direct benefit to poor and vulnerable people, especially in remote and mountainous parts of the country.

VIETNAM BANK FOR SOCIAL POLICIES (VBSP) AND RURAL DEVELOPMENT FUND

The VBSP was established in 1995 to consolidate all governmental programmes lending to the poor and to vulnerable social groups. VBSP provides subsidised credit without requiring formal loan collateral. Loan sizes are limited to USD1 000 for household business purposes, USD450 for housing, and USD650 for individual households. For businesses creating employment, loans can reach as high as USD12 700. A general line of credit for micro-finance is also provided through the Rural Development Fund.

GENDER EQUALITY

Vietnamese women participate actively in production and business activities and form an important part of the workforce; more and more are taking up leadership positions at local level. The role of women's associations has also improved, especially in such activities as small credit and family planning.

FAMILY PLANNING AND NUTRITION EDUCATION

The government encourages family planning with the objective of reducing annual population growth from 2.2 to 1.8 percent and enabling families to preside over a smaller number of healthier children. The proportion of stunted children under five has dropped from 49.5 percent in 1992 to 35.8 percent in 2006, but is still too high. The National Nutrition Strategy 2001-2010 promotes appropriate dietary intake through decentralized administrative structures which tailor national policies to local conditions.

ACCESS TO LAND

The Government is developing an improved land administration system to increase access to land information services in selected provinces, and is providing resettlement incentives for inhabitants of the most impoverished and land-scarce regions.

Protecting Gains

SPENDING PUBLIC MONEY TO COMBAT RECESSION

Vietnam was hit hard by the global recession. A stimulus package of USD6 billion (6.8 percent of GDP) was prepared in December 2008. It aimed at reviving the slowing economy with tax cuts and interest rate assistance to ease firms' financial difficulties, and public sector investments in infrastructure, housing, schools and hospitals to create new jobs and stimulate demand. High levels of fiscal deficit, trade deficit and inflation, as well as decreasing oil revenues, limited the government's capacity to implement this package, but USD1 billion has so far been spent to uplift the economy.

PREVENTING THE SPREAD OF VIRUSES

Vietnam took strong measures to deal with the SARS virus as soon as it was detected. Also, through its National Action Plan for the control of Avian Influenza Epidemic the government has begun restructuring Vietnam's poultry sub-sector and strengthening the veterinary services system to deal with other potentially destructive outbreaks of infectious disease.

DISASTER MANAGEMENT

Vietnam's Natural Disaster Risk Management Programme supports prevention and mitigation measures at the community level where vulnerability to natural hazards is greatest. The focus is on flood prevention and flood control in the Mekong Delta and the North Central Provinces, which are frequently hit by tropical storms and torrential rains.

Planning for a Sustainable Future

REDUCING SOCIAL DISPARITIES

Despite the overall reduction in the prevalence of poverty and food insecurity, rapid growth has been associated with a widening rural-urban income gap as well as

growing disparities due to various forms of isolation (geographical, ethnic).

PROTECTING HEALTH

The country faces a number of re-emerging and new diseases such as tuberculosis and HIV/AIDS. Between 2002 and 2005 the number of people living with HIV in Vietnam more than doubled. Alarming issues have also arisen regarding food safety following discovery of dairy products laced with melamine and contamination of processed foods due to illegal treatment of wastes.

MAINTAINING A STRONG AGRICULTURE

Economic growth has stimulated demand for conversion of paddy land for production of non-staple food and industrial crops as well as for urban development. Legislation limits the extent of such conversions, but they still occur. With little scope for land expansion, further agricultural growth must come mainly from increases in yields. The government plans to invest heavily in agricultural research for the development of new, environmentally-friendly technologies. More investment is also planned in irrigation and drainage, and in the promotion of new seed varieties, appropriate application of fertiliser and increased use of organic manure and bio-fertilizer.

SUSTAINABLE EXPLOITATION OF NATURAL RESOURCES

Protracted war, population pressure and lack of environmental management have led to a substantial degradation of forests, land and water in Vietnam. The government has already begun taking action to reverse this trend, and plans to do more. For example, it is modernising irrigation systems so as to lower the risks associated with dams and foster agricultural diversification and gains in productivity, and is promoting the environmentally-sustainable development and management of the Thu Bon River Basin.

PART II TRANSFORMING AGRICULTURE TO MEET GLOBAL DEMAND

In most regions by 2050, --- farmers will need new technologies to grow more from less land, with fewer hands.

HIGH-LEVEL EXPERT FORUM, HOW TO FEED THE WORLD 2050, 12-13 OCTOBER 2009

Breaking with the Past

Besides concerns for domestic food security, many countries with good agricultural potential are turning their attention outward, and promoting investment in the production of commodities and processed agricultural products for which there is growing demand in regional and global markets.

Algeria, Malawi and Turkey are three examples of countries that have begun to transform their agriculture sectors in this way.

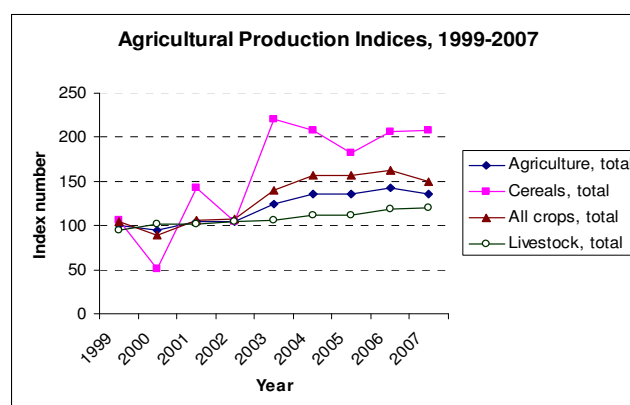
In the case of Algeria, the aggregate agricultural growth rate has averaged more than 4 percent per year since 2000, dipping only modestly in 2007 – the latest year for which data are available. This reflects government efforts to promote agriculture as a pillar for future development of the economy.

The growth of Turkey’s agriculture sector as a whole has been slower, but the real value of its agricultural exports has increased significantly, thanks to economic reforms that liberalised markets and promoted trade.

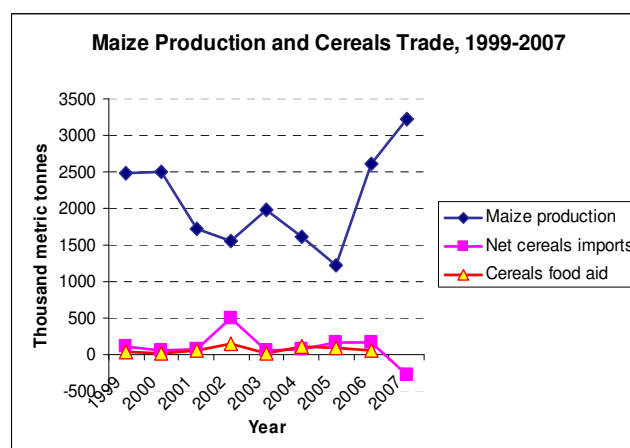
In Malawi, it is the performance of its staple food crop, maize, which has responded to a new government policy of subsidizing fertilizer, with the objective of enabling the sub-sector to cover both domestic requirements and export demand.

All three examples have lessons to teach about what is possible when governments commit themselves to policies and actions that are conducive to growth and development of export-oriented agriculture.

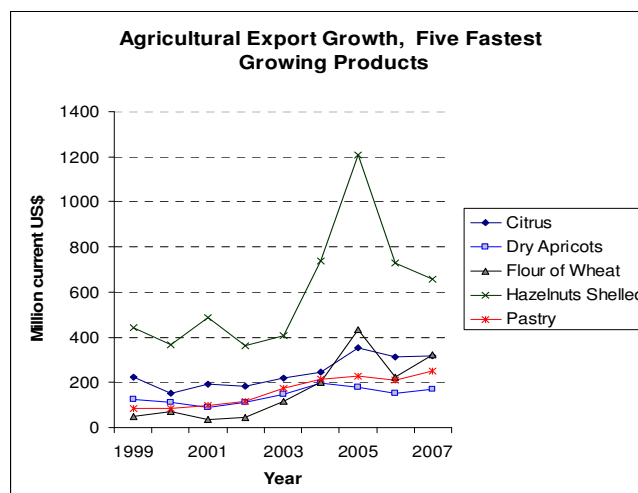
ALGERIA



MALAWI



TURKEY



ALGERIA

Careful husbandry can make Algeria's arid and semi-arid highlands bloom. By developing and diversifying agriculture in more remote regions of the country, the government intends to reduce the country's dependence on petroleum and improve incomes and living standards for its rural population.

Economic Overview

STEADY GROWTH AND RESILIENCE SINCE 2000

After a period of exceptionally strong economic performance between 2000 and 2005, when the growth rate averaged 4.5 percent per year, Algeria's growth rate dropped back to around 3 percent for 2006-2009. Maintenance work in the country's hydrocarbon sector, coupled with a decline in oil and gas demand in Europe, were the main factors behind the slowdown after 2005.

The global recession has also caused problems, yet sound policies have allowed Algeria to withstand the severe shocks from the world markets. In 2008, although overall Gross Domestic Product (GDP) had not yet fully recovered, non hydrocarbon GDP growth was 5.8 percent, in spite of a poor cereal harvest as well as sluggish demand in Algeria's export markets. Inflation increased but it remained among the lowest in the region, reflecting stable domestic energy prices, subsidies on wheat and milk, and prudent monetary policy.

GROWING IMPORTANCE OF AGRICULTURE

Agriculture has become an important contributor to Algeria's socio-economic development. It contributes around 10 percent of GDP, second only to hydrocarbons; twenty-five percent of the population is employed in the sector.

With a growth rate of 4.8 percent per year since 2000, Algeria has one of the fastest-growing agriculture sectors in the world. Most of this growth has occurred in the cereals sub-sector, which grew at a rate of over 12 percent per year between 1999-2001 and 2005-2007. Self-sufficiency with regard to fruit, vegetables and meat has been achieved while cereal and milk production and fishing have been expanding rapidly.

Algeria is also transitioning gradually from a net importer of agricultural products into an exporting economy. The focus is on those

products that have a comparative advantage, such as dates, wine, olive oil and some horticultural products. According to FAO data, agricultural exports grew at a rate of 11 percent per year between 1999 and 2006, while imports hardly grew at all.

The government is working on raising standards for agricultural products up to international norms, and a new framework for exports is in the process of being constructed. The country is currently increasing its economic liberalisation and Algeria has become increasingly integrated into the international economy over the last few years. The Treaty with the European Union (EU), signed in 2005, as well as membership of the Arabic Free Exchange Zone, should allow Algeria to continue making progress and lead to membership of the World Trade Organisation.

The EU has become Algeria's primary commercial partner, supplying 53.2 percent of Algerian imports and 51 percent of exports. In this regard, the Treaty represents a major opportunity for Algeria to expand its exports away from the hydrocarbon sector. In the medium term it is expected that Algeria's total agricultural exports will reach around €500 million per year.

National Strategies for Food Security and Agricultural and Rural Development

AGRICULTURAL AND RURAL DEVELOPMENT PLANS AND STRATEGIES, 2000 - 2004

Through the National Agricultural Development Plan of 2000 and its successor, the National Agricultural and Rural Development Plan of 2002, the Government of Algeria sought to improve conditions for farmers and other people living in rural areas outside the mainstream by investing in infrastructure such as electrification, irrigation and the supply of drinking water.

In 2004 it launched a new Strategy for Sustainable Rural Development, based on decentralization. The strategy was designed to reduce imports and improve food security by supporting diversification of farm production, promoting sustainable exploitation of Algeria's considerable potential for fishing and encouraging involvement of the private sector in food processing and conservation, marketing initiatives, and the transfer of technical knowledge.

PROJECTS FOR LOCAL INTEGRATED RURAL DEVELOPMENT (PROJETS DE PROXIMITÉ DE DÉVELOPPEMENT RURAL INTÉGRÉ - PPDRI)
These projects were launched in 2004 in an attempt to decentralise agricultural decision-making to the farmers themselves, to help revitalise neglected rural communities and to ensure the sustainable use of the country's resources. The PPDRI targeted small scale farmers and herders in disadvantaged zones, but were meant to be larger and more inclusive, taking account of needs and concerns of all inhabitants of beneficiary rural communities.

In 2005 Algeria introduced a participative village-level approach for enhancing smallholder productivity and improving household nutrition through its own Special Programme for Food Security. This programme was formulated in October 2004 by a national team, with FAO support. It became operational in January 2005 in around 60 sites representative of the different agro-ecological zones of the country in 16 of the country's 48 Wilayat. Implementation of the programme approach is now fully integrated into the PPDRI.

NATIONAL AGRICULTURAL STRATEGY, HORIZON 2015
This strategy was prepared in January 2006, following the Executive Review of the Algerian Agricultural Sector conducted in 2005. Based on findings of this review, the Ministry for Agriculture and Rural Development launched a series of programmes to revitalise the agricultural economy nationwide. They included:

- the launch of interest-free credit for livestock keepers and crop growers;
- funding the spread of new machinery and technologies in the agricultural sector;
- building rural communities and co-operation; and

- creation of a fund against agricultural disasters.

These measures are intended to secure market actors from risk and to encourage them to make greater investments in the sector, mainly by way of modernisation. The Strategy has been allocated USD5 billion by the Algerian Government for the 2005-2009 period.

NEW REGULATORY SYSTEM

The system has been put in place so as to protect food quality and safety. The first phase focused on potatoes as a pilot, with further crops being introduced gradually. Investment in the modernisation of the refrigeration system, crop storage, and new abattoirs and treatment centres for livestock is also planned.

Investing in Water and Renewable Energy

COPING WITH WATER SCARCITIES

Water is in short supply in Algeria, so the government has been making a considerable effort to respond to the ever growing demands. USD22.5 billion has been invested so far to improve both quantity and quality, with measures being taken to preserve water reserves, import water, build new water purification plants and extend irrigation systems while also making them more energy-efficient. The Government is also continuing to invest in research on desalination technology. It aims to increase the mobilisation of water from all sources from 8.5 billion to 11 or even 12 billion m³ in 2025.

DEVELOPING THE ARID AND SEMI-ARID STEPPES

Water is the key to achieving a prosperous agricultural sector in the South and the Steppe region. The High Commission for the Development of the Steppe Region is a new body that has so far managed to implement important programmes concerning water pumping and irrigation, as well the generation of electricity through solar power. The Ministry for Agriculture has appealed to agriculturalists in remote areas to invest in solar power as a source of renewable energy for irrigation. The objective is to reclaim arid land for use in developing horticulture, including mass planting of olive groves.

MALAWI

Maize is the staple food in much of southern Africa, including Malawi. Most Malawians do not feel they have eaten unless they have had a plate of maize with their meal, so every household tries to grow a little maize to cover at least a part of the family's annual consumption requirements. An Agricultural Input Subsidy programme in operation since 2005 has boosted production significantly, and kept prices stable.

Characteristics of Smallholder Agriculture

SECURING ENOUGH MAIZE TO EAT

Malawian smallholder agriculture is characterised by large numbers of very poor farmers (many of them women) who are heavily dependent on low input maize production on small land holdings which are very short of soil nutrients. Maize production by these farmers is not normally sufficient to meet annual consumption requirements and they depend upon casual labouring and other income earning opportunities to finance the purchase of the balance of their needs. When harvests are poor, many small farming households survive only if they can gain access to free food provided by various donor-funded food aid programmes.

INTRODUCTION OF INPUT DISTRIBUTION PROGRAMMES

To reduce dependence on food aid a Starter Pack Scheme (SPS) was implemented in Malawi from 1998 to 2004. Beginning with the 2002/3 season, a pilot Targeted Input Programme (TIP) was also implemented in parallel. The starter packs involved direct distribution of inputs to targeted beneficiaries, whereas the TIP involved distribution of flexi-vouchers to eligible farmers to enable them to buy their inputs from local suppliers. The idea behind both the starter pack scheme and the TIP was to enable vulnerable part time farmers to improve productivity on their small plots sufficiently to free them from reliance on free food distribution programmes to cover their basic needs.

Evaluation of initial results showed the voucher system to be clearly superior to the SPS because:

- inputs were supplied through local retail outlets rather than through costly special-purpose distribution mechanisms;

- problems of pilferage and fraud associated with direct distribution of inputs were avoided;
- the private sector was motivated to expand its retail distribution networks in the rural areas;
- the vouchers provided poor households with discretionary income, in that they had freedom to select what inputs to purchase, or even to sell the vouchers for cash to meet other more pressing needs.

In the 2002/3 and 2003/4 seasons when TIP vouchers were distributed, only around 40 percent of smallholder households purchased commercial fertilizer, with mean purchases of around 65 kg per households. This indicates that, for more than half of the smallholder population, commercial fertiliser purchases in adequate quantities are either unaffordable or not considered to be a high priority. As a consequence, the TIPs did not have the desired effect of freeing most vulnerable households from dependency on food aid. Instead, food insecurity problems worsened, due to widespread drought which caused production performance to be poor, late and expensive government-funded imports, and large increases in maize purchase prices.

Breaking the Dependency Syndrome

THE AGRICULTURAL INPUT SUBSIDY PROGRAMME

In this context, the government started implementing the Agricultural Input Subsidy Programme (AISP) in the 2005/6 season. In addition to improving smallholder productivity and reducing vulnerability to food insecurity and hunger, equally important objectives of the AISP were to increase food and cash crop production, promote food self-sufficiency, develop private sector input markets and promote wider growth and development.

In 2006, thanks in large part to the generalized improvement in access to

fertilizers and improved seeds afforded by the AISP, commercial farmers as well as vulnerable households were able to benefit, and Malawi was able to restore maize self-sufficiency through a significant increase in domestic production. Both the AISP and the improvement in production performance have been maintained since then. In 2008, despite sharply rising world market prices for food and energy early in the year, Malawi was able to contain food prices because of the strong performance of its maize sub-sector, and achieve an overall economic growth rate for the year of around 8 per cent. Moreover, harvests in the 2008/9 season have been good enough to allow the country to begin to position itself as a maize exporter within the southern African sub-region.

Although the number of undernourished is still considered to be unacceptably high, the prevalence has fallen sharply from 45 percent of the total population in 1990-92 to 29 percent in 2004-2006 – a mark of success in improving access to sufficient quantities of food. Figures for the prevalence of stunting and wasting in children under five have remained virtually unchanged throughout the period, however, indicating that much remains to be done to improve the nutritional quality of the typical Malawian diet.

Positioning Malawi's Agriculture Sector for Sustained Growth

MALAWI'S COMMITMENT TO CAADP

Malawi is allocating up to 16 per cent of its public sector budget to agriculture each year and is one of the few African countries to have surpassed the agreement reached among ministers at the 2003 Maputo African Heads of State and Government Conference for a minimum allocation of at least 10 percent annually.

In line with directives of the New Partnership for Africa's Development (NEPAD) and its Comprehensive African Agriculture Development Programme (CAADP), the Government of Malawi and its development partners have recently formulated and endorsed an agriculture development program, called the Agriculture Sector Wide Approach (ASWAp) that provides the framework for donors and the government to allocate resources to agriculture and food security. The ASWAp envisions developing

the agricultural sector so that it can simultaneously assure national food security and produce a diversified mix of commodities for the export market.

The total budget to be financed by the government and its development partners over a four-year period is put at USD1 billion, of which food security forms 54 percent, commercial agriculture, agro-processing and market development 20 percent, sustainable land and water management 17 percent and institutional strengthening and capacity building 9 percent. Some financing has already been committed, but most will come on stream only after detailed implementation plans for priority interventions have been prepared.

MALAWI'S NATIONAL PROGRAMME FOR FOOD SECURITY

In 2005, FAO provided support to the Government of Malawi for formulation of a *Strategic Framework for a National Action Plan for Food Security and Nutrition* – Malawi's version of an NPFS. The document built on SPFS pilot phase successes in enhancing smallholder productivity and introduced additional components to address food security needs of the landless poor. Some priority components were selected for immediate implementation, but most were rolled over into Malawi's Growth and Development Strategy (MGDS), which became the overarching framework for all subsequent sectoral and cross-sectoral development programs in the country after its release in November 2006. The ASWAp has been formulated with the framework of the MGDS, and its food security pillar now constitutes the country's NPFS.

THE GREEN BELT INITIATIVE – A FOOD SECURITY PRIORITY

The long-run sustainability of recent achievements requires that Malawi's farmers improve their capacity to stabilize their access to water during growing seasons. A food security priority for the President is therefore the development of a Green Belt along the perimeters of Lake Malawi and its tributaries, that would allow the country's smallholder farmers to make more productive use of the country's abundant natural water resources for the production of food. An implementation plan for this initiative is under formulation.

TURKEY

Turkey is positioning itself to become the fruit basket of Europe, exporting fruits and nuts to its western neighbours in both fresh and processed forms. The value of the country's agricultural exports is growing at nearly 5 percent per year, with over 1 000 agricultural products figuring on the list.

Macro-economic Improvements since 2000

In the latter half of the 1990s budget deficits and debt levels in Turkey reached such high levels that the country's macroeconomic stability was severely undermined. To help counter its economic difficulties, in 2000 the Government of Turkey embarked on important reforms, focusing on privatization, banking and the public sector. An important component was a politically demanding but thorough realignment of agricultural support policies, aimed at making support to the sector more efficient and reducing costs.

After weathering a financial crisis in 2000-2002, the tight monetary and fiscal policies began to pay off, supporting significant economic recovery and greatly enhancing the country's economic prospects. One major reason for the stimulus has been a sizeable reduction in interest rates for agricultural credit. Standing at 59 percent in 2002, they have now decreased to 17.5 percent. This has resulted in a sixteen-fold increase in their usage; USD5.64 billion was provided for 957 000 farmers in 2008.

Since 2002, Turkey's economic progress has been impressive, with GDP growth averaging 6.3 percent per year. The growth rate peaked at 9 percent in 2004, and has tapered off since, as the effects of the global recession have taken hold. Solid recovery is forecast for 2010 however.

A pillar for the nation's development has been its agricultural exports sector. Agricultural value added contributed around 10 percent of GDP throughout the period, and growth in the value of agricultural exports in current US dollars average 4.7 percent per year between 1999-2001 and 2005-2007. Even amid the challenges brought about by the global recession, the agricultural sector grew by 4.3 percent in the first six months of 2009 and 6.7 percent in the second half.

Building a Thriving Agricultural Sector

Through a combination of supportive policy measures and selective public sector investments, Turkey intends to develop a strong and competitive agricultural sector that can take advantage of regional markets for high value niche products while also satisfying a large part of domestic demand.

INVESTING IN RURAL DEVELOPMENT

Through the Rural Development Support Programme, guidance is given on processing, packaging and storage of agricultural products, enabling farmers to maximize income by launching produce at the most favourable time. Between 2003 and 2009, more than 1 600 farmers' cooperative projects received support, benefiting 175 000 families, with women being accorded priority. To date, over USD150 million has been provided for these projects, while a further grant of USD75 million has gone towards purchasing new equipment and machinery.

MODELLING AGRICULTURAL BASINS

In an effort to improve the administration of agricultural support programmes, a survey of unprecedented scale was undertaken in 2009. Some 527 million pieces of data were evaluated, covering climate, soil, topography and land classes. The result was the demarcation of 30 Agricultural Basins in Turkey. Models are now being developed for each basin. Their use will ease the burden on public finances by allowing for more effective targeting of subsidies. The aim is to ensure that support is given to increase production of commodities which are in deficit and respond to the raw material demands of the private sector. Authorities will also be better able to allocate different crops and livestock to suitable terrains and environments, so as to maximize productivity.

AGRICULTURAL EXTENSION

The government plans to recruit 10 000 agricultural consultants to provide free advice

to farmers in a network of over 30 000 villages. So far 2 500 have been appointed.

LAND TENURE REFORM

Compared to earlier years, breaches of land protection and usage laws are now punished more severely, while over 1 million hectares of land have now been consolidated, double the amount in 2002.

INSURANCE

The agricultural insurance system that secures farmers' products was initiated in 2006. The Turkish Government pledged to underwrite 50 percent of insurance pay outs as a form of grant.

DEVELOPING HUMAN CAPITAL IN RURAL AREAS

The Turkish Government is investing in local people through improved education systems and agricultural training programmes. The aim is to stimulate entrepreneurship and innovation, leading in turn to creation of more off-farm employment opportunities in the Turkish countryside and social empowerment of rural people.

Conserving the Environment

WATER CONSERVATION

The Government has offered interest-free credit and a 50 percent grant in support of drip and sprinkle irrigation investments as well as pressure irrigation systems, so as to provide efficient water usage and conserve the environment.

PROTECTING BIODIVERSITY

An Agricultural Inventory in Turkey has been prepared for the first time, with a view to conserving the environment and its natural resources. Native gene resources of crops have been placed under protection and the country now possesses the third largest plant gene bank in the world.

Exploiting Agricultural Export Potential

With its wealth of natural resources and vast cultivable land area, Turkey has great potential to increase its agricultural exports.

The reorientation of its support policies has removed trade distortions and opened up markets, with the result that the value of agricultural exports now stands at USD11.4 billion as opposed to USD 4 billion in 2002, an increase of 185 percent.

FRESH PRODUCE

European retailers see the potential for Turkey to become the 'winter garden of Europe', providing out of season produce such as citrus fruits, cherries, grapes and tomatoes to EU markets. Hazelnuts, dried figs, apricots, lentils and chickpeas also figure prominently in the list of Turkey's unprocessed food exports.

PROCESSED FOODS

There are some highly sophisticated state of the art food processing businesses in Turkey, that have ambitions to become global players, with long term visions and holistic approaches to developing and improving their supply chains. For example, exports of sugar confectionary and all forms of processed vegetables have experienced exponential growth in the recent period. The government is committed to helping producers improve safety and efficiency in the food processing sector.

FISH

Turkey is the third biggest aquaculture producer in the world. Its production capacity is rapidly increasing, and there is considerable potential for further developing its fishing industry

ORGANIC AGRICULTURE

Turkey has a strong and rapidly developing organic sector, which is currently producing mainly for export. Turkey supplies half the world's organic cotton and is a major supplier of organic nuts, fruits, vegetables and herbs.

There are more than 14 000 organic farmers in Turkey. Currently over 95 percent of their produce is exported. The development of a strong local market will help ensure the sustainability of organic farming systems.

PART III

ENHANCING SMALLHOLDER PRODUCTIVITY

To make the vision of a world without hunger a reality, development processes combined with social safety nets must reach marginalized and food insecure people on a large scale, in the places where they live.

*NATIONAL PROGRAMMES FOR FOOD SECURITY:
FAO'S VISION OF A WORLD WITHOUT HUNGER, 2007*

Who are the Smallholders?

Smallholder farmers and their families represent some 2 billion people, about one-third of the global population, and are central to any solution to the long term problems of hunger and poverty.

Among smallholder farmers, a certain proportion, varying from country to country, has the capacity to succeed as commercial farmers. These emergent small-scale farmers need access to improved technologies, business skills, markets and affordable inputs (e.g., planting material, breeding animals, fertilizer and agricultural chemicals). Once these needs have been met, they have the capacity to increase productivity and production rapidly and significantly.

The majority of smallholder farmers, however, do not rely on farming as their primary source of livelihood. These people, many of them women, rely on casual labour and remittances for cash income. Although they produce some food on household plots or urban gardens, most are net buyers of food and live on less than USD2 a day.

It is estimated that 85 percent of farms worldwide (or 450 million farms) measure

less than two hectares. People cultivating these small holdings have the capacity to grow more food, both for home consumption and for generating supplementary income, but their capacity to do so is constrained by insecure access to land; limited knowledge of improved technologies; lack of access to training, credit, extension and agribusiness services; rudimentary managerial skills; and non-affordability of inputs.

Providing emergent small farmers with access to improved technologies for water control, crop and livestock production, control of post-harvest losses and agro-processing as well as to critical production inputs, will boost productivity and food production significantly, particularly if accompanied by investments in infrastructure and by policies that support competitive market chains.

For vulnerable and food insecure smallholder farmers, however, sustainable improvements are possible only if they are afforded appropriate training and group-formation support to enable them to take advantage of improved technologies, input supplies and marketing infrastructure.

Models for Enhancing Smallholder Productivity

NATIONAL PROGRAMMES FOR FOOD SECURITY

In 1994 FAO introduced the Special Programme for Food Security (SPFS), with the objective of helping developing member countries transform national policies and programmes in such a way that agricultural development, focused on smallholders, would solve problems of food insecurity at both household and national levels.

The SPFS was meant to be catalytic. Through pilot projects that demonstrated the multiple benefits of enhancing smallholder

productivity, FAO wished to show by practical example how countries could simultaneously reduce hunger and malnutrition and achieve rapid increases in agricultural GDP.

Beginning in 2001, national governments began transiting from pilot projects to large-scale, nationally-owned programmes for food security that aimed to achieve World Food Summit and Millennium Development Goal targets of reducing hunger by half by 2015. For these programmes, FAO recommended that countries adopt the twin-track approach,

drawing on lessons learned from the pilot SPFS projects for the agricultural productivity improvement track, and incorporating a complementary safety nets track to meet immediate food and nutrition security needs.

Whereas FAO played a proactive role during the pilot phase, leadership for the formulation and implementation of National Programmes

for Food Security (NPFS) comes from within the country. All share the common objective of eradicating hunger by improving smallholder productivity and rural livelihoods, but as each is designed to respond to local needs and priorities, their titles and the institutional arrangements for their implementation vary.

Status of National Programmes for Food Security (NPFS), September 2009				
UNDER IMPLEMENTATION		APPROVED	FORMULATED	UNDER FORMULATION
All Activities	Some Activities			
ALGERIA Programme spécial pour la sécurité alimentaire	CHAD Programme national pour la sécurité alimentaire	AFGHANISTAN	ANGOLA	COLOMBIA
BRAZIL Fome Zero	CONGO Programme national pour la sécurité alimentaire	BURUNDI	BENIN	CÔTE D'IVOIRE
INDONESIA Village Food Resiliency	EL SALVADOR Programa Nacional para la Seguridad Alimentaria	CAMBODIA	BOTSWANA	DEMOCRATIC REPUBLIC OF THE CONGO
MEXICO Special Project for Food Security	JORDAN National Programme for Food Security	CAMEROON	BURKINA FASO	ETHIOPIA
NIGERIA National Programme for Food Security	KENYA NJAA MARUFUKU KENYA-Eradicate Hunger in Kenya	LESOTHO	CAPE VERDE	GAMBIA
SOUTH AFRICA The Integrated Food Security Strategy For South Africa	MADAGASCAR Programme national pour la sécurité alimentaire	MONGOLIA	DJIBOUTI	GUINEA
UNITED REPUBLIC OF TANZANIA Agriculture Sector Development Programme	MALAWI Food Security Pillar of Agriculture Sector Wide Approach (ASWAp)	SUDAN	GHANA	LAO PEOPLE'S DEMOCRATIC REPUBLIC
	MALI Programme national pour la sécurité alimentaire	TOGO	GUATEMALA	LIBERIA
	PAKISTAN National Special Productivity Enhancement Programme for Food Security		GUINEA BISSAU	NEPAL
	SIERRA LEONE Operation Feed the Nation / National Agricultural Response Programme		HAITI	NICARAGUA
			MOZAMBIQUE	PAPUA NEW GUINEA
			NAMIBIA	PARAGUAY
			NIGER	SYRIAN ARAB REPUBLIC
			SENEGAL	ZAMBIA
			SRI LANKA	
			SWAZILAND	

REGIONAL PROGRAMMES FOR FOOD SECURITY
 Recognising the importance of transboundary issues and cross-border trade for the success of national efforts to increase smallholder productivity and production, FAO also

provides support to regional economic integration organizations that request assistance for the formulation and implementation of Regional Programmes for Food Security (RPFS).

Status of Regional Programmes for Food Security (RPFS), 30 September 2009				
UNDER IMPLEMENTATION		APPROVED	FORMULATED	UNDER FORMULATION
All Activities	Some Activities			
	CARIFORUM / CARICOM – Caribbean Forum / Caribbean Community	Arab Maghreb Union (UMA)	Common Market for Eastern and Southern Africa (COMESA)	Andean Community (CAN)
	Economic and Monetary Union of West Africa (UEMOA)	Community of Sahelo-Saharan States (CEN-SAD)	Common Market of the South (MERCOSUR)	Association of Southeast Asian Nations (ASEAN)
	Economic Cooperation Organization (ECO)	South Asian Association for Regional Cooperation (SAARC)	Council for Arab Economic Unity (CAEU)	Agricultural Council of Central America (CAC)
	Pacific Islands Forum (PIF)		Economic and Monetary Community of Central Africa (CEMAC)	Economic Community of West African States (ECOWAS)
			Economic Community of Central Africa States (ECCAS)	Southern African Development Community (SADC)

Emerging Lessons

Although NPFS and RPFS are still in the early stages of development, several lessons have already begun to emerge.

- 1) All NPFS share the common objective of eradicating hunger by improving smallholder productivity and rural livelihoods, but each is designed to respond to local needs and priorities. Hence their titles and programmatic content, and the institutional arrangements for their implementation, vary.
- 2) In general, countries that have successfully implemented approved programmes are larger countries with sufficient resources of their own to invest. LIFDCs that need financial help from their development partners have generally not been able to implement all programmed activities. Until recently, countries more highly dependent on external aid have been hindered by an anti-small farmer bias in development thinking, but this is now beginning to change.
- 3) In the early years of the SPFS, pilot phase projects did not explicitly target poor and marginalized small farmers, and it was often reported that the approach tended to favour better-off farmers in project sites. Later, various adjustments were introduced and impact assessments typically reported high rates of success in reaching the rural poor. The main factors accounting for this success were:
 - strong emphasis on group formation that explicitly included women and children heads of households and the landless poor;
 - use of farmers' field schools to impart technical information and stimulate interest;
 - introduction of diversification opportunities that landless and marginalized people could take up and that yielded immediate high returns;
 - investment in changing mindsets.

Where these factors have been built into NPFS, the programmes stand the greatest chance of achieving their goals.

- 4) South South Cooperation has provided recipient countries the opportunity to have access to specialised experts from other developing countries that are posted in beneficiary communities where they demonstrate improved technologies in farmers' fields. Strategic alliances with SSC providers, notably China, offer the possibility to field large numbers of experts and technicians at relatively low cost, and there is growing interest on the part of governments and organizations implementing NPFS and RPFS to avail of this form of technical assistance.
- 5) Institutional commitment of all concerned agencies (e.g., Agriculture, Health Education, Social Protection, Food

Security Agency) has proven to be another important success factor. High-level political commitment is usually essential to start the process, but to ensure sustainability, public sector support has to be institutionalized so that it can continue irrespective of political changes.

The L'Aquila Joint Statement on Food Security issued at the conclusion of the G8 meeting in July 2009 focused attention on the small-farming sub-sector. In so doing, it reinforced and gave added impetus to the vision that underlies FAO's approach to facilitating NPFS and RPFS - that of achieving a more sustainable and food secure world by enhancing smallholder productivity and improving household nutrition.

Empowering Poor Rural Communities

Indonesia, Mexico and Sierra Leone are three very different examples of countries which have developed innovative approaches for

empowering poor rural communities. All three have scaled up these approaches successfully to the national level.

INDONESIA

Learning how to help poor farmers develop and cost their own action plans required a change of mindset for agricultural extension workers in Indonesia, but the change paid off. Now the approach has been institutionalized through the Village Food Resiliency component of the country's General Food Security Policy. From 250 villages in 2006, coverage has grown to 1 174 villages, with further expansion planned.

In 2003 the Government of Indonesia finalized a draft NPFS document that built on the successful community empowerment approach introduced during the country's SPFS pilot phase. This approach was conceived by a Japanese-funded SPFS project that implemented several innovative techniques for forming farmer groups and disseminating improved technologies after traditional methods proved ineffective.

Key features included forming farmers' groups (FG) on the basis of "affinity" or "binding factors" and requiring each group to develop its own Farmer Group Development Plan (FGDP). Farmers had to learn how to prioritize, cost and manage their own activities. These were then financed from a Revolving Fund System that they had to keep

replenished once the start-up capital was gone.

The approach was incorporated in the country's *General Food Security Policy: 2006-2009* as the Village Food Resiliency (VFR) component. Other components include food diversification and nutrition through home and school gardens, Food Insecurity and Vulnerability Atlas, and strengthening of food distribution institutions and the National Food Security Council (NFSC) Secretariat.

The VFR is implemented by the Directorate General for Food Security (DGFS) in the Ministry of Agriculture, and funded from the government's agriculture budget. Target beneficiaries are farmers' groups in selected villages where at least 30 percent of the

population is classified as poor. The FG are facilitated by extension workers assigned to this task. Each group selects the activities to be implemented, which can be anything that will improve their livelihoods. The nationwide

VFR program was initiated in 250 villages in 122 districts in 2006. As of today, there are 1 174 villages in 275 districts in 33 provinces participating in VFR, and an extension for the period 2010-2014 is foreseen.

MEXICO

Reaching the rural poor in remote areas has long been a challenge for Mexico. Now, through decentralized Rural Development Agencies (ADR), the government is putting teams of technical experts at the service of local communities, who define their own rural development initiatives.

Mexico's experience has been similar to that of Indonesia. Its Strategic Project for Food Security (PESA: Proyecto Estratégico para la Seguridad Alimentaria) aims to improve food security and contribute to the reduction of poverty in a sustainable manner in the most marginalized rural areas of Mexico.

The Project does not support actions using typical technical assistance methods. Instead, it is implementing an innovative extension methodology involving establishment of decentralized Rural Development Agencies (ADR: *Agencias de Desarrollo Rural*) to promote and develop capacities of individuals and rural communities. Through a facilitated process of self-appropriation and autonomous management, the people themselves define their problems and identify viable alternatives to address them.

At the national level, implementation of the Project is the responsibility of the Ministry of Agriculture (SAGARPA), with modest technical support from FAO. The ADR provide a continuous follow-up to local rural development initiatives under the supervision of multidisciplinary and multisectorial groups at state level.

The PESA commenced its pilot phase in 2002 and expanded the approach to the national level in 2005. Currently 135 ADR are operating in 18 States and 655 districts, including 105 of the 125 districts with the

lowest Human Development Indices in the country.

Over 100,000 poor families have participated directly in community-level projects, focusing both on improving living conditions (housing, stoves, water tanks, grain storage, poultry and vegetable gardens) and on expanding productive options (soil and water management, organic coffee, maize and beans, marketing, eco-tourism).

Results obtained so far include:

- increased availability of and access to more food in highly marginal and poor areas;
- demonstrated potential to develop local capabilities for self identification of appropriate solutions to tackle food insecurity related problems;
- consolidation of a range of professional services for providing technical assistance in areas where these services were not available.

The present project, whose focus is on capacity building at different levels, reflects the evolution of and lessons learned by the public agricultural extension system in Mexico, as well as the evolution of the SPFS/NPFS concept. Funding, which comes from a variety of lines in the federal budget, has steadily increased, in response to local demand, and the government plans to systematize the approach for possible replication in other countries.

SIERRA LEONE

In Sierra Leone, reducing post-harvest losses and improving farmers' ability to market rice and vegetables go hand-in-hand with efforts to increase smallholder productivity. Agricultural Business Centres (ABCs) are being established on a national scale to help small-scale farmers become commercially successful and assure food supplies to the cities.

After the civil war in Sierra Leone came to an end in 2002, President Kabbah made a solemn pledge to banish hunger within five years. To this end, the government developed a Community-based Extension and Capacity-building Programme (CECP), with FAO support. This programme introduced community-based Farmer Field Schools as the primary instrument for improving rural food security and livelihoods within the framework of the National Recovery Strategy.

The CECP was implemented in several stages between 2003 and 2007, with funding from various sources. During Stage 1, district coordinators were trained as Farmer Field School (FFS) facilitators, with the assistance of experienced experts from Uganda and the Philippines. They ran pilot field schools on rice, vegetables, tree crops and marketing in 48 sites, with over 1 000 farmers involved.

Some 20 000 farmers were reached through 1 465 FFS during Stage 2, and fourteen District Networks with independent status were established by farmers. In addition to promoting agricultural intensification, diversification and marketing, literacy and health issues were also addressed by the networks. By the end of Stage 3, training had been provided to over 200 000 smallholder households, community programmes and school gardens had been introduced, and a national seed programme had been initiated, with funding from the Government of Germany.

From 2005, related funding was provided by UNDP to support the decentralization of agricultural services through the formation of Agricultural Business Centres (ABCs). A typical ABC served a client base of around 400 smallholders, providing them with entrepreneurship training, a convenient place for purchasing inputs such as seeds and

fertilizers, and the possibility to rent storage facilities and labour-saving equipment operated by trained operators on a pay-for-use basis.

Through Operation Feed the Nation (OFTN) - Sierra Leone's National Programme for Food Security - FAO and UNDP joined forces in 2007, along with other development partners, to support continued extension of the Farmer Field School approach and facilitate the transformation of existing FFS and other Farmer-based Organizations (FBOs) into ABCs. A team of Chinese South South Cooperation experts recruited through FAO has been providing technical support for implementation of the OFTN.

In response to the 2008 food and fuel crisis, the government formulated a National Agriculture Response Programme (NARP) that drew heavily on the OFTN approach. Through NARP, the government plans to encourage commercialization of agriculture and private sector investment by applying the ABC model on a national scale. Other NARP goals are to assist a total of 195 existing FBOs to increase cultivation of rice and dry season crops, facilitate linkages to markets which will enhance food supplies in towns, and provide short-term safety nets (in partnership with WFP) in all 14 agricultural districts. The European Union Food Facility is contributing €10.8 million for the implementation of NARP, providing support for 15 ABCs in each of seven districts where more funds are needed.

More recently, the government has formulated the National Sustainable Agricultural Development Plan (NSADP) within the framework of the CAADP Compact process, with the aim of providing a framework for short, medium and long-term investments in its agriculture sector.

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