

Multi-stranded approach to ensuring food security

Agencies are working together to improve the world's food systems, reaching out beyond agriculture and food to other sectors where the effects are felt – public health, social protection, education, trade and market access, and crisis response

By David Nabarro, special representative of the United Nations secretary-general for food security and nutrition, and coordinator of the United Nations High Level Task Force

If all the food in our world were shared equally, there would be plenty to go round. However, the stark reality is that one in every six people is chronically hungry. One-third of children under five are undernourished. In a world of wealth, great know-how and capacity, such numbers are appalling. They should rouse all to action.

Food security is a primary development objective in its own right. But it is also among the keys to achieving all the Millennium Development Goals (MDGs), since making sure that every person has sufficient and nutritious food has an enormous multiplier effect on education, health and women's empowerment.

Food security is also a matter of peace and security. The sharp rise in food prices in 2008 drove hundreds of millions more people into poverty and hunger, with severe consequences, including food riots in more than 30 countries. Governments and the international community mounted the most extensive emergency food assistance operations ever witnessed, averting widespread suffering. But the impact continued to be felt. Indeed, the difficulties encountered by ordinary people in North Africa and the Middle East were among the catalysts for the democratic reform movements that have upended and transformed the region in recent months.

The world's food systems are not working properly. The United Nations Secretary General's High-Level Task Force (HLTF) – which includes the Food and Agriculture Organization (FAO), the World Food Programme (WFP), the International Fund for Agriculture and Development (IFAD) and other UN agencies as well as the World Bank, International Monetary Fund (IMF), the World Trade Organization (WTO) and the Organisation for Economic Co-operation and Development (OECD) – have developed a 'Comprehensive Framework for Action'. The HLTF is working with governments to revitalise smallholder agriculture, following a twin-track approach aimed at meeting the immediate needs of vulnerable populations while building longer-term resilience. The effort draws on diverse sectors, ranging beyond agriculture and food to encompass public health, social protection, education, trade and market access, and crisis response.

The HLTF has encouraged governments and development partners to address food security in its four dimensions: availability, access, utilisation (nutrition) and stability. UN member states have revitalised the Committee on World Food Security to strengthen global governance in this arena. Development agencies pledged generous financial support at the G8 and G20 summits in 2009 and initiated major regional efforts, especially in Africa.

And many governments in developing countries have revitalised their own agricultural investment strategies as a basis for poverty reduction and sustainable development.

There is also growing attention to the nutritional dimension. Poor nutrition in the period between conception and a child's second birthday can be a handicap for life – and can lead to a significant reduction in a country's gross domestic product. Nutrition-related



A girl collects scattered grains on the ground near a pile of newly harvested wheat at a field in the Punjab province of Pakistan. Food stability is one of the top priorities to be addressed at the G8

factors contribute to 35 per cent of deaths of children under five each year. In line with the recommendations of the UN MDG Africa Steering Group, the use of interventions that have been proven to increase agricultural productivity and improve nutrition – including school feeding and efforts to combine nutrition and health – must be expanded. I encourage all partners to support the ‘Scaling Up Nutrition’ movement and the Global Strategy for Women’s and Children’s Health, which incorporates nutrition as an integral component.

Food prices are rising again. Prices are also extremely unstable. Still, there has not been another worldwide crisis. Thanks to prudent investments, several countries have seen record harvests with stable grain prices. Furthermore, the multilateral system is better prepared this time around.

Nevertheless, the current situation is still a cause for concern. Factors such as population growth, increasing affluence and subsidised biofuel production from cereal crops are increasing the demand for food at a time when the supply is becoming increasingly tight as a result of climate change and environmental degradation.

In such a challenging environment, the UN system is working hard to help protect household livelihoods, build up local food markets and stimulate increased production by poorer countries – especially by their smallholders. This process requires the full engagement of all stakeholders. Looking forward, everyone must work together to:

- Make sure that more of the \$22 billion food security commitment from 2009 is made available to support investment plans for sustainable agriculture and food

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Population growth, increasing affluence and subsidised biofuel production are increasing demand

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security in developing countries – including through the Global Agriculture and Food Security Programme, the underfunded multi-donor trust fund;

- Establish more partnerships among businesses, government, farmer organisations and civil society, which will benefit rural communities through increased production and better value chains;
- Bring together international organisations and national authorities in an effort to limit excessive food price volatility, so that farmers can make wise decisions about when and how to increase production;
- Encourage governments to expand and improve safety nets;
- Ensure that trade in foodstuffs becomes freer and more equitable, and that the WTO’s Doha trade negotiations are concluded quickly;
- Encourage national policymakers to participate in a series of regional seminars that are being organised by FAO on policy responses to food price rises;
- Discourage export restrictions, which often exacerbate price rises, have severe implications for food-importing developing countries and endanger the food security of vulnerable populations – the opposite of what is intended;
- Ensure that humanitarian food purchases are kept exempt from any export restrictions or extraordinary taxes.

Food and nutritional security are the foundations of a decent life. I commend the French presidency of the G8 and G20 for having identified this issue as a matter of priority this year. The challenges involved demand the greatest multilateral commitment, creativity and leadership. ♦





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Fighting Hunger Worldwide

Securing food and agriculture for all

Economic security and an increase in budget allocations are required to enhance the productivity of farmers and provide adequate food for a growing population

By Jacques Diouf,
director general,
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Organization of the
United Nations

As heads of state and government prepare to meet for the G8 summit in Deauville, France, the issue of commodity price volatility is again dominating international discourse. Once more, the world is facing a precarious situation. It is up to governments and the international organisations to which they belong to act quickly and decisively to change the direction of what seems to be an inevitable – and dramatic – course of events.

The factors that set off the current upward spiral in the international prices of most major agricultural commodities are well known: drought in Russia and export restrictions adopted by the governments, together with lower-than-expected crop harvests elsewhere due to extreme weather events. Tighter supplies in the face of rising demand led to a surge in the prices of many food commodities, including cereals, sugar and oilseeds. World cereal stocks are anticipated to shrink by as much as 9 per cent over the coming season.

International policymakers have at their disposal instruments to blunt the effect of rising food prices. These include targeted safety nets and social protection programmes for the poor, as well as the provision of reliable and timely information on food commodity markets, and market transactions that can work to avoid panic buying and consequent price surges.

Action should also be taken swiftly to ensure that small-scale farmers have access to indispensable means of production and technologies – such as high-quality seeds, fertilizers, feed, and farming tools and equipment. Non-distorting and well-managed strategic emergency food reserves can also have a calming effect on markets.

In the meantime, governments must be persuaded to avoid using trade policies, such as export restrictions, that cause prices to spiral further. Financing instruments can also be better fine-tuned since those in existence, such

“As long as demand for food continues to rise faster than supply, markets will remain tight and prices will remain high”

as the International Monetary Fund's Exogenous Shocks Facility, could be made more flexible and useful for developing countries during a crisis.

However, more is needed to address the structural causes of imbalances in the international agricultural system. In addition to preventing market shocks from turning into humanitarian disasters, a mammoth task lies ahead: creating the conditions needed to provide sufficient food for a population that is constantly growing and that, by 2050, is expected to reach 9.1 billion. This means agricultural production must increase by 70 per cent globally and by 100 per cent in the developing countries. As long as demand for food continues to rise faster than supply, markets will remain tight and prices will remain high and volatile. Thus, in the long run, the only real solution to excessive volatility is to invest more – much more – in agriculture to boost productivity and production.

Agriculture is suffering from more than 20 years of neglect, resulting in underinvestment in the sector. Its share of official development assistance (ODA) has plummeted from 19 per cent in 1980 to 3 per cent in 2006. It now stands at around 3 per cent. To feed the world sustainably, it must be brought up to much higher levels. Thanks to high levels of ODA to agriculture, famine was averted in Asia and Latin America in the 1970s. And a good share of investment must go to research and development, to building infrastructure and irrigation, and to breeding drought-resilient crops.

Budgetary requirements

However, ODA is only part of the necessary investment resources. Equally important are the national budgetary expenditures for agriculture of the low-income food-deficit countries, which represent only about 5 per cent of the total – although they should be at least 10 per cent, in line with the sector's contribution to gross domestic product, export revenues and the balance of payments. Domestic and foreign private investments, today at roughly \$140 billion per annum, must be increased to \$200 billion annually. Strategically directed public investments – from both domestic and foreign sources – will become the catalyst for attracting the needed private investment. The world spends more than seven times that amount on military expenditures, leaving only the crumbs to a sector upon which the world's very existence depends.

Another problem is that today's international trade in agricultural commodities is neither free nor fair. The world's wealthier countries spend billions every year on subsidies and tariff protection. In addition, each year subsidies and tariff protection favouring biofuel production divert more than 100 million tonnes of grains away from human consumption to vehicles. In other words, current



domestic and trade policies, including export restrictions introduced during crises, must be reviewed to limit the effects of food price volatility and safeguard global food security. It is, therefore, important to reach a consensus on the lengthy Doha Round of trade negotiations and to end the market distortions and restrictive trade policies that are aggravating the imbalances between supply and demand.

Improved market transparency is another essential tool. The Food and Agriculture Organization can help by intensifying its information-gathering and dissemination efforts. But only greater input regarding stocks and production from governments will improve knowledge about the real market and related financial transactions.

Commodity exchanges

Another important issue is that of the regulatory frameworks governing commodity exchanges. In the context of today's deregulation, those exchanges encourage speculative behaviour and, thus, volatility.

In the world of deregulated commodity exchanges, trading volumes have gone through the roof. Nearly 90 billion bushels of wheat worldwide were traded on the Chicago Board of Trade in 2009 – the equivalent of trading the United States' entire Soft Red Wheat crop every business day. Because the majority of such transactions are speculative, higher food price volatility is a logical consequence.

Although there is no evidence that speculation is the prime cause of price volatility – speculators follow the trend; they do not drive it – speculation may aggravate

The effects of the ongoing economic crisis in Russia have led to rationing by presidential decree

volatility. However, over-regulation should be avoided since the futures markets play an important societal role in price discovery and liquidity.

To sum up, the solution to the global problem of hunger and food insecurity requires effective coordination of decisions regarding investment, international agricultural trade and financial markets. It may not be possible to control the weather, but much can be done to prepare for and contain the damages caused by extreme weather events. That will make it possible to secure food production and enhance the productivity of small farmers, thus lowering consumer prices and increasing the income of rural populations, which make up 70 per cent of the world's poor.

The implementation of such policies at the global level requires the respect of the commitments already made by the developed countries, notably at the G8 summits of Gleneagles and LAquila, as well as at the G20 summit in Pittsburgh. Developing countries, for their part, must increase their budget allocations for agriculture. And private foreign direct investment needs to be made in a way that will ensure an equitable sharing of benefits among the different stakeholders.

Without long-term structural decisions and appropriate financial resources, food insecurity will persist. It could generate political instability – particularly in food-importing developing countries – and, as a result, threaten world peace and security. Only when the world's farmers, in both developing and developed countries, can operate under conditions of dignity, professionalism and economic security will we be able to feed our increasingly populated planet. ♦

Seed is Life!

Food security through better plant varieties

Seed is the start of everything! It takes a seed to produce food for humans, feed for animals, fiber, fuel and many other industrial applications. With the challenges that face us today (a growing population, changing diet, climate change and several others), there is a continuing need for new and better-adapted plant varieties. The seed industry works on improved varieties that have: a higher yield; better resistance to pests and diseases; higher tolerance of abiotic stresses; better earliness, taste, size, nutritional and crop quality, firmness, and shelf life; plant type, harvestability, and reduced labor costs.

Higher-yielding varieties require less land in production and, at the same time, mitigate deforestation. FAO data indicate that, in developing countries, wheat yields rose 208 percent between 1960 and 2000, rice yields increased 109 percent and maize yields rose 157 percent. Yield increases in wheat in India alone have spared 1.16 million sq km of land that otherwise (without the yield increase) would have had to be taken into production. On a global level this amount is estimated to be 26 million sq km. That's quite a forest that is saved.

Through climate change we'll see more droughts in certain areas and more precipitation in others. Drought tolerance has been a breeding target for many years in maize, wheat, rice, beans, millet, canola and grasses, among others. Major public-private efforts are undertaken to breed tolerant varieties for the poorest continents of this planet. Development of similar varieties that can boast salt, flood, cold, heat or aluminium tolerance is under way. These are not mere hobby or 'feel-good' projects: each year, according to FAO data, 90 million people are affected by drought, 106 million people are affected by flooding, and 900 million hectares of soil are affected by salinity.

Predictions on our changing climate also indicate increased disease pressure levels. FAO-data indicate that the annual global loss due to pathogens is estimated to be around US\$85 billion and the annual loss due to insects at around US\$46 billion. About half of all the investments into plant-breeding are targeted towards resistant varieties and, each year, thousands of new varieties are released with more and more resistance against pests and diseases. This has led to a significant decrease in the use of pesticides. In the UK alone, disease resistance in crops saves £100 million per year on crop-protection products—not to mention the millions of liters of diesel saved on tractors not needing to spray, thereby reducing agriculture's environmental impact.

Improved varieties and high-quality seeds are the basic requirements for a productive agriculture, which forms the basis of sustainable economic development, especially in developing economies.



Conclusion: Through a diversity of high-yielding varieties, resistant to diseases and with a higher tolerance to abiotic stresses, the seed industry has contributed significantly to sustainable agriculture and increased food security, while reducing input costs, greenhouse gas emissions and deforestation, and it will continue to be a major contributor. It is at the forefront of efforts to meet the immense challenges of finite arable land and water resources, and extreme weather patterns facing the planet. Seed is Life!

The International Seed Federation (ISF) represents the interests of the mainstream of the seed industry at a global level through interaction and dialogue with public and private institutions that have an impact on international seed trade.



Marcel Bruins – Secretary-General ISF
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The importance of vibrant rural economies

Demand for agricultural production is rising, bringing new possibilities for producers. We need to recognise farmers as entrepreneurs and work with them in partnership, thereby transforming the lives of poor people in the countryside

By Kanayo Nwanze, president, International Fund for Agricultural Development

History shows that boosting agricultural productivity is a crucial step that countries must take on the path from poverty to prosperity. China and India's recent economic growth was built on a strong agricultural foundation. Brazil, Ghana, Tanzania and Vietnam are now on that same path.

Other developing countries must follow that path if they, too, wish to strengthen their economies, reduce poverty and ensure food security for their people and the world. It is thus essential that the \$22 billion pledge made by world leaders at the 2009 G8 L'Aquila Summit is honoured and directed towards agricultural development, with a special focus on smallholder farmers.

Increasing agricultural production in the current social and economic climate will be demanding because the contexts and prospects for agricultural development are changing rapidly. A complex web of modern challenges – climate change, volatile food prices, social unrest, collapsing economies – makes boosting production ever more difficult, although certainly not impossible.

The good news is that demand is rising, bringing new market opportunities for producers. The world population will grow to seven billion by the end of this year and to nine billion by 2050: there will be two billion more people to feed. Overall global food production will have to increase by 70 per cent, while production in developing countries may have to almost double.

Investing in rural areas

Already, new and evolving markets offer opportunities for poor rural people to generate more income. These new markets include supermarkets, which are proliferating at the local, national and global levels, and the development of modern, consolidated value chains for agricultural products. But before smallholders can benefit from these new markets, donors, governments and poor rural people themselves must see smallholder farming as a business that needs clear links along the value chain – from production to processing, marketing and consumption. Recognising farmers as entrepreneurs – and working with them in partnership so they have appropriate support – will go a long way to transform the lives of poor rural people.

The International Fund for Agriculture and Development (IFAD) considers the development of rural areas key to tackling some of today's most critical challenges, including hunger and poverty, climate change, environmental degradation and energy security.

It is time to create vibrant rural economies that offer decent jobs and real opportunities. Rural young people must be able to see a future for themselves in the places they are born. Today's youth have enormous potential for the innovation and risk taking often at the core of growth and development in rural areas, particularly of smallholder agriculture.

IFAD works to ensure that rural economies can grow and become stable and sustainable places in which the next generations want to live. It supports programmes and projects that foster the conditions that smallholders and other poor rural people need to become entrepreneurs in the new, evolving markets. It advocates for reducing transaction costs, supporting rural producers' organisations, expanding financial services into rural areas and ensuring that small farmers have access to infrastructure, utilities and information – taking full advantage of existing and emerging information and communication technologies. It also promotes good governance.

New realities, new challenges

IFAD recently launched the *Rural Poverty Report 2011*. A comprehensive and current assessment of worldwide rural poverty, it acknowledges both the accomplishments and challenges in smallholder farming throughout the world.

Its findings on food security come from an outstanding collaboration among dozens of experts on poverty reduction and from poor rural people themselves. Their testimonies reveal how poverty and hardship affect their daily lives.

The *Rural Poverty Report* outlines four critical steps to ensure progress. The first is managing risk. Smallholder farmers and other poor people who struggle to feed their families often cannot afford to take necessary risks. These include planting a different kind of crop, attempting new, more environmentally sustainable methods of farming or seeking new markets for their produce. For poor people, risk-taking can seem like a luxury, but is essential for economic growth.

The challenges that smallholder farmers have always faced are today compounded by diminishing access to land, increasing pressure on common property resources, climate change and food price volatility. Giving poor rural people access to the necessary tools to respond to these challenges and to take risks will provide them with more opportunities to be entrepreneurial, creating the conditions necessary for a vibrant rural sector.

Value chains

The second step is to support smallholder farmers to help them to become successful small-scale business people. The world's 500 million smallholder farms support about two billion people. The potential is enormous. Food tastes and agricultural markets are changing, the reach of local and global supermarkets is growing, and modern, consolidated value chains for agricultural products are becoming more common. If smallholder farmers have opportunities to be entrepreneurs, rural dynamics will be transformed.

This requires reducing risk and transaction costs along value chains, supporting rural producers' organisations, expanding financial services into rural areas, ensuring that small farmers have access to the infrastructure, utilities and information they need, and investing in good governance.

The third step is to increase sustainable agricultural production. Boosting food production cannot come from

significantly expanding the amount of land dedicated to agriculture. Unsustainable practices such as cutting down forests and woodlands to create more land for farming would be a step backward for the global environment. Higher production must come from increased productivity through the use of new technologies.

Conventional approaches must be complemented by improved farm production systems. Because there is no blueprint for sustainable intensification, the best practices will be determined by the local context. The difficult task will be to develop policies and institutions that can make this happen on a massive scale.

The fourth step is to encourage and support the growth of non-farm jobs in rural areas. The international community agrees that agriculture will continue to be the key economic driver in rural areas. Profitable farming can be a pathway out of poverty for millions. To meet the growing needs of a hungry world, agriculture must be a viable and rewarding lifestyle.

But, increasingly, agriculture must be just one of many options for poor rural people to overcome poverty. The support of a more modern, diversified rural economy can ensure that people who choose farming and those who choose non-farm enterprises to make their living will be equally successful.

Governments must follow through on the promises that they made in LAquila. Players in all areas of rural development must take action. Developing countries must drive rural development and must be committed to good governance. Where countries have shown their commitment, development agencies and others should support their efforts.

Community leaders

IFAD is working closely with partners to scale up support to rural development. It is also championing a new, more dynamic vision. Market-oriented, profitable, environmentally sustainable smallholder agriculture can spur economic growth in developing countries and lift millions out of poverty.

There must be more emphasis on education and training – especially for women – as this has a direct, positive impact on families and communities. If young people who live and work in rural areas acquire the skills and confidence to run profitable farms or start businesses, they will become the community leaders and farmers of tomorrow.

We must not fail the women and men who live in rural areas. Today they need our support to be active, productive and influential members of society. Tomorrow, we will need their contribution, their creativity, their commitment and their leadership. In vibrant rural economies in which they can thrive, they will have the tools they need to increase food security, lift their communities out of poverty and steer their countries in the direction of sustained economic growth. ♦

“ Smallholder farmers and other poor people who struggle to feed their families often cannot afford to take necessary risks ”



Crop science offers sustainable solutions to food security

In Paul Ehrlich's words from his 1968 book *The Population Bomb*, "the battle to feed all of humanity is over. In the 1970s, hundreds of millions of people will starve to death in spite of any crash programs embarked upon now."

This assertion may seem absurd today, but we are still facing the challenge to provide sustainable global food security for a growing population, while minimising agriculture's environmental footprint. Successfully increasing harvests to outpace the doubling of the global population over the last 40 years has been an enormous achievement. But doing this again, while preserving the environment and protecting biodiversity, will require the best efforts of our scientists, agronomists and farmers, as well as political conditions that are much more favourable to the uptake of new technologies and practice.

Complacency is not an option. About one billion people are still chronically malnourished, including a high proportion of sub-Saharan Africans, and the food crises that have occurred since 2008 have threatened to reverse any progress made in achieving the Millennium Development Goal on poverty reduction. But the

potential is there: earlier this year, Kofi Annan spoke of Africa's capacity to produce surplus food for export, if only advances in agricultural technologies were available to its farmers.

Unfortunately, Europe's contribution has been very disappointing so far. Despite being a base for world-class crop science companies, the EU needs to provide a more attractive environment for innovation and allow its farmers to use the most productive new technologies. Crop biotechnology – showing double-digit growth around the world – is, effectively, off limits to European farmers, while the new hazard-based assessment system for crop-protection products will make it increasingly difficult to produce consistent harvests.

The green revolution was achieved using the best available crop science of the time. Today's best technology is needed again to enable another green revolution, focused on sustainable intensification, to make existing farmland as productive as possible year after year. Together with economists, agronomists, farmers and consumers, the global and European crop science industry wants to make this green revolution a reality.

Challenges

Each year, there are about 75 million additional people to feed, and the global population is set to peak at around nine billion by mid century. That's like adding a new country with a population larger than France every 12 months, or having four extra European Unions in 40 years. To feed them without felling forests and destroying more wildlife habitats means we have to get bigger harvests from our existing farmland.

To compound the challenge, in the parts of the world with increasing prosperity many people are improving their diets through increased meat consumption. Since each kilo of meat needs several kilos of grain, the overall effect is projected to roughly double the demand for food and feed production. Farming, which already uses about 70 per cent of the world's fresh water, will have to find ways to produce more food with less irrigation. It will also have to reduce its very significant contribution to global emissions of greenhouse gases by limiting the main source of these emissions, which is the destruction of forests to create new farmland.

Sustainable solutions

Sustainably increasing productivity is the key to meeting the challenge: increasing harvests year after year on current farmland. Recently, the UK government published *The Future of Food and Farming: Challenges and Choices for Global Sustainability*, as part of its Foresight programme. This report is global in scope, with the insight of hundreds of experts from more than 30 countries.

Their collective conclusion? Concerted action is needed across the food supply system to ensure global food security, and no options should be ruled out. The study, in particular, recognises the vital role played by technology: "More food must be produced sustainably through the spread and implementation of existing knowledge, technology and best practice, and by investment in new science and innovation..."

But it is not enough simply to invest in new science and technology. The benefits must be made available to farmers via well-funded and effective extension and training services. And those on the front line of food production need support from policymakers in the form of an enabling regulatory framework and the ability to trade freely. All these elements must be in place to assure sustainable food security.

Studies show that current grain harvests would be halved if it were not for advanced scientific crop protection, while the continued rapid uptake of biotech crops (now grown on nearly 150 million hectares, an area equivalent to more than France, Germany and Spain combined) has reduced crop losses, the need for spraying, and carbon dioxide emissions. Bridging the gap in the uptake of technology and best practices in other regions, such as in Africa and the Russian Federation, could at least double harvests.

Policymakers must act

Global regulatory frameworks must be consistent and enabling of innovation and technology diffusion. This is particularly true in Europe, which exerts enormous influence as the world's biggest food importer.

Increasing risk aversion without taking benefits into account has led to stagnation in the growth of Europe's agricultural productivity, as well as stifled innovation and the potential loss of products and technologies, which could significantly boost harvests. The *OECD-FAO Agricultural Outlook for 2010-19* foresees food production growth of 15 to 40 per cent in all other major agricultural regions, mainly via yield increases, while output in the EU is set to grow less than four per cent due to its productivity-suppressing policies.



There's more at stake. A recent study by the Humboldt Institute demonstrates that reducing productivity by regulation and subsidy in the EU has led to an area of the developing world's farmland the size of Germany being used to supply Europe: the FAO report calls this a "land grab". This diverts food from local markets and contributes to the further destruction of forests and other natural habitats, accelerating greenhouse gas emissions and biodiversity loss. EU policymakers are failing to take this into account, even though Europeans care deeply about these issues.

If we really want to put global food security at the top of the agenda, then we also have to recognise – as do the authors of the Foresight report – that striving for self-sufficiency is no more an answer than unnecessary reliance on imports. To double the size of our harvests without encroaching even further on natural landscapes means that all available farmland must be used to its full potential and farmers allowed to use the best crop science to do the job. They should also be free to sell on domestic or international markets.

Empowering the world's farmers by educating them and encouraging them to use the best that modern crop science has to offer is truly the way to provide sustainable global food security. Major developments in the life sciences, in chemistry, and in engineering offer significant new opportunities for rapid progress, though they require multidisciplinary approaches and a breaking down of many traditional barriers. To feed the world, the world's farmers must be supported by policies that create a dynamic sector, dependent neither on subsidies nor international aid and aimed at increasing productivity sustainably on the existing farm base.



Ensuring food for all requires a risk-reduction revolution

Recent natural disasters have served as a reminder that those least able to cope are at greatest risk of poverty and hunger. But even during more tranquil times, the world's poorest people remain vulnerable to the volatility of fast-rising food prices

By Josette Sheeran, executive director, World Food Programme

The world must be on red alert, with nearly a billion hungry people and tens of millions being added to that number due to increasing food prices, natural disasters and political instability. G8 and G20 leaders have a critical opportunity to address this problem by creating sustainable solutions to global food-price volatility that, once again, is spreading hunger and instability around the world.

Never before has the risk been greater for those who have the least ability to withstand it. Nothing short of a risk-reduction revolution is needed.

Following the lead of Canada in the G8 at Muskoka last year, France is putting food security and hunger at the forefront of the G8 summit this summer and the G20 summit later in the year. In a vulnerable world with so many pressing needs, meeting urgent hunger and malnutrition is a humanitarian issue to be sure, but it is also an issue of peace and stability.

Food prices are surging, hitting historic levels, seemingly with each passing week. For the World Food Programme (WFP), which last year reached more than 100 million of the people most at risk, this means that there are more hungry people to feed at the same time as costs are rising. The World Bank reports that some 44 million people have already been cast into extreme poverty due to rising food prices.

The world is not facing another silent tsunami. As France's leadership demonstrates, the world is aware of the risks and is taking action. The secretary-general of

“The World Bank reports that some 44 million people have already been cast into extreme poverty due to rising food prices”

the United Nations has mobilised the High-Level Task Force on the Global Food Security Crisis. WFP, the Food and Agriculture Organization, the International Fund for Agriculture and Development, the World Bank and the International Monetary Fund are all scaling up support to mitigate risks for the most vulnerable.

There is also political turmoil, as is evident from the recent events in Tunisia, Egypt, Libya and elsewhere. Natural disasters have also been on the increase – as the devastating earthquake and tsunami in Japan showed. Events like these – and last year's earthquake in Haiti, floods in Pakistan or drought in Niger – used to occur once in a decade. Now the world struggles to deal with many mega-emergencies each year. In fact, the UN's Office for the Coordination of Humanitarian Affairs says that 70 per cent of disasters are now related to climate, up from 50 per cent two decades ago, and the cost of responding has increased tenfold.

These events demonstrate that in today's world risk, volatility and unpredictability are the new normal. And, right now, the poorest and most vulnerable bear the greatest risk. When a family spends 80 per cent of its income on food, shocks such as soaring prices, instability or natural disasters can cast the whole family into the ranks of the hungry overnight.

That is why WFP is asking world leaders to take action to protect the most vulnerable. WFP offers a five-point action plan to the G8 leaders this summer:

First, humanitarian emergency food-reserve systems must be strengthened to ensure that vulnerable nations and people have access to food in the case of a crisis. WFP plays a key role as a central pillar of the existing global humanitarian food-security architecture.

Second, the commitments made by member states at the Rome World Food Summit in 2009 – to exempt humanitarian food purchases from export restrictions or extraordinary taxes imposed to protect the domestic food supply – must be built on and further strengthened.

Third, smallholder farmers in developing countries – many of whom are women – must be helped. When smallholder farmers connect to markets and improve the quality and production of their products, incomes increase, children can go to school, hunger is alleviated and the farmers become a critical part of the solution to food security. Linked to this, WFP is assisting the African



Union with a groundbreaking weather-risk insurance scheme that will pool funds and disperse risk for weather-related disasters.

Fourth, social-protection safety nets must be supported and expanded to ensure that poor and vulnerable people have access to nutritious food and other basic needs. Countries as diverse as Brazil, Mexico, Ethiopia and others are showing the way on how to position safety nets to support development priorities and economic growth.

Fifth, transparency and access to information on food prices, production and stocks must be improved by strengthening multilateral mechanisms and shoring up capacities for early warning systems, household vulnerability analysis and monitoring, needs assessments

Smallholder farmers in developing nations need help to boost production and income

and agricultural production analysis, so hunger needs can be anticipated and prepared for before they become urgent.

If the world comes together, everyone can beat back hunger and malnutrition and provide a foundation of food security to help nations withstand the shocks that are becoming so frequent. G8 and G20 leaders must take bold action. With strong vision and collective investments in risk-reduction solutions, they can help poor countries cope with high and volatile prices and ensure a stable food supply to the most vulnerable while building lasting resilience.

The challenges are great, but they can be addressed if the G8 leaders at Deauville take risk off the backs of the most vulnerable with a set of concrete and sustainable food security solutions. ♦

Scaling up our response to the global food crises

There has been a long history of providing food aid to the world's poorest nations. The G8 is committed to exploiting the power of business to improve efforts to address food and nutrition security, and providing long-lasting changes to diet and lifestyle

By Laurette Dubé and Janet Beauvais, McGill World Platform for Health and Economic Convergence

Current food crises range from hunger to maternal and child food insecurity and malnutrition, to food safety outbreaks and diet-related chronic diseases. Although there is no consensus on the root causes, global leaders – in the G8, international institutions and the private sector – recognise the need to harness the power of business and other stakeholders to ensure adequate, sustainable food production for the world's growing population, with systematic integration of smallholders and local entrepreneurs into national and global value chains. Food value chains are highly complex and increasingly globalised, with many diverse stakeholders that rely on both public and private sector investment and services.

Addressing food security

Global leaders have argued for the active involvement of all stakeholders in creating policy that addresses critical food security issues. The private sector has much to offer, including a large capacity for research and development, and extensive supply chains and market penetration. Nonetheless, the dialogue and partnership among business, government, civil society and international organisations are not yet routine and have still to achieve the necessary impact.

At the 2008 G8 summit in Japan, France led the way in creating the Global Partnership for Agriculture and Food Security (GPAFS). The GPAFS was very similar

“Diet-related chronic diseases are gaining prominence as a growing global threat”

to the United Nations High-Level Task Force on the Global Food Security Crisis: it built on the efforts of international institutions to ensure attention to food security at the highest global level, and to join a broad community of experts who could inform policymakers. However, the GPAFS was designed as a multilateral financing mechanism to allow the immediate targeting and delivery of additional funding to public and private entities to support national and regional strategic plans for agriculture and food security in poor countries.

The following year, at the LAquila Summit, governments committed to implement the GPAFS, as well as what became known as the LAquila Food Security Initiative (AFSI). The initiative was a pledge for G8 countries and other governments, regional organisations and international institutions to create a fund of \$22 billion to be disbursed over three years to encourage rural development in the poor countries. The AFSI seeks to “partner with vulnerable countries and regions to help them develop and implement their own food security strategies, and together substantially increase sustained commitments of financial and technical assistance to invest in those strategies”.

The 2010 G20 Toronto Summit extended the potential role of the private sector by committing to “explore innovative, results-based mechanisms to harness the private sector for agricultural innovation”. The G20 leaders noted that “the private sector will be critical in the development and deployment of innovative solutions that provide concrete results on the ground”. They further committed to “exploring the potential of innovative, results-based mechanisms, such as advance market commitments, to harness the creativity and resources of the private sector in achieving breakthrough innovations in food security and agriculture development in poor countries”.

The G8 Muskoka Summit, in June 2010, saw the creation of the Muskoka Initiative on Maternal, Newborn and Child Health, spearheaded by Canada. The initiative would mobilise \$5 billion in additional funds over the next five years, through such actions as addressing food security and better nutrition for mothers and children.

Harnessing the power of business to assist in implementing the nutrition elements of the Muskoka Initiative was highlighted in the 2010 'Scaling Up Nutrition' framework, led by the World Bank, UNICEF, the World Health Organization (WHO) and the World Food Programme, with a range of developing country partners, civil society organisations and bilateral agencies.

While the progress in meeting the G8 and G20 commitments to food security and maternal and child health and nutrition will be reported at upcoming summits, it remains important to assess whether including private-sector funding streams in the GPAFS and the 'Scaling Up Nutrition' framework has assisted in exploiting the power of business and enhancing responses.

Despite the G8's efforts, diet-related chronic diseases are gaining prominence as a growing global threat. Chronic diseases have been the leading causes of death in developed countries for decades, but in developing countries 80 per cent of deaths now occur from chronic diseases, with cardiovascular disease as the leading cause due to changes in diet and lifestyle. Consequently, the UN announced a High-Level Meeting on Non-Communicable Diseases (NCDs) in New York in September 2011. Without the engagement of business, it is unlikely that significant and long-lasting change can be secured for diet-related chronic diseases.

Business solutions

Moving beyond traditional involvement in advocacy and basic corporate social responsibility, business has provided achievable and sustainable solutions to respond to the food crises. These have taken many forms, such as including health-promoting innovation in their value-creating activities, integrating smallholders and local entrepreneurs into supply chains, and partnering with local, national and global civil society organisations. Such initiatives still exist in silos, independent of the formal institutional architecture, be it in the agriculture, health or economic domain.

Recognising that the power of business could be better harnessed in response to food insecurity, maternal and child nutrition and NCDs, over the past decade the McGill World Platform for Health and Economic Convergence (MWP) has pioneered an interdisciplinary and cross-sectoral approach to a result-oriented analysis of dynamic systems of a kind that policymakers, smallholder farmers, business entrepreneurs, national and transnational corporations can use. The MWP experts' meeting in March 2011 at the Rockefeller Foundation Bellagio Center discussed issues of private-sector engagement in improving efforts to address food and nutrition security in all its facets.

The experts observed that business engagement in addressing food and nutrition insecurity has not reached its full potential, partly because the private and public sectors still seek to maintain their independence. Interdependent collaboration is needed to increase sustainability and scalability of value chains and other initiatives that can catalyse investment, facilitate metrics and align incentives. Multi-sectoral action of a sufficient scale and scope will only be possible where multistakeholder buy-in is assured.

Another key observation of the group was that the UN's upcoming NCD summit is an opportunity to explore new ways to engage the private sector, in addition to the existing G8 and G20 opportunities. The NCD summit is a crucial occasion to identify resources (financial and in kind) that can be mobilised for specific projects and goals arising from the meeting. Accountability will be ensured by measuring the impact of these actions by the private sector's use of innovative metrics. Concerted actions that engage business and harness the power of all actors in society, will require novel forms of organisation and collaboration across sectors where all stakeholders partake in the shared and simultaneous creation of social and economic value. ♦

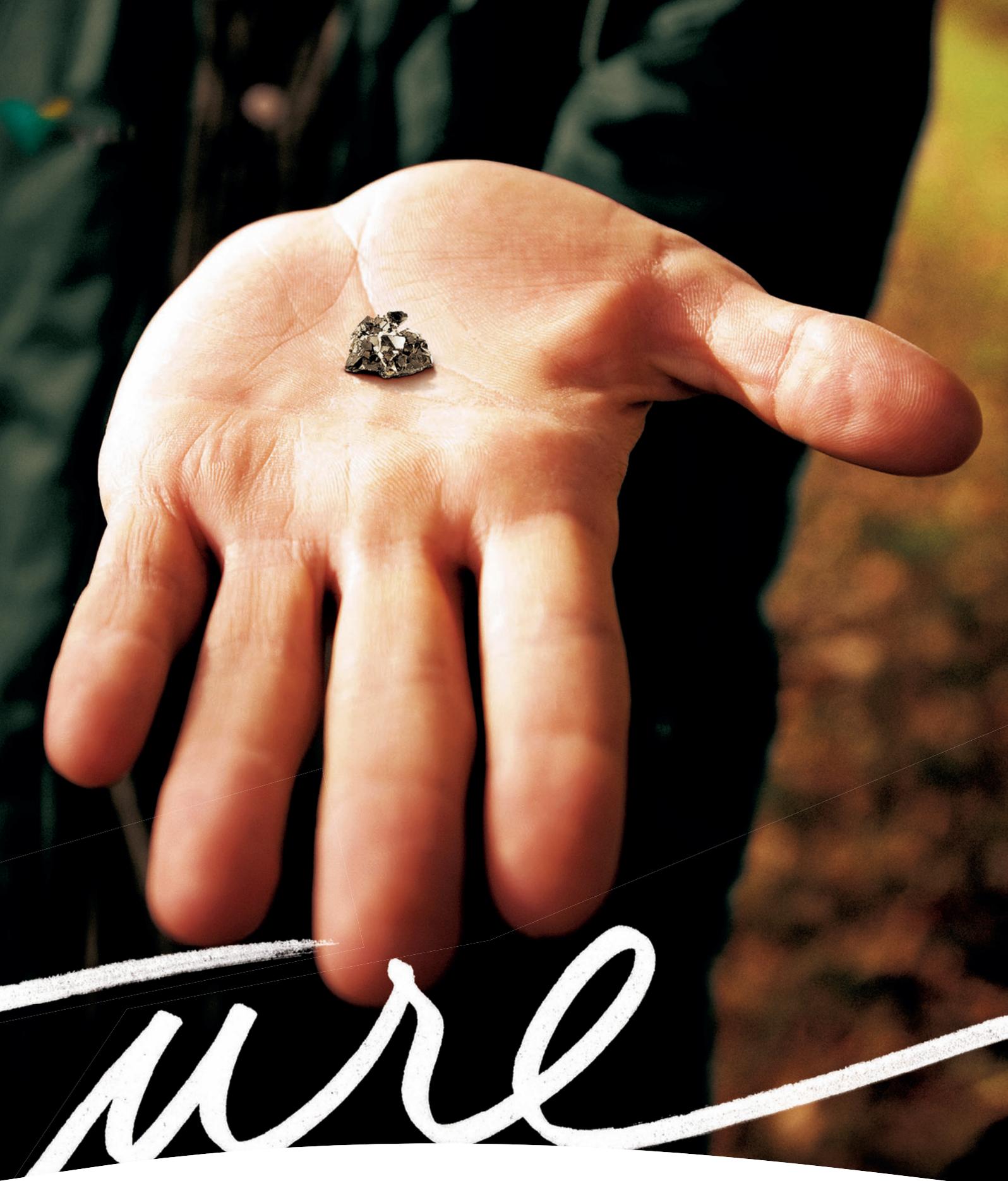
A multilateral approach to food security is required to ensure consumer safety and improve overall nutritional habits



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Raising awareness of water and sanitation

Many of us take water for granted – we turn on a tap and it's there. But for many, access to clean drinking water and sanitation facilities is not a reality. Tougher measures are needed to ensure that these basic human requirements are achieved

By Loïc Fauchon,
World Water
Council

The planet is protesting, crying out about famine, poverty and violence. These are the everyday fate of most members of the human race. And we are deaf to it. The planet also weeps for the despoiling of its riches and the rape of its resources. But more often than not, we do not listen to its cries.

That is how it is with the modern world, with its increasingly human-made disasters and its conflicts that exist only on Twitter, and with its wars that are no less cruel for being silent. But one thing does not change: the weak remain weak and the poor get ever poorer. A small minority cash in while the majority barely survive.

However, there are visible signs of hope and audible messages of optimism. The human community is becoming aware – slowly it is true, but surely – that a different world is coming. The recent agreements at the conferences in Nagoya on biodiversity and Cancun on climate are the most obvious signs of this change.

There is a will to see a shift in the line that divides dialogue and consensus from ignorance and conflict. On the one hand, there is a pressing need to change a world in which the scarcity of resources is becoming, little by little, the rule. On the other, billions of people are in desperate need of food, water, energy, healthcare and education. All these types of security can be brought together under a single banner: development. So far, development has wavered between sharing and looting. There has not been enough action to push for an alternative.

Having access to water and sanitary facilities is not part of many people's normal lives. A billion people? Two billion? Many more... nobody knows how many people find access to clean drinking water and sanitation not just a question of convenience, but also – and primarily – one of dignity. This is why the right to water is such a pressing need. The General Assembly of the United Nations took an important step forward in July 2010, when it passed a resolution classifying access to water as a basic human right.

In the terminology of rugby, a try is followed by a conversion. To ensure that this right to water is enforced, we need to take irreversible long-term measures. This means including the right to water in the constitution or basic law of every country. This also means guaranteeing minimum quantities for the poorest and legislating to ensure that when schools are built and renovated, they include taps and sanitary facilities.

Ensuring this right and the dignity it confers is only possible if the foundations of better access to water are laid worldwide.

“ More generous, precisely targeted funding is indispensable ”



The demand for fresh water for farming and for industrial and domestic use continues to increase, and the world needs to tackle a major population explosion. It also needs to tackle demand from towns and, more generally, changes in the way people are consuming water in the major developing countries, such as India and China.

Technology can help expand the use of desalination, ship water over long distances by pumping deep groundwater, recycle wastewater and use water from karstic systems. All these new techniques can help quench the thirst of the planet's new inhabitants over time and in every corner of the globe. However, none of these techniques can help unless today's world accepts that it has to curb its own thirst. Tomorrow's world will need strict rules on the use of water. Easy water is a thing of the past. Very strict policies on reducing consumption must be gradually introduced all over the world.

As this new balance between available resources and effective consumption is gradually achieved, it is important to ensure that the financial, institutional and managerial conditions for its efficient use are right.

More generous, precisely targeted funding is indispensable. It depends primarily on more assertive political decisions to give water and sanitation budgets priority at every level – international, national and local. "Taps before guns" should not just be a trite slogan to be parroted when the occasion requires; it must be a determination to put spending on public services above spending on communications or arms.

Innovative types of funding, such as independent water budgets, special taxes such as a tax on air travel and stock

exchange operations or, under certain special conditions, microcredit, will all play an important role.

Management of water by citizens and consumers will have to be introduced in many countries where the control of water is over-centralised.

Involving water consumers by first making them aware of the issues, and then taking responsibility for them, is an absolute necessity. Making water an everyday issue for everyone will both facilitate making transparent choices about how to manage water and help people accept that water must be saved everywhere on the planet.

To do this, everyone needs more knowledge and more skills in the fields of water and sanitation. It is only worth transferring skills if they are suitable for the communities in which they are to be applied. And every day it becomes clear that such skills must include not only the ability to invest and build, but also the capacity to manage and maintain water infrastructures.

G8 members have an essential responsibility in this peaceful battle for water. They first need to raise water and sanitation to the rank of a priority for the planet, and involve international organisations and development banks. Next, they need to facilitate the implementation and propagation of 'water solutions', an essential objective of the next World Water Forum to be held in Marseille, France, in March 2012. They also need to ensure that these solutions are transformed into 'Commitments for Water', for which every government and local authority will have to answer to the international community. Water is essential to the future of humankind. It is only in this way that its continued survival can be assured. ♦

Ensuring that water users take responsibility for the issues surrounding consumption is the essential first step



Reduce, recycle and replace: District Energy as a driver for green growth and jobs



Energy is vital to the functioning of our societies. We need solutions that make it possible to combine sound economic growth with customer convenience and little environmental impact. District heating and cooling is the key to green growth. The fundamental idea of modern district heating and cooling (district energy) is to recycle heat that otherwise would be lost, and to use renewable sources to supply heating and cooling comfort to citizens. In other words, a market place for green heat that reduces consumption of natural gas and fuel oil.

Today, the share of district energy varies significantly throughout the industrialized world, ranging from up to 70 per cent to less than five per cent. Yet, with increasing numbers of the population living in cities, the technology has tremendous growth potential.

As representative organizations of the district energy sector, Euroheat & Power¹, IDEA², Dansk Fjernvarme³, and the Danish Board of District Heating⁴ decided two years ago to join forces in leading the way towards a resource-efficient, low-carbon heat supply. Together, we enjoy worldwide membership and we put our efforts into mobilizing members, customers, NGOs, municipal, regional and central governments and politicians for adequate climate action.

The second edition of the Global District Energy Climate Awards – taking place on 9 May 2011 in Paris with the support of the International Energy Agency and the French district energy associations SNCU/FEDENE⁵, just two weeks ahead of the G8 Summit – reflects this commitment by showcasing and rewarding outstanding innovative projects from around the globe.

Our associations are united by the belief that accelerated transition to a sustainable energy future is not only feasible,

but will also foster qualitative growth. We share the interest for heating and cooling as a market that provides important possibilities for better energy integration and efficiency. A market that is a giant – not only in energy consumption, but also regarding available near-term low-energy, low-carbon solutions coming along with significant economic opportunities.

Respecting the energy hierarchy

To achieve a “sustainable, low-energy future” rather than a “low-carbon future”, the industrialized countries cannot afford to lock themselves in the current energy-supply structures, infrastructures and mindset. The great majority of the population in industrialized countries lives in cities, therefore policies primarily need to address the challenge and opportunity to develop an integrated vision of electricity, heating and cooling comfort, waste, water, industrial activities, housing and transport solutions for cities.

Any scenario for green growth must include aspects such as resource efficiency, territorial cohesion, integration with urban planning, creation of jobs, long-term affordability, and local welfare. It must reconcile renewable and energy-efficiency policies,



as well as the demand and the supply side. Only by developing a systemic view we will be able to find the most resource-efficient and cost-effective way of using the wide range of locally available low-carbon energy resources, while reducing the environmental impact of all sectors and satisfying the needs and aspirations of the modern society and its citizens in the long term.

Therefore, we encourage government leaders to act and define measures along a clear energy hierarchy, which can be summarized as the three REs:

- Reducing high-grade energy consumption;
- Recycling low-grade energy that otherwise would be lost, i.e. surplus heat; and
- Replacing fossil fuels with renewable energies

Recognition of heating and cooling as markets in their own right

Heat is the major end-use of energy. Cooling demand is also set to grow dramatically over the coming decades. At the same time, almost half of the energy content of primary fuels is lost in conversion processes. Recovering at least part of these losses will, inevitably, benefit competitiveness.

Heating and cooling markets have their own specificities regarding sources, production, supply and uses that are different from other segments of the energy market. These can only be properly addressed if heating and cooling are recognized as markets in their own rights and addressed as a dedicated policy area. Where on-site renewables and measures on the building envelope are given priority over equivalent measures at the level of districts, huge potentials for efficiency improvements and the opportunity to systematically phase out direct use of fossil fuels in these markets in a time horizon well before 2050 are left aside.

To boost low-carbon comfort supply to citizens, we call for the explicit recognition of heating and cooling as policy areas and the provision of a long-term vision for these sectors that fully exploits the synergies with other markets, based on the energy hierarchy above.

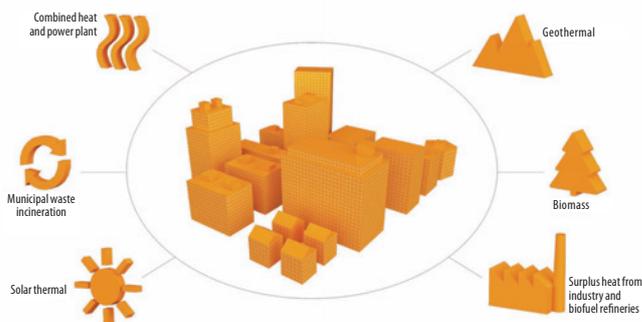
Redirecting investments into sustainable energy infrastructures – also locally

Considering heating and cooling a local responsibility only as compared to electricity results in imbalances in financing and research priorities. Prioritizing policies and earmarking investments towards this sleeping giant, and investing especially in district heating and other urban energy infrastructure, would yield long-term benefits for all and result in long-term affordable prices (as compared to highly volatile prices on global fuel markets). Long-term commitment and policies, with aligned funding by governments to decentralized energies, could give an impetus to energy efficiency and renewables, while keeping the overall energy expenses for households low.

To reconcile central and decentralized energy supply initiatives, we call upon the G8 partners to demonstrate leadership by systematically including local energy infrastructures in national and international financing initiatives.

Responsibility for citizens

Sustainability calls for citizens' engagement. Empowering citizens on energy issues to make them voluntary actors, both in consumption and production, is a huge opportunity to make the process towards a new sustainable economy a success. Empowering citizens means: organizing dialogue and acceptance-building; enabling informed choices – not only at individual level, but also at the level of collectivities, with the latter being



of particular importance when it comes to local infrastructures; long-term commitments and financial incentives. Empowering citizens implies talking not only about cost, but also about value, as well as rethinking pricing and business models in a future low-energy context. Only where true dialogue exists, can innovative (societal, business) models emerge.

With a view to enable local authorities and other stakeholders to leverage on bottom-up solutions, we call upon the G8 governments to reconsider cities and citizens not only as appendix and executors of top-down policies, but to support them and all stakeholders in experimenting new, voluntary, democratic and integrated ways of organizing energy supply and acceptance-building.

More information about the Global District Energy Climate Awards can be found at www.districtenergyaward.org

In the G8 Gleneagles Communiqué of July 2005, G8 leaders stated that: "IEA will advise on alternative energy scenarios and strategies aimed at a clean, clever and competitive energy future." In Heiligendamm in 2007, these leaders issued a direct charge that nations must increase their use of Combined Heat and Power (CHP). In response, the IEA created the International CHP/ District Heating and Cooling (DHC) Collaborative to guide the G8 and other efforts. The Collaborative assesses global markets and policies for these important technologies. More information about IEA efforts to analyze the benefits of district energy and CHP can be found at <http://www.iea.org/G8/CHP/chp.asp>

Footnotes

1. Euroheat & Power, the International Association of District Heating & Cooling
2. IDEA, US-based International District Energy Association
3. Dansk Fjernvarme, Danish District Heating Association
4. DBDH, Danish Board of District Heating
5. SNCU/FEDENE, French District Heating and Cooling Association

