

Linking Relief, Rehabilitation and Development: A role for urban agriculture?

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Natural hazards, civil conflicts, wars and economic crises continue to generate unstable and unsafe conditions, placing immense pressures on communities and local livelihoods. These emergency scenarios often result in people fleeing their homes to other areas or crossing borders to other countries, thereby creating mass refugee situations. Many of these refugees or internally displaced persons (IDPs) have to remain in refugee camps for extended periods or reside (often illegally) in and around urban areas.

Consequently, many people living under the harsh conditions of refugee life will try to improve their food security by establishing some form of agriculture, such as small-scale gardening in refugee camps, in backyards, or on open spaces outside settlements. And where land is limited they may resort to micro-technologies, such as container gardening, pots on shelves or hanging baskets.

In the previous issues of Urban Agriculture Magazine we highlighted the multiple functions of urban agriculture, including its role in building communities and sustainable environments. We also discussed the processes of technological, organisational and institutional innovation in urban agriculture. In this issue we focus on the role urban agriculture plays in linking relief, rehabilitation and development following a disaster or in emergency situations.

Disasters and emergency situations

Different types of hazards can cause disasters or trigger crisis situations. Disasters can be rapid-onset or slow-onset, the latter building up over a period of months. If the crisis is characterised by political instability or high levels of violence, it is often referred to as a complex emergency.

Disaster risk is a function of the intensity of the hazard and vulnerability (Risk = Hazard x Vulnerability). Vulnerability is defined as the capacity to anticipate, cope with, resist and recover from the impact of a hazard (Wisner et al., 2004). Crisis situations therefore have a higher impact in vulnera-



Provision of local female goats
Photo: Astrid van Rooij

ble areas and a disproportionate impact on the urban poor, especially women, children and the elderly.

Fragile states are currently in the centre of the development debate. The gap between the developed and developing countries is widening, with the poorest states stagnating and even regressing. In these states achieving the Millennium Development Goals is a particularly difficult challenge. Many of the fragile states, a group of 30 to 50 countries depending on the definition used, are low-income countries characterised by a weak state capacity or ineffective or “bad” governance. Their economic, social and political institutions have a diminished capacity to absorb shocks and they are therefore more susceptible to conflict and crisis. As the level of vulnerability determines the actual impact of a hazard, the impact will be more extensive in these countries than in countries characterised by security and stability, thus highlighting the increased attention needed for these fragile states.

Different types of disasters and resulting impacts are discussed below and illustrated by articles in this magazine.

Economic crises result in rising food prices, declining real wages, formal labour market redundancies, and cuts in food

subsidies. Reduced public expenditure also has its impact on basic services and infrastructure. In these situations refugees, migrants and the urban poor frequently resort to non-market (informal sector) livelihood activities, including urban agriculture.

Jakarta is a good example. The financial turmoil that first hit Indonesia in 1997 left millions of people without sufficient money to buy food, and thus vulnerable to food insecurity. Consequently, people started to produce food on small plots and open spaces all over the city, even transforming former public parks into gardens, as government bodies encouraged the people of Jakarta to grow their own food.

Addressing the crisis in Cienfuegos, Cuba

By Alejandro R Socorro Castro

Cuba is often presented as an example where government policies encouraged urban agriculture. Major national measures were taken in response to the crisis in the 1990s in the agriculture and food sector, like the conversion of large state-owned farms into new cooperatives, or Basic Cooperative Production Units, and the granting of land to people and organisations to produce food. The National Urban Agriculture Programme started in 1993, and proposed to stimulate food production in available urban and periurban spaces, taking advantage of the opportunities offered by the availability of labour and the close proximity between producer and consumer.

Within 15 years of implementation, the National Urban Agriculture Programme led the municipality of Cienfuegos to unprecedented levels of production, along with other favourable results. A study (UMP LAC, 2002) concluded that urban and periurban agriculture in Cienfuegos enhances food security and constitutes a movement with widespread public participation, involving men and women of different ages.

Urban agriculture in the municipality of Cienfuegos in 1996 consisted of about 34 hectares of organoponics (a system based on the use of substrates composed of mixtures of soil and organic material from different sources) and another 2 hectares of gardens. By 2006, urban agricultural production was taking place in organoponic systems, intensive gardens, plots and backyards (basic modes of urban agriculture practice), covering a total surface area of over

Economic crises often have a social or political origin. Probably the best known example of a country adopting a national urban agriculture policy in response to such economic and political constraints is Cuba (see box below). Other examples of cities that have promoted backyard gardening, rooftop gardens, institutional and school gardens as a standard component of emergency agricultural response include Harare (Zimbabwe, see the article on page 26), Lagos (Nigeria), Rosario (Argentina), and Gaza in Palestine (as reported in earlier issues).

The current global economic crisis is related to our oil-dependent economy. The price of food, a subsidised commodity for over fifty years, has demonstrated its oil dependency by rising with every dollar on a barrel of oil. But other factors, such as the use of grains for bio fuels and the growing demand for imported food by China and India, have also contributed to steep increases in global food prices. Global food prices have increased 83 percent in the past three years, pushing 100

1,525 hectares (including vegetables, rice fields, roots and tubers, corn, sorghum and beans) (Minagri, 2007), and an additional 1,200 hectares of land was being used to raise animals (mainly sheep, goats, rabbits, pigs and poultry).

The resulting system of urban agricultural production is intensive (high yields are produced per unit of land) as well as viable and profitable in a context of scarce inputs. Urban agriculture further increases the resilience of Cuba's cities against hurricanes, which batter the island every year. The development of urban agriculture was facilitated by the population's high level of education, the availability of vacant land, the provision of free technical assistance and financial and material support, and the development of appropriate policies and a regulatory and legal framework adapted to the new conditions. The programme was based on participatory decision making between the government and various social and economic sectors, and was linked at national, provincial and local levels.

Fifteen years after the initial organised actions of the urban agriculture movement in Cienfuegos, this activity was integrated into the municipality's General Territorial Ordering Plan.

MINAGRI Provincial Delegation / Cienfuegos, 2007. Operational Report on Urban Agriculture.

UMP-LAC. 2002. Implementation of the Urban Agriculture Programme in Cienfuegos. Urban Management Programme for Latin America. (In Spanish).

A full article on Cienfuegos will be published in the next UA-Magazine (no. 22).

million people deeper into poverty (RUF, 2008). It is a sobering fact that cities like London (UK) are never more than five days from food depletion; such is the city's dependence on imported food. Agricultural production in and around cities reduces food transportation costs, and can improve access to (cheaper) fresh food, thus reducing vulnerability in the poorer sections of the city, while also improving the general urban ecology and environment (Hopkins, 2008).



Income generating activity in Buduburam, Ghana
Photo: A.Adam Bradford

Environmental and natural disasters impact millions of people globally in the form of drought, flooding, hurricanes and earthquakes (see the article on New Orleans on page 28). According to the International Federation of the

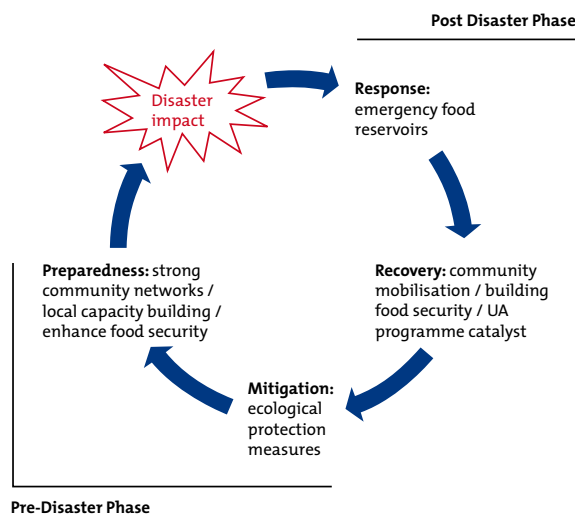
Red Cross and Red Crescent Societies (UNHCR, 2006) the total number of people affected by natural disasters has tripled over the past decade to two billion people, with an average of 211 million people directly affected each year. This is approximately five times the number of people estimated to have been affected by armed conflicts over the past decade. In recent climate change debates it has been said that many cities run the risk of becoming “environmental disaster traps”, where a diminished food supply from the rural areas (caused by floods, droughts, gale winds or frost) could lead to severe food shortages (the next issue of the UA Magazine will discuss this issue further).

Unlike natural disasters, many **man-made emergencies** are deliberate and intentional acts that cause significant population movements (internal and cross border). These situations involve an intricate web of volatile and often hostile military and political forces. For example, in the Indonesian province of Aceh, conflict, violence and a massive counter-insurgency campaign by the Indonesian military against separatist rebels has displaced more than 300,000 people since 1999. Many of these people were forced to move again after the tsunami of December 2004, which displaced an estimated half-million people - 12 percent of the population (see the article on Aceh on page 29). The recent crisis in Gaza is another example: the Israeli invasion has caused over 90,000 people to flee their homes, while agricultural life has been thrown into total disarray with the fields, trees and crops destroyed. Most of the agriculture in Gaza can be considered urban (Laeremans and Sourani, 2005), and apart from the aid provided by NGOs the rehabilitation of this agriculture is paramount for food security in Gaza.

Whether as a result of a hurricane, prolonged drought, armed conflict or economic crisis, people in disaster situations always experience shortages in their basic needs, such as food, water, shelter and health care. According to the

UNHCR (2006), there were about 10 million refugees (people who flee across borders) and 13 million internally displaced persons (people who flee within their country of origin) in the world in 2006 due to various types of crisis situations. These people are either settled in camps in rural or urban settings or they live dispersed in settlements and slums in urban areas. As articles in this issue show, while displaced people (for instance in Kenya and Jordan) are entitled to support themselves in obtaining food and other basic needs, they are often not allowed to work or fully integrate with the host society, a constraint that is often compounded by a lack of access to land for productive uses.

Insecurity in specific regions can continue for many years. Refugee camps tend to gradually convert into “shanty towns” or become permanent settlements (see the articles on Kakuma on page 11 and on Ethiopia on page 16). Many of these “camps” are difficult to distinguish from surrounding towns. Many displaced people will never return to their original “home” areas for a variety of reasons, and would rather seek new livelihood opportunities in and around nearby cities. Despite many ongoing conflicts, in some countries there are opportunities to rebuild communities and to facilitate the return of refugees and other displaced populations. The largest returns in recent years include the repatriation of more than 3.4 million refugees to Afghanistan and the return of over a million displaced persons to Bosnia and Herzegovina, Sudan, Sierra Leone, and Liberia (see the articles on Liberia and Sierra Leone on pages 22 and 19). Repatriation is the beginning of a long process of reintegration.



Disaster management cycle with urban agriculture linkages
Adapted from Alexander 2000:3

From crisis to development

Disaster situations can be viewed as a series of phases on a time continuum. The disaster cycle as illustrated in the figure is used to illustrate the different elements of disaster management (mitigation, preparedness, relief, and recovery). Identifying and understanding these phases may help aid workers and urban planners identify disaster-related needs and then implement the appropriate disaster management activities. The *relief* phase is the period immediately following the occurrence of a disaster, when exceptional



Dumped food aid Lebanon 2006
Photo: A.Adam Bradford

Food distribution versus food production in disasters and emergencies

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Food distribution to beneficiaries during times of crisis and disaster has always been the main food aid response, since the Biafra War of the late 1960s, when media reports were successfully used in the west to mobilise public support to fund the relief effort. Despite some very successful examples of small-scale food production in refugee camp situations, little attention is given to food-producing-based relief strategies, with the main relief aid strategies still focusing on food distribution as the main response mechanism.

The chain of response to an emergency is as follows:
Crisis → Resource mobilisation → Relief implementation → Food security or Food dependency.

In a disaster aftermath the emphasis is on fast and effective food distribution, and this approach fits well into the media campaigns run by the implementing agencies. In the table below these are expressed as primary issues. But when food distribution programmes are viewed over the long term, secondary issues such as food dependency, corruption, and programme costs come into play. Despite being effective for its purpose, i.e. saving life, food distribution remains a highly inefficient food security tool due

to high food and fuel prices and often extensive logistical costs. Of course there are situations when food production is not a viable option, for example when agricultural land is contaminated or mined. However, a focus on food distribution with only minor gardening initiatives (not as part of the longer-term strategy) would result in major lost opportunities, as the implementation of food production can play an important role in mobilising and rehabilitating communities following the impacts of a disaster or emergency.

Food distribution, as part of immediate relief, should be planned in conjunction with food-producing options, as part of the rehabilitation and development strategies, so that transitions from food dependency to food security can be made at the earliest opportunity and with minimum risk to the beneficiaries.

Table Food distribution and food production: comparison of issues

Food Distribution	Food Production
<i>Primary issues</i>	
Provide immediate food security	Provide sustainable food security
High media impact	Lower media impact for fundraising strategies
High donor expectations	Low donor priority in initial relief response
Requires mainly logistical expertise	Requires greater programme expertise
Faster initial food delivery to disaster victims	Time lag before first crop harvests
<i>Secondary issues</i>	
Provides logistical infrastructure to implement emergency nutritional feeding programmes	Time lag before specific crops can be produced for emergency nutritional feeding programmes
Limited land requirements	Agricultural land may be contaminated or mined
Requires high-cost food and fuel inputs	Requires low-cost tool/seed/training inputs
Corruption/embezzlement/risk of rising food prices due to high/rapid levels of local purchasing	Less opportunity for corruption/embezzlement and builds strong local markets
Creates beneficiary dependency	Empowers and mobilises communities while also bringing psychological benefits
Creates food dependency	Creates food security
Mainly processed crops (may include GM foods)	Higher nutritional content in freshly grown crops
Can contain unfamiliar and culturally unacceptable produce leading to food dumping	Incorporates indigenous vegetables and locally used crops, enhancing local production
Blurs transition from relief to recovery, even creating barriers to future development	Catalyst for implementing land-based mitigation and food-security-based preparedness strategies
High carbon count from food mileage and processing	Lower carbon count

Liberian refugee camp, Buduburam, Ghana

The UNHCR-administered camp at Buduburam was established in 1990 for refugees fleeing from the First Liberian Civil War and over the pursuing five years was home on average to 40,000 Liberian refugees. The Second Liberian Civil War (1999-2003) brought further crisis and once again influxes of refugees arrived in Ghana on route to the camp at Buduburam. Although the camp remains a permanent feature it now has a much-reduced total population in the vicinity of 7,000 to 10,000 refugees. Every month WFP food aid is distributed to the vulnerable persons in the camp. On the same day of delivery, traders from the capital Accra, also descend on the camp only to buy the maize grain directly from the beneficiaries. The traders then return the grain to Accra, where it is sold to local and national markets at a substantial profit for the traders. Meanwhile the beneficiaries use the meagre earnings to purchase rice from the local market as rice is the Liberian staple crop as opposed to maize. This situation of course begs the question: why can rice not be distributed in the first



Liberian refugee camp, Buduburam, Ghana Photo: A.Adam Bradford

place? And preferably Ghanaian rice which has a higher nutritional value than the rice imported from the USA. Notably, urban agriculture is taking place in areas around the camp, but

these interventions are not currently receiving effective institutional support. In addition, agricultural extension services at the camp remain nonexistent due to a lack of resources, such as the agricultural handbooks for refugee situations which the UNHCR have produced in Switzerland but have not been distributed to this particular camp in Ghana.

measures have to be taken to search for and rescue the survivors, as well as meet their basic needs for shelter, water, food and medical care (provision of emergency aid). In the *rehabilitation* (or recovery) phase, operations are planned and decisions taken with a view to facilitating more structural adjustments to the impacts caused by the disaster (helping people to recover what they have lost). *Reconstruction* refers to the actions taken to restore affected areas to their former (living) conditions after a period of rehabilitation. Such actions include the construction of permanent housing and the full restoration of all services, leading to circumstances in which financial and material resources can once again be used to pursue longer-term development goals.

These phases do not necessarily capture the cause and effect relationship between disasters and social and economic development, or the need to gradually change from emergency relief to development assistance. For example, the rehabilitation phase after a disaster provides significant opportunities to initiate development programmes, and act as a catalyst for the implementation of mitigation and preparedness strategies, thus building longer-term resilience. Rehabilitation programmes can be specifically aimed at teaching new skills, and strengthening the sense of community and leadership. This is particularly important in the case of protracted refugee situations and in urban areas. In the longer term this capacity building process can also contribute to restoring local municipal government, which in turn legitimises and builds good governance at the state level. This need to fill the gap between humanitarian aid and development is frequently debated and is addressed in an approach called *Linking Relief, Rehabilitation and Development (LRRD)*. The European Union (in its European Commission Humanitarian Aid (ECHO) programme) emphasises the importance of this linkage. Nevertheless it remains a challenge to smoothly integrate the two streams of aid as there are opposing views on how relief should be provided.

In this LRRD process, attention to *self reliance* is important: this is the capacity of a community to either produce, exchange or claim resources which are necessary to ensure its sustainability and resilience against future disasters. The introduction of the concept of *sustainable livelihoods* also moves away from perceiving refugees as vulnerable people entirely dependent on external relief aid. A livelihoods approach in emergency settlement camps focuses on strategies that facilitate beneficiaries to meet their basic needs, while also identifying the constraints that prevent them from enjoying their (human) rights and thus developing their livelihoods. The concept of *human security*, finally, promotes a shift from focusing on state security (i.e. mainly on the protection of state territory), to focusing on human issues and rights (right to food, right to shelter, etc).

In doing so, it widens the scope of interventions from governments and international organisations and addresses issues such as increasing access rights of displaced people to land, rather than just addressing food security and human protection. Human security further pays attention to the array of issues behind the complex international causes of population movements, explaining the causes and linking them to development and poverty. Increasingly, there is an emphasis on preventive strategies, such as the development of good governance. See the articles on Kakuma (page 11) and Uganda (page 13).

Food security is one dimension of human security. It relates to availability, access, and use of food. Food *availability* at the household, city or national level can be affected by a war, due to its disruption or destruction of farming land or the transport infrastructure, or by natural disasters such as drought, floods, locust infestations, or mudslides that destroy a harvest. Food access at household level can be disrupted by a lack of purchasing power or disease amongst the house-

hold members. Food use can be affected at an individual level, when people are ill or wounded, or have needs for specific types of food (like pregnant women, young children, people recovering from disease, etc.).

The role of urban agriculture

Urban agriculture has always been used as a food security strategy during economic and emergency situations. Examples include the extensive “Dig for Victory” campaign in Britain during the Second World War, and more recently “Operation Feed Yourself” in Ghana during the 1970s. Similarly in many other countries, backyard farming, and institutional and school gardening have all been encouraged during times of food instability, with many examples featured in this issue.

Directly after a crisis, little attention is given to agricultural production or the protection of farming sites. When relief agencies depart, as they eventually do, outside support and resources decline, often leaving large numbers of affected people dependent on external food aid for extended periods of time (see figure on page 5).

The reasons to support agriculture-related activities in the early stages of the post-disaster phase are numerous. Firstly, there is a need for fresh and diverse food (in addition to the supply of staple foods). Increasingly the potentials of vegetable gardening and other agricultural production activities (e.g. eggs, mushrooms, medicinal herbs, etc.) in protracted refugee situations are being recognised (see the interview with UNHCR on page 18). Secondly, becoming involved in constructive activities may help people regain dignity, hope and self respect and enhance overall well-being. Home or community gardening activities help increase self reliance, allowing people to grow their preferred crops and varieties, and can improve their skills and knowledge, while additionally reducing operational costs for humanitarian agencies and potentially contributing to restoring the social fabric of disaster-affected communities. Urban agriculture can play

multiple roles in different phases of the disaster management cycle. Instructions for protecting primary food production are given in the Sphere Project guidelines, which also contain planning and design recommendations for allocating small plots of land for use as kitchen gardens (see The Sphere Project guidelines on page 31).

In the longer term, gardening also generates income and improves associations and linkages with other refugees or local communities, while contributing to the broader development of the area where refugees are hosted by stimulating local markets and trade. Deliberately combining attention to food production and to social inclusion is illustrated, for example, in the article on El Alto Bolivia on page 32. *Finally*, natural resources can be conserved and protected by promoting sound agricultural practices and introducing waste-recycling systems appropriate to the local conditions.

When developing agriculture-based interventions and projects in urban refugee settings, the following issues should be taken into consideration:

- Physical characteristics of the local setting, such as infrastructure capacities, basic social services (water, sanitation, waste use, health), land availability, energy supply (wood, kerosene)
- Social characteristics, such as IDP / refugee rights, security, social fabric and cohesion (race, tribe, gender), uncertainty, traumas, labour supply (abundant but weakened), and possibility of conflict among refugees and IDPs
- Food availability, food quality, balanced food basket, culture, income, etc.
- Political issues that can inhibit interventions.

In this development process, attention to increased self reliance is important. Protecting and supporting livelihoods should constitute an early component of an emergency response and can be instrumental in safeguarding food security and minimising relief aid dependency among beneficiaries.

The development of livelihood strategies including agriculture and animal husbandry will depend on the availability of, and access to, land, irrigation water, seeds and natural resources, but also freedom of movement. Humanitarian agencies may provide refugees with seeds, tools and when necessary technical support, but access to land and common resources is often constrained by the policies implemented by the host country, which may restrict their freedom and mobility. In particular, access to land is limited by the traditional land tenure system and laws concerning land ownership and rights of usufruct. As shown in the articles on page 13, 16 and 36, the host governments need to take a more positive attitude here (as in the case of Uganda).

Beneficiaries’ interest in agricultural activities may evolve over time, as their immediate needs start to be met. But some may not wish to start growing vegetables as this might trigger the impression that they have to settle at that location for an extended period of time. Agriculture for many still has a permanent character. During the first period of emergency relief, agricultural production is unlikely, but the plan-



Pond outside camp was made to hold irrigation water, also got fish in it.

Photo: A.Adam Bradford



Child collecting water from a drainage ditch
Photo: UNHCR

ning of future production sites must be taken into account in the camp layout or the housing reconstruction plans.

Micro-technologies

Similarities exist between agriculture in camp settings and in urban and slum areas. Urban agriculture, with its emphasis on space-confined technologies (also see UA Magazine no. 10), use of composted organic waste and recycling of grey wastewater, may offer good options for the provision of fresh vegetables, eggs, dairy products and other perishables to the population of the “new town” in addition to generating some income. Often stimulated by relief organisations, refugees start growing highly nutritious crops for their own consumption and to address immediate needs. These crops require only a limited growing period and a low investment, using (often available) traditional knowledge and skills. A number of articles in this issue describe the use of low-space technologies that have been developed or propagated in refugee camps (pages 16, 34 and 36). These technologies, i.e. the use of (very scarce) local resources (minimal land of low quality, recycled organic waste and wastewater, local seed, etc.), minimise health and environmental risks. In addition the article on page 38 presents the use of multi-storey gardens in slum areas of Nairobi.

Resilience

In addition to considering agriculture as an important strategy in the transition from relief to rehabilitation and reconstruction, agriculture should be integrated in disaster mitigation strategies, as it contributes to increasing resilience to future disaster impacts. Mitigation is a collective term for all actions taken *prior* to the occurrence of a disaster (pre-disaster measures), including preparedness and long-term risk reduction measures. New insights in the field of disaster risk reduction have demonstrated the essential role of resilience and the strong connection between resilience and the sustainability of socio-ecological systems. Resilience determines the persistence of relationships within a system.

Resilience is a measure of a household's, city's or nation's ability to absorb shocks and stresses (Wisner et al., 2004).

A focus on resilience means emphasising what can be done by a system or a community itself and how to strengthen capacities, notably the:

- Capacity to absorb stress or destructive forces through resistance or adaptation
- Capacity to manage or maintain certain functions and structures during disastrous events
- Capacity to recover or bounce back.

The costs of restoring communities back to something resembling their original states are much greater than the costs of investing in a community disaster risk reduction programme and increasing its resilience before a disaster strikes.

The role of urban agriculture in building resilience will be further discussed in the next issue (see the call for papers on page 48).

Conclusions and Recommendations

Experiences show that refugee agriculture is not only a survival strategy for displaced people to obtain food on a temporary basis, but it is also a valuable livelihood strategy for those that settle permanently, and for those who eventually return to their home cities or countries. Many displaced people, both in camps and in and around cities, engage in agriculture for subsistence and market production. And more and more local and national authorities, as well as relief agencies, are not only allowing but intentionally supporting agricultural production activities as part of their development strategies (see page 18). Urban agriculture can play an important role in all aspects of the disaster management cycle and is a multifunctional policy instrument and tool for practical application.

In the post-disaster phase, urban agriculture can contribute to food security through the production of fresh vegetables, thus providing a balanced nutritional input in conjunction with food aid programmes. Often these camps do not have a lot of space available, hence the use of micro-technologies, such as multi-storey gardens. During the recovery period, urban agriculture provides livelihood and income-generating opportunities and contributes to wider social and economic rehabilitation, especially in protracted camps, and in and around cities, where levels of unemployment and urban poverty may be particularly high. Depending on the availability of land, several forms of urban agriculture can be applied in such locations.

Although displaced people have a certain protective status, the reality on the ground often shows that they do not have the right to use land or undertake productive activities, as the articles in this issue illustrate. Consequently, the status of refugees and IDPs needs to be improved and implementing agencies need to give adequate attention to human rights and entitlements, such as access to land for gardening and farming.

In addition, community gardening helps to build different forms of capital (social, human, financial, economic, physical,

natural, etc), contributes to longer-term resilience and can reduce the impact of future shocks. To be able to build sustainable, shock-resistant communities, the active engagement of people themselves throughout the process is crucial.

Policies and interventions to promote refugee agriculture need to be included in planning and design at the camp level and should include:

- a. Adequate camp and slum arrangements (see Sphere Project guidelines on page 31)
- b. Promotion of low-space crops and animal production and water saving technologies
- c. Organisational support and training, both in technology and in reintegration and rehabilitation activities
- d. Provision of inputs and financial support (which becomes especially important in longer term settings, and when farmers move towards producing for the market) displaced settings want to move from self-consumption to market production.

Income generation from agriculture-based livelihoods will play an increasingly important role in developing economic self-reliance amongst refugee populations, and will help create an effective transition between emergency relief and longer-term development. It is likely that the availability of



Group gardening, Oryang

Photo: Astrid van Rooij

capital equipment or loan capital for small businesses will improve the ability of displaced people to pursue livelihoods and food security, and it is likely that the benefits will eventually also reach the host community.

Facilitating the change from emergency relief operations towards rehabilitation and sustainable development requires innovations that address current needs, while building and incorporating future perspectives. This requires putting in place participatory mechanisms, such as farmer or gardening groups and farmer field schools. These approaches put farming communities at the centre of the development agenda, thereby strengthening their technical capacities as well as enhancing a sense of community. Multi-stakeholder processes involving public and/or non-government actors



Post-tsunami homegarden.

Photo: A.Adam Bradford

can help build governance, which is especially important in fragile states that lack government capacity and willingness to perform key functions and services (OECD, 2008).

Growing food in camps and cities, when appropriate to the local conditions, reduces dependency on external food supplies, improves the availability and access to more nutritious food, and in the longer term may increase the resilience of people and cities.

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References

Alexander, D. 2000. *Confronting Catastrophe: New perspectives on natural disasters*. Oxford University Press, Oxford, UK.

Hopkins, R. 2008. *The Transition Handbook: From Oil Dependency to Local Resilience*. Green Books, Totnes, Devon.

Laeremans, L. and Sourani, A. 2005. *Urban Agriculture in the Gaza Strip, Palestine*. Urban Agriculture Magazine: Multiple Functions of Urban Agriculture, No. 15.

OECD. 2008. *Service Delivery in Fragile Situations: Key concepts, findings and lessons*. OECD/DAC Discussion Paper.

RUAF. 2008. *Urban Agriculture for Resilient Cities; Green, productive and socially inclusive*. DvD distributed at the World Urban Forum in Nanjing, China, November 2008.

UNHCR. 2006. *The State of the World's Refugees*. UNHCR: www.unhcr.org or UNHCR Statistics: <http://www.unhcr.org/statistics.html>

UNHCR. 2008. *Protecting Refugees & The role of UNHCR*. Available at: <http://www.unhcr.org/basics/BASICS/4034b6a34.pdf>

Wisner, B.; Blaikie, P.; Cannon, T. and Davis, I. 2004. *At Risk: Natural hazards, people's vulnerability and disasters*. Second Edition. Routledge, London.