/ IDRC

SHAPING
LIVABLE CITIES

Stories of progress around the world

IDRC ✳ CRDI

Canada

CONTENTS

Our cities are now home to half the people living on the planet. They are engines of economic growth and cultural prosperity, but they are also centres of pollution and poverty. In June 2006, decision-makers from around the world will gather in Vancouver, Canada during the Third World Urban Forum (WUF3) to debate the potential and perils of urbanization and to propose actions for building healthier cities.

WUF3, hosted by the Government of Canada, is a homecoming of sorts. In 1976, Vancouver was the site of the first UN Conference on Human Settlements—Habitat I. Although some two-thirds of humanity lived in rural areas at the time, growing urbanization and decaying cities was a clear and worrisome trend, especially in the South. In the intervening years, the worsening plight of the world's cities has driven urban reform steadily up the global political agenda. Key milestones, such as the 1996 Habitat Agenda and the 2000 Millennium Declaration, have transformed political concerns into commitments and targets to improve the lives of urban residents, especially the poor.

A co-organizer of WUF3, UN-Habitat is one of the lead agencies charged with delivering on these pledges. It is also a valued partner of my organization, Canada's International Development Research Centre (IDRC), which participated in 1976, when delegates in Vancouver took the bold step to create UN-Habitat. Most recently, IDRC staff lent expertise to development of UN-Habitat's 2006 *State of the World Cities* report, and we continue to support the agency's Urban Indicators Program, which is featured at WUF3.

IDRC's contribution to Habitat I was an international competition to design community-based housing appropriate for cities in the developing world. This year, IDRC and its partners will present key findings from the extensive body of research we have supported on urban agriculture and environmental risk management. During WUF3, IDRC will also highlight its Urban Poverty and Environment (UPE) Program Initiative, launched in 2005. UPE will invest some CA$30 million over the next 5 years in

development research on issues ranging from water sanitation, and solid waste management to urban agriculture and natural disasters. Part of this support will go to nine focus cities that will serve as urban laboratories for more extensive research.

Our cities face a turning point, making outcomes from WUF3 especially critical. Basic food and shelter are increasingly becoming luxuries for the urban poor, draining the largest portion of household budgets. Slums continue to expand. Poor urban residents are going to extreme lengths to satisfy essential needs, and on a scale never seen before.

While many of these people's endeavours are a tribute to human ingenuity in the face of want—making the most of cities' underused and discarded resources—they often place residents at risk. Lacking options, poor residents may settle near waste dumps or industrial sites that pose serious health threats. The urban poor may be forced to live in shacks on steep hillsides, which wash away and escalate casualty figures in the event of landslides. Questionable urban-farming practices may lead to the transmission of food-borne disease.

Shaping Livable Cities documents the efforts of both Southern and Northern residents to deal with these issues. Like WUF3, *Shaping Livable Cities* is about transforming problems into solutions. The stories told here are real-world examples of successful efforts to promote sustainable and equitable development, and to make a particular community, city or group of cities healthier and better places to live. *Shaping Livable Cities* concludes with a look at IDRC's new Urban Poverty and Environment Program—our next step in helping people of the South devise solutions to their own problems.

The stories you're about to read reveal clear principles that can inform effective actions to build a more durable urban future. First, as the challenges of urbanization continue to mount, research is essential to assess problems, devise solutions,

monitor impacts, and adjust actions accordingly. Second, more of this research needs to focus on the South and therefore must be done by developing-country researchers. Third, urban policy strategies must be integrated, locally relevant, and engage a range of players—specifically local populations and the poor. These people possess valuable skills and insight, and must participate fully in defining problems, identifying responses, and implementing solutions. Fourth, while city governments must lead the development and implementation of policy strategies, these processes must include broad ownership and engage multiple sectors and governments at all levels to ensure results that are sustainable and beyond the whims of individual administrations.

Finally, synergies accelerate innovation. Processes that involve multiple cities advance learning and introduce positive change much faster. In fact, city networks are increasingly important catalysts of urban policy innovation, collecting and sharing local know-how, building collective wisdom, and strengthening local capacities.

We hope you will enjoy reading about these original experiences. We encourage you to contact the key players—our partners—and share with them your thoughts and practices. And we welcome your suggestions for collaboration as we prepare for WUF 2008.

Maureen O'Neil
President

A CITY IN HARMONY

Beijing uses urban agriculture to help foster and balance economic expansion, social equity, and ecological protection.

For centuries, Beijing has generated ideas that have transformed the lives of people throughout China and around the world. From business to science, politics to agriculture, the Chinese capital has cultivated new approaches to confront seemingly irresolvable problems. Today, the challenges may be different but the leadership role played by Beijing remains unchanged.

Take the impact of rapid economic expansion on urban life. Dramatic increases in economic development have caused many Chinese cities to undergo massive changes. New and expanding businesses and residential areas gobble up prime lands and push urban boundaries into outlying rural areas. Millions of people migrate to cities each year in search of jobs and economic security. As a result, urban land and water resources have come under unprecedented pressure.

ACCELERATING THE GROWTH OF URBAN AGRICULTURE

To help alleviate the social dislocation and ecological impact of economic development, Beijing developed a comprehensive plan to promote and regulate urban agriculture. For the city, urban agriculture has proven to be a powerful force. It has improved living standards by generating employment and income for migrant urban farmers. It

promotes social cohesion by engaging citizens in the urban planning process. It maintains urban green spaces and limits urban sprawl. And it encourages wise consumption of urban water resources. In effect, Beijing has used urban agriculture to help foster and balance economic expansion, social equity, and ecological protection.

A key element in the city's efforts to accelerate urban agriculture is the 221 Action Program, a comprehensive urban-agriculture initiative led by

Beijing's municipal government and supported by RUAF China, a member of the International Network of Resource Centres on Urban Agriculture and Food Security (see sidebar below). The 221 Action Program derives its unique name from its distinctive composition.

"The two pillars of the program are the increasing demand for quality food and the excellent agricultural land and water resources in the city," says Jianming Cai, RUAF China's coordinator. "These

FROM THE GROUND TO THE SKY

Urban agriculture in Beijing is growing—literally. The city includes tens of thousands of household farms and more than 1900 agro-tourism gardens. In addition, some 375 agricultural complexes rely on high-technology equipment and nearly 1000 companies process locally grown agricultural products. What's more, the city plans to cultivate gardens on up to three million square metres of roof space in downtown Beijing over the next 10 years.

CITY OF EXTREMES

Beijing is large in area—nearly 17 000 square kilometres—and home to some 15 million people. The city's annual output of goods and services— US$84 billion—is greater than that of many nations. The capital city of the People's Republic of China, Beijing is a major transportation hub, with dozens of railways, roads, and expressways entering and leaving it in all directions. It is also the focal point of many international flights to China. In addition, Beijing is recognized as the political, educational, and cultural centre of the country.

THE MESSAGE FROM LOCAL GOVERNMENT HAS BEEN CLEAR: URBAN AGRICULTURE IS A CRUCIAL CONTRIBUTOR TO SUSTAINABLE URBAN DEVELOPMENT.

two pillars are used to mobilize two supporting inputs—capital and technology—and to build one information platform that is used to share program technologies, experiences, and best practices."

DIVERSE ACTIVITIES, AMBITIOUS SCOPE
The diverse activities of the 221 Action Program demonstrate its ambitious scope. Comprehensive research was conducted to identify pressing issues related to urban agriculture and formulate policies to address these challenges. Training was provided to transfer knowledge to key players such as women's groups. Conferences were held to exchange research findings and discuss new advances. Festivals enabled residents to celebrate local successes and build community awareness. Competitions were used to highlight and promote best practices. And special urban agriculture Web sites were constructed to collect and disseminate useful information to all stakeholders.

"As a result of our work, the message from local government has been clear: urban agriculture is a crucial contributor to sustainable urban development," says Cai. "In fact, we have enjoyed such great success with the program that the local government has asked us to develop another long-range plan for the 221 Action Program, and to consult with municipal officials on additional ways to expand urban agriculture even further." ::

Jianming Cai, Coordinator
RUAF China
Institute of Geographical Sciences & Natural Resources Research
Chinese Academy of Sciences
11A Datun Road, Anwai
Beijing 100101, China
Tel: 86-10-64889279
caijm@igsnrr.ac.cn
www.cnruaf.com.cn

FROM CRISIS
TO PROSPERITY

**Rosario transforms urban agriculture from a crisis response
to an integral dimension of urban life.**

At the height of Argentina's 2001 economic crisis, the country had defaulted on its debt, gross domestic product was shrinking, the unemployment rate had reached 25 percent, the Argentine peso had lost 75 percent of its value, and the rate of inflation was climbing to an unprecedented high. The people of Rosario, the country's third-largest city, were hit particularly hard by the crisis: more than 800 000 people, or some 60 percent of the city's entire population, were thrust into poverty.

With their country's economy in shambles, the citizens of Rosario had to adapt to survive. Many began cultivating available plots of land throughout the city to ensure a steady supply of food for themselves and their families. Recognizing the value of this novel practice to alleviate suffering and ensure food security, local authorities removed restrictive bylaws to make public lands available for farming. The city also provided many fledgling urban farmers with tools, seeds, and other essential supplies.

SOLIDIFYING URBAN AGRICULTURE

To support this nascent activity, the city created the Programa de Agricultura Urbana (PAU). A cooperative venture that unites urban farmers, municipal officials, agricultural experts, and representatives

**CORE
OF THE
CORRIDOR**

Rosario is the largest city in the Argentine province of Santa Fe and the third most populous urban area in the country. Located some 300 kilometres northwest of Buenos Aires, on the western shore of the Paraná River, Rosario forms the core of Argentina's industrial corridor. Accordingly, the city is the major railroad terminal and shipping centre for northeastern Argentina.

THE PROGRAM NOT ONLY HELPED URBAN FARMERS FEED THEMSELVES, THEIR FAMILIES, AND THEIR NEIGHBOURS, BUT IT ALSO CREATED SOME STABILITY AND BROUGHT RENEWED HOPE TO THEIR LIVES.

of nongovernmental organizations, PAU quickly helped urban farmers secure and protect agricultural spaces, take advantage of value-added agricultural products, and establish new markets and market systems. Soon, seven farmers' markets and more than 800 community gardens—supporting some 10 000 farmers and their families—had sprouted up throughout the city.

"Urban farmers were grateful for the support that the program was able to provide," says Raul Terille of the Centre for Agro-Ecological Production Studies. "After months of crisis and uncertainty, the program not only helped urban farmers feed themselves, their families, and their neighbours, but it also created some stability and brought renewed hope to their lives."

TURNING A TEMPORARY RESPONSE INTO A PERMANENT FIXTURE

Although the economic crisis has passed, challenges remain for Rosario and its urban farmers. Many government officials remain unaware of the permanent value of urban agriculture. New urban farmers, especially those arriving in the city from rural areas, must be integrated more efficiently into existing urban agriculture initiatives. But perhaps most importantly, urban agriculture must become a fixture in ongoing municipal planning processes.

"The city is now in a far better position—the economic crisis has passed," says Terille. "Today, the main challenge for us is to establish urban agriculture as a permanent economic activity within the city."

Research and advocacy are key tools to accomplish this goal. Studies—funded in part by the International Development Research Centre—are now underway to evaluate current urban agriculture projects and establish ideal sites and work agendas for future projects. Data related to income and food production will also be used to convince policymakers of the economic and civic value of urban agriculture, generate funds for new projects, and raise overall community awareness.

Even though research will be an essential contributor to the ongoing success of urban agriculture in Rosario, Raul Terille does not require data and statistics to realize that the work of PAU is paying off: "Urban farmers tell me that they are not only pleased to have the opportunity to generate income and feed their families, but also, after years of feeling marginalized, they are making a genuine contribution to their city and are finally being recognized for it." ::

Raul Terille
Centro de Estudios de Producciones Agroecologicas
Tucuman 2668
Rosario, Santa Fe, Argentina
Tel: 54-341-4331736
Fax: 54-341-4802326
raulterril@arnet.com.ar

Antonio Lattuca
Director of Urban Agriculture Program
Secretary of Social Promotion
Municipality of Rosario
Buenos Aires 711, Rosario (Santa Fe) 2000, Argentina
Tel: 54-341-4802444 (ext. 131)
alattuc1@rosario.gov.ar

BREAKING NEW GROUND IN MOLINO BLANCO

One of the recent landmark accomplishments of Rosario's Programa de Agricultura Urbana is Molino Blanco, a local housing project for low-income families. What separates Molino Blanco from other residential areas is how urban agriculture has been used to improve the community. Of note, the community recently participated in the design and construction of a large garden park. The garden provides not only food, employment, and income for many residents, but also recreational paths and soccer fields.

INTEGRATION, COLLABORATION, EDUCATION

A new municipal planning body helps foster urban agriculture in one of Canada's largest cities.

Vancouver is consistently rated one of the most beautiful and livable cities in the world. A culturally vibrant, ethnically diverse, and economically prosperous community, Vancouver is also located within one of the most productive agricultural zones in Canada. In fact, the city's mild year-round temperatures, fertile soil, and plentiful precipitation make it an ideal environment in which to grow a variety of vegetables and fruits. Combine these climatic conditions with municipal policies that encourage sustainable development and the result is a city in which urban agriculture is thriving.

Vancouver's drive to incorporate urban agriculture into the fabric of the city began in earnest two years ago when municipal council approved development of a "just and sustainable" food system. To help ensure it fulfilled this pledge, the city approved a comprehensive Food Action Plan and created two staff positions—one permanent and one temporary—to support implementation of food-related policies.

Although these efforts helped urban agriculture secure a foothold in the city, a clear understanding of the link between local governance and food systems was not widespread.

"Community groups needed to educate municipal officials so that they understood the importance of urban agriculture," says Wendy Mendes, the city's food systems planner. "Once this goal was accomplished, we could then begin to integrate the concept of urban agriculture into municipal planning and development processes."

INTEGRATING URBAN AGRICULTURE INTO BROADER SUSTAINABILITY AGENDAS

To build awareness and encourage integration, the city established the Vancouver Food Policy Council (VFPC). A voluntary group made up of farmers, nutritionists, food retailers, and representatives of community-based nongovernmental organizations and anti-poverty groups, the VFPC examines how the city's food system operates, and recommends ways to improve it. An elected, 18-member body, the VFPC also enjoys a formal role within city government, and is supported by a staff member who serves as liaison between the body and city officials.

"A primary role of the VFPC is to encourage and support the work of local organizations," says Mendes. "By clearing the way for urban agriculture and other food-related initiatives, the VFPC empowers community groups to achieve many worthwhile social, environmental, and economic objectives."

The support of the VFPC has been a crucial ingredient in the success of several recent urban agriculture initiatives, including the city's proposed Food Charter and the 100-Mile Breakfast. The product of extensive community consultation, the Food Charter expresses Vancouver's vision and principles related to food production, distribution, and

THE GROWING POPULARITY OF CITY FARMING

According to a recent survey, 42 percent of Vancouver residents grow vegetables, fruit, berries, nuts, or herbs in their yards, on their balconies, or in one of the 17 community gardens located on city property.

access. The 100-Mile Breakfast, which featured only foods produced within a radius of 100 miles, conveyed to the mayor and members of council the economic, social and environmental benefits of growing and consuming food produced locally.

PROMOTING PARTNERSHIPS AND COLLABORATION

In addition to its work facilitating urban agriculture projects, the VFPC encourages collaboration between city departments, community organizations, and other groups. VFPC officials have found these partnerships crucial because resources and policy tools necessary to address food-system issues often fall outside of the city's jurisdiction. The VFPC also promotes awareness of urban agriculture by conducting research, consulting with municipal staff, and holding public networking and information-sharing forums.

According to Mendes, the message is not only getting through, but it is also gaining momentum. "Vancouver enjoys a long history of leadership on progressive issues such as environmental sustainability," she says. "Urban agriculture now forms an important part of the city's commitment to sustainable development." ::

Wendy Mendes
Centre for Urban Health Initiatives
University of Toronto
15 King's College Circle
Toronto, Ontario M5S 3H7
Canada
Tel: (416) 978-7223
wendy_mendes@sfu.ca

THE VANCOUVER
FOOD POLICY
COUNCIL EMPOWERS
COMMUNITY GROUPS
TO ACHIEVE MANY
WORTHWHILE SOCIAL,
ENVIRONMENTAL,
AND ECONOMIC
OBJECTIVES.

BUILDING AN EDIBLE LANDSCAPE

Urban-farming progress in Kampala, Uganda leads to an innovative program to integrate agriculture into municipal planning.

For decades, residents of Kampala have relied on urban agriculture for food, employment, and income. Farming activities have spread throughout the Ugandan capital, taking over all manner of available space—from abandoned fields to grounds along roads and waterways. Unfortunately, many residents viewed these agricultural activities as a nuisance. Roaming livestock raised frequent road-safety concerns, while other farming practices were considered harmful to public health and the environment.

"Our bylaws were outdated," admits Winnie Makumba, Kampala City Minister of Social Improvement, Community Development and Antiquities. "They failed to recognize that many residents derived their livelihoods from urban farming. We realized it was up to us as political leaders to initiate the policy changes that would support urban farming practices."

CHANGE IN THE FACE OF OPPOSITION

In 2001, Kampala city government set out to revise existing legislation related to urban farming. Two years later, the Kampala City Council District Extension Office, in collaboration with the Kampala Urban Food Security, Agriculture and Livestock Coordination Committee (KUFSALCC), spearheaded a consultative process to re-examine draft bills for five city ordinances.

Resistance to change, however, ran deep in Kampala, partly because urban agriculture challenges prevailing attitudes. Influenced by colonial bylaws, these attitudes hold that urban farming is inappropriate in cities.

INFORMING CHANGE

However, abundant urban agriculture research and advocacy—supported by international organizations such as IDRC, the UK Department for International Development and the Consultative Group on International Agricultural Research—helped illuminate food security as a key issue, and successfully eclipse outdated fears in Kampala. Perhaps most compelling was the city's inclusive consultative process, which helped ensure grass-roots support for change.

"The best way to make laws is to involve the people who are going to be affected by them," says George Nasinyama, KUFSALCC Team Leader. With this in mind, KUFSALCC and the Kampala District Extension Office conducted a series of workshops to engage a range of stakeholders—especially urban farmers. Recommendations generated at these workshops were readily adopted by Kampala city council with only minor amendments.

"Input from community members was strong because they knew what they wanted," says Kampala City District Extension Coordinator Semwanga Margaret Azuba. "The ideas they brought on board only needed to be polished in legal language." As a result, five ordinances were created to regulate all forms of urban agriculture. Two ordinances are currently being piloted to enable an impact assessment.

A BROADENING SCOPE

Meanwhile, with attitudes to urban agriculture shifting, Kampala has joined the Edible Landscape Project (ELP). A partnership with IDRC, the Netherlands' ETC-Urban Agriculture unit, and McGill University School of Architecture, ELP aims to re-engineer cities from traditional centres of food consumption to primary hubs for food production.

"ELP helps us showcase the integration of urban agriculture into urban planning and housing design," says Margaret Azuba.

On land donated by the city, municipal officials, architects, and urban planners will work closely with community members to improve housing, income, and food security for some of Kampala's most vulnerable citizens. ::

George Nasinyama
KUFSALCC Coordinator and Head of the
Department of Veterinary Public Health and
Preventive Medicine
Makerere University
PO Box 7062
Kampala, Uganda
Nasinyama@vetmed.mka.ac.ug

WE REALIZED IT WAS UP TO US AS POLITICAL LEADERS TO INITIATE THE POLICY CHANGES THAT WOULD SUPPORT URBAN FARMING PRACTICES.

THE GARDEN CITY OF AFRICA

The capital of Uganda, Kampala is also its largest urban district. The city is home to more than 1.2 million people—40 percent of whom live in absolute poverty. In addition to being the country's political centre, the city is also the hub of Ugandan administrative, commercial, and industrial activity. Covering 195 square kilometres, Kampala has been referred to as the garden city of Africa due to its lush growth—a product of a mild climate and generous rainfall.

© IDRC

APPLIED ARCHITECTURE

The Edible Landscape Project was launched by the Minimum Cost Housing Group at McGill University School of Architecture. The group is an educational and research unit focused on human settlement problems in poor nations. Through ELP, the McGill group coordinates research in three cities: Colombo, Sri Lanka; Kampala, Uganda; and Rosario, Argentina (page 06). Results of these initiatives will be presented at the 2006 World Urban Forum in Vancouver.

RISING
ABOVE RISK

A broad collaborative effort helps the Nicaraguan capital improve natural disaster planning and prevention capabilities.

Managua, Nicaragua is a city that faces staggering environmental risk from both weather- and geological-related events. Over the years, hurricanes, tropical storms, earthquakes, and volcanic eruptions have killed thousands and inflicted hundreds of millions of dollars in damage. The devastation has been compounded by rapid, disorganized urban growth that has concentrated 40 percent of the nation's entire population and 88 percent of its industrial development on 18 active seismic faults.

"The inability to anticipate and reduce the impacts of calamitous events has only increased Managua's vulnerability," says Víctor Manuel González, Project Coordinator for the Federation of Municipalities of the Central American Isthmus (FEMICA). "As a result, the effects of each disaster multiply, further increasing poverty and degrading public health and the environment."

MULTILATERAL RESPONSE
Regional capacity to address vulnerability and minimize risk is improving in Managua, thanks in part to the Project for the Management of Environmental Services for Vulnerable Populations in Central American Cities. An initiative of FEMICA (see page 16), the Inter-American Development Bank, and IDRC's Environmental Management Secretariat for Latin America and the Caribbean—now part of IDRC's Urban Poverty and Environment Progam— the project is helping cities in Honduras and Nicaragua develop and implement tools to face the region's most critical natural threats.

"Our objective is to improve the technical and administrative capacities of municipal governments to handle environmental risks and reduce the vulnerability of low-income populations," says González.

Using SIGA (Integrated System for Environmental Management; see sidebar) as a primary tool, FEMICA-member cities throughout the region are building the capacity to prevent much of the collateral damage associated with extreme natural events. SIGA enables municipalities to integrate environmental and socioeconomic data in the management of risk. As a result, authorities can, for example, improve urban planning by reducing the build-up of settlements located in areas at high risk of flooding.

ADDITIONAL SUPPORT
Recognizing that effective risk management is not achieved simply through the deployment of

MANAGING ENVIRONMENTAL RISKS

Natural disasters in Latin America and the Caribbean killed more than 45 000 people in the 1990s. Thanks to the Integrated System for Environmental Management (SIGA), cities can now limit the impact of these disasters. Developed with the support of IDRC's Environmental Management Secretariat—now part of IDRC's Urban Poverty and Environment Program—SIGA helps municipalities identify and reduce environmental risks. SIGA uses a computerized geographical information system to process and synthesize environmental, geological, and socioeconomic data. The system combines this data with traditional maps, charts, and satellite imagery to help identify areas that are prone to environmental problems. Armed with this knowledge, city authorities can develop prevention and emergency response plans tailored to conditions in their community.

A CHALLENGING LOCATION

Located on the shores of Lake Managua, Nicaragua's capital is bordered by the volcanic cones of Nejapa, Asososca, and Acahualinca. Most of the city's 1.3 million inhabitants lack access to sanitary sewers, electricity and potable water. According to experts, 79 percent of city dwellings are classified as substandard; however, the most serious problem in view of earthquake threats is that an estimated 3000 migrant dwellings are constructed each year without permit.

THE INABILITY TO ANTICIPATE AND REDUCE THE IMPACTS OF CALAMITOUS EVENTS HAS ONLY INCREASED MANAGUA'S VULNERABILITY.

technology, the project is undertaking further steps to ensure the long-term sustainability of municipal capacity. A training program helps ensure municipal employees can fully exploit SIGA as a tool for understanding, regulating, and planning the use of land in Managua. Project authorities and civil society are also helping to generate key information that enables SIGA to map threats and vulnerable areas.

BENEFITS OF NETWORKING

According to González, SIGA will not only enable Managua to integrate the socioeconomic components of risk management into all aspects of strategic municipal planning, the system will also permit the coordinated sharing of information with other cities.

"SIGA provides a common platform for decision making," observes González. "It will help knowledge sharing between cities that face similar environmental challenges. These cooperative network connections will strengthen municipal government capacity by linking local, national, and international institutions to bolster emergency preparedness and reduce environmental vulnerability throughout Central America." ::

FEMICA
4a. Avenida "A" 21-45 Zona 14,
Ciudad De Guatemala, Guatemala, 01014
Tel: (502) 2368-3373, (502) 2368-2645
Fax: (502) 2337-3530
info@femica.org
www.femica.org

KEEPING ITS
HEAD ABOVE WATER

Clear progress in environmental risk management leads to international recognition for a small Honduran city.

El Progreso, Honduras has a history of emergencies linked to recurrent weather and seismic events. Flooding is by far the most frequent hazard. Average rainfall in excess of 2500 millimetres, combined with deforestation, increased populations along municipal riverbanks, and poor storm and sanitary sewer systems, dramatically increases the vulnerability of residents in low-lying areas of the city.

"We needed an integrated municipal vision that simultaneously reduced the effects of flooding and improved living conditions," recalls former mayor Nelly Soliman. "In particular, we had to solve environmental issues and reduce the rates of illness due to water contamination."

FIRST STEPS

In the mid-1990s, the city developed a sanitary sewer project with the support of USAID (United States Agency for International Development) and the US Army Corps of Engineers. Informed by substantial demographic, hydrological, climatological, and geotechnical research, the project has led to construction of a new sewage system in the city centre, and design of a new treatment facility. Perhaps the most important result, however, has been the project's influence on municipal planning and decision-making.

With heightened awareness of the hazards associated with environmental degradation and contamination, the city's 2000 Master Plan presented an unprecedented local vision for long-term sustainability.

A CITY OF TWO RIVERS

Located in the province of Yoro, in Honduras' Sula Valley, El Progreso has a population of approximately 156 000. Sugar production, banana farming, and small-and medium-sized export-assembly plants provide most of the area's employment. The city's densely populated urban core is in the lowest part of the valley, where both the Ulúa and Pelo rivers run. When floodwaters rise due to regular, heavy rainfall, so do respiratory and gastrointestinal illnesses associated with an historically poor municipal sewer infrastructure. Problems are exacerbated by extreme natural events, such as Hurricanes Fifi (1978), Mitch (1998) and Gama (2005). Hurricane Mitch was particularly destructive, leaving 324 cultivated blocks beyond recovery in the region.

THE CITY'S 2000 MASTER PLAN PRESENTED AN UNPRECEDENTED LOCAL VISION FOR LONG-TERM SUSTAINABILITY.

"Community engagement was crucial to the plan," explains Soliman. "Citizen participation not only delivered the public's knowledge and consent, but also helped generate greater awareness of waste management, its impact on health, and its role in reducing the risk of flooding."

BUILDING MOMENTUM

El Progreso's 2000 Master Plan built on earlier progress and enabled the city, with support from the United Nations Development Programme, to replace half of its obsolete sanitary sewer piping.

"We also decided that the city's Environmental Management Unit (UMA) would be given more responsibilities, especially with regard to decision-making," says Soliman. The UMA has engaged a range of partners inside and outside government to integrate management activities. For example, UMA is working with a network of 14 community partners to establish riverbank protection activities. The group will undertake reforestation and other activities to improve water quality and control waste discharge into local rivers.

Meanwhile, reduced contamination levels in the Ulúa River have led to a resurgence in fishing activities and direct benefits for communities downriver from El Progreso.

INTERNATIONAL RECOGNITION

The city's approach to wastewater treatment was highlighted as a good practice in the Management of Environmental Services for Vulnerable Populations in Central American Cities Project (see sidebar). This project helped El Progreso strengthen its disaster prevention planning and improve knowledge sharing for the benefit of other Central American communities. The project also enabled

the city to train technicians in risk management and the application of SIGA (Integrated System for Environmental Management; see page 12) as a standard support tool for strategic integrated decision-making.

"Urban planning still needs to be improved to reduce growth in high-risk zones and improve construction codes and city service delivery," observes Soliman. Although she lost her seat in recent elections, the former mayor continues to advocate for greater risk management capacity.

"Given the public awareness and the clear value of what we've achieved so far, I'm confident the new city government will carry on our work to prevent the calamities that follow in the wake of natural disasters." ::

Municipalidad de El Progreso
El Progreso, Yoro
Honduras, C.A.
Tel: (504) 647-3300; Direct: 6481213
Fax: (504) 647-3333
muni@progresonet.hn

ENVIRONMENTAL SERVICES MANAGEMENT FOR VULNERABLE POPULATIONS IN CENTRAL AMERICAN CITIES

This project stems from a cooperation agreement between the Inter-American Development Bank, the Federation of Municipalities of the Central American Isthmus (see page 16), and EMS—IDRC's Environmental Management Secretariat. The project is intended to strengthen FEMICA's capacity to help local governments improve risk management practices and reduce the vulnerability of marginalized urban neighbourhoods. Following detailed examinations of urban environmental best practices, project authorities will launch a municipal risk-management training program for city employees throughout Central America.

WHEELS
WITHIN WHEELS

In decades past, cities twinned to promote enhanced community and cultural ties. Today, city networks expand these partnerships to help alleviate poverty, increase social inclusion, and boost economic activity in urban areas around the world.

Social, environmental, and administrative challenges threaten to overwhelm many cities. Urban migration continues unabated, increasing populations in cities already overcrowded. Natural disasters shatter entire communities, locking residents into endless cycles of poverty. Meanwhile, urban residents look to cities for improved services and governance, and global trade compels cities to boost their economic performance.

MULTILATERAL BRIDGES
Under mounting pressures, urban areas throughout the world are turning to city networks. These national, regional, and inter-regional webs dramatically increase the value of traditional city-to-city twinnings by linking literally thousands of cities, disseminating good management practices, and promoting city perspectives for the benefit of all urban residents.

Cities, after all, are themselves networks of communities. Inter-city cooperation is a natural extension. Fuelled most recently by advances in information technology, city networks are a powerful means to boost economic development, alleviate poverty, and achieve social inclusion.

RISING AWARENESS
In the developed world, national governments are only now beginning to formally recognize the importance of cities and the prevalence of urban issues related to public health and safety, transportation, and communication.

While issues differ little for cities in the developing world, significant obstacles impede progress. Preoccupied with overwhelming practical challenges, municipal administrations are often unable to address broader issues—to advocate on their own behalf with national and international bodies.

For these urban areas, city networks highlight sustainability as an attainable goal. Open and flexible models of collaborative innovation, networks erase established boundaries, provide a clear and penetrating urban voice, and enable the most challenged urban areas to tackle otherwise unapproachable problems.

ACHIEVING MORE WITH LESS
Perhaps most compelling, city networks promote a peer-to-peer approach in which cities are respected as equal partners. This is particularly important for small and less affluent cities, which often rely on networks to achieve economies of scale. Networks are crucial repositories in which these cities can readily access—and deposit—valuable knowledge previously available only to larger urban centres.

REALIZING THE PROMISE
The four networks introduced here and featured at WUF3 are remarkably dynamic and powerful bodies that act effectively on behalf of cities. While the value of these and other networks continues to rise, the international community must examine ways to support and improve inter-city connectivity. The city network model must be further advocated. Existing networks must be nurtured. And inter-network communication must be actively encouraged and pursued. Networks must be open and inclusive. Broader collaborative linkages will ultimately bolster city networks and reinforce their value as key mechanisms of empowerment.

LEARN MORE
Contact these network representatives for more information on initiatives in Latin America, the Caribbean, and Canada:

FEMICA
Patricia Duran de Jager, Executive Director
4a. Avenida "A" 21-45 Zona 14, Guatemala City, Guatemala 01014
Tel: (502) 2368-3373 or 2368-2645   Fax: (502) 337-3530
pjager@femica.org   www.femica.org

FLACMA
Jaime Torres Lara, Executive Director / Agustin Guerrero
219 y Jose Maria Ayora, Quito, Ecuador
Tel: (5932) 2469-366 or 2469-365
jtl@iula.net   www.flacma.org

MERCOCIUDADES
Executive Secretariat, Luis Piera
1994 Planta Baja, Edificio MERCOSUR, Montevideo, Uruguay
Permanent Technical Secretariat   Tel: (598 2) 410 23 38 / 413 66 24 / 413 66 25 (ext. 206)
Secretaria.Ejecutiva@mercociudades.org   stpm@mercociudades.org   www.mercociudades.org

SUSTAINABLE CITIES INITIATIVE
Rod Gillyatt, City Team Manager, Industry Canada
235 Queen Street, 6th Floor East, Ottawa, Ontario, Canada   K1A 0H5
Tel: (613) 948-8010   Fax: (613) 952-9054
Gillyat.rod@ic.gc.ca   www.sci.ic.gc.ca

FEMICA *Federation of Municipalities of the Central American Isthmus*

Founded in 1991, FEMICA is a network of some 1200 Central American urban governments. The organization is dedicated to shaping cities with strong, open administrations that are financially sound, and possess the willingness and capacity to ensure viable economic, social, and political development. Fostering creation of such city governments is hampered by regional constraints; namely poverty, vulnerability to natural disasters, and the effects of environmental degradation.

In recent years, FEMICA has actively pursued ways to reduce vulnerability and generate a culture of prevention. With the support of IDRC and other organizations, the network has undertaken key projects that emphasize the value of risk management in reducing social and environmental vulnerabilities.

Currently, FEMICA is exploring the modernization of public management through the use of technology, which is key to bolster capacity not only within cities, but also the networks that connect them. Seeking to build on its success, and share best practices with even more cities, FEMICA is also pursuing alliances with other city networks.

FLACMA *The Latin American Federation of Cities, Municipalities and Associations of Local Governments*

A network of 7675 urban areas in 19 countries, FLACMA works to strengthen and unify municipalities throughout Latin America and the Caribbean. FLACMA enables interaction with financial institutions and academic and technical organizations through strategic alliances and specific projects. FLACMA's primary concerns include the fight against poverty and exclusion, promotion of social and gender equality, and transparency and integrity in local governments.

FLACMA develops projects that incorporate new communication technologies into local public administrations. For example, the Latin American Network of Cooperation for Local Authority Development (REDCOMUN) promotes Internet use and provides equipment and technical assistance to support the design, publication, and maintenance of Web sites for FLACMA-member local governments. These Web sites support not only greater municipal administrative capacity, but also enhanced connectivity among FLACMA members and other city networks. More recently, FLACMA initiated the coordination of a Regional Environmental Information System in collaboration with FEMICA and the Mercociudades network. This system acts as a form of clearinghouse, providing municipalities in Latin America and the Caribbean with access to a variety of tools and best practices.

PERHAPS MOST COMPELLING, CITY NETWORKS PROMOTE A PEER-TO-PEER APPROACH IN WHICH CITIES ARE RESPECTED AS EQUAL PARTNERS.

MERCOCIUDADES *The Mercocities Network*

In 1991, the Treaty of Asunción was signed, creating Mercosur—the Southern Common Market, made up of Argentina, Brazil, Paraguay, and Uruguay. Although Mercosur empowered nation-members with considerable economic clout throughout the early 1990s, urban areas were effectively denied an institutional presence. In 1995, city officials met to create Mercociudades, a network that grants local governments a central role in Mercosur debates on urban issues.

Since its inception, the network has served as both an urban voice within Mercosur, and a regional platform from which cities can interact with other networks and international organizations. Interestingly, Mercociudades demonstrates the multi-directional flow of influence common to city networks. As a crucial conduit, the network promotes not only urban issues at the national and international levels, but also bloc concerns to the more than 80 million citizens in cities throughout the region. As a result, Mercociudades is widely respected by nations and other international partners for both its political tenacity and technical skills.

SUSTAINABLE CITIES INITIATIVE (SCI)

The Government of Canada's SCI recognizes that in developing countries, many urban problems stretch the response capacities of municipal governments, which often lack resources and expertise. Currently working with 16 cities worldwide, SCI takes an innovative approach to economic development by identifying partnership opportunities for Canadian companies and NGOs. Projects address needs as diverse as governance, clean water, waste management, and urban infrastructure.

Initially, SCI partner cities in developing nations were sceptical about working with the private sector. Program managers responded by engaging municipal officials and local organizations in specific Canadian cities to demonstrate successful public-private partnership experiences.

When Canadian companies teamed with Salvador, Brazil to capture and flare gas from a local landfill, key city staff met with counterparts in Vancouver to learn about Canadian waste management techniques.

SCI officials point out that its projects are not one-way affairs. Canadian municipalities are learning a great deal from developing nations about innovative ways urban challenges are faced in emerging economies.

LIVING ON THE EDGE

A city by the sea, Halifax, Nova Scotia is responding creatively in the wake of devastating climate change effects.

No one has to convince citizens of the Halifax Regional Municipality (HRM) about the hazardous effects of climate change. Since the late 1990s, this coastal Canadian community has experienced a barrage of extreme weather events, including intense blizzards, droughts, and storm surges. Hurricane Juan, a category-three storm that struck in the fall of 2003, inflicted staggering losses.

"The cold North Atlantic usually drains a storm's energy," says Stephen King, manager of HRM's Sustainable Environment Management Office. "Unfortunately, climate change has raised water temperatures, which intensifies these storms."

MITIGATING RISKS

Concerned for the community's health, safety, and economic wellbeing, HRM launched measures to mitigate the risks of climate change. King, however, was among a group of local experts who recognized the need for a comprehensive approach that combined mitigation with the means to respond to current and future climate change impacts.

In collaboration with private and public sector partners, King's department developed Climate SMART (Climate change Sustainable Mitigation and Adaptation Risk Toolkit). This innovative program (see sidebar) enables municipalities to integrate risk-reduction activities with climate change adaptation and mitigation measures. Management, planning, and assessment tools help evaluate the vulnerability of public infrastructure, prepare emergency response plans, and determine costs of climate change impacts.

"Climate SMART could not have proceeded without substantial baseline research," comments King. Key contributors included the ClimAdapt Network, a local private/public sector environmental partnership that provided valuable adaptation data. Environment Canada, a federal government department, made available crucial climate change impact mapping.

THE COST OF DEVELOPMENT

"Our greatest challenge was a severe shortage of municipal funding," recalls King. "We had to be

---

A WELL-EQUIPPED TOOLKIT

Winner of a 2005 Sustainable Community Award from the Federation of Canadian Municipalities, Climate SMART helps improve decision-making in vulnerable communities. Municipalities can use the program's tools to create:

- Vulnerability assessments of municipal and community assets
- Cost/benefit assessments of mitigation and adaptation measures
- Emission management plans
- Climate change risk management plans
- Sector specific emission management and adaptation methodologies and policies
- Communications and outreach items

creative. Whenever we found money, we'd use it as collateral to leverage additional resources."

King applied for funding from Natural Resources Canada—a federal department—the Federation of Canadian Municipalities, and the Nova Scotia Department of Energy. Considerable in-kind contributions were received from Environment Canada and the Nova Scotia Department of Environment and Labour.

Along the way, King's team raised more than $500 000 and attracted a variety of new partners as Climate SMART's momentum grew.

INTERNATIONAL INTEREST
According to King, collaboration is the key to Climate SMART's success. "When you're working together you learn from each other," he explains. "The synergy really accelerates innovation."

This collaborative model has sparked keen interest in communities outside Canada. In March 2006, Canada's Trade Commission arranged for King to meet with a delegation from Dallas and New Orleans, where authorities have struggled to achieve intergovernmental cooperation in the wake of Hurricane Katrina.

"The American officials were impressed by our success in mobilizing and coordinating private and public sector partners at all levels," says King.

FOR THE BENEFIT OF ALL
For citizens of HRM, Climate SMART's benefits are clear, even as it nears full implementation: the use of biofuels in municipal buses and ferries is reducing greenhouse gas emissions and impacts on human health; energy efficiency programs in municipal buildings are lowering energy bills; and improved planning is helping the community become more resilient in the face of continued and intensifying weather events.

A PROMISING FUTURE
In 2006, King and his team will conclude vulnerability mapping to identify at-risk infrastructure elements and settlement areas, and to develop plans that protect those assets.

"Climate SMART is an excellent example of the significant benefits taxpayers gain when governments, communities, and the private sector collectively focus and coordinate resources towards common goals," says King. "Personally, the development of Climate SMART has been highly rewarding, because I know I'm contributing to cleaner air through

mitigation measures and a safer, more resilient community through adaptation efforts." ∷

Stephen King
Manager/Senior Advisor
Sustainable Environment Management Office
Environmental Management Services
Halifax Regional Municipality
PO Box 1749
Halifax, Nova Scotia B3J 3A5
Canada
Tel: (902) 490-6028
kings@halifax.ca

WHEN YOU'RE WORKING TOGETHER YOU LEARN FROM EACH OTHER. THE SYNERGY REALLY ACCELERATES INNOVATION.

PREPARING
FOR THE WORST

**Pergamino, Argentina is drawing on lessons from the past
to defend itself against recurrent floods.**

In April 1995, the Argentinean city of Pergamino was devastated by floods—the 2.5-metre rise in water necessitated the evacuation of 7 000 people and caused millions of dollars worth of damage to homes, businesses and public infrastructure. Five people lost their lives.

A HISTORY OF FLOODS

Pergamino, in the north of Buenos Aires province, has had 35 similarly disastrous floods since 1912, and 48 incidents of high waters overwhelming the banks of two small rivers that run through the city. Expansion of the city into the floodplains of these watercourses, urban development without due consideration to water drainage, as well as an inadequate sewer system have left the citizens of Pergamino increasingly vulnerable to the risks of future flooding.

LEARNING FROM THE PAST

Prior to the involvement of *CENTRO estudios sociales y ambientales*—a social and environmental nonprofit organization in Buenos Aires—Pergamino had virtually no communal memory of past floods. Instead, residents, government officials, and community stakeholders viewed incidents of flood as isolated, unpredictable, and extraordinary events for which it was impossible to prepare.

"With the recovery of the community's flood history through research into press archives, we were able to raise public awareness of the recurrent nature

BRIDGING URBAN AND RURAL LIFE

In the centre of Argentina's agricultural region, the city of Pergamino had evolved to specialize in the manufacture of textiles. One quarter of Pergamino's nearly 100 000 inhabitants obtain their drinking water from wells, while approximately 40 000 locals have no connection to the city's sewer system, leaving residents vulnerable to water contamination in the event of a flood.

of extreme weather phenomenon, and demonstrate the need for community participation in the management of flood risks," says field researcher and CENTRO representative, Hilda Herzer.

MAPPING THE PROBLEM

With information collected through fieldwork, CENTRO mapped the city to identify levels of vulnerability in each neighbourhood. Focusing on the highest risk areas of the city, the team then facilitated workshops on water management issues with the municipal government and community organizations—several of which were in low-income areas.

"You cannot build local development if you do not know the territory," says Herzer. "You need technical knowledge, but also the historical knowledge possessed by the people living there. These workshops give everyone the opportunity to improve their neighbourhood." CENTRO is now committed to mediating similar discussions in other districts.

FROM PAST TO PRESENT TO FUTURE

CENTRO, alongside the National Water Institute, local government, and various neighbourhood organizations, and with the support of IDRC, has helped stakeholders realize their role in Pergamino's environmental degradation and their responsibility to search for a solution.

"Pergamino was dominated by a weak perception of collective responsibility for the city's vulnerability and risk, as well as by conflicting interests and a fragmented social fabric. However the project is now moving ahead with a high level of participation by all stakeholders," says Herzer.

An urban planning institute has been established to implement the Integrated System for Environmental Management (SIGA), which will enable Pergamino to identify and reduce potential flood risks. And work is currently underway to develop an early warning system that will raise the alarm when waters threaten to reach dangerously high levels. Most importantly, however, municipal authorities now have a keen appreciation for the topography of the region, and are designing infrastructure with careful attention to natural drainage systems, runoff patterns, and the city's new water management plan. ::

Hilda M. Herzer
CENTRO
Av. Roque Saenz Peña 1142, 5º (1035)
Buenos Aires, Argentina
Tel: (5411) 4382 7040
Fax: (5411) 4382 5885
centro@datamarkets.com.ar

YOU CANNOT BUILD LOCAL DEVELOPMENT IF YOU DO NOT KNOW THE TERRITORY. YOU NEED TECHNICAL KNOWLEDGE, BUT ALSO THE HISTORICAL KNOWLEDGE POSSESSED BY THE PEOPLE LIVING THERE.

PROGRESS
THROUGH
PARTNERSHIP

Various municipal officials prepare to deal with the health and environmental risks caused by the use of wastewater in urban agriculture.

Urban farmers in the Indian city of Hyderabad face a predicament. For nine months of the year, the only water that flows in the nearby Musi River is untreated waste. More than 700 million litres of wastewater is released from homes and factories into the river each day. More than 100 000 urban farmers rely on this wastewater to irrigate their vegetables, para grass, and paddy. An even greater number of labourers, transportation workers, and dairy farmers also depend on these crops for their livelihoods.

While wastewater is an essential contributor to urban agriculture in Hyderabad, it may also be linked to illness and environmental damage. Wastewater contaminates groundwater and soil, for example, and farmers frequently become infected by harmful parasites.

"Despite the health and environmental risks posed by wastewater, its use in urban and peri-urban agriculture is a reality," says Gayathri Devi, research associate with the IWMI (International Water Management Institute) "If the city were to impose policies that restrict urban agriculture, they would not only be largely ineffective, but they would also likely cause significant socioeconomic problems for farmers and their families."

Hyderabad's challenge is to identify and implement solutions that minimize the negative aspects of using wastewater in urban agriculture while preserving and enhancing the economic benefits of this practice.

DEVELOPING OPTIONS
TO MITIGATE RISKS

Devi's work with Cities Farming for the Future (see sidebar) is intended to help the city accomplish this difficult task. The program's Hyderabad component consists of three phases. First, project researchers identified seven options to mitigate the health and environmental risks posed by wastewater use in urban agriculture. These options range from community-based wastewater treatment systems to consumer education programs that spread awareness of proper methods to clean and cook vegetables.

According to Devi, solid research paved the way to a viable approach that translates these options into policy.

"During our research, we realized that no one institution can single-handedly address the risks associated with wastewater and urban agriculture," she says. "A variety of groups and officials will need to collaborate in a process of policy design, action planning, and policy implementation and evaluation."

A THRIVING CITY OF FARMS

Although Hyderabad has all the trappings of a modern metropolis, urban and peri-urban agriculture provides livelihoods for hundreds of thousands of the city's residents. In fact, some 15 000 hectares of land within the city are now under cultivation, providing jobs, incomes and food security to an estimated 300 000 farmers, labourers, transport workers, dairy producers, and their families.

CITY OF PEARLS

*Known as the city of pearls for its bustling,
centuries-old market in pearls and pearl orna-
ments, Hyderabad is the capital of the province of
Andhra Pradesh and with seven million inhabi-
tants is India's sixth-largest city. Rich in history, culture, and stunning
architecture, Hyderabad is also an emerging IT and biotechnology hub in
the country's thriving high-technology sector and is widely recognized as
the geographical meeting place of Northern and Southern India.*

POLICIES THAT RESTRICT URBAN AGRICULTURE ARE LARGELY INEFFECTIVE, AND WOULD LIKELY CAUSE SIGNIFICANT SOCIOECONOMIC PROBLEMS FOR FARMERS AND THEIR FAMILIES.

FOSTERING A MULTI-STAKEHOLDER PROCESS

In the second phase, a team of officials commis-
sioned a study to determine the exact nature of
urban farming in the city and the precise challenges
faced by urban farmers. A workshop provided
these officials with training on urban agriculture
concepts and issues such as multi-stakeholder
policy design.

Looking ahead, project officials will select a pilot
site within Hyderabad and begin the third phase of
the process. A multi-stakeholder forum of aca-
demics—as well as officials from various sectors
of the local government, farmers' organizations,
and a local nongovernmental organization—
will work together with IWMI to develop and imple-
ment action plans.

"I realize that this project is still in its infancy,"
says Devi, "but I am confident that the multi-
stakeholder process that we develop, as well as the
lessons we learn along the way, can eventually be
applied in other municipalities in Hyderabad and
in cities throughout India." ::

Gayathri Devi Mekala
Research Associate, RUAF-Cities
Farming for the Future
International Water Management Institute – India
c/o ICRISAT, Patacheru
AP 502 324, India
Tel: 011 91 40 30713738
g.devi@cgiar.org

Robert Simmons
Regional Coordinator, RUAF-Cities
Farming for the Future
International Water Management Institute – India
c/o ICRISAT, Patacheru
AP 502 324, India
Tel: 011 91 40 30713738
Tel: 011 91 40 30713732
r.simmons@cgiar.org
www.ruaf.org
www.iwmi.org

IMPROVED PLANNING THROUGH CONSTRUCTIVE ENGAGEMENT

In Pikine, Senegal, local participative management is at the heart of a project to enhance and support urban agriculture.

Since 2005, Pikine has been the testing ground for an innovative project involving local authorities, departmental technical units, producers' organizations, research and training institutes, civil society, and the private sector. The Agricultural Cities of the Future project aims to improve the contribution of urban agriculture to food safety, environmental management, and the fight against poverty. Its overarching goal is to institutionalize urban agriculture in local planning processes. One of the project's key activities is the participatory planning and policy development process, also known as 3PFP.

The Farmers' Association of the Niayes Valley (PROVANIA) is one of the key players. The association's core mission is to develop the cultivation and marketing of local agricultural products by building a commercialization network. The association also works to create partnerships with aid agencies and other organizations, and takes part in lobbying activities to promote the institutionalization of urban agriculture.

LOCAL COOPERATION

Other partners in Agricultural Cities of the Future include Pikine city council, the Centre for Horticultural Development, the Institut fondamental d'Afrique noire/Cheikh Anta Diop, the Urban Green Spaces Authority, the Union of Niayes Valley Organizations and Producers, the National School of Agriculture, the School of Professional Horticultural Training, and the Action Program for the Protection and Urban Development of the Niayes Areas of the Greater Dakar Region. These organizations are members of the project's Technical Support Committee (TSC) which was created to support and assist in the project's implementation.

The City of Pikine's technical services division contributes to the institutional development of the

DAKAR'S "GREEN LUNG"

Pikine is Senegal's second largest city, with a population of more than 1 million. The city is located on the outskirts of Dakar, in the Niyaes Valley—a region characterized by a great variety of agricultural, horticultural, and fisheries activities. Approximately 80 percent of the population is under 35 years of age; almost 50 percent is under 15. The Farmers' Association of the Niayes Valley (PORVANIA), whose members work in crop production, flower cultivation, and fishing, has helped to make the valley the "green lung" of the capital.

© IDRC

© CIDA : Pierre St-Jacques

© IDRC

project, which is coordinated by the African Institute for Urban Management (IAGU), the regional centre in francophone West Africa and founding member of the Resource Centres on Urban Agriculture and Food Security, (RUAF) created in the Netherlands.

PARTICIPATIVE IMPLEMENTATION

The many information, awareness, and planning sessions that have taken place so far have allowed the primary project participants to agree on basic goals, in keeping with the spirit of the 3PFP approach. TSC members subsequently undertook an exploratory study of urban agriculture in Pikine and later organized a forum that brought together all stakeholder groups.

After the forum, working groups were formed to further refine ideas about urban agriculture, develop an action plan, and design a one-year pilot project that will be implemented following the second forum.

"Integrating urban agriculture more deeply into the urban ecosystem requires that urban planners, public health and environmental management officials join forces with those who have been involved up until now," said Oumar Sissokho, Secretary General

of PROVANIA. "If it is properly developed and integrated into development plans, urban agriculture can make a positive contribution to the lives of citizens."

The organization also believes that the involvement of producers in urban agriculture initiatives cannot be limited to training or information activities; they must also have a role to play in decision making. As a result, the steps taken and results achieved over the first year of the Agricultural Cities of the Future project offer much reason for optimism as the project moves forward.

Oumar Sissokho
Secretary General of The Farmers' Association of the Niayes Valley (PROVANIA)
Pikine-Dakar, Senegal
oumarsissokho@voila.fr

Moussa Sy
Regional Coordinator
RUAF Foundation
IAGU (African Institute for Urban Management)
P.O. Box 7263, Dakar, Senegal
Tel.: 221-827-22-00
moussa@iagu.org

INTEGRATING URBAN AGRICULTURE MORE DEEPLY INTO THE URBAN ECOSYSTEM REQUIRES THAT URBAN PLANNERS, PUBLIC HEALTH, AND ENVIRONMENTAL MANAGEMENT OFFICIALS JOIN FORCES WITH THOSE WHO HAVE BEEN INVOLVED UP UNTIL NOW.

EDUCATING MUNICIPAL OFFICIALS, EMPOWERING URBAN FARMERS, TRANSFORMING URBAN AGRICULTURE

Multi-stakeholder education, planning, and consultation helps spur urban agriculture in Zimbabwe's capital.

Several years ago, police in Harare would arrest farmers and destroy their crops. Municipal laws that prohibited urban agriculture were the product of several firmly held—but misguided—beliefs. Urban agriculture was considered a marginal activity that contributed little to urban progress. In fact, many local officials believed that urban agriculture was a retrograde practice—a return to rural habits that retarded economic growth and caused ecological damage.

Today, agriculture in the Zimbabwean capital flourishes. Much of the credit for this dramatic transformation goes to the MDPESA (Municipal Development Partnership for Eastern and Southern Africa) and its multistakeholder planning processes in urban agriculture. MDPESA and its continuing work to promote multistakeholder planning is the Eastern and Southern Africa partner of Cities Farming for the Future— a program of the RUAF Foundation that helps reduce urban poverty, enhance urban food security, and improve urban environmental management in several cities throughout the world.

FROM SALISBURY TO HARARE

Founded by British settlers in 1890, Harare was originally a fort known as Salisbury, after the then British prime minister. Proclaimed the country's capital in 1953, Salisbury became Harare in 1982 to coincide with the second anniversary of Zimbabwean independence. Despite the renaming of the city, some suburbs retain their European names, such as Warren Park 'D', Borrowdale, Mount Pleasant, Tynwald, Rotten Row, and Rietfontein. Today, Harare is a trade centre for tobacco, maize, cotton, and citrus fruits, and is famous for its beautiful jacaranda-lined streets, especially in the low-density "Avenues" suburbs to the immediate north of the city centre.

MULTISTAKEHOLDER FORUMS EDUCATE OFFICIALS ON THE VALUE OF URBAN AGRICULTURE AND EMPOWER URBAN FARMERS IN MUNICIPAL AFFAIRS.

SUCCESSES, LESSONS LEARNED, AND REMAINING HURDLES

In Harare, the successes of MDPESA have been particularly noticeable. The city's blanket ban on urban agriculture has been lifted. The amount of land under cultivation has doubled. Hundreds of jobs have been created. Availability of locally grown food has increased dramatically.

In addition, MDPESA officials have learned several valuable lessons. For instance, multi-stakeholder forums must be based on firm commitments from municipal governments. All stakeholders must participate in agenda-setting and planning exercises. And municipal staffs that manage urban agriculture projects must receive proper tools and training.

These successes and lessons have also clearly highlighted what hurdles remain. According to George Matovu, organizations of urban farmers require strengthening. The national government must be convinced of the value of providing political backing, technical support and funding to urban farmers. Women need to play a more prominent and influential role in urban agriculture. And perhaps most importantly, urban agriculture must be integrated into formal municipal planning processes.

Despite these daunting challenges, Matovu remains confident: "In a short period of time, we have overcome many entrenched attitudes and made fundamental gains to reduce poverty, generate employment, and empower urban farmers. There is no reason to believe that we won't resolve these issues as well." ::

George Matovu
Regional Director
Municipal Development Partnership
for Eastern and Southern Africa
Hurudza House, 7th Floor
14-16 Nelson Mandela Avenue
Harare, Zimbabwe
Tel: 263-4-774385
gmatovu@mdpafrica.org.zw
www.ruaf.org

"When RUAF started in Harare in 2001, officials and farmers had reached a standoff," says George Matovu, the organization's director. "Urban agriculture was illegal, but for many in the city, it was their primary source of food, income, and employment."

ENCOURAGING DIALOGUE, ACHIEVING RECOGNITION

As a first step to end the confrontation between municipal officials and urban farmers, MDPESA counselled dialogue.

"There was absolutely no communication between the two sides," says Matovu. "By bringing local officials and urban farmers together through multi-stakeholder forums, we were able to enlighten mayors, councillors, and planning experts on the value of urban agriculture, and to empower urban farmers and give them a genuine voice in municipal affairs."

MDPESA supplemented this outreach effort by conducting primary research, encouraging debate on pressing issues, holding workshops on urban agriculture, and sponsoring urban agriculture projects in select locations. This extensive campaign of research, education, and advocacy culminated in the Nyanga Declaration, in which local officials from across Zimbabwe endorsed urban and peri-urban agriculture, and the Harare Declaration, in which ministers from several countries in Eastern and Southern Africa committed to officially recognize and support the practices.

"Once national and municipal leaders understood the on-the-ground reality of urban agriculture, they were convinced of its economic value—especially for poor families and women," says Matovu.

HARARE DECLARATION ON URBAN AND PERI-URBAN AGRICULTURE

Signed on August 29, 2003 by representatives of Kenya, Malawi, Swaziland, Tanzania, and Zimbabwe, the Harare Declaration calls for "the promotion of a shared vision of urban and peri-urban agriculture that takes into account the specific needs and conditions in the region, and accordingly commits ourselves to developing policies and appropriate instruments that will create an enabling environment for integrating urban and peri-urban agriculture into our urban economies."

© IDRC
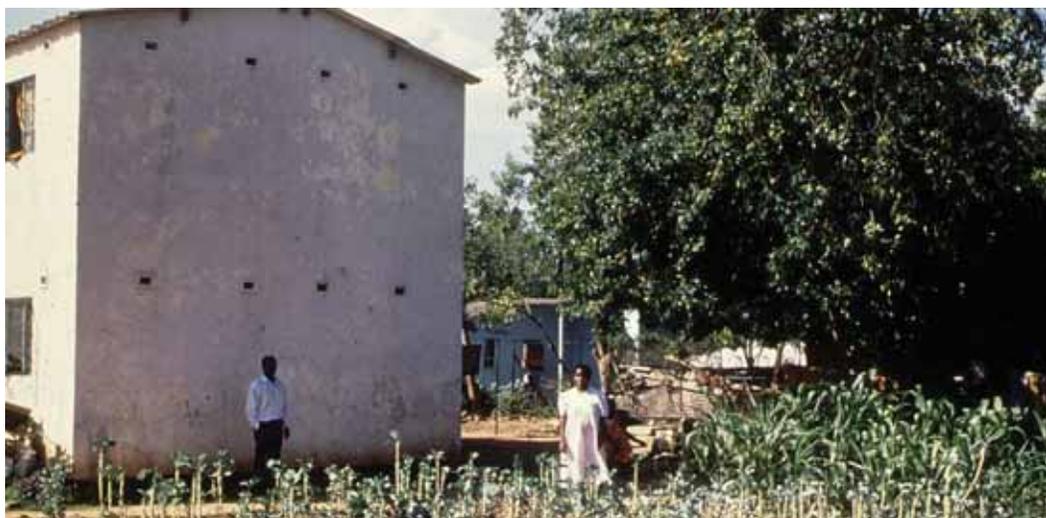
FROM FOOD SECURITY TO ECONOMIC PROSPERITY

A community advances urban agriculture from mere subsistence farming to increased economic independence for urban farmers.

Villa María del Triunfo is a densely populated, extremely poor municipality of Lima, Peru. For years, a large proportion of the community's population has practiced urban agriculture, growing a variety of foods and medicinal crops.

While the municipal government has traditionally supported urban agriculture practices, the geography of the area—characterized by many steep hillsides and gullies—has made much of the land inaccessible to farmers. Compounding this problem has been a lack of information available about vacant land suitable for farming; farmers have traditionally identified vacant plots and petitioned the city for permission to cultivate.

In recent years, the mayor and councillors have become increasingly aware of the potential value of urban agriculture to the area's poorest people. The practice has increased food security and food diversity to the people of Villa María del Triunfo. However, by embarking on a cohesive urban agriculture consolidation plan, the municipality, in partnership with Promoción del Desarrollo Sostenible (IPES)—the Latin American partner in the International Network of Resource Centres on Urban Agriculture and Food Security (RUAF Foundation)—has moved the community's farming agenda forward: urban agriculture is now becoming a source of economic and commercial opportunity for farmers as well.

"There will be municipal elections this year, and the current administration wants to lock in advances in urban agriculture before those elections in November," says municipal councillor Raquel Barriga. "Our advances so far are just a beginning."

LOOKING TO THE PEOPLE

From the outset of the municipality's consolidation plan in 2005, officials solicited ideas and support from local stakeholders to improve urban agriculture activities. To organize, the municipality—with support from stakeholders—conducted a comprehensive analysis of farming activity in the city.

"Researchers from the municipality and IPES conducted a baseline study to examine the state of farming activities: who is undertaking the activity, what are they doing," says Gunther Merzthal, Regional Coordinator of RUAF's Cities Farming for the Future program. "We did a great deal of mapping to identify areas in the city suitable for urban agriculture."

This careful design process sparked a positive working relationship among municipal workers, helped to strengthen key public-private partnerships, and empowered urban farmers to contribute to the

IN RECENT YEARS, MUNICIPAL LEADERS HAVE BECOME INCREASINGLY AWARE OF THE POTENTIAL VALUE OF UA TO THE AREA'S POOREST PEOPLE.

GROWING OPPORTUNITIES

In Villa María del Triunfo, 83 percent of urban farmers are women. Eighty-four percent of all farmers in the city are engaged solely in productive farming, producing crops and, in some cases, raising livestock—in particular, poultry, rabbits, and guinea pigs. Although most farmers raise food for personal consumption, the city's urban agriculture program has led to increases in the number that raise food for market. Meanwhile, food processing—such as the production of marmalades, jams, and baked goods from a plot's produce—is at present practiced by only five percent of farmers. This is an important potential growth area for the municipality's urban agriculture program.

development of their families' livelihoods. The approach led to improved decision making, increasing the likelihood that the program would be sustainable.

"This multi-stakeholder process brings together municipal departments, local organizations, community groups, and urban farmers for the first time," says Raquel Barriga. "All were working independently until recently."

IMPRESSIVE RESULTS

By 2004, the municipality had established a dedicated urban agriculture office in its economic development branch. It had earmarked $35 000 to increase urban agriculture inputs, boost production, and encourage an increase in food processing and marketing practices among farmers. An additional $20 000 was spent on program personnel and logistics.

The program has led to the creation of 399 family and community plots, the utilization of formerly vacant land to produce food for the region's poorest inhabitants, the development of a municipal

consolidation plan for urban agriculture through to 2010, and the creation of a multi-stakeholder forum that will support ongoing implementation of the plan.

As intended, the municipality is examining ways to add value to products, provide farmers with alternative sources of water for irrigation, make larger spaces available for farming, develop commercial activities, and generate more employment and income for citizens. ::

Gunther Merzthal
IPES, Promoción del Desarrollo Sostenible
Calle Audiencia 194 San Isidro, Lima 27 – Peru
Telefax: (51-1)440-6099, 421-9722,
421-6684 (ext. 110)
gunther@ipes.org.pe
www.ipes.org and www.ruaf.org

Raquel Barriga
Prolongación San Martín 1233, José Galvez,
Villa María del Triunfo, Lima 35 – Peru
Tel: (51-1) 981-51660, 474-0585
raquel_barrigav@yahoo.es

LINKING ENVIRONMENTAL MANAGEMENT, NATURAL RESOURCE USE, AND URBAN POVERTY

Around the world, approximately one billion people live in slums, largely in urban areas of developing countries. As illustrated throughout this booklet, these communities are struggling to improve conditions under which the urban poor suffer disproportionately: lack of environmental services, environmental degradation, and vulnerability to natural disasters. In fact, marginalized city residents are caught in a cycle in which environmental burdens limit their opportunities to escape poverty.

IDRC's Urban Poverty and Environment (UPE) Program strives to break this cycle by strengthening the capacity of the poor to access environmental services, limit environmental degradation, reduce vulnerability to natural disasters, and improve the sustainable use of natural resources.

A GLOBAL PROGRAM

Active in Africa, Asia, the Caribbean, Latin America, and the Middle East, UPE supports research to inform sustainable achievement of the Millennium Development Goals (MDGs). The program envisions a world in which urban citizens thrive in healthy and dignified environments in which all stakeholders, including those most marginalized, play an active and effective role in sustainable development.

UPE supports research, capacity building, and networking that help poor urban communities partner with local and national governments, the private sector, and other stakeholders to:

- understand the nature of environmental burdens and constrained use of natural resources, investigate their impact on poverty, and identify potential solutions;
- test interventions and assess policies that seek to ease environmental burdens and enhance the use of natural resources for food, water, and income security; and
- contribute to the integrated planning, development, and implementation of sustainable and equitable urban environmental and natural resource management practices and policies.

PILOT PROJECTS ARE BEING IMPLEMENTED IN TARGET NEIGHBOURHOODS TO INFORM, VALIDATE, AND HELP REFINE CITYWIDE DEVELOPMENT STRATEGIES AIMED AT SUSTAINABLE AND EQUITABLE URBAN DEVELOPMENT.

Argentina

Senegal

Uganda

Sri Lanka

Indonesia
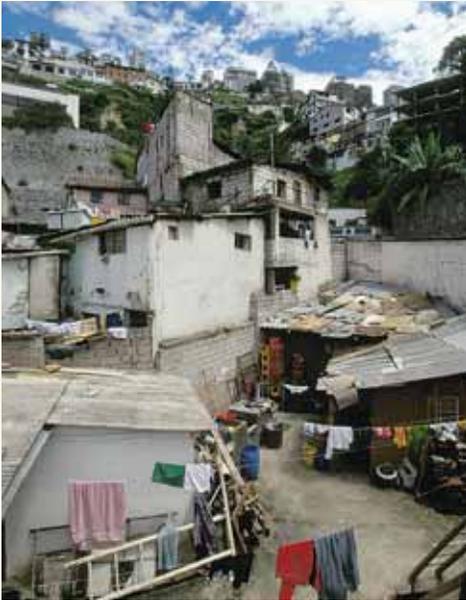
© IDRC

© IDRC

© IDRC

INTEGRATED THEMES

Past experience indicates that urban environmental challenges are most often overcome through integrated approaches that address multiple aspects of city living. To help alleviate the vicious cycle of urban poverty, UPE projects focus on the following integrated themes:

- urban agriculture,
- urban water and sanitation,
- integrated solid waste management,
- vulnerability to natural disasters, and
- land tenure.

PARTICIPATORY RESEARCH

UPE recognizes that sustainable solutions generally result from collaborative approaches that include both the urban poor and local governments. For this reason, UPE emphasizes participatory research in which communities, governments, nongovern-mental organizations, and the private sector work together to build capacity, empower the urban poor, and expand knowledge of environmental inequities.

OUTCOMES THAT IMPROVE THE LIVES OF SLUM DWELLERS

UPE supports research to help improve people's lives. This means, for example, that improved access to sanitation is measured not only according to the number of installed latrines, but also in terms of whether women and children feel safe and comfortable using those latrines. With this in mind, research teams will identify and monitor a broad range of indicators to ensure that each project's impact can be clearly assessed and lead to long-lasting results.

FOCUS CITIES RESEARCH INITIATIVE (FCRI)

A key component of UPE, FCRI will support multistakeholder research teams in nine cities around the world to promote awareness, policy options, and best practices for reducing environmental

impacts in poor urban and peri-urban areas. Focusing on nine cities will enable UPE to concentrate its efforts, support sustained and in-depth research, and develop synergies with past and present development projects. Pilot projects are being implemented in target neighbourhoods to inform, validate, and help refine city-wide development strategies aimed at sustainable and equitable urban development. Working with these Focus Cities will also allow UPE to compare and contrast results, and share knowledge to accelerate progress in other urban centres around the world.

In early 2006, four Focus Cities were selected in Sub-Saharan Africa and Asia: Colombo, Sri Lanka; Dakar, Senegal; Jakarta, Indonesia; and Kampala, Uganda. A pioneer Focus City project in Moreno, Argentina was initiated in late 2005. A call to select four Focus Cities in the Middle East, North Africa, Latin America, and the Caribbean will be launched in June 2006.

Dakar, Senegal   At the request of local government, the Dakar Focus City Team is researching policies for safe and sustainable uses of the highly polluted Mbeubeuss landfill site, which is due to be closed. The research will contribute to future integrated solid waste management policies for the entire region, exploring ways to develop locally appropriate options that reduce health impacts, improve the environment, and create employment. The City Team includes the African Institute for Urban Management (IAGU), the Sustainable Cities Initiative of Industry Canada (with Econoler International and La Fondation Paul Gérin-Lajoie); the Institut Fondamental d'Afrique Noire (IFAN); ENDA, an environmental NGO; the Centre pour le développement Horticole; the National Ministry of the Environment; École inter-état des sciences et médecine vétérinaires (EISMV); the Institut Santé et Développement (ISED); the Agence pour la Propreté du Sénégal (APROSEN); the city of Pikine; and AMA—a solid-waste management enterprise operating in the region.

Colombo, Sri Lanka   Building on the local municipal council's Poverty Reduction Strategy Framework, the Colombo City Team will examine how improved urban service delivery can reduce environmental degradation. Of particular interest is the link between land tenure and water and sanitation services in the Gothamipura district. Through consultation with the community, the project will design an integrated service delivery model that can be

© IDRC

© IDRC

applied throughout Colombo. The City Team includes the Colombo Municipal Council; Sevanatha, a local development nongovernmental organization; and the Centre for Poverty Analysis, an independent poverty research institution.

Jakarta, Indonesia   While Jakarta has made significant strides to decentralize authority to local government, a lack of resources, combined with high rates of urbanization, continues to increase environmental challenges for the urban poor. Municipal authorities will work closely with a local community to try to increase the incomes of marginalized citizens engaged in environmentally beneficial practices related to water, sanitation, and solid waste management. The City Team includes MercyCorps Indonesia, the Urban and Regional Development Institute, the USAID-funded Environmental Services Program, and SwissContact—a private enterprise.

Kampala, Uganda   One of the most significant land uses in Kampala, urban agriculture is also the livelihood for many residents. FCRI builds on IDRC's previous work in this city (see page 10) by implementing innovative options for solid and liquid waste management. The goal is to enhance nutrient reuse and reduce contamination risk in agricultural activities. The City Team includes Urban Harvest, which is part of the International Potato Centre; Kampala City Council; the Kampala Urban Food Security, Agriculture and Livestock Coordinating Committee; Kampala District Farmers' Association; Makerere University; and the Ugandan Ministry of Agriculture.

Moreno, Argentina   Over the last five years, strategic alliances among the Municipality of Moreno, local stakeholders, and the private sector have resulted in the development of a model for multi-stakeholder participation in water and sanitation provision. The Moreno Focus City Team will adapt and test this model in other sectors, including urban agriculture and solid waste management. By sharing experiences and lessons learned, the project aims to develop principles to help guide similar initiatives in

other municipalities of Argentina. The City Team includes the International Institute for Environment and Development in Latin America (IIED-AL), and the Municipality of Moreno.

STAY FOCUSED
To learn more about UPE and the Focus Cities Research Initiative, visit the IDRC Web site: www.idrc.ca/upe.

LEARN MORE
Contact the Focus City Project Leaders or IDRC Program Officers for more information on specific projects around the world.

DAKAR
Oumar Cissé, African Institute of Urban Management: oumar@iagu.org
François Gasengayire, IDRC: fgasengayire@idrc.or.ke

COLOMBO
N. S. Jayasundera, Colombo Municipal Council: munici@slt.lk
Mark Redwood, IDRC: mredwood@idrc.ca

JAKARTA
Kate Day, MercyCorps Indonesia: kday@id.mercycorps.org
Ann Thomas, IDRC: athomas@idrc.ca

KAMPALA
Shuaib Lwasa, Makarere University: lwasa_s@arts.mak.ac.ug
Jean D'Aragon, IDRC: jdaragon@idrc.ca

MORENO
Ana María N. de Hardoy, IIED-AL: ahardoy@iied-al.org.ar
Walter Ubal, IDRC: wubal@idrc.org.uy