Research & Policy Brief

Mobilizing informal workers for urban resilience: Linking poverty alleviation and disaster preparedness

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I. Introduction

Cooperatives and associations of informal sector workers could become key players in global efforts to alleviate extreme poverty and enhance disaster resilience in urban slums and informal settlements. By engaging these worker-led organizations in community-based efforts to reduce disaster risk, the urban poor who live in informal settlements and work informal jobs can exert their collective power to overcome their social and economic marginalization. Such a strategy can build safer communities and lead to the extension of worker rights and social protections to those toiling in the informal economy.

Two landmark global initiatives—the Millennium Development Goals (MDGs) to alleviate extreme poverty and the Hyogo Framework for Action (HFA) to reduce the risk of disasters—expire in 2015. The United Nations is working with its member countries and international non-governmental organizations to craft a new development agenda and disaster resilience framework to succeed these global efforts. While the original MDGs and HFA initiatives developed independently, the successor initiatives to reduce poverty and disaster losses are linked. As the world has learned, in a matter of seconds, a disaster can reduce to rubble the development achievements built over decades.

Development assistance and disaster response in the 21st century face three related challenges that require an integrated approach. First, as the world continues to urbanize, more people and assets are locating in disaster-prone cities. Second, disasters and extreme weather events are increasing in the severity and frequency, owing to climate change. Finally, the majority of the new city-dwellers are living in slums and informal settlements and working in the informal economy, creating a double exposure in which both their lives and livelihoods are at risk.

In its report, *Plan of Action on Disaster Risk Reduction for Resilience*, the United Nations has concluded the foundation of sustainable development is community resilience that "integrates poverty reduction, disaster risk reduction, sustainable livelihoods and climate change adaptation." (UN, 2013, p.7)

The UN's global initiatives recognize the nature of poverty is changing as the world continues to urbanize. Poor city residents live in hazardous informal settlements because of the low costs of housing and proximity to informal sector work. To ply their trade, informal workers must navigate an urban environment where fines,

eviction and harassment are a daily threat, only to receive poverty-level wages. Governments frequently refuse to recognize informal employment or informal settlements, and withhold a social safety net that would allow them to ride out a shock. In addition, local authorities often fail to provide basic services and infrastructure that could protect their homes, assets and livelihoods.

This policy brief builds on the UN's call for community-based disaster risk reduction, arguing the urban poor who live in informal settlements and work informal jobs can become key actors in the development of disaster resilient communities. This strategy relies upon the agency of the slum dwellers and informal workers themselves to overcome the political marginalization that contributes to their vulnerability to disasters.

By engaging membership-based organizations of informal workers in efforts to reduce disaster risk, local government can scale up efforts to enhance community resilience. More importantly, workers in the informal economy become agents of change, not recipients of development aid, transforming their precarious jobs into what the International Labour Organization defines as "decent work," that provides a fair income, job security and social protection, and promotes social dialogue. (ILO, 2007)

This Policy Brief is divided into five sections:

II. Double Exposure of Informal Workers Living in Informal Settlements

The world is urbanizing, as rural residents move in unprecedented numbers to cities that are ill-prepared to accommodate the rapid growth. Many of these cities have failed to develop land use policies and plans to accommodate the population growth. Shlomo Angel, author of *Planet of Cities*, argues that city authorities are failing to make the investments to accommodate the developing world's urban expansion, which "requires the acquisition of substantial amounts of land for public use. It also requires expensive new infrastructure—the extension of roads and streets and the construction of sewer lines, sewage treatment plants, water reservoirs, and water mains." (Angel, 2012, p.13)

People are drawn to cities to pursue the kinds of opportunities only available in urban settings — education and jobs, better health care—and they settle on whatever unoccupied urban and peri-urban land that is available and affordable. The newly urbanized poor become the "pioneer settlers of the swamps, floodplains, volcano slopes, unstable hillsides, rubbish mountains, chemical dumps, railroad sidings and desert fringes," writes author Mike Davis. Precisely because these sites are so hazardous, he argues, slum residents have a modicum of "security from rising land values and eviction. . . The very poor have little choice but to live with disaster." (Davis, 2006, p.120)

Compounding the problems of urban poverty and failure to plan is the geography of the world's cities. According to the United Nations Office for Disaster Risk Reduction (UNISDR)'s report, *Disaster Risk Reduction: An Instrument for Achieving the Millennium Development Goals,* eight of the ten largest cities are at risk of earthquakes. The world's fastest growing cities are located along coastlines that are vulnerable to sea level rise, storm surges, and flooding. While the world's population has grown 87% since the 1980s, coastal cities have increased by almost 200%. Weather-related events—storms, cyclones, and droughts—account for 90 percent of all natural disasters, and the vast majority of people

exposed to these hazards live in the developing world. The number of major disasters has double since the 1980s to 1,000 per year, and climate change will continue to trigger more frequent and severe weather. (UNISDR, 2013, p.8)

According to the United Nations Secretariat of the International Strategy for Disaster Reduction (UNISDR), "Cities concentrate risk through high population densities, inadequate urban planning and poor infrastructure. Problems are particularly acute in slums, in which around one billion people currently live, a number that is projected to double by 2030." (UNISDR, 2011, p.20)

The UNISDR differentiates between "high intensity, low frequency" events such as earthquakes, and "low intensity, high frequency" events, such as flooding and land degradation. While world attention focuses on major disasters—the Haitian earthquake and 2004 tsunami—OxFam argues more damaging is the "relentless attrition of smaller recurring shocks," such as food price hikes and natural disasters, and long-term stresses like climate change and environmental degradation that "turns risk from these shocks and stresses into a rising tide of avoidable suffering, and drives millions of people deeper into crisis and poverty." (OxFam, 2013, p.3)
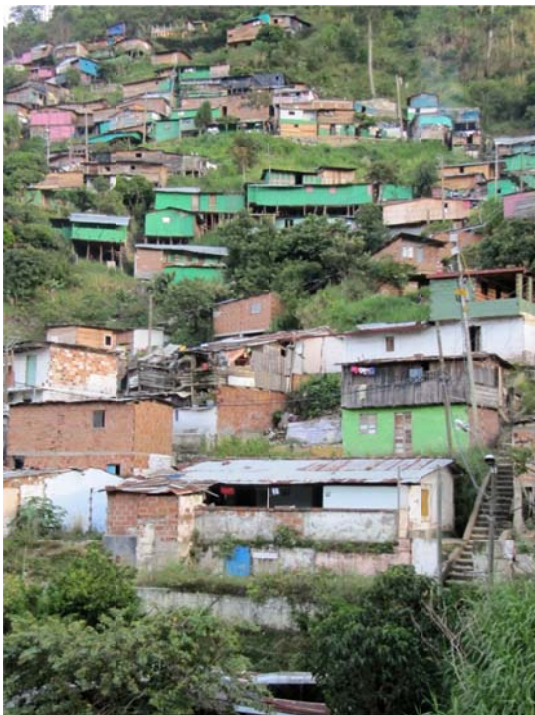
Informal settlements lining Medellín's steep mountain slopes lack basic city services, and are vulnerable to flooding and landslides. ©Bradley Cleveland, 2011

Localized flooding in a slum built in a floodplain or steep hillside can destroy homes and family assets. These informal settlements have neither the green infrastructure—the trees and vegetation that provide natural flood protection—nor the grey infrastructure—the flood channels and sewer systems—to manage even modest weather events. Sewage pollutes water supplies, resulting in public health emergencies. Slum residents do not have access to affordable flood insurance to protect their homes and livelihoods.

A hazardous event becomes a disaster when it strikes a vulnerable community without the capacity—the assets, knowledge, and skills—that enable residents to take measures in response to the event. The Intergovernmental Panel on Climate Change warns, "High exposure and vulnerability are generally the outcome of skewed development processes such as those associated with environmental degradation, rapid and unplanned urbanization in hazardous areas, failures of governance, and the scarcity of livelihood options for the poor." (IPCC, 2012, p.8)

Slum dwellers are not just living in precarious, informal settlements, they are working in precarious, informal jobs—as construction laborers and street merchants, waste pickers and domestics, taxi drivers and as-needed industrial workers—because there are few opportunities in the formal economy. British anthropologist Keith Hart coined the term "informal economy" in 1971, to describe the range of small-scale and unregistered economic activities among rural migrants in Accra, Ghana. (WIEGO, 2012)

The informal economy and its self-employed and contingent workforce have continued to grow since the 1970s, to the point that these workers comprise the majority of the workforce in low-income countries. The World Bank in its *World Development Report 2013: Jobs* estimates there are over 1 billion

people who work in the informal economy, but most of these workers are condemned to a life of poverty. World Bank President Jim Yong Kim writes in the 2013 report:

> "The problem for most poor people in [developing] countries is not the lack of a job or too few hours of work; many hold more than one job and work long hours. Yet, too often, they are not earning enough to secure a better future for themselves and their children, and at times they are working in unsafe conditions and without the protection of their basic rights." (World Bank, 2012, p.xiii)

If low pay, unsafe conditions and lack of job security and social protection were not enough, informal workers face harassment from local authorities. Police will confiscate the goods of street vendors and fine waste pickers; they evict day laborers from corners where they solicit work. In a WIEGO study of Indian street vendors, Randhir Kumar writes, "The authorities treated street vendors as illegal entities, encroachers on public space, and a source of unsightly nuisance." (Kumar, 2012, p.4)

Informal workers living in informal settlements face a double exposure. Residents of these settlements, their homes and assets, are vulnerable to hazards. They work informal jobs that lack decent wages, job security or social protections, making them financially vulnerable. When crises strike they are the "least resilient to recovery" because they possess "limited coping capacity." (O'Brien and Leichenko 2000, p.224) The consensus to link the successors to the Millennium Development Goals and the Hyogo Framework to reduce disaster risk provides an opportunity to address this double exposure.

Bogatá's recyclers sell items they have salvaged along the sidewalks of el Cartuchito barrio. Photographer: Gelver Barreto © Sintana Vergara, 2011

III. A Post-2015 Agenda

Just months before leaders of 168 nations gathered in Japan in 2005 to adopt the Hyogo Framework for Action, a magnitude 9.0 earthquake in the Indian Ocean triggered a tsunami that killed over 220,000 people and devastated the region from Indonesia to India. The tragedy gave new urgency to the framework, which sought to build community resilience by assessing disaster risks and enhancing early warning systems, strengthening disaster preparedness at all levels, and addressing the underlying risk factors—the land-use patterns and the social, economic, and environmental conditions—that exacerbate the losses associated with hazardous events. (UNISDR, 2005)

The HFA successfully changed the international dialogue from how best to respond to disasters to how to prepare for and prevent disasters. According to the report *Disaster Risk Reduction: An Instrument for Achieving the Millennium Development Goals*, "disasters are neither inevitable nor 'natural,'" but are the result of development practices:

> "Many *hazards* are natural and usually inevitable, like cyclones, floods, droughts and earthquakes. . . A 'disaster' occurs when a hazard results in devastation that leaves

communities or even whole nations unable to cope, such as in recently earthquake-struck Haiti." (UNISDR, 2013, p.7)

The UNISDR expresses the relationship between hazard and the potential danger or risk it poses as a formula: Disaster Risk = Hazard x Vulnerability / Capacity, where:

- **Disaster risk** = potential loss of life, assets, livelihoods that could occur to a particular community;
- **Hazard** = potentially harmful events such as droughts, floods, earthquakes, volcanic eruptions, epidemics;
- **Vulnerability** = the set of characteristics of a person, household, or community that make it susceptible to the damaging effects of hazards;
- **Capacity** = the assets, knowledge, skills that enable relevant measures to be taken to protect against and/or respond to the hazard; and
- **Resilience**= the ability of a system to anticipate and recover from the effects of a hazardous event in a timely and efficient manner, through ensuring the preservation, restoration or improvement of basic structures and functions. (*NGO Voice*, 2012, p.2)

Just as development practices have increased disaster risk, local communities can adopt measures to assess and mitigate hazards through planning and preparation. According to the *NGO Voice*, this involves not only understanding the hazard itself, "but also the level of vulnerability of the concerned population, and the capacities available to prevent or respond to the disaster." (*NGO Voice*, 2012, p.1)

The IPCC concurs, observing in its report, "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation," that the main determinant of risk is exposure—where people live and the quality of their dwellings—not the hazard itself. Since hazardous events are inevitable, communities can lower their disaster risk by reducing their vulnerability and exposure, and increasing their capacity. (IPCC, 2012, p.8)

The UN sought to address the underlying risk factors by launching its "Making Cities Resilient" campaign. The community-based approach to disaster risk reduction (DRR) urges local governments and non-governmental organizations to engage citizen groups and civil society and enhance emergency response capabilities; to provide funding to invest in risk mitigation efforts that target low-income families and communities; to prepare community risk assessments and maintain data on hazards and vulnerabilities; to maintain critical infrastructure that reduces risk and restores ecosystems and natural buffers that mitigate floods and other hazards. (UNISDR, 2012)

Many international non-governmental organizations have adopted this approach over the past decade, and their work provides valuable lessons for the Post-2015 development and disaster resilience agendas. Islamic Relief Worldwide (IRW) describes its comprehensive and collaborative approach that "incorporates indigenous knowledge and local experience" into the formation of community networks. IRW initiates various "interventions to enhance the capacity and social strength of the community," including:

Residents of Monrovia organized to demand that utilities and city services be provided to this informal settlement located on Medellín's closed dump site. City workers survey a trash-filled lot as part of the formalization process.
©Bradley Cleveland, 2011

- Community mapping exercises that engage community members in urban risk assessment;
- Emergency response training to prepare first responders in search and rescue techniques, and stockpiling of equipment for use in an emergency; and
- Training for architects and engineers, and those in the construction trades on safer building techniques. (IRW 2012, p.17)

While IRW's approach depends on the active participation of community members to address geographic hazards, the group's approach does little to tackle a community's economic vulnerability. Nor does the IRW address what Professor Peter May calls "social sustainability," which he defines as "an equal opportunity to participate in the political arena as subjects of public policy design and implementation." (May 1999, p.217)

At the May, 2013 meeting of the Global Platform for Disaster Risk Reduction, much of the debate focused on how to address the underlying risk factors that drive disaster risk, "including poverty, hunger, disease, conflict, violence and inadequate health services, education . . . land degradation, displacement, forced migration and discrimination." Among the proposals are efforts to curb rapid and ill-planned urban growth through land use policies and planning; and to develop resilient urban infrastructure—water supply, sanitation, electricity, and transportation—that mitigate the risk of disasters. In addition, the UNISDR identifies poverty reduction as an essential strategy to develop disaster resilience in vulnerable, marginalized communities. (UNISDR, *Chair's Summary*, 2013, p.1)

The UN is conducting a parallel process to draft a development agenda to succeed the Millennium Development Goals, which also expire in 2015. This time around, the UN has established a more inclusive process, consulting with member states, international NGOs, and private sector organizations, and linking development goals to disaster resilience and climate change mitigation. According to the Overseas Development Institute, a development think tank based in England, there is a consensus that the post-2015 agenda should seek to eradicate extreme poverty. "Doing so is not just a matter of raising incomes and people's access to services, but of reducing the risks that threaten to push people below the poverty line." (ODI Working Paper #2, 2013, p.5)

The Post-2015 development agenda will put alleviation of extreme poverty and inequality at the fore. To achieve this goal, the Report to High-Level Panel of Eminent Persons on the Post-2015 Development Agenda proposes to focus on inclusive urban development. The report advocates for the adoption of

"pro-poor," policies that can "contribute to ending extreme urban poverty and improving the lives of slum dwellers," by providing all urban dwellers with "access to sustainable livelihoods." The High-Level Panel enumerates strategies to assist workers in the informal economy, such as establishing a system of urban entitlements and a social safety net, formalizing informal jobs through regulation, and providing access to micro-credit. (Aromar and Rosenzweig, 2013, p.14-18)

Trash dumped in the streets attracts rodents that can spread disease, threatening the public health of city residents. Photographer: Guillermo Zambrano
©Sintana Vergara, 2011

The Synthesis Report presented at the May 2013 UNISDR meeting in Geneva

notes that not only are slums vulnerable to disasters, but "badly planned and managed urban developments can generate flooding." For example, slums can magnify hazard levels by encroaching on natural areas, which leads to the decline of ecosystems that can mitigate flood damage. (UNISDR Synthesis Report, 2013, p.6)

An integrated approach to development and disaster resilience must take into account the informal economy and informal settlements, it must provide universal infrastructure and environmental restoration, and it must address good governance and inclusive, social dialogue.

The successor to the Hyogo Framework for Action must focus on a "bottom up" approach, engaging the marginalized residents of vulnerable informal settlements, if it is to address the underlying risk factors. It must build on successful community-based programs to increase disaster resilience. These programs have demonstrated that:

- Disaster prevention and preparedness is largely a local task that must involve community stakeholders who can identify specific hazards and develop plans to reduce the vulnerability of specific populations.
- It is most successful when communities adopt a "no regrets" strategy that seeks to address vulnerability to future disasters, while offering immediate improvements in lives and livelihoods of marginalized populations.
- It must enhance neighborhood cohesion, build social capital, and give voice to marginal communities to be sustainable. (Rottach, 2011, p.101)

The Inter-Governmental Panel on Climate Change suggests that cities can manage disaster risk and prepare for extreme weather by adopting "low regrets strategies" that produce co-benefits. These measures—including early warning systems and improved communication with local citizens; sustainable land management and ecosystem restoration; and improved stormwater management and sanitation systems—"help address other development goals, such as improvements in livelihoods, human well-being, and biodiversity conservation." (IPCC, 2012, p.14)

The Partnership for Environment and Disaster Risk Reduction, an alliance of UN agencies, NGOs and research institutes, agrees with the IPCC, emphasizing the ability of urban ecosystems "to influence three dimensions of disaster risk equation:

1. By preventing, mitigation or regulating hazards (flooding, landslides, heat waves);
2. By acting as a natural buffer and reducing people's exposure to hazards, and
3. By reducing vulnerability to hazard impacts through supporting livelihoods and basic needs (food, water, shelter, fuel) before, during and after disasters." (PEDRR, 2103, p.2)

Both the Post-2015 development agenda and the new disaster framework will highlight the importance of governance and social inclusion. As the Overseas Development Institution concluded in its working paper on the Post-2015 development agenda, "Poverty is determined, and poverty alleviation or resilience-building capacity circumscribed by governance. . . [A]ccess to security of tenure, where people live, access to insurance, microcredit, local support networks and so forth all hinge on governance ." (ODI Indicators, 2013, p.60)

To address inequality and social exclusion, OxFam promotes a "people-centered approach" that puts those most at risk at the center of the discussion of poverty alleviation and community resilience. OxFam argues, "Organizations that represent the disadvantaged should be strengthened. Civil society has a key role in mobilizing and building social demand for strong government policies that will enhance resilience, thus putting a political price on government inaction." (Hillier and Castillo, 2013, p.24)

IV.   Organizing Community Resilience

The growing consensus to link the development agenda to a new disaster framework includes the following elements:

- A focus on improving the livelihoods of poor urban residents, especially jobs in the informal economy, in order to lift workers and their families out of poverty;
- A focus on reducing the vulnerability of informal settlements by assessing and mitigating the exposure to hazardous events by implementing "no-regrets" measures; and
- Develop an inclusive participatory process that ensures social dialogue and builds social cohesion among residents of marginalized communities and informal workers.

In addition, the UNISDR's emphasis on resilience requires a collaborative approach that involves community stakeholders in all levels of planning and implementation. Authors Fikret Berkes and Helen Ross argue that community resilience must focus on "identifying and building on a community's strengths, rather than focusing primarily on identifying and overcoming deficits." The most important community assets are leadership and social networks because these build communications, social support, and social capital.

> "Communities do not control all of the conditions that affect them, but they have the ability to change many of the conditions that can increase their resilience. They can . . . actively develop resilience through capacity building and social learning. . ." (Berkes and Ross, 2013, p.13)

Membership-based organizations (MBOs) of workers in the informal economy may prove to be an effective vehicle to address both the development agenda goal to alleviate poverty and the Hyogo Framework goal to increase disaster resilience. Worker cooperatives and associations deploy both economic and political strategies to protect and enhance members' livelihoods. These organizations mobilize their members to engage in collective action and to advocate for pro-poor public policies. (Carré 2010, p. 9)

Employing informal workers in community-based DRR can enhance urban resilience and alleviate poverty at three scales – household, neighborhood, and city-wide. At the household scale, such a strategy can increase economic security by providing additional revenue sources, while reducing the vulnerability and exposure of the family home and assets.

At the community level, working with MBOs will increase the capacity of slum residents to reduce disaster risk and increase social capital, while amplifying the workers' political voice and bargaining power. At the city scale, community-based DRR initiatives that restore degraded landscapes and urban ecosystems can reduce flooding and disease vectors, which will improve the public health of all city residents, while creating job opportunities in the field of disaster risk management and related activities such as urban agriculture and land conservation.

MBOs of informal workers have grown in size and effectiveness since the 1972 formation of the Self-Employed Women's Association (SEWA) in India. Recognized as one of the oldest and most successful MBOs, SEWA has leveraged its organizing prowess to establish tri-partite bargaining between workers, government and businesses in order to secure some of the social benefits, training, and security traditionally provided through formal employment structures. Rina Agarwala, Sociology Professor and author of *Dignifying Discontent: Informal Workers' Organization and the State of India,* writes, "Informal workers are ironically pulling the state into playing an even more central role than it did in formal workers' movements." (Agarwala, unpublished memo, 2012)

Waste picker MBOs are ideally suited to engage in community-based DRR to protect the lives and enhance the livelihoods of their members and their communities. Waste pickers have demonstrated their capacity to exert political power to improve wages, productivity, and working conditions through the integration of the informal sector into the formal waste management system. This integration provides co-benefits that contribute to a community's economic, social, and environmental sustainability. Their skill set, tools and equipment, and daily activities lend themselves to many community-based DRR priorities.

WIEGO has studied organizing efforts among Bogatá, Colombia's waste pickers, or *recicladores*. City authorities evicted waste pickers from dumpsites in the 1960s, to create sanitary landfills, forcing waste pickers into the streets to ply their trade. Many city residents viewed these workers as beggars, and city authorities persecuted them for their unregulated activity. The *Asociación de Recicladores de Bogotá* (ARB) was established in 1990 to defend the right of *recicladores* to pursue their livelihood, and now represents 2,500 of the city's 12,000 waste pickers. (WIEGO, 2012, p.23)

Recicladores use a hand cart to go door-to-door collecting trash to find materials they can sell. © Sintana Vergara, 2011

The ARB mobilized its members and formed strategic alliances to achieve two key victories. In the mid-1990s, Bogatá city authorities decided to privatize waste management services, signing an exclusive, 10-year, US $1.7 billion contract with a private company. The *asociación* successfully blocked the contract, and most recently won a Supreme Court case, requiring the city to integrate the informal workers into the city's formal solid waste management system. (WEIGO, 2012, p.23)

At the same time, ARB established a partnership with Carrefour, Grupo Familia, Natura Cosméticos and Tetra Pak. The four transnational corporations funded a recycling center that was owned and operated by the ARB. By purchasing recycled material directly from the *recicladores*, the companies cut out the "middle men," thereby reduced their costs and ensured a steady supply of recycled material. But more importantly, the program improved sustainability at three scales:
1. The *recicladores* secured steady work, and received higher wages and benefits; the association was able to address unsafe working conditions for their members;
2. Members were trained to identify and safely removed hazardous materials, improving the health and safety of the workers and their communities; and
3. Bogatá increased its recycling rates, extending the life of its landfills and contributing to its sustainability goals regarding solid waste management. (Martinez, 2012, p 17)

WIEGO researcher Candace Martinez identifies two prerequisites for the Bogatá recycling project. There needed to be the legal framework that recognized the rights of informal workers, but the laws were insufficient if informal workers were not organized. Nohra Padilla, president of the Asociación de Recicladores de Bogotá, says the formation of the MBO laid the foundation for the social inclusion of *recicladores*. (Martinez, 2012, p 23)

Engaging membership-based organizations in activities to enhance the resilience of informal settlements

would allow cities to scale up community-based disaster risk management, enhance the livelihoods of precarious workers, and integrate informal settlements into the economic and social fabric of the city. Such cooperative agreements between the local authorities and worker-led MBOs can provide another co-benefit by enhancing social cohesion and building social capital within informal settlements. In the event of a disaster, MBOs can provide a local safety net.

OxFam-UK Research Director Duncan Green says these informal networks "are in general more significant sources of support than the state," in times of crises. (Green, 2012) These networks can pre-position emergency supplies in neighborhood shelters and act as community-based first responders in the aftermath of a disaster, leading search and rescue operations; and they can lead recovery efforts and offer micro-loans to see families through the crisis.

The Asociación de Recicladores de Bogota has established a maintenance yard where carts and equipment is repaired, improving the productivity of the city's waste pickers.
Photographer: Miguel Archangel Quiñoz © Sintana Vergara, 2011

In the case of waste pickers, integrating the formal and informal sectors can improve the community's solid waste management system, extending the life of landfills. Salvaged items can be fixed and resold, or recycled. Construction and demolition debris collected by waste pickers can become valuable inputs for public infrastructure and private construction projects, and an additional source of revenue for waste pickers.

Reducing garbage from streets, streams, and drainage channels of informal settlements can reduce flood hazard, remove disease vectors, and improve public health. As they move through various neighborhoods, collecting cast-off material, waste pickers can engage in community mapping efforts to identify potential hazards or locate toxic contamination for safe removal.

Food waste can be composted, becoming fertilizer for use in ecosystem restoration and urban agriculture projects. Ecosystems provide two important contributions to urban resilience. First, ecosystems can reduce physical exposure to natural hazards by acting as natural barriers that mitigate hazard impacts. Second, ecosystems lessen disaster risk by reducing social-economic vulnerability to hazard impacts by providing essential goods such as food, fiber, medicines and construction materials. (Estrella and Saalismaa, 2011, p.9)

V. Conclusion

The United Nation's effort to link the Post-2015 development agenda and the Hyogo Framework to build community resilience can address the double exposure facing city residents who are living in informal settlements and working in the informal economy. However, these global initiatives must be implemented at the local level by city authorities. The engagement of worker-led membership-based organizations can provide the political leverage to ensure the adoption of inclusive policies and practices that integrate marginalized communities and informal workers into the fabric of the city.

City investments in infrastructure and services for informal settlements represent a "no regrets" strategy that can improve the public health and safety of residents, reducing costs over the long-term. Improved trash collection and sanitation can reduce disease vectors; developing and maintaining green and grey infrastructure can reduce flooding and landslides. Restored ecosystems can serve as natural buffers against hazards, while become the source of healthy, locally grown food as fruit-bearing trees and gardens replace denuded hillsides and landscapes.

Employing workers in the informal economy in community-based efforts to reduce disaster risk offers co-benefits that address the Post-2015 development agenda to reduce extreme poverty by improving their wages and job security, and reducing their vulnerability to disasters and shocks. Such a strategy can meet the International Labour Organization's goal to create "decent work," through job creation, the extension of worker rights and social protections, and the establishment of a social dialogue between informal sector workers and local authorities.

Finally, this strategy promises to be financially sustainable as the informal workers become more productive, as new markets are developed, and local governments achieve savings from their investments in resilience through lower costs of disaster response and recovery.

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Sintana Vergara received a Fulbright Fellowship to Colombia in 2010-2011 to research the environmental benefits of informal recycling in Bogota. As part of her research, she organized a photo project, "Reciclando Bogota," in which recyclers used disposable cameras to document their lives and work.

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