



## THE AQUINO INTERVIEW P.18

The **things** that are **happening** to **my country** and to other parts of the world are **not in the norm**.

**We now** have to **consider** revising **our idea of the norm**.

PHILIPPINES PRESIDENT BENIGNO AQUINO III

PLUS ADB's TAKEHIKO NAKAO ON DISASTER PROOFING ASIA P.34



FROM  
**ACEH**  
TO  
**TACLOBAN**



LESSONS  
FROM A  
DECADE OF  
DISASTER



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# Inside



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**AQUINO INTERVIEW**  
The things that are happening in the world are not just about the economy. We have to look at the politics and the social issues that are driving the world.



## SPECIAL REPORT

### From Aceh to Tacloban

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Asia needs more protection against the financial cost of disaster

Cover Photos: **Gerhard Joren** (Tacloban; color); **Veejay Villafranca** (Tacloban; black and white); **Getty Images** (Aquino)

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We cannot allow the cycle of destruction and reconstruction to continue by rebuilding communities in the exact same manner.

—Philippines President Benigno Aquino III

### 31 AID WATCH



# RACE AGAINST TIME

**NATURAL DISASTERS ARE** frequent and unwelcome visitors to Asia. Nowhere else does nature's fury strike with such frightening regularity, wiping out families, destroying homes and livelihoods, and leaving broken communities in its wake.

Disasters like Typhoon Haiyan, which hit the Philippines last November, radiate lasting hardship. More than 5,000 lives were tragically lost and many more people left homeless. But jobs were also lost; businesses went bankrupt; schooling missed; and vast national economic resources diverted to the recovery effort. It can take years for communities and economies to rebuild.

Reducing this toll is one of our region's greatest challenges. Much has been done, since the 2004 Indian Ocean tsunami, to integrate disaster safeguards into national economic plans. We're privileged to have President Benigno Aquino III of the Philippines give his perspective on what else needs to happen to reduce risks in one of Asia's most disaster-affected countries. ADB President Takehiko Nakao also provides exclusive insights into how the region's economic growth could suffer unless it acts collectively on disaster risk.

Disaster does not discriminate among its victims. Increasingly, Asia's poor are in its path as they throng to the vulnerable margins of cities. Extreme weather linked to climate change adds another risk factor. In this issue of *Development Asia*, we show that Asia is in a race against time to deal with this threat. I hope you find our analysis illuminating and thought provoking.



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Black & White

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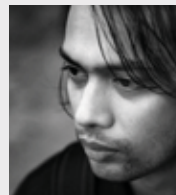
### SAAD HAMMADI

is a Bangladeshi journalist based in Dhaka who covers social, economic, and political developments for international publications including *The Guardian* and *The Christian Science Monitor*. Saad takes a special interest in covering the country's progress on development challenges. He is also an editor for the weekend supplement of leading national daily, *New Age*. On p.38, Saad writes about a cash transfer program to keep Bangladeshi girls in school.



### SUNSHINE LICHAURO DE LEON

was one of the few international journalists in the Philippines when Typhoon Haiyan hit last November. Her network of local contacts proved invaluable as foreign news outlets clamored for news. Sunshine has worked for several years as a freelance journalist in the Philippines, writing for publications including *The Guardian* and CNN.com, and producing for television and radio. Her story on the Philippines' FAiTH initiative can be found on p.34.



### MOHAMMAD RAKIBUL HASAN

is a documentary photographer based in Bangladesh. His work focuses on development, social, and environmental issues, and has appeared in numerous international magazines and been exhibited in several countries. He has been nominated for the UNICEF Photo of the Year, and shortlisted in the Sony World Photography Awards. Hasan studied film and video at the University of Sydney, and photojournalism on scholarship at the Konrad Adenauer Asian Center for Journalism, Ateneo De Manila University, in the Philippines. His work appears on p.54.

# SITUATION REPORT

## EMPOWERING MYANMAR

Myanmar is in the early throes of an economic transformation. The economy is growing, but electricity shortages are emerging as an obstacle to further growth.

Only 28% of Myanmar's 60 million people have access to electricity, with just one in five households linked to a leaky power grid. In Yangon, less than three-quarters of residents have electricity. Blackouts are a fact of life, forcing many to rely on noisy power generators.

Doubling electricity output over the next 5 years would only meet today's needs, according to *New Energy Architecture: Myanmar*, a report by the World Economic Forum in collaboration with Accenture and the Asian Development Bank (ADB). This would still fall far short of future needs expected to rise by 12% a year. The needs are stark, but solutions

are emerging. ADB extended a \$60 million loan to Myanmar last September to improve electricity distribution for nearly 500,000 residents. The World Bank is supporting the construction of a modern power plant at Mon State in the east. The government has invited foreign and local private firms to set up hydro and thermal power plants.

But perhaps the most far-reaching shift is ADB's partnering with the Government of Norway to update electricity sector regulations dating back to the 1980s. A draft of the new law mandates an electricity regulatory body to establish clear policies, and permits small-



scale private power projects not connected to the national electricity grid. The measures may pave the way for further vital reforms to enhance the effectiveness of the power sector such as unbundling of generation, transmission, and distribution.

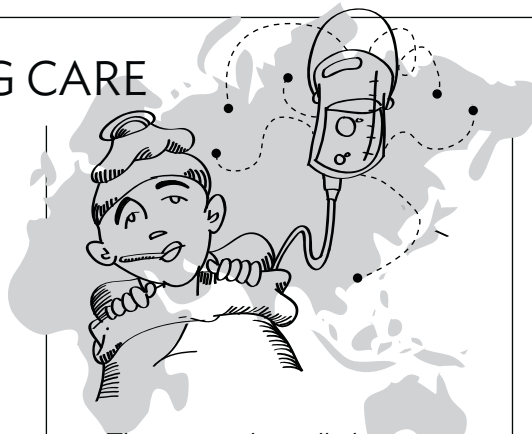
Jong Inn Kim, ADB's lead energy specialist, says the new rules are needed "to develop the industry and deliver electricity to the vast number of citizens who currently go without." ■

## CROWDFUNDING CARE

Surgeons at Bayalpata Hospital in remote western Nepal are busier than ever. They performed nearly 100 extra surgeries last year—all funded by clicks of a computer mouse.

Bayalpata—a public hospital managed since 2006 by Nyaya Health, a nongovernment organization based in the United States (US)—treats 50,000 patients annually; all of whom are residents of surrounding districts who sometimes travel long distances for treatment.

Nyaya has partnered with the Government of Nepal to address the country's shortage of health care services. It has an intense focus on innovation, and has teamed up with US companies Watsi and Kangu to fund rural referral treatment (where patients are sent to other facilities for follow-up care) and safe pregnancy and delivery care.



This approach is called crowdfunding, and Nyaya ("justice" in Nepali) believes it is among the first organizations to use such an approach for rural referral care. Through Watsi, 183 patients have been fully funded with a total of \$178,840 (as of April 2014), while nearly \$23,000 raised through Kangu has provided safe births for 65 women.

Patient profiles are placed online, and donors can give as little or as much as they like—receiving e-mail updates on their patient's status.

Ganga Kumari, 7, is scheduled for plastic surgery treatment of her severe burns after 32 donors donated \$1,415. The successful foot surgery of Dammara, a 26-year-old mother-of-three, was made possible by a single donor who contributed \$965.

"Without doubt, this has been life-saving," Nyaya's executive director Mark Arnoldy tells *Development Asia*. "Most patients for whom we crowd fund care wouldn't otherwise have had access to treatment."

Even so, poor patients can be reluctant to leave home for treatment due to work or family demands. Some die despite receiving care. Many survive, however, and the crowdfunding model has enabled Nyaya to build referral relationships with several city hospitals across Nepal.

"We see enormous room for growth in Nepal," says Arnoldy. "And we're sharing our experience with other organizations so they can build referral care in their countries." ■

PHOTOS: GETTY (EMPOWERING MYANMAR), CORBIS (WEIGHTY ISSUES, CYCLE OF VIOLENCE)  
ILLUSTRATION: CLEONE BARADAS



## WEIGHTY ISSUES

Many Asians are going hungry; yet a rising number are eating too much for their own good. In fact, says the Overseas Development Institute (ODI), the number of overweight or obese Asians tripled to 500 million



between 1980 and 2008. Some 20% of Asia's adult population is overweight, up from 12% in 1980.

While this prevalence is lower than that in the rest of the world, the trends are worrying. "Indicators of unhealthy eating—(being) overweight and obesity—are rising in Asia," ODI research officer Sharada Keats tells *Development Asia*.

In the People's Republic of China (PRC), the daily food plate has more than doubled in size to 2,100 grams over the past 50 years, with a tenfold increase in consumption of animal products like meat. While this isn't all bad, since 1980, the incidence of overweight and obese people in the PRC has doubled to 25% of the adult population.

In its *Future Diets* report released in January, the ODI put the number of overweight and obese adults in developing countries at more than 900 million—almost twice as many as in rich countries. This apparent

paradox is due to rising incomes in the developing world, greater availability of processed foods, and less active lifestyles.

Keats says this trend is likely to continue unless governments take stronger measures against unhealthy eating.

The sheer diversity of Asian diets suggests a fatty future is not inevitable.

Thais eat more fruit than animal products. Most of India's animal product consumption comes in the form of milk rather than meat. And in Southeast Asia, seafood consumption has soared, says Keats, owing not only to growth in capture fisheries, but also to the rise of aquaculture.

Keats counsels against complacency. "The numbers are almost certainly worse now than they were 5 years ago. There are also overweight and obese children not included in these figures." ■

## ENDING THE CYCLE OF VIOLENCE

Papua New Guinea (PNG) has reached a milestone in its campaign against domestic violence and rape, with a new law promising enhanced protection for victims and penalties for perpetrators.

The Family Protection Act passed last September empowers victims, family members, and neighbors to report domestic violence. It also offers protection for complainants, counseling and mediation for all parties, and fines and prison terms for perpetrators.

Domestic violence and rape are endemic problems in PNG. Development agencies and academics say about two-thirds of women have experienced violence at home, while half of women have experienced forced sex. Half the victims of reported rape were under 15.

Such violence has diverse roots spanning culture, poverty, and governance, says PNG gender equality consultant Orovu Sepoe:

"It is the culture of violence that needs to be addressed in PNG. To do that requires awareness about rights and responsibilities of citizens, men, and women."

Attitudes are slowly changing, a shift reflected in the Family Protection Act, which resulted from collaboration between nongovernment organizations and the government's Family and Sexual Violence Action Committee.

Sepoe, who has worked extensively on the issue, says the law is a step forward but real progress will come when it is embraced by all parts of society.



"Citizens need to be informed about their rights and obligations," says Sepoe. "Police must ensure they have the mechanisms to receive reports of domestic violence and ensure protection from the perpetrators of violence. Awareness efforts should be mainstreamed in the education system. The momentum must be maintained." ■

A roundup of stories from ADB's development blog  
*[blogs.adb.org](http://blogs.adb.org)*



## JARGON HURTS THE POOR

“If a development project was polluting the river near their home, would [the poor] know that they need to engage in a stakeholder consultation?”

Floyd Whaley, an editorial consultant at the Asian Development Bank (ADB), describes how the jargon of development

agencies can end up further marginalizing the marginalized—the very people that they endeavor to help. Whaley opines that using jargon “makes international development information inaccessible to students, as well as researchers who do not have expertise in the area. Jargon inhibits journalists from understanding and sharing information about development...blocks information from girls and women in developing countries.... Jargon has the effect of making search engines such as Google blind to information.” Whaley acknowledges that jargon thrives in all fields and that in the early days of development, organizations only had to coordinate with a small community of government officials, donors, and development professionals. But the role of development organizations has evolved—as have the expectations of beneficiaries who want to know more and be more involved in work done at their communities. This trend—along with the growth of the internet and the information it can provide at the touch of a button—means that “the task of communicating clearly has taken on greater urgency.” ■

## URBAN FOOD SECURITY

“We all grew up around the stereotype that the farmers grow the food and the cities consume the food. Can and should city residents also produce the food that they consume?”

Lourdes Adriano, Agriculture, Rural Development, and Food Security unit head at the ADB,

examines urban farming as a way of securing stable food supply in the face of volatile prices, deteriorating natural resources, and exponentially growing global demand. Technologies that enhance food security without large demands on water, land, and labor—such as hydroponics (growing plants in water) and aquaponics (combining vegetable hydroponics with aquaculture)—are being explored throughout Asia. ■



## BRIDGING THE IDENTITY DIVIDE

Indu Bhushan, deputy director general at ADB's Strategy and Policy Department, has no birth certificate. But he has school records and a passport, which is more than can be said for hundreds of millions of Indians without legal proof of their existence. “There is a great divide in India between identity-haves and identity-have-nots,” writes Bhushan. “Those without an identity are barred from exercising basic rights and face severe constraints in accessing productive employment, social benefits,

There is a great divide in India between identity-haves and identity-have-nots.

and the justice system. It also denies them recognition as full citizens and the right to political participation.” Bhushan points to promising signs in the shape of a government initiative to provide an identity card containing unique biometric information to each of its 1.2 billion citizens. More than 400 million people already have the card, called Aadhaar. It can be used to open a bank account, receive subsidies, and apply for a job, among others. Aadhaar faces huge logistical challenges, but if successfully implemented, it would allow the government to improve current targeted welfare programs. ■

PHOTO:AFP



# HEALTH at the HEART of HEALING

Three weeks after Typhoon Haiyan ravaged central Philippines, children play in one of the hardest hit areas in Eastern Samar. The World Health Organization provides psychosocial support for these children and the affected populations. After devastating natural disasters, rebuilding health systems is a primary concern to ensure healthy communities for sustainable development. As we help disaster affected communities to get their lives back together, let's remember to place health at the heart of healing.



SPECIAL  
REPORT

FROM **ACEH** TO

# TACLO

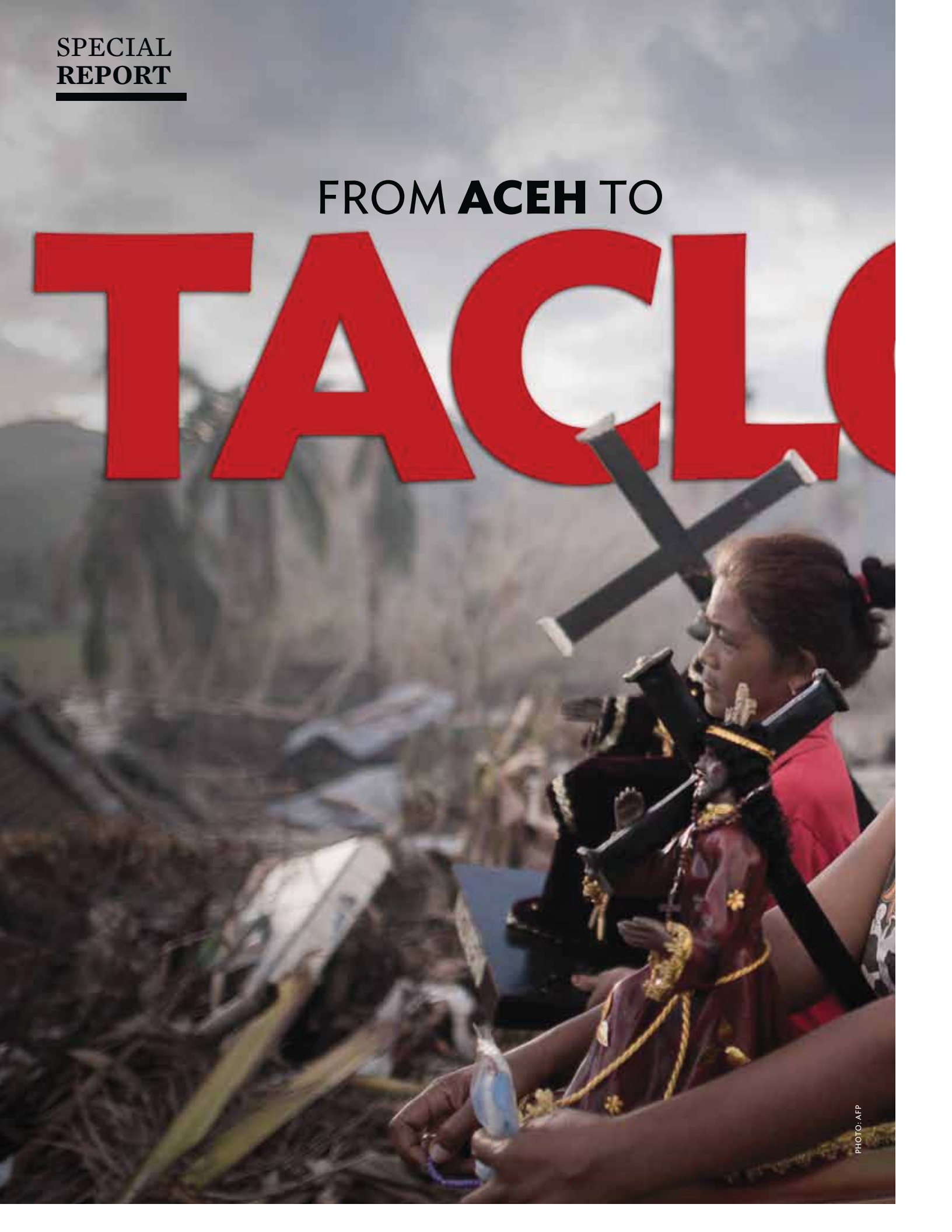


PHOTO: AFP



# TACLOBAN

HOW FAR HAVE WE COME?

By John Larkin | TACLOBAN



**A**t the beautiful but fragile islands of the central Philippines, communities are picking up the pieces after the worst storm in memory. In a country battered by 20 typhoons a year, there is among locals an acceptance of nature's power and the awful toll it can take.

"It might happen again, we cannot do anything," says Francisco Colinaras, 85, as he surveys the smashed concrete porch of his once-sturdy house. "It was nature."

Like most residents of Tacloban City, which bore the brunt of Typhoon Haiyan's fury last November, Colinaras is focused on simple survival. He grieves for his lost wife and wants to rebuild when he has the materials. Beyond that, he has no big plans.

This pragmatic approach pervades Leyte and Samar islands in the Eastern Visayas region, 6 months after Haiyan. Though the rhythms of normal life are reasserting themselves, cities and towns remain scarred by shattered homes, offices and factories, smashed cars and other debris lining the streets. Building back better—the notion of rebuilding stronger and safer through improved design and location—was popularized after the 2004 Indian Ocean tsunami but is a mystery to many residents who lack the resources even to rebuild what they had.

"People are just looking to get back on their feet," says Kasper Engborg, head of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) in Tacloban.

But locals at hazard-plagued cities like Tacloban know there will be more disasters. At this and other communities in the crosshairs of disaster across Asia and the Pacific, there is a growing awareness that they must become more resilient to future shocks.

**IN THE DECADE** since the Indian Ocean tsunami slammed into coastal areas from Aceh in Indonesia to faraway Somalia, resilience has gained traction among policy makers. It holds that good planning can soften the social and economic impact of natural hazards by investing in natural and man-made safeguards.

"The need for greater resilience has been highlighted by disaster risk management specialists going back 35 years," says Charlotte Benson, a senior disaster risk specialist at the Asian Development Bank (ADB) in Manila. "Governments have recently shown increased interest in planning for resilience, though certainly more attention needs to be paid to this issue."

Haiyan has added a new note of urgency to the shift toward more resilient communities, businesses and households. "We cannot simply allow the cycle of destruction and reconstruction to continue by rebuilding communities in the exact same manner, because it naturally follows that this will lead to the same results," said Philippines President Benigno Aquino III in an interview with *Development Asia* (see *In The Eye Of The Storm*, p.18) six months after Haiyan, named Yolanda in the Philippines. "This is why we are making sure there are enough resources—and sufficient strategic planning—to ensure that we rebuild in a resilient manner."

Nowhere is this more imperative than in Asia, which is more exposed to natural hazards than anywhere else. Disasters happen when natural hazard events combine with man-made exposure of people and assets to those events without due action to strengthen resilience, resulting in losses.

Asia accounted for just over half the global deaths from disasters between 1970 and 2010, according to the ADB, most of them in

developing countries. By land area, the region has double the global average annual deaths by disaster, around one person per 1,000 square kilometers.

Moreover, Asia accounted for 40% of total reported economic disaster losses in real terms, which are growing at a faster rate than regional gross domestic product growth—with alarming implications. "Prospects for continued strong economic growth in Asia and the Pacific are in jeopardy if resilience is not strengthened and, instead, the growth in disaster losses continues to outpace economic expansion," says ADB in a 2013 report, *Investing in Resilience: Ensuring a Disaster-Resistant Future*.

The case for resilience is underscored by climate change, which is expected to increase disaster risk—although precisely how is a matter of debate among specialists.

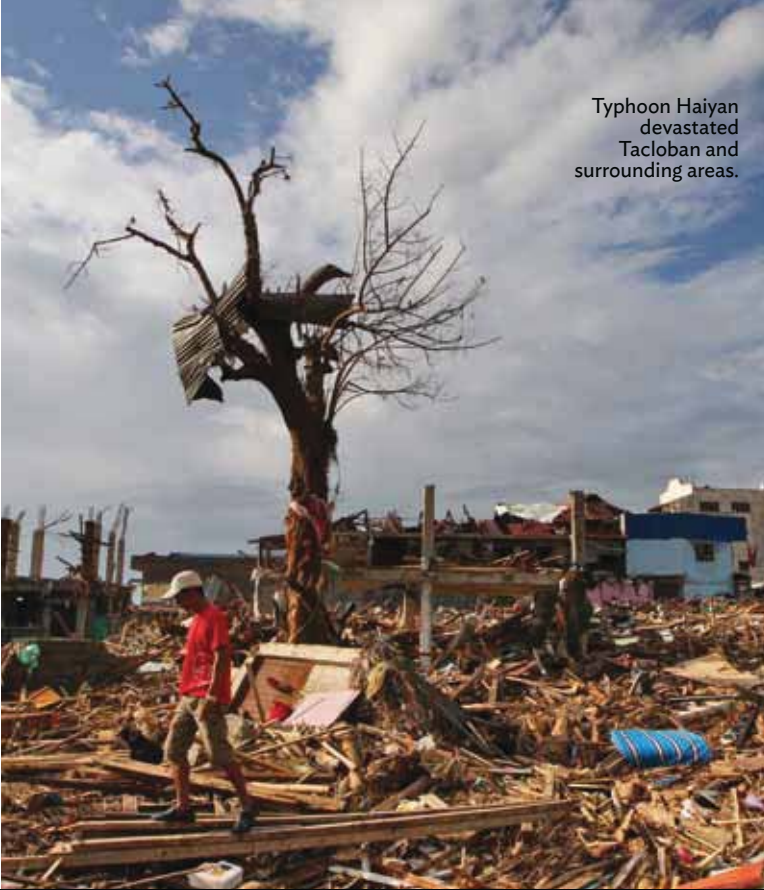
"What I tell my national Red Cross offices is to be prepared for greater uncertainty and higher risks," says Maarten van Aalst, director of the International Federation of Red Cross and Red Crescent Societies (IFRC) Climate Centre. "What we see almost everywhere in the world is an increase in the risk of extremes."

**THE OUTLOOK WOULD** be even more worrying if Asian governments had not heeded the warning sounded by the Indian Ocean tsunami, which killed more than 225,000 people in 11 countries.

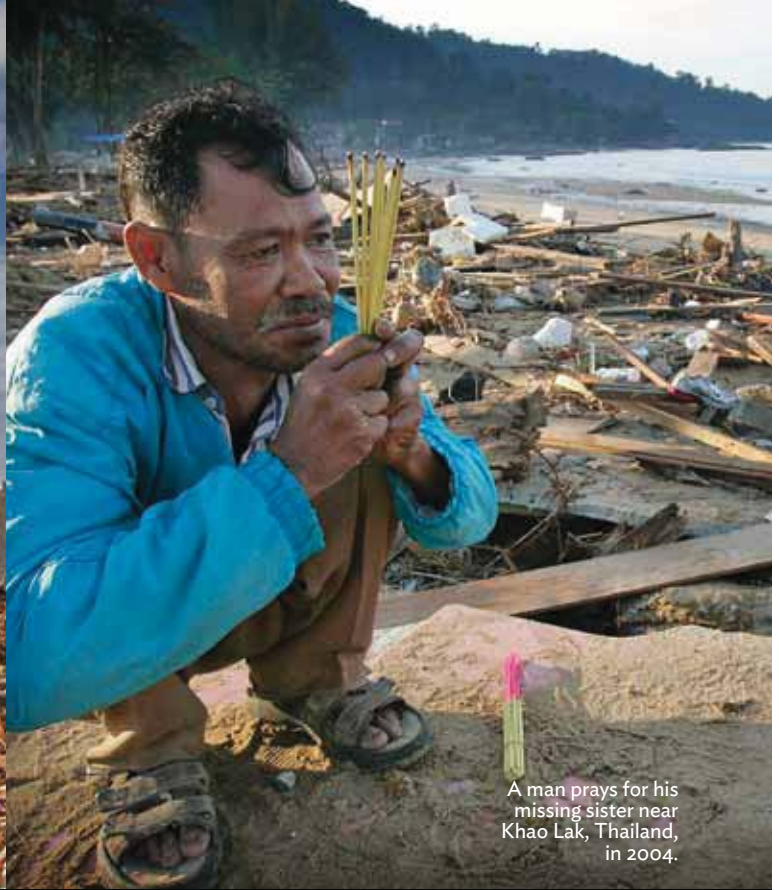
The huge death toll triggered an ongoing, albeit uneven, transition from reactive disaster management to minimizing impact by cutting risks beforehand. Ideally, reconstruction was to be linked to the long-term development needs of the affected country, helping to insulate it from future calamities that could derail growth.

PHOTOS: ASSOCIATED PRESS (TOP), CORBIS (BOTTOM LEFT), GETTY





Typhoon Haiyan devastated Tacloban and surrounding areas.



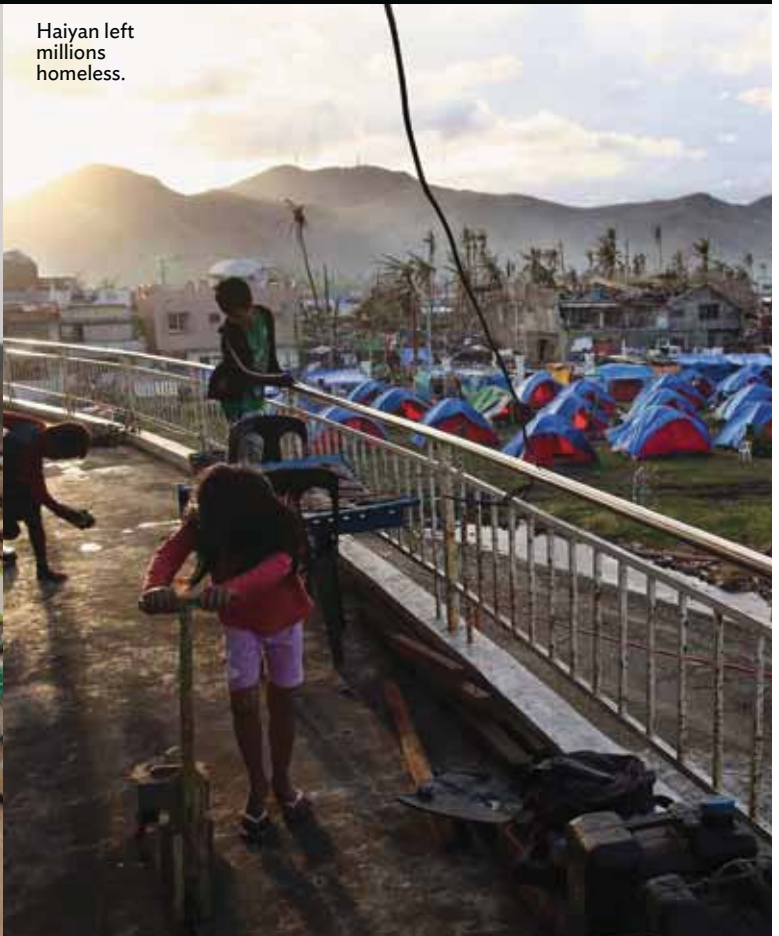
A man prays for his missing sister near Khao Lak, Thailand, in 2004.

“What we see almost everywhere in the world is an increase in the risk of extremes.”

— Maarten van Aalst, IFRC Climate Centre director



Japan's 2011 earthquake and tsunami destroyed almost everything in its path.



Haiyan left millions homeless.



# New laws have made it easier for disaster-hit countries to cope with an avalanche of foreign aid.



Building back better can promote inclusive economic growth.



Natural disasters can ruin livelihoods and deepen poverty.

Oliver Lacey-Hall, OCHA's regional director for Asia and the Pacific, describes the tsunami as "a huge provider of political impetus across the region."

That impetus galvanized interest among governments in a global conference on disaster risk management at Kobe, Japan scheduled for just a few weeks after the tsunami. With bodies still being recovered, the UN World Conference on Disaster Reduction produced an unprecedented political commitment to curbing the impact of calamity.

The Hyogo Framework for Action 2005–2015 urged governments to embrace five key actions: prioritize disaster risk reduction, enhance early warning, build a culture of safety and resilience at all levels, reduce underlying risks, and strengthen preparedness and response across the board.

Today, as the Hyogo Framework nears its end, Asia's report card is mixed though progress has been striking in some areas. Indonesia, which bore half the tsunami death toll, has led the way with a path-breaking relief and reconstruction effort that evolved

into a thoroughgoing disaster risk action plan.

Confronted with what has been described as "a second tsunami" of aid, Indonesia gradually came to grips with the sprawling response effort.

A new agency dedicated to coordinating the response, the Agency for Rehabilitation and Reconstruction (BRR) was formed, headed by Kuntoro Mangkusubroto, a minister-level official with a time-bound mandate. It performed well in trying circumstances (see *Aid Watch*, p.31) and provided the launch pad for the larger risk reduction framework.

With BRR leading the way, Indonesia moved quickly to ensure that losses on the scale of the 2004 tsunami would not be repeated. "Key ministers immediately started focusing on boosting disaster risk resilience in the medium to long-term," recalls Ramesh Subramaniam, deputy director general of ADB's Southeast Asia Department, who was in Indonesia when the tsunami struck.

In 2007, a disaster management law was passed, and the following year, the National Disaster Management Agency was formed to handle disaster coordination.

Indonesia was among the first countries to formulate a national action plan for risk reduction and has significantly increased disaster risk management budgets.

"They've come a long way," says OCHA's Lacey-Hall. "And it's filtering down to the regional and subregional level."

**EVER SO GRADUALLY**, the roots of resilience are sinking deeper into Asia's political and economic superstructure. A slew of new initiatives—disaster risk management laws and agencies, flood control programs, relocation schemes, evacuation drills, climate-proofed infrastructure, high-tech innovations, and social interventions—have helped make the region safer.

"Progress has been made, with many countries shifting from ex-post to ex-ante disaster risk management," says Abhas Jha, sector manager for Transport, Urban and Disaster Risk Management for East Asia and the Pacific at the World Bank.

Disaster risk management agencies have mushroomed in India, the Maldives, Papua New Guinea, the Philippines, Thailand, and Vanuatu, to name a few. This

PHOTOS: GETTY (LEFT), ADB



trend acknowledges the crucial role of coordination and planning in blunting the impact of disaster.

It also reflects a shift from letting civil defense agencies handle disaster response. “Before, the staff was search and rescue people mostly. Now there is multisectoral expertise,” says Sanny Jegillos, regional disaster reduction adviser at the United Nations Development Programme.

New laws have made it easier for disaster-hit countries to cope with an avalanche of foreign aid. “The IFRC’s international disaster response law project has done enormous work to ensure disaster risk reduction legislation includes tenets on accepting international assistance,” says Oliver Lacey-Hall, who notes that such clauses in the Philippines’ legislation enabled a “carefully controlled” response to Haiyan.

Regional cooperation, surely a must-have given the region’s multicountry and interlinked disaster profile, has advanced. A web of early warning systems is anchored by the pan-regional Deep-ocean Assessment and Reporting of Tsunamis (DART) network of buoys placed in the Indian Ocean to monitor seismic activity and pinpoint the height, location, and timing of a tsunami.

DART is backed by national systems. Indonesia’s, implemented in 2008, gives warnings of tsunami threats within minutes. Thailand’s system can issue public warnings through hundreds of radio stations, millions of text messages, village loudspeakers, and more than 100 coastal warning towers.

Quick action on good information is crucial, and here Asia has innovated. The Indonesian Scenario Assessment for Emergency allows users to analyze and share risk information on an open source platform, and is being expanded to the Philippines. The Pacific Catastrophe Risk

Assessment and Financing Initiative has generated disaster risk profiles for 15 Pacific countries, allowing policy makers to plan for the worst.

Building back better—best described as a subset of resilience—has gained traction. When driven by community consultations it can redress social inequities, like a 10-year housing insurance scheme in India covering residents against disaster, giving joint ownership rights for women, and funding the education and resettlement of orphaned and single females.

Sometimes this all-purpose phrase can mean more dramatic interventions, as in the Maldives where the 2004 tsunami provided an opportunity not only to rebuild safer schools, but also to upgrade teaching methods and improve internet access. Elsewhere, it might be a micro-initiative, such as replacing a thatch roof with tin.

“Often (building back better) is simply common sense,” explains Peter Struijf, Oxfam’s program manager for Tacloban and Eastern Leyte. “What it means varies from one place to the next.”

**AT TACLOBAN, BUILDING** back better has meaning for those with the capacity to do it.

The rice-farming residents of San Miguelay village, an hour’s drive from Tacloban, are rebuilding their simple huts stronger than before, thanks to funding and materials from global humanitarian organization CARE International.

Using materials, tools, and about \$65 in financial assistance per household from CARE, Nilo Nola rebuilt his wrecked house with corrugated tin roofing for thatch, and coconut timber replacing bamboo flooring. A member of a roving team of builders organized by CARE, he has been taught how to build stronger frames, brace joints with metal, and where not to build to avoid landslides.

“If the next storm is as strong as Yolanda I’m not sure it will survive it,” says Nilo. “But if it’s a normal storm I’m more confident. We used to build haphazardly. Now we have a system.” His second cousin Arrien Nola lives just a few meters away. Her house was rebuilt using the new techniques and with more brick. As captain of the San Miguelay barangay, or ward, it’s her job to make sure households comply with the new building methods. “I explain that it’s for their own protection.”

For people living in more exposed areas near water, relocation may be the only option. Tedence Hobson, an official at Tacloban’s city housing office, has written in felt tip pen on his window the names of groups donating funds and staffing to build new free housing for relocated residents.

The new houses to be built this year at a site 10 kilometers (km) from the city, he explains, will be concrete and able to withstand 250 km/hr winds—comparable with Haiyan. Fidensio Paranas, one of the builders at the site, says he would be moving there himself had his Tacloban house not been built of concrete and steel. “I knew my house wouldn’t collapse.”

But building new houses is only half the battle. Often, people are reluctant to move away from the only livelihoods they’ve ever known.

Many of those relocated after Haiyan are fishing families who lost their jobs after the storm destroyed the boats and reefs. Some will receive training in new skills from organizations like Habitat for Humanity, which teaches construction skills to people receiving its assistance.

“Over the next few years construction will be booming all over the Visayas (as people rebuild),” says Dabs Liban of the group’s Philippines office. “So it can be a source of income for these families.”



Reconstruction efforts can continue for years after a disaster.



Tools of the trade, like these fishing boats near Banda Aceh, must be rebuilt after disaster.

“Much development in Asia and the Pacific continues to occur with little regard to natural hazards, unintentionally exacerbating disaster risk as populations and capital assets expand.”

— Stephen P. Groff, ADB Vice-President for East Asia, Southeast Asia, and the Pacific



Workers clear debris in Japan after the 2011 tsunami, which devastated coastal communities.



Aid deliveries save lives, but can cause problems if badly coordinated.



But convincing people to start over won't be easy. Cesar Padilla's family has lived on the idyllic beaches of Tolosa, a short drive south of Tacloban, for generations. He has no intention of relocating, despite the risk. "This is a fishing village, and we love it here because of all the fresh fish. I don't want to move."

For others, it's not so much a case of starting over as thinking bigger. Coconut farmers across the Visayas saw their crops devastated by Haiyan. Boy Andrades lost most of his 8,000 trees but wants to use post-Haiyan financial assistance to expand beyond marginally profitable copra, or coco meat, into furniture and coco sugar.

"Not that I'm happy Yolanda happened, but at least it has given us an opportunity to make more products," says Andrades.

**ALL TOO ACCUSTOMED** to disaster, many households across Asia are inherently resilient, at least in spirit. The challenge is to translate this individual durability into tangibly better physical resilience of people, infrastructure, and livelihoods, as well as improved protection against the economic consequences of disaster losses.

This requires more thoroughgoing change than ad hoc measures can generate, says Peter Walker, a resilience specialist at Tufts University in the US. He says resilient societies promote diversity in livelihoods and sources of community leadership, social inclusion, and backup systems that can flex with shocks.

"You can't just build these little fortresses," says Walker. "It can be quite difficult to take on board but you have to change radically. The economy has to completely change. It involves a lot of planning and unknowns."

In this ideal world, everyday development—urban planning,

and provision of services and infrastructure— would be linked with solid risk information to guide development into safe places with adequate standards and emergency procedures, says the World Bank's Abhas Jha.

While progress had been made on some fronts, such a holistic approach to disaster risk reduction is generally lacking in Asia. "Much development in Asia and the Pacific continues to occur with little regard to natural hazards, unintentionally exacerbating disaster risk as populations and capital assets expand," says Stephen P. Groff, ADB vice-president for East Asia, Southeast Asia, and the Pacific.

"Investments in disaster risk reduction have been woefully inadequate to counteract these risk-insensitive development actions."

Another problem is that good disaster risk information often does not trickle down to local communities. And when it does, it may be in forms that are not practical or user-friendly.

"If you really want to talk about resilience you have to talk from the bottom up," says Aslam Perwaiz, head of disaster risk management systems at the Asian Disaster Preparedness Center in Bangkok. "We have talked to many local governments, and many of them don't have the capacity ... to do it."

Dollars are not as big an issue as political and social consensus, says UN Economic and Social Commission for Asia and the Pacific in a 2010 report, *Protecting Development Gains*. The report describes progress on mainstreaming as "disappointingly slow," but points out that such a complex process will inevitably take time.

**TIME, HOWEVER, MAY BE** in short supply. Climate change is ratcheting up Asia's exposure in ways that are difficult to predict. Haiyan's storm surge might not

have reached so far inland if sea levels in the area had not already risen due to climate change, says van Aalst of the IFRC's Climate Centre. But the greater danger may lie in the unpredictability of future disasters.

"With Haiyan, we knew it was an issue in that area," says van Aalst. "The previous year we had a similar storm, but it hit Mindanao where we don't see many of these storms at all. That's something that complicates early warning systems." But it makes such systems even more imperative, says van Aalst, especially as any action now to halt or reverse climate change won't make much difference until the second half of this century.

In Asia, climate stresses are compounded by rapid urbanization, underinvestment in basic infrastructure, and dysfunctional urban land markets pushing the poor to settle in the most dangerous areas. These factors can turn cities into hotbeds of exposure to natural hazards. "This brings us back to the need for better development which is important for countries under any current or future climate scenario," says Jha of the World Bank.

That need is especially acute given the rising threat of so-called compound disasters. These can happen when disasters engulf industrial stock, such as a power plant, prompting a chain reaction of consequences beyond the initial disaster zone. This occurred in 2011 when the Japan earthquake and tsunami triggered a nuclear accident at Fukushima Daiichi Power Plant, spreading alarm throughout the region. "Compound disaster is much harder to respond to," says ADB's Groff. "Increasing regional integration has been a key driver of economic growth in the region, but it has also diffused the impact of disasters across multiple provincial and international boundaries."

## FACED WITH A WORSENING

disaster profile, Asia could do worse than learn from Legazpi City in the Philippines.

Looming over this charming port city is Mt. Mayon, an 8,000-foot active volcano that has erupted four times since 1999. Just 400 km north of Tacloban, Legazpi also suffers regular cyclones and is exposed to earthquakes and tsunamis.

These vulnerabilities persuaded Joey Salceda, the Governor of Albay Province of which Legazpi is the capital, to take action when he won office in 2007, after a year in which two cyclones killed 1,000 locals.

His “Zero Casualty” policy is a manifesto for disaster resilience. Upgraded hazard maps clearly show places under threat, a radar monitors typhoons, efforts are made to predict volcanic eruptions, people in high-risk areas are given free rice if they participate in evacuations, more than 5,000 families have been relocated from around Albay to safer locations, and a local volunteer corps is trained to respond quickly to a disaster.

Moreover, climate adaptation is central to government planning. The province spends 9% of its budget on activities like mangrove regeneration as a buffer against storm surges and tsunamis.

“There is no single bullet to doing this all,” Governor Salceda said in a recent interview with *Citiscopes* magazine. “The only secret is common sense.”

## COMMON SENSE CAN

save lives. Early warning systems triggered mass evacuations before Haiyan, resulting in a lower death toll than the storm’s severity would have suggested, according to Oxfam.

Japan’s systematic investments in seismic safety “saved countless lives” during the 2011 earthquake and tsunami, says Jha of the World Bank. More than a million people on India’s east coast were evacuated from the path of Cyclone Phailin last October, leaving far fewer people dead than a similar storm in 1999 that killed 10,000.

With budgets an issue for many cities seeking resilience, a new fund formed by ADB, the United Kingdom’s Department for International Development, and The Rockefeller Foundation, will finance urban resilience plans across the region.

Under the Urban Climate Change Resilience Partnership, funds will be available to 25 cities in disaster-prone parts of Asia and the Pacific for infrastructure projects and other resilience measures to protect around 1 million poor and another 1

million vulnerable people by 2021. It also aims to leverage about \$1 billion in investments from public, private, and municipal sources.

These are laudable advances. But with climate change and urban stresses making Asia even more vulnerable, boldness in policy making will be needed to secure a resilient future.

An even tougher stance on risk reduction under the successor to the Hyogo Framework, due to be unveiled next year, would set the right tone. But to implement its directives, governments will need to show resilience themselves as the process will inevitably involve trial and error and ensuing criticism.

“When you’re doing something like this, it’s an experiment, and that means not everything is going to work,” says Walker of Tufts University. “You’ve got to be upfront about that from the start.”

Francisco Colinaras of Tacloban City faces a similarly altered future.

“I’ll be able to take my coffee here in the morning,” he says, gazing at the now placid, sun-drenched ocean from where his verandah used to be. He will honor the past by building afresh on the foundations of the home he shared with his wife. The rest, he says, he will leave to fate. ■

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# TAKING COVER

## Asia needs more protection against the financial cost of disaster

Among the almost 6 million workers who lost their livelihoods in Typhoon Haiyan were the people of Coron, a cluster of idyllic islets sustained by agriculture and tourism. Many are starting afresh with carpentry and masonry courses arranged by the International Labour Organization and the Government of the Philippines, who aim to create 20,000 new jobs.

Such initiatives are valuable. But they would be even more helpful, or perhaps unnecessary, if communities like Coron were better protected from the financial consequences of disasters.

Disasters in Asia accounted for 40% of disaster losses globally from 1970 to 2010 in real terms, according to the Asian Development Bank (ADB). Some of the worst losses have occurred in developing Asia, where resilience to disasters is often lower. Yet less than 5% of disaster losses there are insured, compared to 40% in developed countries. Insuring against these risks, and transferring the risk through reinsurance, is within the capacity of most of the region. But take-up has been slow.

“A general Asian culture of saving prevents the community from recognizing insurance as a form of contingent capital,” explains Reto Brosi, chief executive of Asia Capital Reinsurance Group. “There also appears to be an assumption that risks can be managed unilaterally.”

Asia’s threadbare coverage has compromised its ability to bounce back from disaster. Disaster risk financing tools such as emergency liquidity, insurance cover, and capital market instruments such as catastrophe bonds remain underutilized.

Reinsurance, which can minimize net losses, is struggling for a foothold. Brosi notes that Asia’s reinsurance industry is “in its infant stage of development” compared with developed regions such as Europe and North America.

Uncertainty over the nature, location, and severity of risks deters insurers from venturing into Asia’s disaster risk financing market.

“Perhaps the number one difficulty in penetrating developing Asia is the lack of understanding of the full breadth and scale of what the risks they are exposed to are, and why it makes sense to insure against them,” says Keith Thomas, chief executive officer of Global Corporate in Asia-Pacific at Zurich Insurance.



Survivors of the 2005 Pakistan earthquake await medical treatment.



A month's worth of rainfall fell in just hours when Typhoon Ondoy hit the Philippines in 2009.

Local insurers often avoid catastrophe insurance due to the challenge of generating a premium pool big enough to cover the potentially huge losses. But international reinsurers are able to generate the necessary scale and spread.

“So the key lies in creating a bridge between local markets and the abundant supply of global capacity keen to provide the cover,” says Neil Mathison, executive chair at AON Benfield Asia.

Governments have a key role in developing legal and regulatory frameworks needed to create a viable risk pool and make disaster cover a plausible option.

There are signs of progress. PT Asuransi MAIPARK Indonesia was established in 2004 to reinsure earthquake-related risk, with every insurance company in the market mandated by the government to provide capital. A Pacific Catastrophe Risk Insurance Pilot program was launched in 2013, pooling earthquake and tropical cyclone risk across 6 countries in the Pacific.

Insurance pools are a key step, as they allow private insurers to underwrite new policies on catastrophe risk and transfer risk to international reinsurers.

“The mechanism works best with the active participation of all insurance companies in the market to help both sourcing and sharing of risks,” says Clarence Wong, head of economic research and consulting at Asia-Pacific Swiss Reinsurance Company. “Reinsurers can share part of the peak risk whereas the government will take on any excesses.”

BY RUPERT WALKER ■



IN THE  
**EYE** OF THE  
**STORM**

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AN INTERVIEW WITH  
PHILIPPINES PRESIDENT BENIGNO AQUINO III

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Rarely the focus of global attention, the Philippines grabbed world headlines last November when Typhoon Haiyan smashed through its central region. As a history buff, President Benigno S. Aquino III must have hoped for a different story line. Typhoon Haiyan, the strongest tropical storm to make landfall in recorded history, turned the world's gaze toward this sprawling archipelago of 7,000 islands.

Suddenly this relatively new leader was, quite literally, in the eye of the storm.

His family history might have fortified him for the task. His father, after whom he was named, was an opposition leader assassinated on his return from exile in 1983. His mother, Corazon Aquino, was swept to the presidency by the “People Power Revolution” of 1986 and led the country for 6 years. Aquino was shot five times—one of the bullets remains in his neck to this day—during a 1987 coup attempt against his mother's rule.

Unbowed, Aquino chose to go into politics after a stint working in the private sector. He was elected to the House of Representatives in 1998, where he became Deputy Speaker and served until 2007. He joined the Senate in the same year. In 2010, he won the presidency, and vowed to serve rather than rule the country's nearly 100 million people.

In conversation with *Development Asia*, President Aquino explains Typhoon Haiyan's impact, his concerns about climate change, and outlines his vision of a resilient future for all Filipinos.

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**DEVELOPMENT ASIA: How has Typhoon Haiyan (known in the Philippines as Yolanda) changed your view, if at all, of natural disasters and how to respond to them?**

**BENIGNO AQUINO III:** When I came into office, the Philippines was already being hit by increasingly powerful storms every year. Naturally, our approach to these disasters—and how to respond to them—has been steadily evolving: from being reactive, to being very proactive. Even before Yolanda struck, we had already improved our disaster response systems. We had massively updated our scientific capabilities, and on the basis of our increased wherewithal, we had already made a habit of prepositioning goods before calamities. We had also provided lead agencies the necessary funds to immediately address post-disaster needs.

we are conducting more thorough assessments of risk, and climate-proofing our development plans, as well as our infrastructure.

We know full well that inefficiency redounds to lives lost, and we are doing our best to meet the evolving demands of a world feeling the devastating effects of climate change.

**DA: As a national leader, can you please give us an insight into how priorities are established in the immediate aftermath of a natural disaster?**

**BA:** The ultimate priority is to be able to anticipate needs. This is why the government makes it a point to preposition goods, equipment, and even personnel: because ideally, relief and rescue should not have to travel great distances; they should

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A key challenge for developing countries ... is how to strike that perfect balance of maintaining its natural defense systems and attaining economic progress.

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Typhoon Yolanda, however, was on a different scale in terms of destruction. Some argue that it was the strongest storm to ever make landfall in recorded history. Not to mention, it came on the heels of several disasters, including the Zamboanga Siege, the Bohol earthquake, and Typhoon Santi. When Yolanda struck, even if we had prepositioned resources and personnel, what happened was that many of the first responders were affected, and the equipment and goods we had prepared were swept away.

The effects of Yolanda have prompted us, once again, to study how to further improve our systems. For example: One might be aware that, by law, the national government steps in during disasters to address the deficiencies of local government units (LGUs), who are supposed to be the first responders. We saw that some LGUs managed this better than others, and we are now studying how to guarantee that all LGUs are able to manage disasters in a manner that is efficient and harmonized with national efforts. In the same vein, we are doubling efforts to raise awareness among local communities so they are better equipped to interpret and localize the scientific data made available by PAGASA (Philippine Atmospheric, Geophysical and Astronomical Services Administration), the government agency in charge of weather forecasting and flood control. Furthermore,

already be in the areas predicted to be in the path of natural disasters.

When disaster does strike, one of the most vital priorities is reestablishing communications with everyone. We have to organize what we already know, while at the same time fill the gaps in information, in order to maximize our strategic accuracy. We need to be able to answer the vital questions: “Who was affected, and in what manner? What do they need at this moment?”

At the same time, we do our best to address the needs of the most vulnerable at the soonest possible time. This means three things: first, prioritize search and rescue, and minimize loss of life and property; second, secure surviving communities with food, basic health support, and water, while maintaining peace and order; third, clear and restore critical infrastructure, such as lifeline roads, sea- and airports, telecommunications, and access to water and electricity.

These should not be construed as a step-by-step decision-making process. Rather, all these are simultaneously undertaken within the first 12 to 24 hours after a natural disaster to guarantee that we act based on informed decisions, minimize further loss of life and property, and restore adequate communication between the national





President Aquino visits Tacloban shortly after Haiyan.

and local governments so that real-time information aids decision making and action.

These, of course, presuppose that the local governments are functional. As I mentioned, under our system, the national government, by definition, responds to the needs that cannot be addressed by the respective first responders, who are the LGUs. This is precisely why we are looking at how to improve and harmonize all our efforts.

**DA: What are the special challenges faced by developing countries that might not be faced by developed countries in preparing for and responding to natural disasters?**

**BA:** By definition, developed countries have more resources—whether it is their governments or their people. There is a vast difference in the resources that can be put in play during times of disaster. For instance, on the micro-level, citizens of developed countries, having been alerted to natural disasters, will be ready with a modicum of water and food supplies. In a developing country, where poverty incidence is higher, people are less capable of doing that. On top of that, when our people's lives are disrupted, they have a harder time recovering and providing for themselves.

The same applies when it comes to disaster management efforts. Developed countries have a greater capacity to undertake the physical reengineering of areas that may be affected by disasters, perhaps by building seawalls or by mangrove reforestation/rehabilitation in coastal communities. Certainly, developed countries have more resources and access to technologies that allow them to alter their natural coastal areas and replace

them with infrastructure that can still be designed to adapt to natural disasters. Though developed countries also have the capacity to create and apply expensive geoenvironmental technologies to mitigate climate change, these technologies may have potentially negative impacts to the natural environment.

On the other hand, developing countries only have their natural ecosystems left to defend them from natural disasters, such as mangroves, sea grass beds, coral reefs, and rainforests for adaptation and mitigation. However, these are also the same resources and ecosystems that they need to sacrifice to enable progress and achieve development for their country. A key challenge for developing countries, therefore, is how to strike that perfect balance of maintaining its natural defense systems and attaining economic progress.

This contrast is apparent when you look at the Philippines. Our country, after all, has an extensive coastline, and most of our communities developed in areas surrounding these coastlines. Even government facilities that have existed for centuries were initially situated along the coast. Relocation alone will take us quite some time and considerable resources, before completion. For centuries, most communities have lived near and rely on the sea, or on the foot of mountains for agricultural purposes. These areas, as we have experienced, are most affected when natural calamities occur. Educating the people, including the local officials, in effectively preparing for and responding to these disasters, is also one of the challenges we face. There should be a complete turnaround of mindset when it comes to preparedness.



The impact of climate change hits developing countries doubly hard. One has to ask: Is it fair that the countries that actually contribute a comparatively low amount of greenhouse gas emissions are the ones most vulnerable to the problems caused by those emissions?

Suffice it to say, the impact of climate change hits developing countries doubly hard. One has to ask: Is it fair that the countries that actually contribute a comparatively low amount of greenhouse gas emissions are the ones most vulnerable to the problems caused by those emissions?

This is why the Philippines, together with other developing countries, is strongly pushing for developed countries to follow through on their commitment to the United Nations Framework Convention on Climate Change (UNFCCC), and to assist developing countries on the issue of climate change adaptation, particularly and primarily through providing assistance on capacity building, technology transfer, and finance.

**DA: Resilience has become the shorthand term for the process of reinforcing communities against natural hazards. But such needs vary widely from country to country. What, in your view, are the common denominators of best-practice resilience for developing countries?**

**BA:** A common denominator among resilient countries would be the initiative and ingenuity to adapt to the new normal. In recent years, we have seen natural disasters come with greater frequency and strength. Any truly resilient country would respond to this by trying to adapt to the times and to minimize the effects of disasters. We cannot simply allow the cycle of destruction and reconstruction to continue by rebuilding communities in the exact same manner, because it naturally follows that this will lead to the same results.

This is why we have embarked on a campaign to build back better. Houses, communities, and infrastructure in damaged areas are being rebuilt in a sturdier manner, and in much safer and more strategic areas. We have also found creative solutions to some problems. Sometimes it is as simple as fastening the G.I sheets to the edge of the wall to make the sheets more resistant to strong winds. Japan is also sharing its knowledge with us, particularly on how to design and construct buildings that can serve as natural catchments. It is also important to assess the risks that each area is susceptible to, so that the national government and LGUs can strategically formulate and implement plans to reduce or counter such risks.

In relation to this, the Office of the Presidential Assistant for Rehabilitation and Recovery (OPARR) strategy includes empowering LGUs by giving them maps and data to conduct tactical and strategic plans for informed decision making, to be resilient from disasters, and to respond to disasters. OPARR is collating all hazard maps from various agencies in order



to come up with a unified climate change and multi-hazard map.

Although information gathering and technology are vital, a common denominator for resiliency in developing countries is its natural ecosystems, which have not yet been fully exploited. These ecosystems provide natural barriers and services that allow developing countries to adapt to natural disasters, without the benefit of expensive engineering solutions and infrastructure. Intact and healthy mangrove areas, for instance, have been proven by experts, to reduce wave heights and sea level rise from storm surges and tsunamis, as well as ensure food and fuel source for recovery in the aftermath of these disasters. Various case studies in developing countries, particularly in the tropics, have demonstrated that this natural defense and food security function can help save lives and properties in the face of natural calamities.

By end of 2014, we are to complete the improvement of our geohazard maps from 1:50,000 to 1:10,000 detail covering all the municipalities of the country, which will enable us to inform geohazard map users more accurately and effectively of which areas are most prone to floods and landslides. Knowing the vulnerabilities of areas to specific types of hazards will help in the identification and implementation of effective adaptation strategies suited for the particular area. The vulnerability of communities to certain types of hazards varies from one area to another. Hence, it is necessary to come up with site-specific plans that would address site-specific vulnerabilities. We are also into the full operationalization of the Geohazards Operation Center and Quick Response Teams. We also launched Project NOAH in 2011, a comprehensive government program to improve mitigation of the effects of disasters using technology; and developed a website, which makes credible and real time weather information available to disaster managers and the public.

**DA: Disaster preparation requires resources. How does your government balance the need to prepare for a disaster with the country's other development-related needs?**

**BA:** Like any other country, we are limited by our budget. A 2009 World Bank study estimated that the Philippines needed an amount equivalent to 0.6% to 1.0% of GDP (gross domestic product) annually from 2010 to 2019 to address climate and disaster risks, including investments for replacement and expansion of resilient infrastructure. As the government is still under deficit financing, balancing between disaster preparedness and other needs are obviously very difficult decisions, since we are fully aware of the opportunity costs of our choices.

At the end of the day, however, we look at disaster preparation as a significant part of our development efforts. Let me put it this way: Disaster, quite clearly, stifles development, and minimizing the effects of disaster, consequently, makes development possible.

This is yet another reason for us to build back better. There can be no true progress for any country stuck in a vicious cycle of destruction and reconstruction. This is why we are making sure there are enough resources—and sufficient strategic planning—to ensure that we rebuild in a resilient manner.

For instance, when we build sturdier, safer homes for our people in areas that are not disaster prone, it allows us to ensure the safety of our countrymen. They can then turn their attention to building their skillset, which, naturally, will lead our country further down the path to development and prosperity. If we are able to minimize the loss of life and resources during disasters, we likewise empower our workforce to become productive citizens in the soonest possible time. There is no doubting the importance of minimizing the effects of disasters. The benefits are significant on both the humanitarian and economic level.

**DA: What is your view of the economic impact of natural disasters on developing countries like the Philippines? How can the Philippines prepare better for the financial hit of future natural disasters?**

**BA:** The effect of natural disasters on any economy is vast. When thousands of lives are lost and roads and houses are destroyed, productivity and income naturally suffer; economic growth slows; gains previously achieved are wiped out. It interrupts economic activity and income flows and leads to worsening poverty.

Natural disasters also create pressure on fiscal policy through the additional funding that the national government has to provide and the manpower and resources that have to be deployed to support emergency relief efforts. Recovery and reconstruction efforts that could last a number of years also create pressure on the fiscal position.

We have existing local and international sources of financing, such as the National Disaster Risk Reduction and Management Fund, the Rehabilitation and Reconstruction Program, the Green Climate Fund, and the Adaptation Fund. Now that we are giving more consideration to climate change and disaster risk reduction in our development planning activities, I am confident that we can harness these funds in an even more efficient manner, and we will be better prepared on all fronts.

We have already started. At the moment, our priorities for funding include adaptation measures, forecasting

and early warning systems, institutional strengthening, and disaster risk financing (e.g., insurance).

We are also looking at disaster financing on three levels: on the individual, family, or small enterprise level; on the local government unit level; and on the national government level. For the individual, family, or small enterprise level, we aim to broaden micro-insurance products and enhance the policy and regulatory framework. For the local government unit level, we are studying ways to require local government units to contribute to a pooled disaster insurance fund and insure their assets with the Government Service Insurance System. For the national level, we are looking at possible funding sources for a proposed trust fund that will fund efforts to address climate and disaster risks.

**DA: Is there a case for greater cooperation between countries in the Asia and Pacific region on ways that could mitigate the impact of future disasters?**

**BA:** Definitely. We all face common problems, and we

on Disaster Risk Reduction on 22–26 June 2014, in Bangkok, which the Philippines will participate in.

ASEAN (Association of Southeast Asian Nations) has also established mechanisms in response to risks brought about by climate change. These are: the ASEAN Agreement on Disaster Management and Emergency Response (AADMER); the ASEAN Coordinating Center for Humanitarian Assistance on Disaster Management (AHA Center); and the ASEAN Plus Three Emergency Rice Reserve (APTERR) Agreement.

The Philippines works closely with ASEAN and the international community in building adaptive capacities and ready mitigation measures.

**DA: In a speech shortly after Yolanda struck (11 November 2013), you noted that the disaster took down modern communications technology, complicating relief efforts. Do you have any thoughts about how this kind of technology blackout can be averted in future disaster responses around the region?**

We have to work even closer together to come up with a more unified voice on global climate change. We need to increase the exchange of knowledge and best practices, whether it is in the application of technology or the design of infrastructure.

have to work even closer together to come up with a more unified voice on global climate change. We need to increase the exchange of knowledge and best practices, whether it is in the application of technology or the design of infrastructure. Perhaps there is even a case for creating a common bank that will fund disaster risk mitigation, as well as the construction of more resilient structures.

But while I believe we can always do more to collectively minimize the risks of climate change, we are already cooperating with countries in the Asia Pacific region in the area of disaster risk reduction (DRR) through the following: the Asia Pacific Economic Cooperation (APEC)-Emergency Preparedness Working Group (EPWG), which was established to allow APEC members to strengthen our capacity to respond to emergencies and mitigate disasters through sharing of expertise; the Asia-Europe Meeting (ASEM), specifically during our 4–6 June 2014 hosting of the ASEM Conference on Technology and Innovation for Disaster Risk Reduction and Management; and the 6th Asian Ministerial Conference

**BA:** Typhoon Yolanda made very clear that we are in need of a stable and secure communications system that can withstand any weather condition and will not be dependent on external power sources. To this end, we are exploring a number of avenues.

One of the possibilities we are looking into is modern technology—specialized communications equipment that is easily transportable. At the same time, these will likely not operate as independent or self-sustaining entities: ancillary needs will include trained personnel, access to satellites, and, most importantly, both power and fuel, which are likely to be in short supply in the aftermath of disasters. On top of these factors are the problems that damaged infrastructure will cause. With airports, ports, and roads impassable after calamities, will we be able to move this equipment to devastated areas at the soonest possible time? As recent experience taught us, there has to be an ability to restore communications, and other technological needs, immediately after the typhoon has passed.





Listening to stories of survival from residents in affected areas

Besides exploring the most modern forms of technology available, our government is also looking into resources that are already in use, for instance, satellite communications, as proposed by our DOST (Department of Science and Technology). We already have a number of satellite phones for use in these kinds of situations. We are cognizant, however, that they are not a perfect solution, given that their use can be disrupted by atmospheric conditions.

Other solutions have also been proposed. There are certain cell-sites that can be set up rapidly, but they will also require power, which will normally require some fuel. Operation of these cell-sites in the wake of calamities will draw on fuel resources, to which supply has been disrupted. Again, there is the question of whether there will be sufficient supply, and whether we will have the capability to replenish this supply continuously in the days after the typhoon has passed.

At the moment, it seems that these kinds of modern solutions are far too dependent on external factors that we will not be able to control during calamities. In light of this, I have instructed Secretary Mario Montejo and the DOST to return to older technology—for instance, high-frequency (HF) radios. During World War II, short wave radios powered by handcraft generators were frequently used as means of communication—where wires and lines could be strung among trees. These are not necessarily outmoded forms of technology: given the Philippines' experience after Typhoon

Yolanda, perhaps there is a need to return to simpler methods that can function when everything else has been disrupted.

**DA: Your government launched the Foreign Aid Transparency Hub (FAiTH) after Haiyan (Yolanda), in an effort to ensure transparency and accountability in aid donations and use. How has it helped address these challenges?**

**BA:** Given our history, the Philippines is a country with its fair share of critics, especially at the local level. These critics continued to speak out in the aftermath of Typhoon Yolanda, with the most common question being: If millions of dollars in aid and assistance are being given to the Philippines, where is the fund going? Why are we not seeing enhanced relief efforts? With Yolanda having affected 44 out of our 81 provinces, government could not attend to these questions and criticisms individually: the immediate responsibility of government is to address the needs of our countrymen who survived the typhoon. This was a responsibility also welcomed by the tens of thousands of Filipinos, both here and abroad, who took part in relief and recovery efforts. That is why FAiTH was put up to track and monitor the aid.

FAiTH is an online portal (<http://www.gov.ph/faith>) that the public can access to get information on calamity aid and assistance pledged to the Philippines—from those given by foreign governments, to those

from intergovernmental organizations, to those coursed through certain programs of the Philippine government. FAiTH is a repository of data on both financial and in-kind donations; however, it will not include donations wired or sent directly to private groups and organizations.

FAiTH is an important measure, not only because it is part of our government's drive for greater transparency and accountability, but also because it answers the criticisms that arose after Typhoon Yolanda. FAiTH makes distinctions between assistance that has been pledged, and assistance that has been converted into cash or in-kind distinctions. Similarly, citizens who access FAiTH will be able to see that donors typically specify organizations through whom they will course aid—that the Philippines government is not always on the receiving end of organizations. It is my hope that, with the creation of FAiTH, my countrymen will be armed and empowered with the knowledge to withstand these attacks or criticisms, or even to make informed criticism partnered with suggestions on improving systems.

Our administration intends to continue using FAiTH as a means of fostering trust and transparency. While the work to minimize casualties and damages of any future disasters continues, one can expect to see our government to continue using FAiTH when we receive aid from foreign or local sources.

**DA: Climate change has been identified as a key driver of Asia's rising share of the world's disasters. How great is this challenge for the region? Is the appropriate response to take steps to halt or reverse climate change, or to safeguard against disaster-related impacts?**

**BA:** The Asia-Pacific region is extremely vulnerable to the adverse effects and hazards posed by climate change to health, safety, and livelihood; it certainly hampers the poverty reduction measures that developing countries are undertaking. The Philippines currently has several initiatives to address climate change and disaster-related impacts:

The National Strategic Framework on Climate Change (NSFCC), the National Climate Change Action Plan (NCCAP), and the National Disaster Risk Reduction and Management Plan (NDRRMP) were put in place to provide institutional and policy landscape for the effective implementation of disaster risk reduction and management.

The enactment of the Climate Change Act of 2009 created the Climate Change Commission (CCC), which is the lead policy making body on climate change.

The DPWH (Department of Public Works and Highways) is preparing new, disaster-resilient designs

for roads and bridges and other public facilities (hospitals, school buildings, airports, seaports). Relatedly, as part of disaster mitigation and response following the “build back better” principle, the NEA (National Electrification Administration) has required the affected electric companies to move their distribution poles and lines away from the easement area of roads during the restoration.

To improve weather forecasting and early warning systems, the government is undertaking the following: modernization of national monitoring, forecasting, and warning systems; production of detailed topographical data in support of a nationwide multi-hazard and risk mapping for community-based early warning systems, land-use planning, and zoning; generation of 1:10,000 scale geohazard maps for 1,634 municipalities and cities; review and updating of the country's building code for climate-resilient infrastructure; and establishment of institutional mechanisms to harmonize climate change efforts such as the Technical Working Group on Climate Change Adaptation and Mitigation under the Philippine Development Forum, which serves as a venue for the Philippine Government and development partners to address climate change issues.

At the same time, it is no exaggeration to say that developing countries like the Philippines seem to bear a disproportionate amount of the burden. Our carbon footprint is miniscule, but our share of disasters, as the world will likely recognize, is massive. In 2010, the Philippines ranked 40th among 210 countries in terms of CO<sub>2</sub> (carbon dioxide) emissions according to the UN Statistics Division. The top CO<sub>2</sub> contributors are China, USA, India, Russian Federation, Japan, Germany, Iran, Korea, Canada, and UK. Some have said that all of these great communities, mostly developed countries, have been built on a history of carbon emissions—and we are also suffering from the effects of that. Despite the Philippines' negligible contribution in terms of greenhouse gas emissions, it is one of the most vulnerable countries in the world given its geophysical and socioeconomic conditions. Further, the Philippines ranks 9th among 193 countries as the most at risk country to climate change impacts according to the 2014 Climate Change Vulnerability Index of Maplecroft. Cavalier observers may say that, perhaps then, the Philippines should be allowed to do our share of polluting to get to middle income—and then we can start thinking of reducing it afterwards. Clearly, this is not a solution to the problem, and there is a need for all countries to take responsibility, and to work together towards finding solutions: not only to reduce greenhouse gas emissions or mitigate climate change, but more importantly to create



mechanisms to increase the resilience of ecosystems and adaptive capacity of vulnerable communities to climate change impacts.

The things that are happening to my country and to other parts of the world are not in the norm. What is even more alarming is that we now have to consider revising our idea of the norm, with storms of growing size and intensity battering the world. No other person living now has even experienced a storm like Yolanda. Things have changed, and they have changed for the worse—that, I think, is non-debatable. None of us can afford to be cavalier, or at the very least, casual about this issue. We need to undertake a precautionary approach to ensure that we do not do further damage to our environment and people—damage that, as Yolanda has shown, redounds to economic losses and thousands of lives lost.

**DA: Under your government’s Reconstruction Assistance on Yolanda (RAY) plan, you have pledged to “build back better” in affected areas. How will past experience with disasters assist this process? Will new responses be needed to meet the Philippines’ special needs?**

This is why I created OPARR. We want to rebuild the communities affected by Yolanda in such a manner that they are prepared for the new norm of what seems to be increasingly powerful storms. The vulnerable, disaster-prone areas will be built with more resilience. Preparedness and response will use the latest technologies together with indigenous wisdom in community and family preparedness training, safe and appropriate evacuation centers, and strategically located satellite warehouses with logistical support. OPARR will function as the overall manager, who will provide strategic coordination for all the rehabilitation efforts from all stakeholders. The agency will prevent divided and disorganized interventions.

Government policy right now also relies heavily on the division of duties: LGUs are mandated to be the first responders to any disaster or calamity, while national government is there to enable and empower them, allowing them to meet the needs of their constituents. Yolanda taught us that we cannot necessarily rely on LGUs to be at the frontlines of relief and recovery, especially with typhoons of great strength—when local government

Our commitment to build back better is about conducting an honest assessment of what went wrong in previous disasters and using our knowledge and experience to build more resilient communities.

**BA:** As I said, a nation cannot move forward on the path to development if it is stuck in a vicious cycle of destruction and reconstruction. Our commitment to build back better is about conducting an honest assessment of what went wrong in previous disasters, and using our knowledge and experience to build more resilient communities. This is not simply about building strong physical infrastructure, homes, and buildings in safer places—though that is part of it. It involves developing stronger institutions at the local and national levels.

If the Philippine experience is any basis, then it is clear: the effects of climate change are quickly becoming more and more severe, and new challenges necessarily mean new responses. Climate change and disaster risk reduction are becoming staples in national and local planning, whether it is about infrastructure, or the systems by which national and local agencies work together to respond in the swiftest manner possible during disasters.

officials may be among the victimized themselves.

This is why we are investigating further refinement of this system. One option could be the formation of critical teams who are trained to manage disaster situations. In this way, if local government ceases to function because it was also victimized, there can be an immediate deployment—a trigger mechanism of sending these teams to restore services and coordinate efforts to ensure the well-being of survivors (i.e. peace and order, rescue, relief).

At the same time, we are not learning only from negative examples. The establishment of OPARR is an example of learning from the success of others. Indonesia created the Aceh-Nias Rehabilitation and Reconstruction or “BRR” agency; Sri Lanka also had its Ministry of National Disaster Management and Human Rights; and Maldives’ National Disaster Management Center. All of these offices were champions in coordinating all recovery activities.

We are determined to break free from the cycle of destruction and reconstruction; we are determined to take charge of our fate and to do everything we can to leave behind a stronger, more resilient society.

**DA: Rehabilitating livelihoods is key to full recovery. How important is it to reskill survivors of disasters to enable a transition to occupations that are not so exposed to natural hazards?**

**BA:** It is vital. Providing them with jobs that would prevent them from exposure to natural hazards is a giant step towards achieving long-term livelihood security. However, we realize that this is no easy task, especially given the fact that health, food, and shelter remain foremost priorities immediately after Yolanda.

As part of the OPARR's plan to build climate-resilient infrastructure, the identification of the no-build zone areas and relocation of structures is also a necessary consideration in the transition to hazard-free occupations.

Disaster-resilient occupations are usually in the construction industry (e.g., carpentry, masonry, plumbing, welding, among others). These skills can even be used to rebuild damaged houses and other buildings in the affected areas.

At the same time, we cannot expect our people to immediately gain livelihood after a three- or even a six-month training program, so government will give them assistance to recover, or restart their previous livelihoods. We have always believed that our people are our greatest resources; thus, it has always been, and continues to be, my administration's policy to empower them and to invest in them through healthcare, education and skills training, and social services.

While helping them to transition back to normalcy in their livelihoods may take time, past instances have shown us that the problem can present opportunities. A large number of coconut farmers were among those whose source of income was completely destroyed by Typhoon Yolanda.

Coconuts take seven years before they bear fruit; what will farmers do while they wait seven years? How will they eat? The answer—and the opportunity—we found was simple: intercropping.

When Typhoon Pablo (Bopha) hit our country in December 2012, it destroyed coconut plantations. This gave an opportunity to reduce dependence on a single crop alone, and to explore intercropping of other products—in this case, the production of chili

peppers and associated products such as chili powder, chili sauce, and chili paste. After only three months, farmers in the municipalities of Cateel, Baganga, and Boston in Davao Oriental were able to begin harvesting and processing these chili peppers. To date, the project has generated sales of more than 4.5 million pesos, and additional investments of 2.3 million pesos— and government is continuing its support to this industry.

Our Department of Trade and Industry (DTI) has also launched the Small and Medium Enterprise (SME) Roving Academy, aimed at enterprise development and capacity building. This project provides a continuous learning program for the development of micro, small, and medium enterprises (MSMEs) either in the aspects of marketing, training, technology/ product development, or financing to help them become more competitive in the domestic and international markets. For 2014, DTI will be conducting 1,000 runs of this program in 16 regions.

For this year, the DTI is also promoting and facilitating the Business Continuity Plan (BCP) for SME Disaster Resiliency in the country, which intends to raise the awareness and interest level of MSMEs towards developing their action plan on business continuity and managing said plan to mitigate the impact of disasters/ crises that confront operations, thereby preventing disruption in the supply chain. This also intends to build business resiliency through collaboration with other public institutions that are considered experts in business development.

**DA: You have mentioned that recovery and reconstruction after Haiyan (Yolanda) will ultimately lead to an “improved state.” What is your vision for this state?**

**BA:** In concrete terms, my vision for a “built back better” state is composed of many different factors. The most important factor would be that our countrymen will no longer live in danger areas, but in safer communities—or at the very least, that the number of Filipinos living in danger areas will be minimized to such a point that mandatory



evacuations will be easy to conduct. Similarly, government facilities—especially the most essential ones—will also be moved into strategically more viable positions. All structures will be built to more resilient standards.

Relatedly, instead of adopting a strict No Build Zone Policy in Yolanda-affected areas, OPARR is exploring the possibility of distinguishing “Safe Zones” from “High Risk Zones” and “Controlled Zones.” This distinction is in recognition of exceptional circumstances that may exist in areas within 40 meters from the coastal line (e.g., the need to build structures for fisheries and tourism-oriented industries, highly elevated areas, and critical facilities). Construction of houses or infrastructure intended for dwelling will be prohibited in Controlled Zones, while structures for livelihood may be allowed therein. However, there will be no compromise for building government structures like Municipal Halls within High Risk Zones considering that LGUs are expected to be first in line to respond to disasters affecting communities. As a result, all structures will be built to more resilient standards.

Each locality will have an established, reliable communications system, and protocol to follow after disasters. Banks of essential supplies—such as fuel—as well as heavy equipment will be organized and stored in strategic areas. Ideally, there will be a ready pool of mechanics and engineers to restart and operate this equipment, so that they can be deployed immediately following disasters. Airports and seaports will also be evaluated, and bolstered to withstand calamities and resume operations at the soonest possible time—so that we can likewise ensure the fastest response possible. Regarding electrical infrastructure: Given violent wind strength, electrical poles topple one after another because the electrical wires pull them together—a domino effect. To minimize this, power lines are now installed with more electrical poles supporting them (i.e., closer proximity between poles) to resist the impact of wind. We are also looking at engineering techniques that will permit electric lines to snap or disconnect from the electric pole during strong winds to minimize poles pulling one another when one falls down. The fewer poles are downed, the faster we can restore power.

Using the Post-Disaster Needs Assessment prepared by the National Disaster Risk Reduction and Management Council (NDRRMC), OPARR in coordination with the relevant government agencies, seeks to create a master plan with the goal of rebuilding Yolanda-affected communities to

become better and more resilient to the “new normal.” This includes, among others, building resilient houses and schools, and creating multipurpose halls and gymnasiums, which can serve as emergency evacuation centers. These centers will have food storage systems, as well as water- and power-providing facilities. Hospitals will be built in a manner that would allow them to be immediately converted into command and communication centers when a calamity strikes.

As part of building a resilient community, OPARR in coordination with government agencies also seeks to develop alternative forms of livelihood which will remove people from the risk of being constantly exposed to High Risk Zones; shift communities from livelihoods which destroy their ecosystem (e.g., over fishing, deforestation) that make them more susceptible to the effects of climate change or the “new normal” (e.g., increase of risk of landslides due to deforestation or illegal logging); and shift communities from livelihoods which are no longer viable due to changes in the natural conditions of the communities after Yolanda.

As we rise above the tragic experience that we had after Typhoon Yolanda, we also encounter a life-changing opportunity. As we build back better, we are also empowering our people—giving them the ability and forewarning necessary to prepare for future calamities, giving them the confidence to rebuild the foundations for a stronger life, and impressing on them the fact that they are not and will never be alone.

At the same time, the resilience that I have been constantly emphasizing refers not only to the people or communities but, more importantly, to the overall rehabilitation efforts. Thus, I envision an “improved state” for the Philippines that is built through climate-resiliency, inclusiveness, scientific integration, and empowerment.

It is high time for the entire world to take more seriously the mounting of the new norm brought about by climate change. Our interventions are tailored to give rise to what could withstand the impacts of the “new normal” conditions. The rebuilding process entails developing communities that do not forget the lessons from the major disasters we have encountered.

No one can predict when the next catastrophe will strike. But without doubt, one day, it will—and we are determined to break free from the cycle of destruction and reconstruction; we are determined to take charge of our fate and to do everything we can to leave behind a stronger, more resilient society. ■



Photos: Plan International / Hatai Limprayoonyong

### **Infrastructure. Power. Water. Health.**

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# Aid Watch

Asia's decade of disaster has spurred a sharper focus on how aid is used

By Sunshine Lichauco de Leon and Karen Emmons

**WHEN AID STARTED** arriving after Typhoon Haiyan, there was gratitude but also frustration among harried bureaucrats in Manila. An outpouring of global goodwill deluged the Philippines with every form of aid, from cash to emergency supplies and heavy equipment. The first pledge was from Indonesia, recalls Richard E. Moya, chief information officer and undersecretary at the Department of Budget and Management. "They asked us what name to put on the check, and we were not sure. I was thankful but frustrated that help was here, and realized we were not yet prepared to accept that help."

As one of the world's most disaster-plagued countries, the Philippines has worked hard to bolster the resilience of its far-flung communities and to streamline relief efforts. Haiyan, locally called Yolanda, would have taken many more lives without these preparations. Nevertheless, the devastation it wrought demanded new efforts to demonstrate that aid was reaching those who needed it most.

Moya was part of a team tasked with developing an online system to track foreign aid channeled through government agencies and to make this data publicly available. The result is the Foreign Aid Transparency Hub (FAiTH), the country's first attempt at full public disclosure of aid channeled through the various arms of its national government.

The FAiTH website tracks all cash and non-cash foreign aid pledged to the Government of the Philippines, tallies how much has been received, and breaks down amounts by donor countries. Users can download details of individual donations. As of 11 April 2014, the total amount of foreign aid pledged was \$579,814,960, of which \$69,304,478 was pledged as cash and \$510,510,483 as non-cash.

By enhancing public access to this type of information, FAiTH "augurs well in promoting transparency as the Philippines begins post-Haiyan reconstruction," says James Nugent, director general at the Asian Development Bank's (ADB's) Southeast Asia Department.

The aim is to shore up public confidence in the government's ability to make best use of the aid it receives. But with multiple branches of government involved in collating aid from multiple donors, it's not a simple exercise. "This is chaos being structured," says Moya. The description could apply to most post-disaster scenarios, where the world's generosity often outstrips the ability of the affected country to handle an avalanche of aid from innumerable sources.

FAiTH is a reflection of the pressure to be accountable and transparent when the post-disaster aid avalanche hits—pressure that has been placed on governments since the 2004 Indian Ocean tsunami.



Expanding rights education has made governments increasingly accountable to the people for whom the aid is intended. Moreover, the popularity of social networking and mobile technologies is making it easier to express grievances.

In Indonesia in late 2004, which then had very limited legal guidance for the receipt of international assistance from aid organizations during disasters, “everyone just tripped up and did what they wanted,” recalls Oliver Lacey-Hall, head of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) regional office for Asia and the Pacific. “A lot of governments turned around and went, ‘Wow. We were not prepared for this. And we need to make sure we are prepared.’”

Even Japan, one of the better disaster responders, says Lacey-Hall, realized after the 2011 earthquake and tsunami that it had not sufficiently considered the challenge of managing multiple offers of humanitarian assistance from other countries.

Now Lacey-Hall sees governments legislating accountability. New laws being enacted cover “everything from how to conduct yourselves to how our domestic aid system works during disasters and how you can plug into that,” he explains.

Indonesia’s 2009 implementing regulations for its 2007 law on national disaster management, for example, provide predictability about whether and how it will ask for assistance, and if so what it expects to get. Japan is revising its guidance, while Myanmar is developing a framework. Cambodia and Viet Nam are working with the International Federation of Red Cross and Red Crescent Societies (IFRC) on regulations clarifying how international assistance can best support domestic disaster response.

A key catalyst for all this was the 2004 tsunami, which killed more than 130,000 people in Indonesia alone.

With much of Aceh Province and Nias Island devastated, the Government of Indonesia set up the Agency for the Rehabilitation and Reconstruction (BRR) of Aceh and Nias in April 2005, with a 4-year mandate to manage the coordination of all recovery projects.

Its director, Kuntoro Mangkusubroto, would become a “recovery czar”—a daunting role given that nearly 500 relief organizations were operating in Aceh alone by the time the recovery phase had gained momentum.

A traffic cop was needed, and Kuntoro was given the job. He built a “control room” by linking project approvals to BRR’s Recovery Aceh-Nias Database (RAND). A short concept note was required explaining the proposed project, its transparency and integrity controls, as well as consultative processes undertaken with local communities, says Kevin Evans, an adviser who headed the BRR’s anticorruption unit.

The concept note was posted online through the RAND for people to view. “It was a tool that allowed us to identify where things were happening and not



yet happening sufficiently,” explains Evans, who says it helped to bring order to the reconstruction efforts in the field.

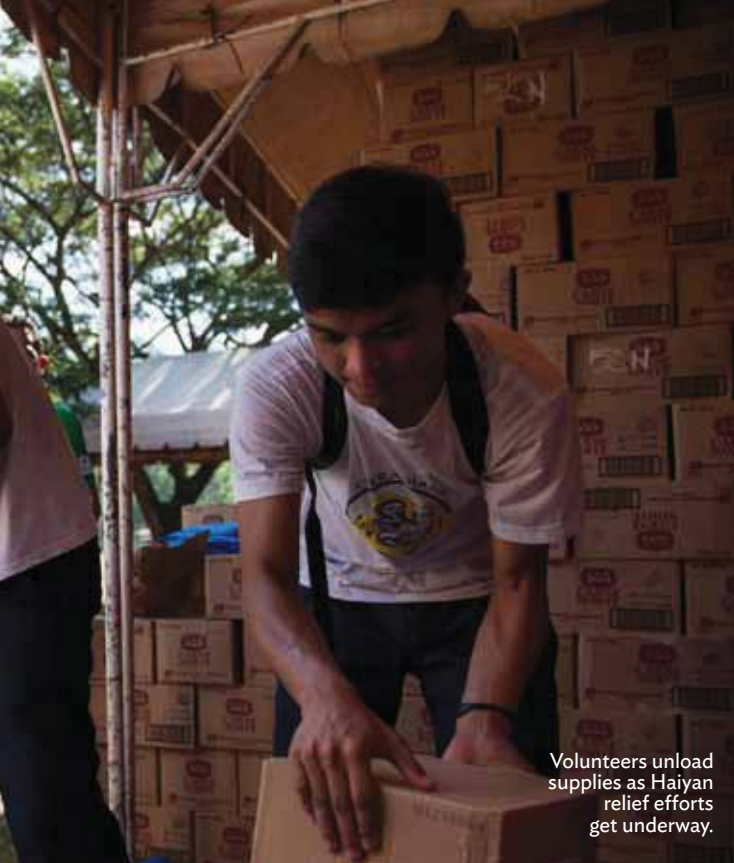
The RAND had its setbacks, with the system breaking down frequently. Some organizations had no electricity or internet access. The initial ambitions of “doing everything” were scaled back and it took 2 years to “grow the application,” recalls Evans. It eventually evolved into a useful accountability tool. When the BRR was accused of fudging the number of houses that had been built, a Housing Geospatial Database was added. Every finished house was photographed and uploaded with GPS coordinates, identifying donor and recipients. That ended the sniping and “provided us credibility,” says Evans. “The BRR did an amazing job,” says OCHA’s Lacey-Hall. “They oversaw the rebuilding of Aceh in 4 years and they did it well.”

Other parts of the region have taken note. In its report on the Indian Ocean tsunami response, *The Tsunami Legacy*, the United Nations Development Programme outlined some breakthrough practices that were introduced in the aftermath of the 2004 tsunami.

In Sri Lanka, a housing program let Tamil communities design and build 1,000 houses for themselves with funding from the Government of India. Homeowners formed community development councils that supported each other throughout the reconstruction, providing information and guidance, raising concerns, resolving conflicts, overseeing infrastructure projects, and managing funds. In the Maldives, Sri Lanka, and Thailand, extensive consultations were organized to hear from people affected by the tsunami.

PHOTO: CORBIS





Volunteers unload supplies as Haiyan relief efforts get underway.

“The intention is that the last peso must be accounted for.”

—Richard E. Moya, chief information officer at the Department of Budget and Management, Government of the Philippines

In Pakistan, after floods in 2010, the IFRC launched a weekly 1-hour nationally broadcast talkback radio show with specialists answering questions from people affected by the disaster, such as how to apply for shelter or livelihoods programs. In the Philippines, the Red Cross has used Facebook, Twitter, Google +, Instagram, and SMS to hear from Haiyan-affected people.

“People do have a voice, technology is the equalizer,” says Will Rogers, the global beneficiary communications coordinator at IFRC. The use of the technology, he believes, is helping drive the paradigm shift taking place in aid accountability. “Hopefully, a mix of traditional and new technologies will allow communities to drive their own recovery.”

The push for affected people to be engaged in their own recovery unites these programs with national efforts, such as FAiTH, and with global initiatives geared at improving aid effectiveness.

Three international systems are attempting to create standardized real-time tracking of who is doing what and where on aid. These are the Financial Tracking

System that OCHA operates for reporting in the immediate aftermath of a disaster, the International Aid Transparency Initiative (IATI) set up in the United Kingdom for development assistance in general and for the longer-term reporting when relief shifts to reconstruction, and the European Disaster Response Information System.

The hitch is that these systems rely on data voluntarily inputted, and few organizations, if any, are completely forthcoming.

Vijaya Ramachandran, a senior fellow at the Center for Global Development in Washington, DC, contends that governments need to enforce reporting standards. She finds the United Kingdom government leading the way by requiring all large international nongovernment organizations (NGOs) to report to IATI.

Better reporting of aid activities, Ramachandran believes, would help prevent such avoidable mistakes as children in Aceh who were—after the tsunami—vaccinated against the same virus three times by three organizations working in the same area.

“I think if NGOs, governments, and bilateral aid agencies were required to report information on a publicly available website in a standardized format, you won’t eliminate that kind of behavior but you would reduce it,” she says.

The Philippines is not making grand claims about FAiTH’s game-changing attributes. Rather, it sees FAiTH as a first step toward enhancing aid transparency and accountability in its disaster-blighted backyard.

FAiTH is a work in progress. Much of the aid delivered to the Philippines outside national government channels isn’t tracked by the system, and it can’t show how much non-cash aid has been received in total, as opposed to pledged.

But there are plans for a FAiTH 2.0 with more data on how government agencies have used the aid as well as a social networking component allowing citizens to comment via Facebook and Twitter.

“Citizens can confirm or debunk those statements,” explains Moya. “For example, if an agency said 10,000 people were hired to clean up a certain area and someone says there are only 200 people living in that area, they can comment and that will be part of the public record.”

Approvals are underway for a single multicurrency treasury account to make it easier for foreign governments, institutions, and individuals to deposit donations, while improving transparency. Data from this account will end up at FAiTH, where the data entry process will be upgraded to enable government agencies to update the website themselves when they receive pledges.

“We are learning and taking steps to improve FAiTH in as many ways as possible,” says Moya. “The intention is that the last peso must be accounted for.” ■



Takehiko Nakao is ADB's President and the Chairman of its Board of Directors. He took office in April 2013, following an extensive career in international finance and development. He has held senior positions in Japan's Ministry of Finance, and has published books and numerous papers on financial and economic topics.

# INVESTING IN RESILIENCE

**Disaster risk will check Asia's economic growth unless tackled quickly**

**By Takehiko Nakao**

Three years ago, my homeland was blindsided by calamity. The 2011 earthquake and tsunami in Japan was a stark reminder of nature's power and underscored the importance of being prepared for the next time disaster strikes.

Of course, we all hope there won't be a next time. But here in Asia and the Pacific, we are alarmingly exposed. Our region has an outsized share—more than 50%—of the global disaster death toll, and accounts for more than three-quarters of the world's damage bill due to natural hazards. In 2011, economic losses reached a staggering \$260 billion, or more than 2% of GDP.

These frailties were brought home to me late last year when the Philippines was struck by Typhoon Haiyan. During a recent visit to Tacloban I witnessed the devastation caused by the typhoon, but also the resilient nature of

Filipinos as they struggled with extreme adversity.

The challenge facing Asia and the Pacific is to create another kind of resilience—disaster resilience—at the national and regional level. By disaster resilience, I mean the capacity of countries, communities, businesses and households not just to absorb shocks, but to anticipate them, thereby ensuring that they don't jeopardize economic growth and development.

Disaster risks can never be eliminated entirely, but they can be significantly reduced. Since the Indian Ocean tsunami in 2004, progress has been made on several fronts, often using innovative approaches. Sophisticated early warning systems now crisscross the region alerting authorities to earthquakes and tsunamis. Advances in hazard mapping have raised public awareness about potential risks. New evacuation procedures, combined with better enforcement and greater public awareness, have reduced death tolls from disasters that would

likely have killed many more only a few years earlier.

Moreover, the region has embraced a host of declarations and action plans for disaster risk management, including the world's first legally binding agreement in the field—the ASEAN Agreement on Disaster Management and Emergency Response. Disaster risk management legislation and coordinating agencies have been established across the region as awareness grows of the need for strengthened resilience.

Yet, progress has lagged where it counts: embedding resilience into national development.

The region's growth path can only be truly sustainable when the risks posed by disasters are reflected in the investment decisions taken by governments and communities. The potential for an earthquake and tsunami, for example, to wipe out crucial public and private infrastructure should influence decisions on design and positioning. Jobs programs should include measures to diversify livelihoods so communities are not reliant on one vulnerable industry.

Environmental assessments can examine the impact of proposed investments on hazard vulnerability, like the effect of a new road on storm water drainage. The public sector needs to develop more efficient and effective ways of delivering crucial services during relief, recovery and reconstruction efforts.

A wide range of gaps and obstacles clouds that vision. Disaster risk information

PHOTOS: ADB



is unreliable and patchy in some countries, and funding for risk reduction is similarly wanting across all levels of government. People with minimal understanding of development often staff national disaster management offices, while many local governments lack the expertise and capacity to integrate risks into their broader policies. Several countries lack appropriate institutional arrangements and clear mandates.

We need to close these gaps quickly. A good start would be to promote the use of risk maps to identify hazard-prone areas, and follow up with risk sensitive land use plans. We could also make better use of disaster risk financing tools like insurance

and reinsurance, which can cushion communities from the financial impact of calamity.

Any blueprint for action must also deal squarely with climate change, which is increasing our exposure to natural hazards in unpredictable ways. Extreme weather events are expected to become more frequent and intense as climate change unfolds. Several of the region's countries are particularly vulnerable to rising sea levels, and many of its urban centers are located in hazard-prone areas such as coasts and floodplains. Urban congestion means the poor often live in settlements offering little protection from the elements.

With Asia's urban population expected to double to 3 billion people by 2050, it is imperative to build climate resilience into development projects. Climate change adaptation and disaster risk reduction should go hand in hand, as they do in Tajikistan where ADB is working with the national government on a system to store and share data on climate-related disaster risks. Unfortunately, climate risks remain largely unaudited across the region, with fewer than 20% of our cities having conducted climate risk assessments.

We must do better. Our region faces a future of frequent and severe natural hazards. But if we act quickly, and we act together, there's nothing inevitable about the losses that may accompany them. ■

The region's growth path can only be truly sustainable when the risks posed by disasters are reflected in the investment decisions taken by governments.



A visit to communities hit by Haiyan underscored the importance of disaster resilience.



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Tacloban, Philippines, after Typhoon Haiyan.

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# REVIEW



## BLUE FUTURE: PROTECTING WATER FOR PEOPLE AND THE PLANET FOREVER

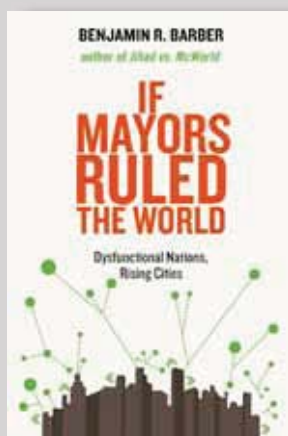
By Maude Barlow  
The New Press,  
January 2014, **\$26.95**

The final book of a trilogy on water scarcity—a particularly pressing concern in Asia—argues for water to be recognized as a fundamental human right. The United Nations (UN) obliged in 2010 by declaring the human right to water and sanitation, but as Maude Barlow notes, water remains scarce and mismanaged.

Barlow says demand for clean water easily outstrips supply and too many people go without as a result. She is cofounder of the Blue Planet Project, which advocates the human right to water, and chairs the board of Washington-based Food & Water Watch.

“Everything about our contemporary world—from global politics to food production technology—has made our water supply unsustainable, argues Canadian activist Barlow.”—**Slate**

“In the introduction, she offers the book ‘as a guide...to clarify the values and principles needed to protect the planet’s fresh water.’ The book is then quartered by four guiding principles: ‘water is a human right;’ ‘water is a common heritage;’ ‘water has rights, too;’ (and) ‘water can teach us how to live together.’” —**The Globe and Mail**



## IF MAYORS RULED THE WORLD: DYSFUNCTIONAL NATIONS, RISING CITIES

By Benjamin Barber  
Yale University Press  
November 2013, **\$30**

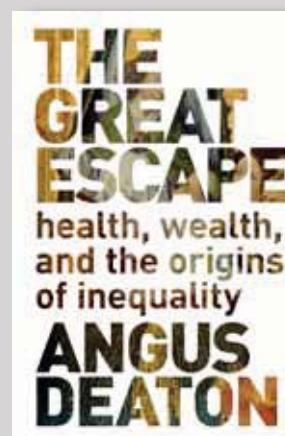
The planet faces challenges of unprecedented complexity, which the author believes are better resolved by cities rather than states.

Benjamin Barber is an American political theorist and author. He is currently a senior research scholar at the Center on Philanthropy and Civil Society of the Graduate Center, The City University of New York.

“The book is organized around short portraits of activist mayors such as New York City’s Michael Bloomberg, London’s Boris Johnson, Moscow’s Yuri Luzhkov, and Delhi’s Sheila Dikshit. The book is convincing in its claim ... that the leaders of cities have ‘the political position to really change people’s lives.’” —**Foreign Affairs**

“Barber argues, I think persuasively, that city governments are closer to their people than national ones and as such are better at winning the trust of citizens—though the same goes for rural forms of local government.”

—**Financial Times**



## THE GREAT ESCAPE: HEALTH, WEALTH, AND THE ORIGINS OF INEQUALITY

By Angus Deaton  
Princeton University Press  
September 2013, **\$29.95**

Poverty is decreasing but in many parts of the world—even in countries with fewer poor people—inequality is on the rise. The question energizing this book is: “How much does this matter?”

Angus Deaton is the Dwight D. Eisenhower professor of economics and international affairs at the Woodrow Wilson School of Public and International Affairs and the economics department at Princeton University.

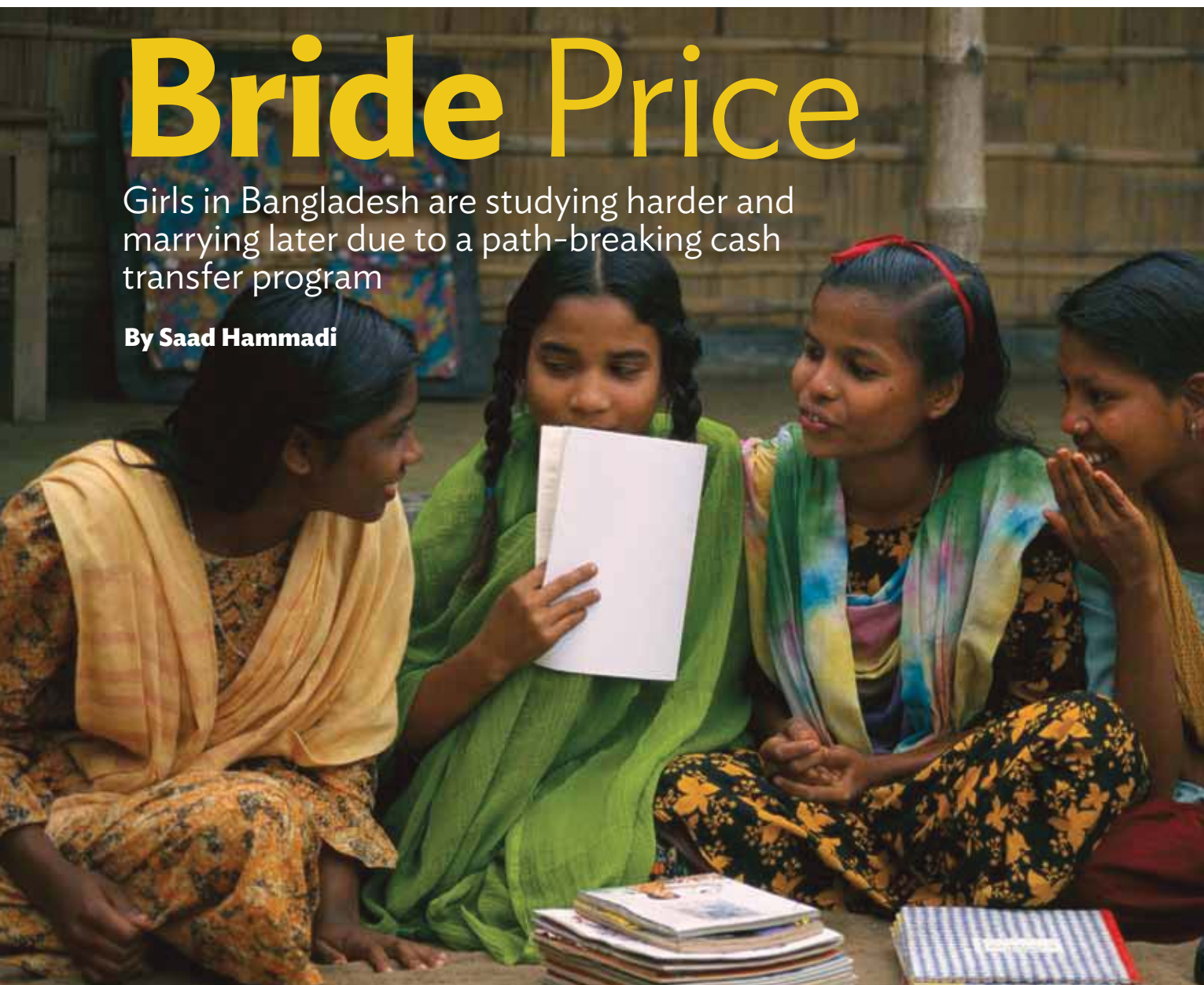
“Refreshingly, Deaton ... reaches beyond a purely economic narrative to encompass often neglected dimensions of progress such as better health. ‘The great escape’ he has in mind is the one from early death as well as deprivation that had begun with Britain’s industrial revolution.” —**The Economist**

“*The Great Escape* is a deeply compassionate book, but it should not be read only for its insights into how economic growth has liberated hundreds of millions of people from the clutches of poverty. Deaton also provides very lucid explanations on how poverty, health, and inequality are measured. These are important issues that the thinking citizen should be aware of.” —**Mint**

# Bride Price

Girls in Bangladesh are studying harder and marrying later due to a path-breaking cash transfer program

By Saad Hammadi



**A**t Pakshia village in southwest Bangladesh, light bulbs tied to barbed wire fences mark the border with India, the only factor distinguishing it from countless villages across Bangladesh.

Life is hard, and many families struggle to provide for several children. Men are the breadwinners and women the homemakers. Young women, considered an economic burden, are often married off early—if possible to a wealthy groom. About a third of Bangladeshi women aged 20–24 are married by the age of

15, and 66% of girls marry before they turn 18, according to UNICEF’s 2011 *State of the World’s Children* report.

In this setting, Muslima Akter, 17, is something of a rebel. She has resisted her father’s attempts to marry her off. “My father still wants me to get married so he does not have to bear my expenses,” says Muslima, who is in her final year of secondary school. That she has held out so long is due mainly to a landmark Government of Bangladesh initiative to persuade families to let their girls finish school.

The Female Secondary School Assistance Project (FSSAP),

supported by the World Bank, has since 1994 provided for girls a stipend of around \$2 over a 6-month period to pursue secondary education. Even this small amount allowed recipients to buy stationery and books and to photocopy other materials. Most important, it means their education did not stretch family finances, as the stipend comes with a tuition fee waiver.

To qualify, families must guarantee that the girl won’t marry before graduation, a measure devised to help contain Bangladesh’s soaring population while encouraging the

PHOTO: CORBIS





education of girls. Students must attend at least 75% of classes and obtain a minimum average mark of 45%. The qualifying benchmark for results was kept relatively low to ensure that deprived girls who might have difficulty getting higher marks were not excluded from the scheme, says Mohammad Waheduzzaman, secondary education officer at Sharsha *upazila* (subdistrict)—which includes Pakshia, and is one of the 125 subdistricts where the World Bank implemented the program.

The results have been startling. Over more than a decade, the

“The stipend that the government provided saved our education.”

—Rehana Akter, Bangladeshi college graduate and schoolteacher

program supported 6.9 million girls between grades 6 and 10. By the end of the program in 2008, girls' secondary school enrollment had climbed to 56% of the total population, compared with just 33% before the program.

A recent report on the scheme's impact found that the FSSAP contributed to boosting between 1.6 and 2 years the time spent by girls at school. Moreover, it helped lift participating women's marrying age between 1.4 and 2.3 years, with some evidence it has lifted the marrying age for men as well.

“Bangladesh is probably a pioneer in the world for implementing such a large-scale project exclusively for girls' education,” says Mohammad Zulfiquar Rahman, deputy director at the Directorate of Secondary and Higher Education at the Government of Bangladesh.

The FSSAP was among the first conditional cash transfer (CCT) programs introduced in Asia. CCTs provide stipends to poor households in return for commitments to positive behavioral changes such as enrolling children at school, ensuring regular attendance, and getting regular health care treatments and checkups. Highly successful in Latin America, CCTs are gaining traction in Asia as an important poverty reduction tool.

“CCTs kill two birds with one stone,” explains Sri Wening Handayani, principal social development specialist at the Asian Development Bank (ADB). “The cash transfer creates household purchasing power while, at the same time, conditionality enables human investment in schooling and health.”

Handayani says the FSSAP has delivered “huge dividends” in terms

of gender parity in education in Bangladesh, laying the groundwork for more inclusive economic growth.

It has certainly changed Muslima's life. Her family of five scrape a living at a small settlement by a railway track. Her father is unemployed and her mother feeds the family with money she earns by selling milk.

Muslima says she felt liberated when her school waived her tuition fees and provided her a monthly stipend under FSSAP. “If it wasn't for my mother and this school, I would not have been able to complete my studies,” she says tearfully.

Even a couple of extra years in study can make a difference at an individual and the national level. The report on FSSAP's impact, conducted for the World Bank, notes that an additional year of education increases labor force participation of married women between 2.4% and 5.3%. “The changes that are occurring [among women in Bangladesh] are due largely to the education they are getting,” says Serajul Islam, professor emeritus at the University of Dhaka.

Still, keeping girls at school was a challenge due mostly to a mindset at places like Pakshia that views early marriage of young women as a form of family debt relief. Early marriage is rooted in an attitude that girls “would not be as helpful in earning money or making a contribution,” says Islam. Hence, the role designated for girl children is within the family—a housewife doing the domestic chores and raising children.

Muslima says the situation is improving, but notes, “We have had friends who studied with us but dropped out (of school) after marriage.” This is common in rural

Many of the girls who completed secondary schooling in Sharsha under the FSSAP subsequently completed university studies. More than a dozen from a single school are currently pursuing medical degrees.

areas where childbirth often quickly follows marriage and wives are expected to take care of elderly in-laws and household chores.

Schools, too, have been strict on the eligibility conditions under the FSSAP. Abdus Samad, principal of Pakshia Secondary School, says that in 2008 there were a few cases of girls within the stipend program getting married even while they were studying. “We stopped a few stipends at the time, which set an example for those studying under the program,” says Samad.

Rehana Akter, 28, has become a role model for girls in Pakshia. Not only did she complete her secondary school as the top student in every grade, she also acquired a bachelor’s degree in education and is currently pursuing a master’s program in Bengali. Rehana has also become an assistant teacher in a secondary school. The mother of a 7-year-old daughter, Rehana balances family, work, and studies in a way that was impossible not many years ago.

“During our time, parents did not want to educate their children too far and if you were a girl, this would be out of the question,” says Rehana, who received the FSSAP stipend along with her younger sister.

“The stipend that the government provided saved our education,” Rehana says. As a grade 6 student in 1996, Rehana was entitled to a tuition waiver and \$2 every 6 months. She was also entitled to an additional stipend equivalent to \$6.50 every year for topping her secondary school class.

Rehana married soon after secondary school but that did not end her studies. Usually, family responsibilities overwhelm other priorities after marriage, she says. Besides, women in conservative families are constantly judged on their activities especially if they are living with in-laws. But her husband has been supportive of her continuing education, despite

her responsibilities as a mother and a teacher.

Times have changed since Rehana left school. In the mid-1990s, only a couple of girls from her neighborhood completed secondary school but now there are several.

“Two-thirds of students in my classes are girls,” says Rehana, who is now a schoolteacher herself. “Nowadays, women would not get married until their intermediate or undergrad.”

Selina Akter, 22, in her last semester of undergrad program in business administration at the Rajshahi University, is another young woman with ambitions beyond marriage. (Akter is a common surname for girls in rural Bangladesh. Muslima, Rehana, and Selina are not related despite their shared family name.)

A former beneficiary of the FSSAP as a student at Mariam Memorial School between 2002 and 2006, Selina aspires to become a banker, but before that she plans to complete her master’s degree in business administration.

Many of the girls who completed their secondary schooling in Sharsha under the FSSAP subsequently completed university studies. More than a dozen from a single school are currently pursuing medical degrees. Recent graduates have chosen professions in teaching and law.

This attitudinal shift has occurred in part because families are now seeing the benefits of keeping their girl children in school. Income generated from ensuing employment can offset or even eliminate the economic liability girls represent for many families.

Islam says, “Helping the girls in respect of tuition has been very beneficial for the girls and also for their family. Without the stipends, many of these girls would not have been able to continue their studies. As a whole I see this as a very beneficial and useful program.” This does not mean that programs like the



# AFTER THE STORM

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Photo by Julien Anseau

FSSAP can single-handedly achieve gender parity in education and the workplace. “CCTs are just one of many instruments,” says ADB’s Handayani. “Success (in programs like FSSAP) isn’t due only to the stipend. It’s also the poverty targeting and community involvement. Also, there are supply-side factors like teacher training. Most important is the political will of the government.”

More work is required to ensure equal treatment in Bangladesh schools for poor students of both genders. Since 2006, ADB has supported the Secondary Education Sector Development Program, providing conditional stipends to 150,000 students across 53 *upazilas* annually, training new teachers, and upgrading school facilities.

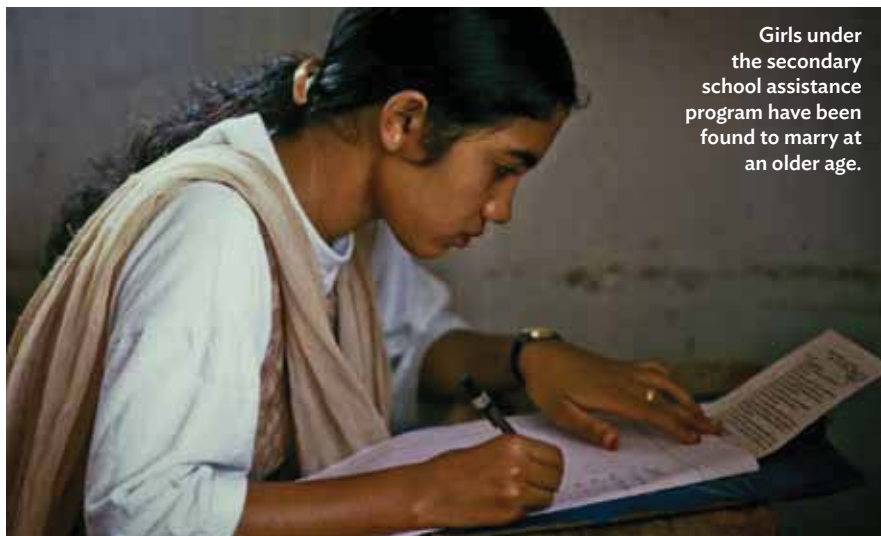
These efforts will be expanded from this year under the 10-year Secondary Education Sector Investment Program, targeting 3 million students annually—boys and girls—with a sharp focus on secondary school completion as well as enrollment.

“Efforts are being made to ensure the stipend is received by the neediest households,” says Eisuke Tajima, a social sector specialist at ADB. The new program will address changing realities, he notes, such as the fact that girls now outnumber boys in grade 6 but often drop out before graduation. Moreover, it will support advanced teaching and learning programs using innovative technology, prevocational and vocational programs, and examination reforms.

The FSSAP has also aims for impacts beyond the stipend, including infrastructure enhancements at schools like better water supply and sanitation. It also channeled financial aid to schools that maintained outstanding results in mathematics and English, says Sharsha secondary education officer Mohammad Waheduzzaman. “The incentive



Not long ago, a life outside domestic chores didn't seem to be an option for many Bangladeshi girls.



Girls under the secondary school assistance program have been found to marry at an older age.

has been highly motivating for both teachers and the recipient schools,” he says.

The FSSAP, which ended in 2008, has been remodeled and extended under the Secondary Education Quality and Access Enhancement Project, which began in September 2008 and will expire in June 2014.

“Previously, the stipend program was designed for girls as they were falling behind; but after a midterm review in 2004, we came to an agreement with the World Bank to develop a poverty targeted program,” says Mohammad Zulfiquar Rahman, deputy director at the Directorate of Secondary and Higher Education who now oversees the new program. Previously, every girl student in secondary school was

eligible for a stipend, irrespective of socioeconomic condition.

Under the new program, applicants are assessed on 18 variables comprising their living standards and household spending on essentials like electricity and water. The stipend has risen as well, to account for rising inflation.

The new fine-grained approach is a testament to the success of the FSSAP: girls’ enrollment now outpaces boys’, notes Rahman, allowing future assistance to be targeted at the neediest rather than across the board.

The program is set for another sequel. Rahman says the new program is likely to be extended beyond 2014 and its coverage expanded to 215 subdistricts. ■

PHOTOS: CORBIS (TOP), ADB





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someone  
suffering, I  
am equipped  
to counsel  
them***

## **Meet Shima. Expertise from the Global South.**

She belongs to a remote community that is extremely vulnerable to the impacts of climate change and prone to natural disasters. As a women's group leader, she is responsible for identifying marginalised women who would benefit from BRAC's livelihood support. She is now also one of 10,000 women trained by BRAC's disaster, environment and climate change programme in trauma counselling.

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BRAC recognises that material aid is insufficient to cope with adversities if an individual is not supported emotionally. Through this approach, the organisation is not only empowering women economically, but also removing the psychological barriers that may hinder their progress.

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# ACCOUNTING FOR NATURE

Putting a price on the natural environment is now feasible—perhaps even imperative

By Rupert Walker

**C**an a coral reef have a dollar value? In a commercialized world, most things need a price tag to be fully appreciated. But a push to price the natural environment has a loftier aim: promoting sustainable development.

The concept of natural capital accounting (NCA), also known as wealth accounting, has existed for decades as economists have mulled how to measure economic development in a way that recognizes the importance of natural assets, as well as man-made ones.

Until now, national budgets have rarely acknowledged the value of services provided by saltwater wetlands, coral reefs, and the like, according to Wealth Accounting and the Valuation of Ecosystem Services (WAVES), a global partnership of national governments and international organizations that promotes NCA. The result, it says, has been decades of environmental and economic loss.

Now, there is a sense of urgency, fueled by fear of climate change and the effects of rapid industrialization in the developing world. But there is also growing confidence that the tools to measure the value of natural assets are finally available.

“Environmentalists have become more economically literate, and economists have become more

environmentally literate,” says Nessim Ahmad, director of the environment and safeguards division at the Asian Development Bank (ADB).

Still, the degradation of natural capital receives considerably less attention in national accounts than the depreciation of man-made capital assets. Losses from deforestation, topsoil erosion, and the loss of marine and coastal resources are underplayed or even omitted, on a mistaken assumption that nature is abundant, always regenerative, and cannot earn invested returns.

“Nature is a mosaic of self-generative but degradable assets,” says Sir Partha Dasgupta, professor emeritus of economics at the University of Cambridge and a pioneer of NCA.

It depreciates if it is misused, and the impact of this depreciation on national economic well-being is now being measured. The World Bank estimates that natural capital degradation costs India \$36 billion to \$124 billion annually, or between 2.6% and 8.8% of 2009 gross domestic product (GDP). The losses in the People’s Republic of China (PRC) in 2007 were \$76 billion.

In a 2008 report, *The Cost of Policy Inaction*, Leon Braat and Patrick ten Brink estimated losses from the destruction of ecosystem

services in 2010 at €545 billion (\$756 billion, just under 1% of world GDP), due mainly to the absence of adequate protection policies.

“Trees might be cut down to build a house, yet although the value of the house will be recorded the timber will not, which is contrary to basic double-entry bookkeeping,” says Dasgupta.

Traditional income reporting methodologies such as GDP cannot record the trade-offs between, for example, draining a wetland to make way for a shopping mall and considering whether cutting down upstream forests for timber and minerals is worth the risk of floods downstream, argues Dasgupta.

“The GDP fetish was a response to the 1930s depression in the West; and as a true measure of a country’s income it is inadequate, especially for developing countries.”

Dasgupta stresses the importance of nature as life’s support system, especially for the poor because they are more dependent on it for sustenance and have far fewer options than the rich if it is damaged. The chronically poor often depend on nature simply to survive, whether it’s grazing land for livestock or a stream as a water source.

NCA has gained significant traction since the 2012 Rio+20 conference on sustainable





development, and from a recognition that the Millennium Development Goals (MDGs) paid insufficient attention to the deleterious effects of environmental damage on social well-being, according to Priya Shyamsundar, program director at the South Asian Network for Development and Environmental Economics (SANDEE).

Since then, following broad consultation within the United Nations (UN) and among development agencies, the UN System of Environmental-Economic Accounting (SEEA) Central Framework has become the global—albeit limited—standard for measuring the environment and its relationship with economic and human activities.

Properly implemented, it would “better inform development policy through improved sectoral planning and more equitable social allocations, and also helps poverty alleviation,” says Pushpam Kumar, chief of the ecosystems services economics unit at the

“Environmentalists have become more economically literate, and economists have become more environmentally literate.”

—Nessim Ahmad, director of environment and safeguards, ADB

Division of Environmental Policy Implementation (DEPI), one of the seven divisions of the United Nations Environment Programme.

SEEA incorporates the environment within a country’s existing accounts. It captures both resource use and the damaging effects of pollution and degradation as well as the store of wealth contained within land and water, such as energy and mineral resources, timber, and fisheries.

It makes intuitive sense that a nation’s stock of physical assets—land, water, atmosphere, and ecosystems—and the flows

from those sources should be aggregated, and the consequences of their degradation or depletion deducted from its accounts.

Critically, the adoption of the SEEA “marked a recognition that GDP, as currently measured, was an unsuitable indicator of sustainable development,” says Shyamsundar, who adds that NCA is not a substitute for GDP, but a parallel measurement.

It is important “to correct the mistaken way a nation’s income and capital stock has been traditionally valued and to remove the asymmetrical accounting of

man-made and natural capital,” says Kumar.

Yet, NCA is not a new idea. “The concepts have been developed by economists and academics during the past 3 to 4 decades, so the adoption of the SEEA in 2012 is really a rediscovery and formalization of NCA,” notes Ahmad of ADB.

The catalyst for this shift was the 1987 Brundtland Report, which coined the term “sustainable development” to describe “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” That spurred some economists to call for natural capital’s inclusion in estimates of a nation’s capital stock and the flows that emanate from it.

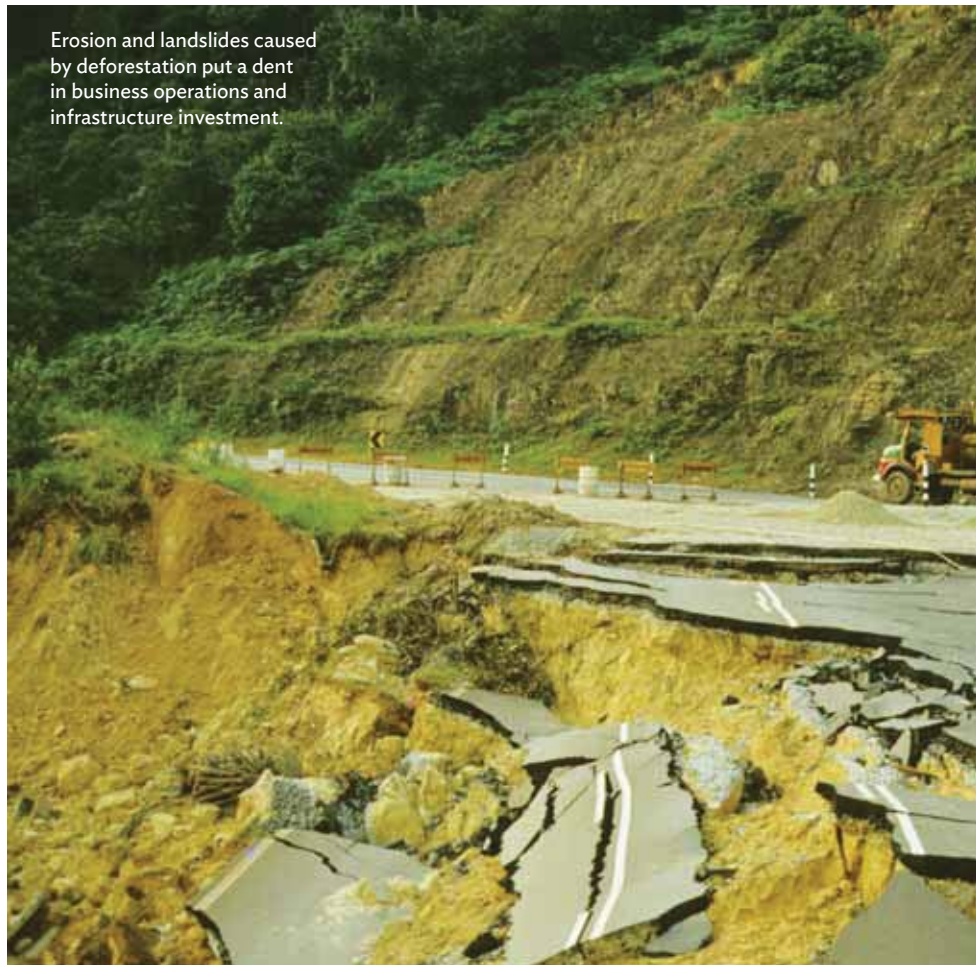
The first SEEA in 1993 aimed to develop environmentally adjusted aggregates such as “green GDP” to complement conventional GDP. Since then the focus has shifted to more nuanced objectives. The 2012 SEEA is a multipurpose organizing framework of economic and environmental statistics to inform policy on sustainable development and derive comparable indicators and indexes.

The objective now is not to give a snapshot of the countries’ natural capital, but to analyze the change in its flow—stocks of mineral and energy resources and their extraction over time, for instance.

SEEA follows similar accounting structures as that of GDP, adjusting them to account for the cost of environmental degradation (e.g., deforestation) or depletion of a natural asset (e.g., from mining), explains Alessandra Alfieri, chief of the environmental-economic accounting section at the UN Statistics Division.

All natural assets fall within the scope of the SEEA. “It provides the framework for valuing natural assets with a market value as well as

Erosion and landslides caused by deforestation put a dent in business operations and infrastructure investment.



adjustments to a country’s domestic products, by including the depletion of natural assets in addition to the standard consumption of man-made capital,” says Alfieri.

“Although many companies account for proven and probable reserves of oil or minerals, most countries do not incorporate their value in national accounts,” she notes. Exceptions include Australia, Canada, Indonesia, the Netherlands, and Norway where hard commodities are a major component of their economies.

Countries are encouraged to implement it but the SEEA can’t be enforced—although Eurostat, the statistical office of the European Union (EU), mandates the 28 EU countries to report on selected accounts. Among the 15 countries implementing SEEA are India, Indonesia, the Philippines, and Viet Nam, and there is a Canadian

assistance program underway in the PRC. “Many countries in Asia are working toward its implementation,” says Alfieri. “This requires a paradigm change involving close collaboration between data producers and policy and decision makers.”

A more significant limitation than its optionality is that the SEEA does not account for changes in ecosystem conditions and services, particularly intangible services that are not valued in the marketplace (e.g., the storm buffer value of mangrove forests).

The price of excluding such services can be high. In a 2007 paper published by SANDEE, Saudamini Das established from statistical analyses that if the mangrove forests that had existed in 1950 had still been in place, 92% of the deaths would have been avoided when a super cyclone hit the state of Orissa on the east coast of India in 1999.

PHOTO: ASSOCIATED PRESS





She estimated that the value of a hectare of land in the study area with intact mangrove forests was \$8,670 (after adjusting for the probability of severe storms), higher than the \$5,000 market value of cleared land. In addition, the cost of regenerating one hectare of mangroves was \$110, much lower than the anticipated benefits from regeneration.

There are projects underway that aim to estimate the value of mangrove forests in Viet Nam and wetlands in Cambodia, the Lao People's Democratic Republic, and the Philippines. In these and other countries, mangroves are emerging as important sources of timber, aquaculture, biodiverse habitats, storm and flood protection, and recreation.

In the Philippines, WAVES is assisting efforts to attach a monetary value to coastal waters by examining the costs of destructive fishing, oil

spills, coral bleaching, and red tides using data collected from local technical studies.

Ahmad points out that the practical policy implications of NCA need to be further demonstrated, although physical data needed to value land, water, soil, forests, and other natural assets has improved dramatically, making its application more feasible.

NCA's gradual evolution means it can now help examine how gains from mineral depletion compare with potential gains from other resources—minerals versus timber, for instance, says Shyamsundar.

But it is a complex issue. Forests are not just a source of timber but also of fuel, fodder, sustenance, and medicinal plants for poor communities. In addition, loss of forests reduces carbon dioxide absorption, which affects the global community—and that is hard to incorporate in local cost-benefit analyses.

It is also a challenge to assess how income gained from mineral extraction compares to damage caused by pollution, soil erosion, and harm to ecosystems.

A step toward quantifying these trade-offs was taken at the 44th session of the UN Statistical Commission last year, which agreed on an experimental ecosystem accounting framework to improve land-use management by comparing alternative uses. It looks at all services provided by an ecosystem such as food and drinking water production, carbon sequestration, water purification, recreational use, and even risk mitigation.

Though not yet a standard, this system aims to reflect wealth, not just income, by establishing an asset's "shadow price" derived from intangible benefits that don't have a commercial value, explains Kumar of DEPI.

It's a relatively new science, and an aggregated national snapshot of such benefits is not yet feasible. "It is necessary to start with specific sectors such as forests or water and then move toward national aggregation," says Shyamsundar. Additional factors will be included in wealth measurement over time as data accumulates and models become more sophisticated.

This appears to be happening. Kumar says that DEPI, from its base in Nairobi, currently maps physical stock in regions across 20 countries in Africa, estimates shadow prices, and is attempting to create a more robust framework to help scale these accounts to the country level.

However, more data collection and experience at the micro level is required to develop a baseline for measuring biodiversity as an indicator of the health of ecosystems.

"Ecosystems services whose benefits are intangible and diverse are much harder to value," notes Ahmad. "There are methodologies available, such as calculating contingent valuations, conducting surveys, and creating hypothetical demand curves, but they need to be credible to carry weight with policy makers. Most importantly, we need more case studies, which should be conducted at the local level."

Valuation techniques are improving. But "there is less clarity about how the knowledge gained can inform government policy in specific terms," says Shyamsundar. The challenge now is to start building sector-specific accounts to provide practical information for decision makers about trade-offs between resource use and conservation.

After all, as Kumar points out, valuation of natural capital is "by no means a panacea." It is a tool to ensure more robust and objective economic estimates, which in turn should facilitate better policy. ■



# Nature

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# Missing LINKS

Women are vital but neglected components of Asia's production chains

By Alexandra A. Seno

**L**ike most women in Varanasi, India's ancient silk-making capital, Adira Salam works from her spare and dimly lit home, helping create the magnificent textiles for which her city is famous.

Until recently, Salam's work yielded no economic gain, but a simple act of recognition has transformed her life. With her husband, a master weaver, she produces high-quality fabrics for United States (US)-based nongovernment organization (NGO) Nest, which works with artisans in developing countries to bring their products to the global market.

Now, she receives payment through Nest, allowing her to save money to avoid the high debt levels that plague the city's weaving community. "I enjoy my work...I like having money," she says.

The world economy would look very different—and more equitable—if more women were able to transcend cultural expectations to play an active, income-generating role. Asia and the Pacific would be better off by \$89 billion annually if women were able to maximize their earning potential, according to the recent United Nations Women report, *Progress of the World's Women: In Pursuit of Justice*.

Up to 800 million employment-aged women worldwide have no productive economic role, and their number could rise to 1 billion by 2020, according to consultants Booz & Co. Poor countries account for 90% of these women.

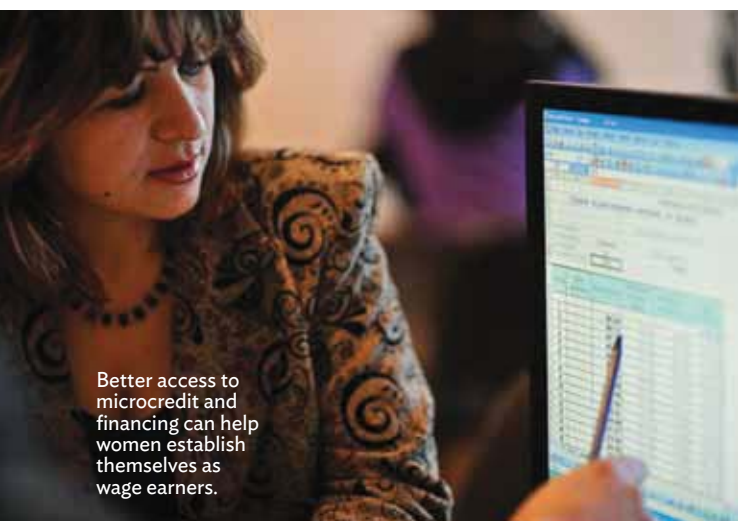
Though Asia does better on some measures than other regions, its performance is uneven. In South Asia less than 10% of small and medium-sized enterprises (SMEs) are run by women, whereas in East and Central Asia more than a third of SMEs have women at the helm.

"Gender inequality and economic growth is a two-way relationship," says Amy Liu, senior lecturer in international and development economics at the Australia National University's (ANU) Crawford School of Public Policy. "If you improve gender equality, you improve economic development. Women are part of the labor force, and when they are part of the economy but are given equal opportunities to fully engage, it has impact."

Today, however, many Asian women are invisible in a financial sense. Salam used to be one of these women, and indeed most of the women in the textile industry—even at her high-quality end of the production



Traditional views on women's domestic roles can change when they start contributing to the household income.



Better access to microcredit and financing can help women establish themselves as wage earners.

chain—remain silent partners. While the actual weaving is done by the men, the women are hugely important to production as they do all the preparatory and finishing work—from spinning the bobbins to the cutwork and finishing fabric edges.

“However, in most cases the women are invisible pieces of the production chain—they are not paid for their work, and do not receive the same sense of pride in the finished product,” says Chris Van Bergen, director of partnerships and development at Nest, the NGO that now pays many women weavers for their work, including Salam who now receives up to Rs50,000 (\$803) annually.

More than a decade of attention to the problem has made a difference. In fact, a critical episode in Asia's narrative of development has been the rise of women in business and social roles.

In Cambodia, there are a third more enterprises today than 2 years ago. A new crop of female entrepreneurs helped drive that expansion. According to the Asia Foundation, a majority of businesses in Cambodia are modest operations—about 90% have four or fewer employees and most do buy-and-sell, cottage industry-

type manufacturing or services like beauty shops or food preparation. Many of them were started by women, who own an impressive 62% of registered companies in Cambodia. Female-owned SMEs are also growing quickly in Indonesia, Malaysia, Thailand, and Viet Nam.

Over the last 2 decades, a combination of improved government policies, private sector initiatives, and enlightened transnational activism have paved the way for greater opportunities for enterprising women throughout the region.

Getting more women into business can be a key to economic growth. In East Asia and the Pacific, where GDP increases of above 5% for cities are not unusual, more than half of listed enterprises are owned by women. The global average for the developing world is 34%. In Latin America and the Caribbean, it is about 37%; in the Middle East and Northern Africa, 18%; and in South Asia, 15%.

Women have also proven to be good consumers, forming a demographic that new markets for goods and services have emerged to serve. Linda Scott, the DP world chair for entrepreneurship and innovation at the University of Oxford's Said Business School in the UK, describes it as a “shadow economy,” since much of it is either not monetized or has long been trapped in the informal labor sector, as in Salam's case.

But that economy is gradually coming out of the shadows as women start to earn salaries.

Scott told branding publication *BrandIQ* that better communication, coupled with women's gains in economic access, was opening doors to new markets and opportunities. This can have a marked development impact, as research shows that women are most likely to use disposable income for important family needs such as schooling for their children.

“The women's economy ... is more clearly marked with a concern for human capital, so getting women more power and money has a positive ripple effect into a community's future,” Scott told *BrandIQ*.

Getting to that endgame, however, is easier said than done. The World Economic Forum's *Global Gender Gap Report* finds a strong statistical link between countries with the most competitive business environments and their ability to provide equal opportunities to men and women, making these countries attractive for commerce.

But there are still barriers to creating business environments that are inclusive of women.

On legal rights alone, women still lag behind men. As the World Bank report *Women, Business and the Law 2014* points out, “In the past 50 years women's legal status has improved all over the world. But many laws still make it difficult for women to fully participate in economic life whether by getting jobs or starting businesses.”

PHOTOS: AFP (TOP), ADB



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In Nepal, it was only in 2002 that laws were passed allowing single daughters under age 35 to inherit property. In many places, vital elements of property ownership and access to capital are not as easy for a female entrepreneur as for a man.

In the People's Republic of China (PRC) and the Philippines, a married woman still needs her husband's consent to get a loan.

The issue, explains Liu of ANU, is that gender inequality is often viewed as unconnected to the wider economy. "All broad-based policies, such as industrial and trade policies, should take into account gender [impact] because the effects are across the board," she points out.

Progress, then, has been gradual. Edna Aquino, a development consultant on women's rights who has managed projects in South and Southeast Asia as well as Africa, says, "There are still a lot of challenges, but one of the main successes has been in raising consciousness about the potential of women."

of Liverpool, UK, points out that in countries like India, money might be earned by women but assets are ultimately controlled by the husbands.

Such thinking has returned the spotlight to what it means to empower women meaningfully.

Now, policy makers are conscious that providing access to capital is a preliminary step. True empowerment requires education and training to open avenues for a better life.

"There is growing evidence that training...where it can have an effect on livelihood—like in giving business training or being taught how to use a sewing machine—means that women are more likely to stay in the labor force and continue to earn," says Visaria.

Investing in women pays off. In Indonesia, women have gained improved access to capital and better legal status after learning new skills. As a result, small businesses owned by women in the country are flourishing, with new ventures on the rise and existing ones enjoying solid growth.

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## Women have also proven to be good consumers, forming a demographic that new markets for goods and services have emerged to serve.

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Aquino believes that identifying and spotlighting "agents of change" has a profound impact as these role models show new generations of women how they can gain control over their financial destinies. She points to the demonstration effect of women succeeding in business as a key factor. Male objections against women's advancement can change once their salaries start to ease the household's financial burden.

One area of palpable progress has been the implementation of women-focused programs providing small loans or microcredit to people who might otherwise be considered credit risks by lending institutions. These small sums help spawn ventures that can improve the lives of entire families

"Microcredit is probably the most important policy tool to improve women's access to capital," says Sujata Visaria, an economist who studies microfinance in India. Today, 70% of the 20 million people globally who receive microcredit are women.

But it's far too early to declare victory. Microcredit has also triggered a rethink of whether success can be measured by established metrics. Supriya Garikipati, senior lecturer in development studies at the University

Adira Salam already possessed useful skills in a craft handed down through generations. What she has learned to do only recently is enhance the marketability of those skills by working cooperatively with similarly skilled local women.

The village wives have formed a craft cooperative, pooling their skills and resources to try to level the financial playing field with male weavers. Through Nest, Salam and her colleagues have taken orders from Maiyet, a cult luxury fashion label in which British entrepreneur Richard Branson has invested and which Hollywood celebrity Jennifer Lopez patronizes.

Maiyet pays wages above the norm in support of traditional craftsmanship, and has made a long-term commitment to use Varanasi textiles. Its garments show regularly in Paris, and sell in high-end boutiques in Europe and the US, as well as through luxury online retailers like Net-a-Porter.

Salam has been told that her handiwork is worn on the catwalks of the world's most glamorous cities, and the news gives her pleasure and purpose. But her chief gratification is grounded, like her work, in her family: "I contribute to the household." ■

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# DEVELOPMENT AGENDA

## MAY



**2-5 : 47th Asian Development Bank Annual Meeting**  
Astana, Kazakhstan



**5-6 : Forests Asia Summit – Center for International Forestry Research (CIFOR)**  
Jakarta, Indonesia

**3 : World Press Freedom Day**  
**5 : International Day of the Midwife**



**7-9 : Asia-Pacific Forum on Sustainable Development – UN Economic and Social Commission for Asia and the Pacific (ESCAP)**  
Bangkok, Thailand



**19-24 : 67th World Health Assembly – World Health Organization (WHO)**  
Geneva, Switzerland



**21-23 : World Economic Forum on East Asia**  
Manila, Philippines

**25-26 : 46th Global Environment Facility Council Meeting**  
Cancun, Mexico  
**27-29 : 3rd ADB-DMC and Partners Sanitation Dialogue: 11th Hour to MDGs 2015**  
Manila, Philippines

## JUNE

**4-7 : 3rd Forest Science Forum and 12th International Conference on Bio-Based Composites in Pan-Pacific Region – International Union of Forest Research Organization**  
Beijing, PRC

**8 : World Oceans Day**  
**10-27 : 26th Human Rights Council – United Nations (UN)**  
Geneva, Switzerland



**10-20 : Youth Forum – United Nations Educational, Scientific and Cultural Organization (UNESCO)**  
Spain



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**16-20 : 9th Asia Clean Energy Forum – ADB and USAID**  
Manila, Philippines  
**20 : World Refugee Day**

## JULY

**11 : World Population Day**  
**JULY 28-AUGUST 8 : 23rd Regional Training Course on Community-Based Disaster Risk Reduction with a Changing Climate – Asian Disaster Preparedness Center (ADPC)**  
Bangkok, Thailand

## AUGUST

**1-7 : World Breastfeeding Week**  
**9 : International Day of the World's Indigenous Peoples**  
**27-29 : 1st Global Conference on Climate Change and Health – WHO**  
Geneva, Switzerland

## SEPTEMBER

**1-6 : World Water Week**



**1-10 : 6th International Training Course on Climate Risk Management in a Changing Environment – ADPC**  
Bangkok, Thailand

**8 : International Literacy Day**



**8-12: Joint FAO (Food and Agriculture Organization)/WHO Expert Meeting on**

**Emerging Food Safety Issues**  
Rome, Italy

**21 : International Day of Peace**  
**23 : UN Climate Summit**  
New York, US

## OCTOBER

**3 : World Habitat Day**  
**11 : International Day of the Girl Child**  
**13 : International Day for Natural Disaster Reduction**



**14-15 : Workshop on Environmental Services in the 21st Century: Challenges and Opportunities for Sustainability – Asia-Pacific Economic Cooperation**  
Kuala Lumpur, Malaysia  
**16 : World Food Day**  
**17 : International Day for the Eradication of Poverty**



PHOTOGRAPH: MOHAMMAD RAKIBUL HASAN

## SPOILED EARTH

**IN THIS LOW**, flat land, climate threats are leaving their mark. Most of Bangladesh is less than 5 meters above sea level, making floods a constant threat. In a bad year, most of the country can be inundated.

The surging waters bring danger, disease—and salt. At coastal lowlands, salinity is a growing problem as rising sea levels push saltwater further up rivers into groundwater aquifers.

Frequent tropical storms drench once fertile soil in saltwater, rendering it barren. Often the ruined ground yields only stray logs to burn as fuel. Children, like this girl in the southwest Satkhira District, dig for hours to find them.

Bangladesh's geography exposes it to climate threats. Located at the delta of three of the world's largest rivers, the Brahmaputra, Ganges, and Meghna, it is vulnerable to higher rainfall and sea levels. Storm surges can rise 7 meters, amplified by the Bay of

Bengal, which funnels water into Bangladesh as it narrows towards the north.

The water eventually recedes, but the salt remains. Factors other than climate change—like natural sedimentation and reduced flows in the Ganges—may be causing higher salinity in southwest Bangladesh. But the Government of Bangladesh expects climate change to make matters worse. Lower freshwater supplies, health problems from drinking saline water, reduced crop yields, unsustainable rural livelihoods and mass migration to city slums all loom as serious threats.

“All of these changes threaten the food security, livelihoods, and health of the poor,” says the Government's Climate Change Strategy and Action Plan. Large investments have been made in climate resilience. The timing and severity of climate impacts may be uncertain, notes the strategy, but “the directions of change are clear.”



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