The Impossible Dream?

A Better World for Everyone


Helping disaster victims


Preserving sea life


WFP / PETER SMERDON

The world's most vulnerable people


Providing safe water


Fish stocks under threat


Protecting Malawi's farmlands


Rebuilding Juba Port, South Sudan


Protecting the world's mangroves


Boosting Afghanistan's rice production


WFP / SVEN TORFINN

Praying for rain

The Impossible Dream?
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Rio : Twenty Years Later

It was hailed at the time as "one of the great achievements of agricultural science in the 20th century"—a decades long project to turn what early Portuguese settlers called the campos cerrados or the closed quarter into a vast agricultural breadbasket.

Today that stretch of Brazil's tropical savannah more than five times larger than mainland Japan yields vast harvests of soybeans, corn, coffee, rice, cassava, sugar and other crops. The late Norman E. Borlaug, the so-called father of the green revolution which is credited with saving hundreds of millions of poor people in the last century, called the 1970s project one which "transformed a wasteland into one of the most productive agricultural areas in the world."

Japan provided vital technical and financial assistance to help the Brazilians and those two countries have now teamed up to try to perform another 'agricultural miracle' – this time in the southern African nation of Mozambique. That country ranks as one of the world's poorest but it has the potential to emulate Brazil to become another agricultural cornucopia in a region where millions of people still go to bed each night hungry.

Both the earlier and current projects are major examples of what the international community calls in official parlance 'sustainable development'—a global movement to help not only poor nations but even rich countries to improve the economic and social lives of their peoples in a manner which can also preserve and protect the world's natural resources—its lands, rivers, environment and eco-systems.

This particular collaboration ticks other key boxes in what is considered by scientists and experts as the best way forward in saving the earth and its resources.

In the immediate aftermath of World War II Japan itself was a recipient of international assistance. By the 1990s it had become the world's biggest single development donor.

Brazil and other nations such as China and India, are now emerging as new donors on the international scene and Akihiko Tanaka, the recently appointed president of the Japan International Cooperation Agency (JICA) said in an interview (*see page 8-9*) that their role and closer ties to them by his own agency were "key… (because) without them the world will not be able to achieve sustained economic and social growth."

The project in Mozambique falls into the categories of both south-south cooperation directly between emerging nations and triangular cooperation between a traditional donor such as Japan, an emerging donor country and a developing nation.

In the Beginning

Twenty years ago as the world began to realize planet earth might be in crisis and that international rather than individual national initiatives were needed to meet the challenge the U.N. convened

(Continued on page 6)

A Clean Energy Future?

It is an extraordinary landscape. Giraffe and zebra roam a series of hills which are criss-crossed by a network of large beige pipelines. Clouds of white-hot steam erupt from the ground near rows of greenhouses growing roses and other flowers which will be on sale in Europe within days.

Engineer Cyrus W. Karingithi from the Kenya Electricity Generation Company calls this bizarre scene "Kenya's wonderful goldmine." It is not exactly a goldmine but the 300 square kilometer area in Africa's great Rift Valley may be equally valuable.

The so-called Olkaria field is Africa's first and currently largest geo-thermal site which provides Kenya with 12% of its energy needs. But, aided by a US$ 323 million loan from JICA, it is quickly expanding and within six years will provide this resource-starved nation with 49% of its energy.

Kenya's inexhaustible 'goldmine'

The geo-thermal program, JICA's largest project in Kenya, is an almost perfect 'sustainable' development scheme.

Some 160 wells pump steaming hot water from depths of 3,000 meters to the surface. The steam is channeled into power plants, turned into electricity and fed into the national grid. Surplus water is then channeled back into the earth, topping up the bubbling underground lakes and providing a virtually inexhaustible future power supply.

Geo-thermal energy is cheaper to produce than most other energy sources and is climate friendly. Once the field's development began the surrounding countryside was gazetted as a national park, protecting the environment, encouraging tourism and even feeding the nearby flower plantations which have become major exporters for Kenya.

More sites are being explored, not only in Kenya but in other resource-light countries up and down the Rift Valley which stretches from southern Africa into Arabia.

Africa's largest windfarm

The use of clean and cheap energy sources is key to global efforts to achieve sustainable development and JICA is active across the globe in promoting projects.

It has been heavily involved for years in helping Indonesia develop and exploit some of the world's largest geo-thermal reserves.

Wind power is being exploited in Egypt where JICA and other international organizations established Africa's largest wind farm.

If those are multi-million dollar mega projects, they are complimented by small-scale, community friendly initiatives such as establishing solar systems to bring power and light to isolated villages and helping build more efficient wood-burning village stoves which are environmentally friendly and help preserve endangered forests.

Clean and cheap energy is key to global efforts to achieve sustainable development.

Exploiting Indonesia's geo-thermal resources

The Impossible Dream?

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its first Earth summit in the Brazilian city of Rio de Janeiro with the aim of 'putting sustainable development as a top priority on the agenda of the U.N. and the international community."

In the intervening two decades innumerable meetings at all levels were held, resolutions passed, individual and collective agreements and projects launched.

In June virtually all of the world's nations and anyone interested in development—thousands of diplomats, government officials, experts, non-governmental organizations, donors, civic societies, supporters and hecklers—gathered again in the seaside city for what was labeled the Rio + 20 conference.

The meeting had several aims: to secure renewed political commitment to sustainable global development, assess progress or spotlight failures during the preceding two decades and address new and emerging challenges.

Practical aims were to promote a so-called global 'green economy' within the framework of sustainable development, continue to work toward widespread poverty eradication and the construction of a strong international framework to ensure a vigorous and successful global response.

"I have no illusions about international conferences," JICA President Tanaka said in his recent interview. "The world remains full of mutually jealous sovereign states, but these meetings are still very important stepping stones. Rio gives JICA (Japan's major development agency) a chance to assess our earlier contributions to global sustainability and then to help formulate measures and approaches which the leaders of the world can then utilize going forward."

The world faces a dizzying array of formidable challenges—a burgeoning global population, food, water, and energy crises, dozens of ongoing conflicts, widespread poverty in some areas of the world, social, economic and gender inequality, environmental degradation and climate change.

Exploding Population

At the first Rio summit in 1992 the world population was an estimated 5.48 billion, according to the United Nations. By 2030 it will reach 8.2 billion.

Even though the poor already spend 70% of their available income on food, around one billion people still go to bed each evening hungry. Malnutrition helps cause the death of five million children under the age of five each year, the majority of them in southern Africa.

Developing countries receive the brunt of climate related disasters such as flooding, drought and earthquake, 98% of an estimated 262 million annual victims living in poorer nations.

The environment and biodiversity is under threat everywhere. More than 50% of the world's marine fishery resources are already fully exploited. Forests are being lost at the rate of 5.2 million hectares annually and 75% of the genetic diversity of crops has been lost since 1900.

The lack of education and gender inequality are major drawbacks to sustainable progress. Women, for instance, produce about half the world's food but own only 2% of the land. The empowerment of women could raise their farm productivity by 20-30% and ultimately lift some 100-150 million people out of hunger, according to the U.N.

Japan and JICA, its major development implementing agency, have modified their policies and projects over the years to meet these challenges. In 1989 the government announced a new Environmental Official Development Assistance (ODA) Policy for the first time and JICA opened an environmental section at its Tokyo headquarters.

The ODA charter was revised in 2003 to emphasize 'sustainable growth' as a priority issue. The government further announced a Cool Earth Partnership to address global warming in 2008 and JICA established an office for climate change.

Japanese Blueprint

Going forward, Japan has proposed the development of a new international strategy based on the overall aim of establishing a global green economy and has highlighted nine areas for particular attention:

Protecting global biodiversity; reducing disaster risk in developing countries, including applying many of the lessons learned following the March 2011 earthquake which devastated northern Japan; promoting renewable and clean energy sources; enhancing food and water security; developing a model 'city of the future'; strengthening education; more fully utilizing technological and green innovations and improving a global earth observation network (GEOSS).

JICA is already active in all of those fields and the majority of its projects underline 'sustainable' development.

To boost food security for the world's most endangered peoples, in addition to the triangular Mozambique-Brazil-JICA project, the agency's most ambitious food program in Africa is to help countries double their overall rice production by 2018 to 28 million tons annually (see page 10).

The ancient territory of Mesopotamia, current day Iraq, was the birthplace of modern agriculture and JICA is helping revive that sector in addition to the country's oil industry. Experts and financial support are assisting countries as far apart as Afghanistan and Timor L'este to Palestine and the Americas to strengthen their agriculture.

Many developing countries rely on fish as a major food staple and along the coasts of Africa, deep in the African hinterland, in Latin America and Asia JICA sustains and strengthens local fishing industries and communities.

In Kenya the expansion of a geo-thermal field underwritten by a US$323 million yen loan will provide that country with nearly half its energy needs within

(Continued on page 14)

Science to the Rescue

FROM THE AMAZON TO THE HIMALAYAS

Brazil : Amazon forest fires

NASA

Amazon : tracking carbon levels

The Amazon River basin is the world's most important ecosystem. Spread across 2.5 million square miles and nine nations, it contains around 50% of the world's rainforests, flora and fauna and two-thirds of the world's fresh water.

More importantly the Amazon acts as a giant external lung for the entire world, absorbing vast amounts of carbon dioxide, storing and recycling it to produce 20% of the world's oxygen needs. Without the Amazon, the world would effectively choke to death.

But scientists still do not know how this system truly functions.

A four-year, US$4 million project between JICA and Brazil's National Institute for Amazon Research (INPA) is trying to answer questions such as how much carbon the entire eco-system holds.

It is the most comprehensive project of its kind ever undertaken in the Amazon employing both the latest technology including satellites, radar, aircraft instrumentation and laser imaging and also simple 'leg power' to plot forest life.

Human monitors on foot have established more than 1,500 spots throughout the Amazon where they tally tree numbers, their measurements and the amount of carbon each contains.

The combined information will provide a comprehensive picture of how much carbon the entire basin contains and how much CO_2 is not being released into the atmosphere where it could fuel even further climate change and environmental degradation.

From the accumulated data scientists and governments will be able to more effectively tackle climate change and the preservation of global biodiversity.

In another scientific project the Japanese satellite ALOS Daichi has helped Brazilian authorities reduce the destruction of the Amazon, where one million hectares are being lost each year mainly to human encroachment, by beaming images back to earth of threatened regions, even during the rainy season when heavy clouds blanket the forests.

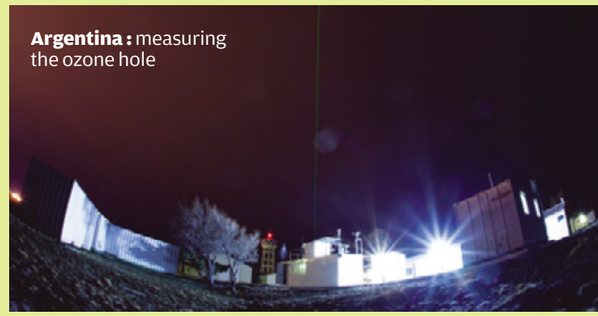
Such satellite monitoring can also help track climate change, agricultural production, the spread of disease and even infrastructure development such as the construction of new roads.

In the Andes and Himalayan mountain ranges JICA is cooperating with local experts to track the movements of the earth's glaciers which have serious implications for climate change and the future of local communities.

And at the very tip of Latin America Japanese and local experts for several years have tracked the so-called ozone hole, a tear in the earth's protective ozone layer. The ozone hole allows damaging high-energy radiation to freely bombard the earth beneath and can cause skin cancer, injure eyes, harm the human immune system and upset the balance of entire eco-systems.

JICA's recently installed president Akihiko Tanaka said he will encourage further scientific cooperation between Japanese and developing country scientists to seek solutions to today's challenges.

JICA's president will encourage closer cooperation between Japanese and developing countries' scientists.



Argentina : measuring the ozone hole

Searching for New, Innovative Ideas

In his first formal interview, JICA's new president, **Akihiko Tanaka**, *discusses the challenges facing the organization including the need for a more rigorous intellectual and scientific approach to development issues.*

Has it been difficult to make the transition from academia to the presidency of Japan's development agency?
For me personally it has been quite smooth. I have worked for many years in international affairs and following the end of the cold war, I wrote several books dealing with overall trends towards globalization, the relative decline of sovereign states and the increasing power of other stakeholders; problems facing some 'middle income' countries including the rise of nationalism; and the status of so-called fragile states facing or undergoing conflict. These are all problems which JICA confronts daily in its development work. Coming up with solutions will be the difficult part.

Give a couple of practical examples of translating theory into practical solutions.
Countries such as Afghanistan and South Sudan are among the 'fragile states' I mentioned. JICA is helping to create the foundations of stronger institutions to help them escape the traps of civil war, poverty and unstable governance. Middle income countries also face various 'traps' including continuing pockets of poverty and growing economic and social disparities between various segments of society. JICA's role here is to help build sustainable institutions not only in traditional areas such as health and education but also ecologically and environmentally.

JICA is already involved in many of these countries . How do you propose to push the agenda forward?
I would like to encourage my staff to develop new innovative approaches based on the broad outlines established by my predecessor, Madame Ogata, including the concept of 'inclusive and dynamic development' and an emphasis on 'human security'. That means not only ensuring state security, which is very important, but also strengthening the capacity and increased participation of communities and individuals in shaping their own future.

What are your immediate priorities?
As an academic perhaps I became too bookish. I need to rectify that, to expose myself to the real fields of development assistance and see whether my hypothetical assumptions fit with reality. I need to make a reality check.

Do your foresee any major changes in direction or emphasis for JICA?
Our current vision of 'inclusive and dynamic development' is the right one so we don't need to change that. Probably what I would like to establish on top of that foundation is a sort of higher architecture of innovative ideas, expanding the use of science and our cumulative experience.

What has been the impact of JICA's major 2008 reorganization when it integrated with part of the Japan Bank for International Cooperation (JBIC)?
For the first time JICA can now offer technical cooperation, grant aid and ODA (Official Development Assistance)/ concessional loans. Previously, looking at it from the outside, there were tendencies for these three different schemes to function separately without much concern for overall effectiveness. The challenge now is to integrate these different approaches creating innovative schemes to achieve the best mix of assistance.

You have said publicly the need to establish new intellectual frameworks. What do you mean by that?
JICA has accumulated decades of field, administrative and intellectual experience. We should exploit this vast 'knowledge bank' in helping to shape 'intellectual frameworks' at various levels, to guide JICA staff in their work and to influence the development debate at the global level. JICA cannot do everything under the sun and we will not dominate these discussions but we must be very active participants with traditional partners such as the World Bank. What JICA has already done can also be very useful to emerging donor nations such as China, South Korea, Thailand, India and Brazil.

Do you worry that the role of Japan and JICA has been undervalued or misunderstood?
Perhaps we Japanese are too accustomed to understatement. But in recent years there has been little academic study of Japan's ODA. I would like to encourage both Japanese and international researchers to analyze our work more thoroughly and we can then create new theories based on our past experiences and what has worked and what has not worked.

You are interested in the expanded application of science in development issues?
This is a very exciting and fascinating area for me, the engagement of academics in various scientific disciplines. The basic working assumption has always been that the developed world has the scientific knowledge and then it is a simple process of scientific transfer. I would like to see scientists from Japan and developing countries working closely together, exchanging ideas and developing appropriate programs based on mutual knowledge. The science and technology research partnership for sustainable development (SATREPS) launched by JICA in 2008 is one of the most promising approaches in this field.

The budget for Japan's Official Development Assistance has been falling for several years. What is the situation at the beginning of your presidency?
I hope that the annual reductions have bottomed out. My understanding is that the public's view about foreign assistance expressed in opinion polls has gone up slightly, particularly after the March 11, 2011 earthquake when quite a number of Japanese realized you cannot live in isolation. We must take into consideration Japan's current difficult financial situation but the 'bottoming out' process is very significant and I hope the government will now 'positively' increase the budget.

Ultimately the Japanese taxpayer will decide the future direction of ODA. How do you propose to convince them that foreign assistance is important?
Our regional centers throughout the country will increase their contacts with local communities. Each year we invite some 10,000 trainees from the developing world to Japan and this provides an excellent opportunity for both sides to get to know each other. We have sent more than 40,000 people overseas as JICA volunteers and when they return home they should interact with schools and local communities. Importantly, the over 65s will soon comprise one quarter of the country's population and they are the most active voters. Unless we can maintain their understanding and support, it will be difficult to persuade our MPs to increase the ODA budget.

What is the significance of the Rio + 20 conference on sustainable development? Will concrete results follow or will it prove simply to be a talking shop?
As a specialist in international politics I have no illusions about international conferences. The world remains full of mutually jealous sovereign states but these meetings are still very important. Rio gives JICA a chance to assess our earlier contributions to global sustainability and then to help formulate measures and approaches which the leaders of the world can then utilize going forward. JICA has already done a lot of good things, but frankly we have also been slow in rationalizing our efforts in a globally relevant way and helping to create those necessary intellectual frameworks for the future.

Africa remains the world's poorest continent but JICA has significantly increased its assistance in recent years. Will this trend continue?
I think so though globally our increased help has not been fully recognized. There are ongoing resource limitations but we need to give more importance to grant aid and technical cooperation, particularly in fragile states. At the same time there has been dynamic development in some regions, particularly southern Africa, and we could use more ODA loans for infrastructure development. We should also encourage regional rather than single country approaches where applicable.

China very publicly has increased its activities in Africa. Do you see this as an opportunity or a challenge for JICA's own role?.
Bluntly speaking, it is an opportunity. China is still in the process of learning. Africa has more needs than a single country or even groups of countries can satisfy. And so the more donors the better.

Can you foresee JICA working directly with China in Africa or other areas of the world?
I hope that will happen. Under Madame Ogata our staff have already established some contacts with the Chinese in Africa. I would like to increase communications there and on other occasions. Chinese aid agencies have already undergone various episodes which may or may not be good for China's reputation. And frankly Japan has also undergone some good and bad experiences. These are things we can discuss frankly not only with them but also with other emerging partners.

What will be the future role of not only China but other emerging donor countries such as Brazil, India, Thailand?
They will not only be key, but without them the world will not be able to achieve sustained economic and social growth. There may be some challenges of coordination, but definitely we need to work very closely with these countries.

Are you an optimist and what would you consider a 'success' at the end of your 3 ½-year tenure?
I am always cautiously optimistic. Success or failure will be whether I can motivate JICA's staff to a level of performance at least as high as now, or even to a much higher level. On the ground it will be a great achievement to help the development of the less developed countries in the Mekong region; create more joint collaborative efforts with African countries; and contribute to the development debate by shaping intellectual frameworks.

WFP / WAGDI OTHMAN

Africa : the ravages of hunger

Why Do Millions of People Still Go Hungry?

Around one billion people go to bed each night hungry. As many as five million children under the age of five die each year, partly as a result of malnutrition.

The world's poor people already spend 70% of their income on food and the situation is likely to get worse as the global population continues to explode. According to U.N. figures the world will need to raise food production by 60%-70% to meet this growing demand.

Many people in developing countries do not have what aid officials call 'food security' and disasters such as drought and ongoing conflict in the Horn of Africa can doom hundreds of thousands of people to death.

As a member of the Coalition for African Rice Development (CARD), JICA's single most ambitious food project in Africa is to help double the continent's rice production to 28 million tons a year by 2018.

This target will be achieved by introducing new strains of rice including Nerica or new rice for Africa, renovating irrigation systems, introducing new technologies and extension services and ongoing research.

In another major project JICA has teamed up with Brazil and the southern African nation of Mozambique to try to replicate Brazil's own 'agricultural miracle' which began in the 1970s and helped transform a huge swath of savannah into one of the world's largest breadbaskets. If similar results are realized, Mozambique could become another agricultural cornucopia.

Back in Brazil itself, with Japanese assistance, agro-forestry is booming in parts of the Amazon River basin.

There are a myriad of food projects of all descriptions in many of the nearly 150 countries in which JICA operates.

The ancient land of Mesopotamia was the cradle of modern farming. Japanese expertise is helping to rehabilitate the agricultural sector of what is today known as Iraq, which was massively damaged during years of recent conflict.

In Egypt JICA experts have helped form local farmers organizations and provided them with the expertise to significantly raise crop production.

Afghanistan is also what is officially known as a 'post-conflict' country and key to that nation's long-term recovery is the rehabilitation of its rice and overall agricultural sectors.

In the arid lands of Myanmar and in Palestinian refugee camps the poor, particularly women, have been introduced to micro-food projects such as growing mushrooms in their own homes as a way of enhancing family income.

Africa : doubling rice production

Palestine : a new agro-industrial park

In the Jordan Valley JICA is helping to construct an agro-industrial park which is expected not only to help local farmers export their produce but even play a role in improving relations between neighboring Israelis, Palestinians and Jordanians.

Millions of people rely on fish as a staple and along large areas of the African coast and deep in the African heartland JICA has helped improve local fishing production. On the West Coast of Latin America it helped establish a salmon industry from scratch in Chile and both local consumption and exports are now booming.

Growing more food, however, is only one answer to the food security dilemma. Related JICA projects have been designed to improve food storage in rural areas, strengthening extension services, providing better management, administration and marketing skills and improving infrastructure and access to markets.

There are food projects in many of the nearly 150 countries in which JICA operates.

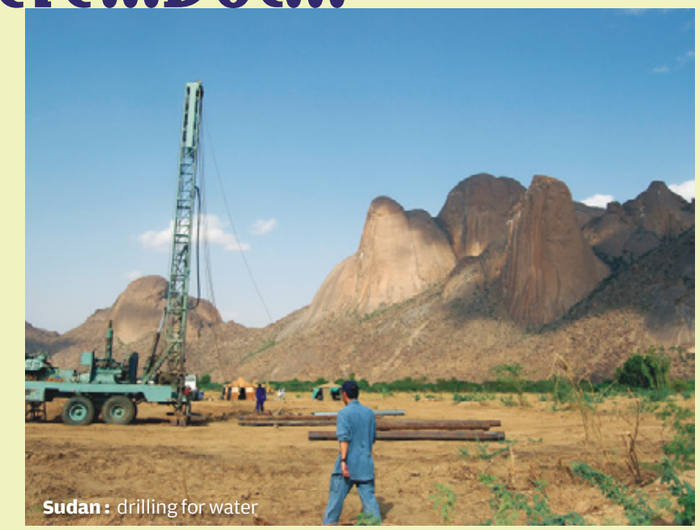
Water, Water Everywhere...But...

Water is the most basic and precious natural resource of all.

Yet, though there is more than enough water available worldwide to meet global needs, the lives of hundreds of millions of people are blighted by the lack of access to the precious liquid.

The U.N. estimates that 1.1 billion people do not have access to safe drinking water, 2.5 billion live without basic sanitation and every 20 seconds a child dies because of this problem, a total of 1.6 million per year.

The situation is expected to get worse and within the next few years two-thirds of the world's population will be living 'under stress conditions' caused by water shortages, likely prompting social degradation, political turmoil and conflict as in today's Darfur region of Sudan.



Sudan : drilling for water

Why people in North America and Japan use 350 litres of water a day and nearly half the world's population survive on as little as 10 litres is caused by a variety of reasons: a burgeoning global population, the uneven geographical distribution of water supplies, poverty, increasing demands of agriculture and industry and climate change.

Tackling the problem is a major priority for Japan. Cumulatively Tokyo has allocated $31.46 billion in soft loans, $4.56 billion in grant aid and $2.17 billion in technical assistance for water projects in four main areas: providing safe and stable water supplies, enhancing flood control to protect lives, conserving the water environment and promoting integrated water resource management.

Jordan : providing fresh water

Mali : protecting the inner Niger delta

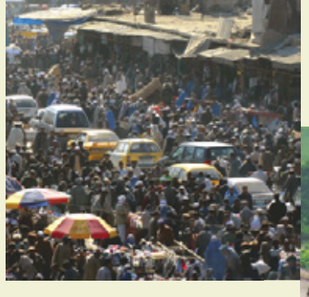
In the arid regions of Myanmar, in the desert wastes of northern Sudan, in Bolivia's Andes mountains and other areas around the world, JICA has helped drill boreholes, shallow wells, storage facilities and water research centers to help bring safe water to some of the world's most isolated and vulnerable communities.

Perhaps more than any other country, Egypt has famously relied on only one source for its very survival since the earliest recorded history: the River Nile.

JICA has worked for many years on both large and small projects in the Middle Eastern country, helping to rehabilitate major dams but also establishing local farmers associations to oversee the use of water in some of the most intensively cultivated land on earth.

Agriculture accounts for 70% of all fresh water consumption and in Egypt and other places such as Timor L'Este, Sri Lanka, Palestine and Africa a major priority has been to rehabilitate or build more efficient irrigation systems which typically can double the crop yield with less water.

And as the world's population moves rapidly to urban areas JICA has provided funding and technical assistance to upgrade Cambodia's water system, including the capital, Phnom Penh, helped double the supply of water to the Jordanian capital, Amman, and provided community water facilities in Lusaka, Zambia.



Cities are being overwhelmed worldwide. Kabul, Afghanistan's capital

A GLOBAL RUSH TO THE CITIES

Fifty years ago 85% of Africa's population lived in rural communities. Recently the continent passed one historic landmark when, for the first time in history, the population reached one billion, and in the next few years it will reach another milestone when more Africans will live in towns and cities than on farms.

By the middle of this century East Asian countries will account for around 50% of all global greenhouse gas emissions, reflecting this 'rush to the cities.'

The United Nations estimates that within the next 20 years, 60% of the world's entire population, which is headed towards eight billion people, will live in an urban setting.

The biggest migration in history will affect every aspect of everyday life: how we grow our food and what we eat; harnessing diminishing water supplies; education, healthcare, job creation, shelter, climate change and the environment.

Japan has outlined nine proposals to achieve sustainable development and one of them is trying to create a model for the 'future city—a place everyone wants to live in.'

Cities in developing countries, old ones such as the Vietnamese capital of Hanoi which celebrated its 1,000-anniversary in 2010, Kabul, the capital of Afghanistan, and new ones such as Juba, the capital of the world's newest nation, South Sudan, lack the infrastructure or other facilities and personnel to adequately meet this challenge.

In Hanoi and Vietnam's commercial capital, Ho Chi Minh City, JICA helped build or rehabilitate major hospitals, constructed a road tunnel under the Saigon river and financed construction of roads, bridges, airport facilities, power, water and sanitation plants.

Japanese experts worked for several years on a comprehensive blueprint for the Kabul Metropolitan Area, drawing up a master plan to create satellite townships and business areas which will more than double the size of the capital to around 1,000 square kilometers.

To help ease nightmare urban congestion and pollution scenarios the agency helped finance rapid transit and underground rail systems in cities ranging from Bangkok to Cairo and including the mega Indian cities of Delhi, Bangalore, Kolkata and Chennai.

Juba was virtually a ghost town only a few years ago during a seemingly unending civil war but today it is one of Africa's fastest growing cities and JICA has built a vital River Nile port, hospitals and basic infrastructure.

Following another prolonged war on the western coast of Africa, it helped rebuild the major power plant for Freetown, the capital of Sierra Leone.

Less eye-catching projects have included improving garbage collection systems, building schools, vocational centers, local clinics and even public toilets as well as training thousands of administrative and expert personnel.

Rebuilding Hanoi's infrastructure

There is some good news, however. Though cities face daunting challenges, U.N. Habitat, the UN agency which monitors the world's built environment, reported that "Urbanization has (also) been associated with improved human development, rising resources and better living standards." But progress will require "well devised public policies that steer demographic growth, create urban economies and ensure equitable distribution of wealth."

How to Get Rid of Your Garbage

It is one of the most unsavory aspects of progress—garbage, rubbish or, in official parlance, solid waste.

Beyond the palm-fringed beaches of many Pacific islands which tourists routinely describe as 'paradise' lie increasing mountains of moldering garbage.

In the world's newest capital city, Juba in South Sudan, it is virtually impossible to reach the city's only garbage dump, because the route is blocked by garbage.

When a devastating earthquake struck northern Japan in 2011 entire homes, ships, bicycles, refrigerators and other flotsam were swept to sea, swirled into what is now commonly referred to as the 'biggest garbage dump in the world' in the northern Pacific Ocean and now beginning to drift ashore in north America.

It is estimated that there are one billion vehicles worldwide and 30 million are junked annually.

It is impossible to accurately quantify the amount of garbage generated annually, but the Organization for Economic Cooperation and Development (OECD) in 2001 estimated its member countries alone were responsible for four billion tonnes.

Waste carries enormous environmental, economic and social costs. It can breed disease, poison water supplies and entire eco-systems, cause widespread pollution and stunt social and industrial progress.

The most affected are often the most vulnerable groups in society, the populations of developing countries, minorities and women.

And though there has been growing awareness that solving the 'garbage crisis' goes hand in hand with overall sustainable progress, it is the developing countries which have the fewest financial and personnel resources to tackle the problem which is often ignored or given low priority.

The problem for the Pacific islands is that many are so small they simply have no place or method to get rid of increasing amounts of garbage. JICA has introduced training courses and a concept known as the three Rs—reduce, re-use and recycle. The latter is often impractical in such surroundings and the agency has concentrated on 'reduce and re-use.'

The same three Rs principle has been introduced in several districts of Vietnam's capital, Hanoi, with impressive results in waste reduction.

In Juba and other African cities such as Kenya's capital, Nairobi, JICA and Japanese experts work with government and local agencies to introduce more efficient 'solid waste' management systems and improved facilities such as new dump sites.

Nairobi's garbage dump

JICA annually invites some 12,000 participants from developing countries to attend a variety of training courses as part of a program which has been described as the biggest of its kind in the world.

Some deal with the problem of waste management. In the eco-model city of Kitakyushu participants are shown ways of turning organic waste into compost and fertilizer.

And in another program, trainees are familiarized with the latest vehicle recycling technology with which Japan has achieved one of the world's most efficient recycling programs with a rate of 95%.

Developing countries have the fewest financial and personnel resources to tackle the problem.

The Impossible Dream?

A Better World for Everyone

(Continued from page 6)

six years. The agency has also helped Indonesia, which has the world's second-largest geo-thermal potential (see page 4).

On Egypt's Red Sea coast JICA has participated in the construction of Africa's largest wind farm but on an individual level has also helped install solar panels in isolated African villages.

Perhaps more than any other country, Egypt famously relies on just one water supply, the River Nile, for its very survival. For years JICA has been helping to more effectively harness this precious but exhaustible supply by rehabilitating vast dams or helping individual farmer organizations to more efficiently water their fields.

In the arid regions of Myanmar and the desert wastes of Sudan boreholes and wells have been sunk. Hundreds of millions of people, particularly in rapidly expanding urban areas, have no access to regular and safe water and from Cambodia and Vietnam to Jordan and Bolivia pipelines, boreholes and water systems have been established to meet their needs.

Coping with Disaster

JICA independently and through the Japan Disaster Relief (JDR) system for years has helped nations and victims of natural disasters, offering first emergency supplies and then follow-up assistance.

In the last 10 years it implemented a series of disaster prevention projects costing 41.57 billion yen in 132 countries. Grant aid projects totaling a further 33.3 billion yen were implemented in 23 countries including procurement of weather reader systems, construction of emergency evacuation centers and rehabilitation of basic infrastructure such as schools, hospitals and water supply facilities. In a particularly poignant footnote to its own earthquake-tsunami disaster in 2011, the agency said it will strengthen its efforts by applying 'lessons learned' in its aftermath (see article below).

Education and gender equality figure prominently in promoting sustainability in any society. When the Taliban government fell in Afghanistan at the start of the millennium, Japan and JICA rebuilt hundred of schools and helped untold numbers of young children, particularly girls and the disadvantaged to return to the classroom. In Africa, one project which was born in Kenya has spread to 33 countries, its aim being to improve the levels of science and mathematics in junior school. At the other end of the learning curve JICA and Egypt established the Egypt-Japan University of Science and Technology, which officials hope will eventually become one of the world's best seats of higher education.

Rush to the Cities

A growing crisis is the world's rush to the cities and attendant problems—food, shelter, clean water supplies, energy, transport and the problem of what to do with literal mountains of garbage.

A half century ago 85% of Africa's population lived in rural communities. With its population now more than one billion, within the next few years more Africans will live in towns and cities than on farms. By the year 2050 burgeoning East Asian cities alone will account for 50% of global greenhouse gas emissions.

In India JICA has provided financial assistance to help construct rapid transit systems in the capital, Delhi, in Bangalore and Chennai as well as other global centers such as Hanoi, Ho Chi Minh City and Bangkok. It has helped improve safe water supplies to places as far apart as Amman, Jordan, Cambodia and Papua New Guinea.

In Africa's newest nation, South Sudan, in Kenya, in the Vietnam capital of Hanoi and on the palm fringed 'paradise' islands of the Pacific a variety of programs were introduced to tackle what officials term 'solid waste' –building new dump sites, establishing citywide garbage collection systems, turning rubbish into valuable compost and the introduction of the three Rs—reduce, re-use, recycle.

Japan annually invites some 20,000 participants from developing countries to participate in around 1,300 training courses including helping to preserve the world's dwindling forests, mangroves and coral. One innovative program teaches how best to recycle the estimated 30 million vehicles which are junked worldwide each year.

Incoming JICA President Tanaka said he is 'excited and fascinated' by the further use of science and expanding collaboration between Japanese and developing world scientists to solve some of these challenges.

Brazil and Japan are already involved in a four-year US$4 million project to probe the secrets of the Amazon River basin to answer such outstanding question as how much carbon the forest cycles. The Amazon is the world's most important single ecosystem and the data will allow governments to tackle climate change and protect biodiversity. At the very tip of South America Japanese and local scientists have worked for years to track the effects of the notorious 'ozone hole' in the earth's protective ozone layer. And from the Andes to the Himalayas other scientists continue to plot the future of the world's glaciers.

The Rio summit was the latest in a series of international efforts to better understand and coordinate a global response to old and new challenges. Another U.N. initiative, the so-called Millennium Development Goals (MDGs) covers similar ground with eight defined targets including: eradicating poverty and hunger, universal primary education, gender equality, child mortality, maternal health, HIV/AIDS diseases, the environment and global partnership.

The end of the MDG project is 2015, but JICA and Japan have already begun work to incorporate the results of the Rio process in new, post-2015 initiatives to achieve the aim of U.N. Secretary General Ban Ki-moon to "eradicate poverty and reduce inequality, to make growth inclusive and production and consumption more sustainable, while combating climate change and respecting a range of other planetary boundaries."

Battling EARTHQUAKES, TSUNAMIS, FLOODS AND DROUGHT

Japan's involvement in global humanitarian assistance began modestly when a small medical team was sent to help Cambodian refugees in the late 1970s.

In the intervening decades helping countries to anticipate crises, providing emergency relief in the immediate aftermath of disaster and then rebuilding both communities and infrastructure have become a major component of Japan's foreign assistance.

In the wake of the country's own natural catastrophe when around 20,000 people were killed or remain missing following the 2011 earthquake and tsunami JICA said it will apply the 'lessons learned' there to reinforce efforts to help countries around the world in their most dire moment of need.

The U.N. estimates 200 million people annually suffer through earthquakes, tsunamis, volcanic eruptions and severe drought.

When disaster strikes JICA immediately sends emergency assistance such as food, tents, blankets and generators across the globe.

As part of the Japan Disaster Relief system the agency and other organizations also dispatch doctors, nurses and rescuers to some of the world's chaotic hot spots.

But JICA's work in disaster management often begins before catastrophe strikes. It has developed early warning systems in disaster-prone countries, built sea walls against rising waters, developed tremor-resistant homes, hospitals and schools and educated groups ranging from school children to key administrators, rescue officials and medical staff.

Its work is equally important in the aftermath of catastrophe.

When massive flooding swept parts of Thailand in 2011 JICA sent emergency supplies. It then dispatched survey teams and experts to help drain the floods waters and to protect or restore basic infrastructure such as water utilities, the Bangkok airport and the underground railway, sections of which the agency originally helped build.

After Pakistan's 2005 earthquake killed an estimated 75,000 people JICA provided emergency assistance, helped draw up a plan for the rebuilding of the destroyed city of Muzaffarabad, strengthened the National Disaster Management Authority and helped rebuild schools, hospitals and other buildings able to resist future tremors.

In Central America and the Caribbean, another region prone to natural disasters, the agency undertook a 5-year plan in the early years of the millennium to develop seismic- resistant buildings for low income families after 12% of El Salvador's homes were destroyed by natural disaster.

In the last 10 years alone JICA implemented soft loan, grant aid and technical assistance projects totaling around 74 billion yen in some 132 countries.

Masato Watanabe, vice president of JICA's general affairs department, described Japan's own earthquake experience as part of a circular transfer of knowledge which will help both developing countries and advanced nations to cope with future disaster.

"The lessons we learned during our own (World War II) postwar construction we passed on to developing countries," he said recently. "Now we have to use the knowledge and experience we have gained by working in those countries for reconstruction of the Tohoku (northeastern Japan) region. And then we will use that experience as further examples to be applied in developing countries again. We are all becoming mutually dependent across the world." ■

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The Japan International Cooperation Agency (JICA) is the world's largest bilateral development organization, operating in some 150 countries to help some of the globe's most vulnerable people.