



**LEAVES, A Newsletter of the INTERNATIONAL
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the environment and sustainable development

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From the Editor, Request for information for upcoming newsletters

This newsletter is an opportunity for IEF members to share their experiences, activities, and initiatives that are taking place at the community level on environment, climate change and sustainability. All members are welcome to contribute information about related activities, upcoming conferences, news from like-minded organizations, recommended websites, book reviews, etc. Please send information to newsletter@ief.org

Please share the *Leaves* newsletter and IEF membership information with family, friends, and associates and encourage interested persons to consider becoming a member of the IEF.

African leaders tackle environmental goals



<http://news.bahai.org/story/1177>

A rainforest in Gabon, the host country of the African Ministerial Conference on the Environment, which took place from 10–11 June 2017 in Libreville, the capital city (photo published on the UNEP website, copyright Alex Rouvin)

LIBREVILLE, Gabon, 27 June 2017, (BWNS) — When addressing issues of climate change, we need to adopt a holistic perspective, said the Baha'i International Community at a recent meeting on the environment that convened leaders in Africa.

"We have to look at the spiritual and material dimensions. How do we live with nature harmoniously?" asked Solomon Belay, Representative of the BIC Office in Addis Ababa. "We need a coherent view of environmental issues and a plan based on that."

The meeting in Gabon from 10–11 June 2017 brought together around 45 representatives from United Nations Environmental Programme (UNEP), the PanAfrican Climate Justice Alliance, African Union Commission, the African Ministerial Conference on the Environment (AMCEN), and the Pan-African Parliamentarian's Network on Climate Change, among others.

The BIC has been engaged in a conversation with UNEP about the contribution faith-based organizations can make to the UN's environmental goals, and this month's meeting was an opportunity for African leaders to build consensus around environmental issues in preparation for the third meeting of the UN Environmental Assembly at the end of the year.

Participants at the seminar in Gabon discussed innovative environmental solutions that would accelerate the implementation of the UN's sustainable development goals in Africa. While this meeting signals yet another advance in efforts to protect the environment, the conversation on the environment still remains relatively fragmented, said Dr. Belay.



The Regional Consultation meeting for Africa Major Groups and Stakeholders from 10-11 June 2017 in Libreville, Gabon. BIC Representative Solomon Belay is sitting 3rd from the left.

“The spiritual dimension is almost completely missing,” he commented.

At the meeting, the BIC Office shared its statement, “Shared Vision, Shared Volition: Choosing Our Global Future Together,” which was originally prepared for COP21, the UN Conference on Climate Change, in December 2015.

(See <https://www.bic.org/statements/shared-vision-shared-volition-choosing-our-global-future-together>)

“Our relationship with nature should be examined at all levels,” said Dr. Belay, drawing attention to portions of the statement that call to individuals, institutions in society, and the community as a whole to embrace responsibility for change.

“Establishing sustainable patterns of individual and collective life will require not only new technologies, but also a new consciousness in human beings, including a new conception of ourselves and our place in the world,” the statement reads.

Following June’s meeting in Gabon, there are plans to hold another gathering with a greater emphasis on the contribution of faith-based organizations to environmental issues.

Challenges of Rural Sustainability in France



14 July 2017 by Arthur Dahl

On 7-9 July, Arthur Dahl participated in a meeting of the Triglav Circle (<http://www.triglavcircleonline.org/>), which met in the Nièvre Department in the Burgundy (Bourgogne) Region of central France. The Triglav Circle was founded after the 1995 UN Social Summit in Copenhagen by its Secretary-General, Jacques Baudot, and his wife Barbara, to continue the discussion of social issues and sustainability, particularly from an ethical and religious perspective. Over the years it has involved many leading thinkers and theologians, and contributes to UN processes. Participants in the circle this year included a former Secretary-General of the World Council of Churches from Germany and his wife, a retired American professor of economics, a state official dealing with information technologies, a French economist, and a Dutch development specialist, among others.

The theme this year was Rurality, and the local participants included a farm couple and their son who will inherit the farm, a beekeeper, the local priest, a retired Prefect (French Government official) now involved in local associations, the mayor of a village of 27 residents, a local land owner with a chateau and land titles going back over 500 years, the local leader of a farmers union, and other representatives of rural France. The Nièvre is one of the most rural departments in France, and suffers from depopulation and declining services as young people move away. You can see photos at <http://www.yabaha.net/dahl/travel/t2017/Nievre/Triglav.html>.

In its discussions of rurality, the Triglav Circle explored many challenges to French agriculture which present an excellent case study of the multiple dimensions of sustainability. The government has professionalized the field, so that only someone with degrees in agriculture can take over a farm. The long hours of work are not compensated financially, and regulations are increasingly complex, requiring lots of paperwork. The prices for farm products decline continuously from the pressure of cheap imports from countries with lower labour and environmental standards, and from supermarket chains that want to lower prices and increase profit margins, so only the middlemen really profit from agriculture today. Up to 40% of revenues come from European Union subsidies, but if a farm is too small it does not qualify. A single family can succeed with a farm of 240 hectares, but becoming much larger will lead to bankruptcy from extra charges. It costs at least 400,000 euros to buy and equip a farm, which is beyond the reach of young farmers, and it takes many years to pay off the loans and begin to make a modest income. When a farmer retires, it is often impossible to find someone to take over the farm, and it is usually bought up by a big agrobusiness trying to build a monopoly position.

One case was cited of a farmer who earned a reasonable living without any subsidies, with small scale organic production respecting the soil and the animals, sold to a local circle of regular consumers without middlemen, preparing all his products himself. This would seem like an ideal for sustainability, but he could only do this by ignoring all government regulations. If he sent his animals to a slaughterhouse as the law required, he would have no control over the welfare of the animals or the preparation of the final products after they left his farm.

For years, the French government has encouraged industrial-scale farming under the pressure of agricultural lobbies, and regulated against any alternatives, complemented by European Union legislation that, while in the common interest, often has negative side effects. Only government-approved commercial seeds can be sold. Farms with less than 10 cows cannot receive subsidies. There is a rigidity in the system that discourages innovation.

The discussion explored alternative agricultural models and diversified sources of income, as well as the important social dimensions of rural communities that need to be maintained. There were not enough children to keep schools open, or patients to support health services. The Catholic priest, of Flemish origin, was now servicing 40 parishes, and his replacement on retirement was coming from India. Internet coverage would need to be subsidized, since the density was too low to support commercial services, yet without it, new residents could not be attracted to the region. Public transport was also a problem. Artisans and small businesses were closing as unprofitable, in a downward spiral of economic activity. Forestry was important in the region, but most logs were sent elsewhere for processing. There was potential to attract second homes and retirees, but only if essential services were available. It was clear that only an integrated approach treating many problems simultaneously could turn the situation around.

China's Religious Revival Fuels Environmental Activism

July 12, 2017, By Javier C. Hernández, New York Times

<https://mobile.nytimes.com/2017/07/12/world/asia/mao-mountain-china-religion-environment.html>

MAO MOUNTAIN, China — Far from the smog-belching power plants of nearby cities, on a hillside covered in solar panels and blossoming magnolias, Yang Shihua speaks of the need for a revolution.

Mr. Yang, the abbot of Mao Mountain, a sacred Taoist site in eastern China, has grown frustrated by indifference to a crippling pollution crisis that has left the land barren and the sky a haunting gray. So he has set out to spur action through religion, building a \$17.7 million eco-friendly temple and citing 2,000-year-old texts to rail against waste and pollution.

“China doesn’t lack money — it lacks a reverence for the environment,” Abbot Yang said. “Our morals are in decline and our beliefs have been lost.”

Hundreds of millions of people in China have in recent years turned to religions like Taoism, Buddhism, Christianity and Islam, seeking a sense of purpose and an escape from China’s consumerist culture.

Now the nation’s religious revival is helping fuel an environmental awakening.

Spiritual leaders are invoking concepts like karma and sin in deriding the excesses of economic development. Religious followers are starting social service organizations to serve as watchdogs against polluters. Advocates are citing their faith to protest plans to build factories and power plants near their homes.

“Certainly it is a very powerful force,” said Martin Palmer, the secretary general of the Alliance of Religions and Conservation, a group that works with Chinese spiritual leaders. “People are asking, ‘How do you make sense of your life?’ An awful lot are looking for something bigger than themselves, and that is increasingly the environment.”

The Chinese government, which regulates worship and limits activism, has so far tolerated the rise of religious environmentalists.

President Xi Jinping has championed the study of Chinese traditions, including Taoism and Confucianism, in part to counter the influence of Western ideas in Chinese society. Mr. Xi, in articulating the so-called Chinese dream, has called for a return to China’s roots as an “ecological civilization” — a vision he has described as having

“clear waters and green mountains” across the land.

Mao Mountain, with its stretches of untouched land, stands as a monument to nature. Chongxi Wanshou, Abbot Yang’s eco-friendly temple, opened in August 2016. Its 20 acres include an organic vegetable garden. Nearby is a giant statue of Lao-tzu, the founder of Taoism, who is worshiped here as a “green god.” Bees’ nests hang undisturbed, and signs remind passers-by that branches and trees are synonymous with life.

The mountain’s spiritual leaders say they are seeking to define a distinctly Chinese type of environmentalism, one that emphasizes harmony with nature instead of Western notions of “saving the earth.”

Xuan Jing, a Taoist monk with a black beard, said Western notions of the environment were focused on treating symptoms of a problem, not the underlying disease.

“You must cure the soul before you can cure the symptoms,” he said. “The root lies with human’s desires.”

As he sipped tea, he jotted down Taoist teachings: “Humans follow the earth, the earth follows heaven, heaven follows Taoism, Taoism follows nature.”

Many spiritual leaders are also energized by what they see as an opportunity for China to become a global leader on environmental issues, with the United States showing new skepticism toward causes like combating climate change.

“We all live on earth together — we are not isolated,” Abbot Yang said in criticizing President Trump’s decision to withdraw from the Paris climate accord. “As Taoists, we have to work to influence people in China and overseas to take part in ecological protection.”

Environmentalism is infusing other religions in China as well, inspiring Buddhists, Christians and Muslims to take action.

In Nanjing, the capital of Jiangsu Province, about an hour from Mao Mountain, Li Yaodong, 77, a retired government worker and a Buddhist, is the founder of a nonprofit called Mochou, or “free of worries,” dedicated to cleaning up polluted lakes.

Mr. Li said that he saw parallels between his faith and protecting the environment. He leads by

example, wearing secondhand clothes given to him by his children and collecting used staples to send back to factories.

“From an environmental protection perspective, saving means reducing carbon emissions,” he said. “From a Buddhist perspective, it means accumulating merits and doing good deeds.”

Muslims and Christians are also speaking up on environmental issues, drawing on their faith to galvanize the masses. China is home to more than 60 million Christians and more than 20 million Muslims by some estimates.

Shen Zhanqing, a pastor who works for the Amity Foundation, a Christian charity, said many church members felt inspired by religion to help protect the environment. The foundation has held study groups on issues like reducing carbon emissions and climate change, and it encourages members to take buses to church.

“The decadence of human beings has destroyed the environment in China,” Pastor Shen said. “Our purpose is to protect God’s creation.”

At Mao Mountain, the monks gather each morning to read ancient texts and to write calligraphy next to the trees and stones. Hundreds of visitors climb the stairs each day to pay respect to Lao-tzu. To limit pollution, they are prohibited from burning more than three sticks of incense each.

Abbot Yang devotes much of his time to persuading local officials across China to set aside areas for natural protection, an unpopular idea in many parts. He has also worked to attract young, wealthy urbanites to Taoism. Many of them are eager for a spiritual cause and have responded warmly to Taoist leaders’ embrace of environmentalism.

Taoist officials have also spoken up at national leadership meetings in recent years, calling on the government to take more action to prevent environmental catastrophes.

The abbot acknowledged that it might seem strange for Taoists, who practice a philosophy of wu wei, or inaction, to be leading a call for change. Still, he said it was important to set an example.

“Taoism has almost 2,000 years of history — environmental protection isn’t new for us,” he said. “We have to take action.”

G20, world makes huge strides on green finance in just one year

<http://www.unep.org/newscentre/g20-world-makes-huge-strides-green-finance-just-one-year>

Nairobi/Berlin, 14 July 2017 – The G20 and other nations have taken huge strides over the last year towards mobilizing the trillions of dollars of public and private capital needed to make sustainable development and climate action a reality, according to new UN Environment research released today.

UN Conference on Trade and Development research from 2015 showed that the investment required to bring sustainable development in developing countries was short US\$2.5 trillion each year, with as much as ten times that needed globally in the years to come – mainly from private sources.

However, the UN Environment Inquiry into the Design of a Sustainable Financial System's *Green Finance Progress Report* – a contribution to the G20's Green Finance Study Group (GFSG) – finds dozens of encouraging policies and financial product developments that show the public and private sectors are serious about changing this trend.

"The world has committed to creating a better future for people and planet. But we will not be able to achieve our sustainable vision without the global financial system using its capital to fuel the transformation," said Erik Solheim, head of UN Environment.

"This new research from UN Environment, a contribution to the G20 Green Finance Study Group, shows encouraging progress in this regard. From a record number of new green finance measures to ambitious plans for green finance hubs, we are seeing the smart money move to green financing."

Highlights from the report

Green financing at scale will be critical to achieve the G20's goal of securing balanced and sustained growth. Establishing the GFSG during China's G20 Presidency last year showed the G20 understood this – reinforced by Germany's decision to continue the work during its G20 Presidency this year.

The G20 Green Finance Synthesis Report, adopted at the G20 Leaders' Summit in Hangzhou in September 2016, set out seven options identified by the GFSG to accelerate the mobilization of green finance.

Over the last year, considerable progress has been made against these seven options by all G20 members, and the international community, in increasingly systemic national action, greater international cooperation, and increased market leadership.

More measures related to green finance have been introduced since June 2016 compared with any other one-year period since 2000. The trends and measures have resulted in increased flows of green finance, most notably in the issuance of green bonds, which grew by around 100 per cent to US\$81 billion in 2016.

Examples of specific country action include:

- India: The Securities and Exchange Board of India (SEBI) issued disclosure requirements for the issuing and listing of green debt securities.
- Germany: The federal state of Hesse has announced the intention to make the city of Frankfurt a green finance hub.
- China: In June 2017, the State Council announced five pilot areas for green finance.
- France: In January 2017, France issued a landmark EUR 7 billion long-dated 22-year sovereign green bond, with a view to promoting best market practices (especially in terms of evaluation and impact reporting) and support the development of the green bond market.
- South Africa: The Johannesburg Stock Exchange (JSE) is developing green bond listing requirements in line with international best practice.
- Brazil: The Central Bank issued guidelines on integrated risk management including environmental risk at the end of March 2017.
- US: The California State Insurance Commissioner launched the Climate Risk Carbon Initiative online database in January 2017 providing information on high-carbon investments of large insurance companies.

These changes to the financial rules of the game have helped drive the reallocation of capital in financial and capital markets. A comprehensive review looking beyond green finance to assess sustainable finance more broadly indicates that global sustainably managed assets under management have increased by 25 per cent compared to the last survey undertaken in 2014.

Encouraging positive feedback loops are emerging. Increases in green bond primary market issuance have improved secondary market liquidity, allowing new funds to open and operate within existing liquidity and credit-worthiness constraints. Four new green bond funds launched in the first quarter of 2017.

According to the report, the progress made nationally, internationally and in financial and capital markets shows that financial system is

reshaping itself to align with the sustainable development imperatives of the 21st century.

“The challenge now is to rapidly increase capital flows to investments that will support our sustainable development objectives and create commercially viable green businesses for decades to come,” said Solheim. “The G20 and others have set the wheels in motion. Now is the time to press hard on the accelerator.”

Fifteen eco-friendly African start-ups receive prestigious SWITCH Africa Green-SEED Awards



The SAG-SEED Award provides winners with tailored business and financial advice, help with marketing and publicity, and introductions to funding bodies, policy makers and other avenues of support.

<http://www.unep.org/newscentre/fifteen-eco-friendly-african-start-ups-receive-prestigious-switch-africa-green-seed-awards>

New York, 13 July 2017 – Banana-stem bags in Kenya, school benches made from plastic waste in Burkina Faso, improved livelihoods for coffee farmers, and safer mountain gorillas in Uganda—these are some of the 15 winners of this year’s SWITCH Africa Green-SEED Awards announced during the High-Level Political Forum in New York.

The SEED awards are part of a global programme that recognizes innovative, environmentally friendly start-ups in developing countries, and helps them grow their businesses and lead by example.

Founded in 2002 by the United Nations Environment Programme, the United Nations Development Programme and the International Union for Conservation of Nature, the SAG-SEED Award provides winners with tailored business and financial advice, help with marketing and publicity, and introductions to funding bodies, policy makers and other avenues of support.

Winners also join a network of more than 200 previous SAG-SEED alumni from 38 countries in Africa, Asia and Latin America.

The 15 winning enterprises were selected by an independent Jury of International Experts out of more than 300 applications. Their activities cover agriculture, waste management, energy, manufacturing, biodiversity conservation and tourism.

Full details of the winning projects can be found on the SEED website at <https://www.seed.uno/>.

“SEED is all about helping spur innovation that protects our natural environment and accelerates development,” said Erik Solheim, Head of UN Environment. “Past winners have delivered grass-roots solutions on issues including waste management, renewable energy and sustainable agriculture. They see environmental protection not as a cost or a burden, but as an opportunity. As such, they are laying the foundations for what our planet needs: a fundamental shift towards a green economy.

“Ecological business models have a huge role to play in achieving the Sustainable Development Goals,” says Achim Steiner, UNDP Administrator. “We congratulate this year’s SEED Winners for demonstrating that business really can be profitable whilst respecting nature and the environment. Their innovative ideas, supported by SEED and partner organizations, stand as examples for other businesses that are striving to fight poverty and climate change in ways that are sustainable,” he added.

“In the context of perhaps our greatest global challenge – meeting growing consumer demands while managing increasingly overburdened natural resources, many eco-inclusive enterprises, such as those recognised in this year’s SEED Awards are turning challenges into opportunities, and, in so

doing, are part of a vital step change in the way we do business,” said IUCN Director General Inger Andersen. “It is this new generation of entrepreneurs, and their solutions-oriented thinking, that will help us achieve a sustainable global

economy that works with nature rather than against it.”

This year’s winners will be honoured with high-level awards ceremonies at four different national and regional events.

A town, a disease, a convention: A fitting tribute for the victims of Minamata



<http://www.unep.org/newscentre/town-disease-convention-fitting-tribute-victims-minamata>

July 3, 2017

In August, the convention will officially take effect, and the first Conference of the Parties – aimed at “Making Mercury History”

– will follow on 28 and 29 September in Switzerland. It will oblige governments to reduce mercury use, clean up contamination sites, and ensure health care for victims of mercury poisoning.

One spring day just over 60 years ago in southern Japan, a young girl was brought to hospital by her anxious parents. She could barely walk, was slurring her words and was hit by convulsions and seizures. Days later, her sister was also admitted with the same symptoms, and that was followed by a neighbour, and then dozens more people.

The town of Minamata was then gripped by an unexplained epidemic of a condition that ravaged the central nervous system. Doctors saw numb limbs twisted in pain, loss of speech, and then, all too frequently, coma and death. Animals were also hit: birds had fallen from the sky and cats were gripped by convulsions – even leading to some calling it “dancing cat disease”.

Upstream, one of Japan’s most advanced factories had been dumping chemical waste into the bay. A sludge containing mercury had been consumed by fish and shellfish, and from there had entered into the food chain and the staple, protein-rich diet of the coastal communities. It was several years before the precise cause of the epidemic was identified, but not before hundreds of lives were lost.

The Minamata incident will go down in history as one of the worst-ever industrial disasters, with the town giving its name to the crippling, deadly condition – and therefore associated with disease and death.

But 60 years on, its suffering and stigma is being transformed into action: the entry into force of the Minamata Convention. This is a global treaty to protect human health and the environment, and something that will help prevent a repeat of Minamata’s suffering. It is the first new global Convention on environment and health adopted for close to a decade, and will tackle the entire life cycle of mercury, considered by the World Health Organization as one of the top ten chemicals of major health concern.

In August, the convention will officially take effect, and the first Conference of the Parties – aimed at “Making Mercury History” – will follow on 28 and 29 September in Switzerland. It will oblige governments to reduce mercury use, clean up contamination sites, and ensure health care for victims of mercury poisoning.

But why is continued action even necessary? Surely a problem from the middle of the last century has been resolved by now. Regrettably, this is not the case, and hence the need for a coordinated, global approach.

In developing countries across the globe, mercury is being used in small-scale, artisanal gold mining – and incidences of mercury poisoning, including the horrific conditions of the children poisoned in Minamata, are being reported today not too far away in the Philippines.

Mercury can also be emitted from coal-fired power plants, adding another dangerous element to the already suffocating pollution suffered in many cities of the world. It can be spewed out by the incineration of waste, and

be transported over distances far removed from its original emission source. It's even been used in dentistry – for fillings – and cosmetics, such as the skin lightening soaps and creams popular in Asia and Africa.

There's no safe level of exposure, and everyone is at risk because the dangerous heavy metal has spread to the remotest parts of the earth and can be found in everyday products. Children, newborn and unborn babies are most vulnerable, along with populations who eat contaminated fish like the original victims of Minamata. Then there are those who use mercury at work, and people who live near of a source of mercury pollution or in colder climates where the dangerous heavy metal tends to accumulate.

The fact is that we don't want to live in a world where putting on makeup, powering our phones and even buying a wedding ring depends on exposing millions of people to the risk of mercury poisoning. In addition, we have solutions that are as obvious as the problem itself. There are alternatives to every single one of mercury's current applications, such as newer, safer industrial processes.

The convention shows that big and small countries can all play a role – as can the man and woman in the street, just by changing what they buy and use. And that will be a fitting tribute to the victims of Minamata.

Mud bricks best for cool, green houses, says study



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<http://www.scidev.net/global/sustainability/news/mud-bricks-cool-green-houses.html>

Jun 28, 2017 - Simple mud concrete bricks provide the most affordable and sustainable houses in the tropics, a Sri-Lankan study suggests.

Comparisons of four different types of walling materials revealed that mud concrete bricks have the lowest environmental impact and keep houses cool. They are also the cheapest, and easiest to dispose of once a house is knocked down.

Researchers compared mud concrete bricks with red bricks (modern fired clay bricks), hollow cement blocks and *Cabook*, the Sri Lankan name for bricks made from laterite soil, which are common in the tropics. The goal of the study was to find out which types of walling material are the most suitable for constructing affordable houses in the tropics, where population density and poverty are generally high.

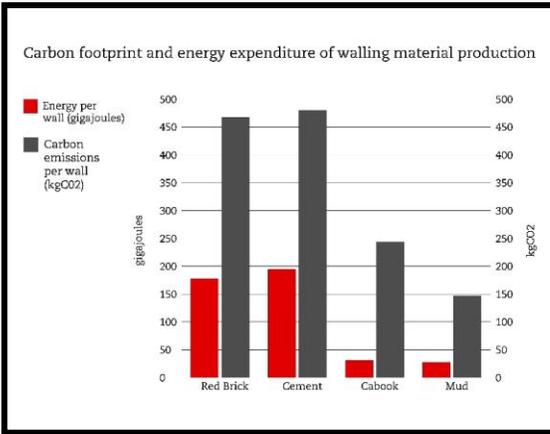
“Why spend more money and destroy the environment more?” asks Rangika Halwatura, a civil engineer at the University of Moratuwa in Sri Lanka, and one of the authors of the paper.

Mud concrete bricks are made from soil in the same way as traditional mud bricks, but contain gravel and sand to improve their strength. The researchers looked at the carbon footprint of all four walling materials, and found that mud concrete bricks were the most environmentally friendly to produce and dispose of.

To check on thermal conductivity the researchers built one-square-metre model houses of the different walling types. Here, they found that red brick kept a house coolest, but mud concrete bricks performed almost as well.

Mud concrete bricks were also found to be the cheapest, at less than US\$1,000 in Sri Lanka for an average-sized house, whereas red bricks cost nearly US\$3,500.

Mud concrete bricks are widely used in other tropical countries but novel in Sri Lanka. They are popular because they are easy to make and therefore cheap, says Hurryson Moshi, a civil engineer in Tanzania. However, Moshi points out that as people grow wealthier they prefer the red bricks and cement blocks, as these are associated with higher socio-economic status.



Red Brick (modern fired brick), Cement (Hollow Cement Blocks), Cabook (laterite soil brick), Mud (mud concrete brick).

Adapted from a graphic @Udawattha and Halwatura, with permission.

Moshi agrees with the study's findings but says that other considerations, such as aesthetics, and symbols of modernity or social status, influence people's choice of materials. Future studies should also take into account other sources of environmental damage such as deforestation (to produce timber to fire the bricks) or excavation of soil, he added.

In 2015, the government of Sri Lanka launched a programme to build 150,000 houses for the poor. This triggered the researchers' idea to compare the different types of brick.

According to the United Nations, more than 850 million people around the world live in inadequate slum housing.

According to Christophe Lalande, leader of the UN-Habitat's Housing Unit, poor neighbourhoods in developing countries are often the most affected by climate change and natural hazards such as storms and rising temperatures.

"The sustainability of buildings and housing construction, being adapted to the local environment, is essential to save lives or prevent inadequate living conditions," he says.

World Desertification Day: Concerted Effort in Global Resilience to Turn Back Drought and Desertification



June 16, 2017, A dried lake near Oruro (Bolivia) - © Andy Shuai Liu / World Bank

http://www.worldbank.org/en/news/feature/2017/06/16/world-desertification-day-concerted-effort-in-global-resilience-to-turn-back-drought-and-desertification?cid=ECR_E_NewsletterWeekly_EN_EXT&utm_source=World+Bank+Group+Weekly+Update&utm_campaign=b9cc10f89e-EMAIL_CAMPAIGN_2017_05_25&utm_medium=email&utm_term=0_fdb041ef28-b9cc10f89e-67778249

As we mark World Day to Combat Desertification and Drought tomorrow, notable strides have been achieved in building resilience to these issues globally. From Africa to Asia, concerted effort has led to gains in development, and all regions are experiencing economic growth. Building resilience against shocks and natural disasters, such as droughts and desertification, is critical to preserving these achievements.

Climate risks, including desertification and drought, threaten hard-won development gains by impeding growth in strategic sectors such as agriculture, water resource management, and urban development. As was discussed at the

recent World Reconstruction Conference (WRC3), these risks, compounded further by fragility and conflict situations, are on the rise in many parts of the world.

Countries across Africa and the Middle East, many of which are in conflict situations, are confronting this now, with 20 million people across these two regions currently facing famine from a prolonged drought. Future trends predict that by 2030, climate risks could place 43 million Africans below the poverty line.

In East Asia, Vietnam recently experienced its worst drought in 90 years. The El Niño-induced disaster impacted 83 percent of the country's provinces, affecting over 2 million people. In Indonesia, the rainy season did not start when expected, due to El Niño. The UN estimates that in severely drought-affected districts, 3 million Indonesians live below the poverty line, and 1.2 million of these people rely on rainfall for food production and for their livelihood.

At this critical crossroads, embedding climate resilience systems into regional development plans is imperative, especially when it comes to combating desertification and drought. In response to these challenges, the World Bank and partners have set up programs to strategically tackle drought, desertification, and impending climate risks.

"Droughts, climate change, land degradation, and desertification are closely interrelated. The World Bank group is working with countries around the world to help build resilience to the growing economic, environmental, and social challenges we face today, including drought and desertification. "

Ede Ijjasz-Vasquez

Senior Director of the World Bank's Social, Urban, Rural and Resilience Global Practice

Some examples of programs and projects that work from the ground up to build resilience against natural and climate-induced disasters, such as drought and desertification, include:

- In Africa, to help countries better manage these challenges in the future, the World Bank, with support from the Global Facility for Disaster Reduction and Recovery (GFDRR), has put together the "Africa Disaster Risk Management (DRM) Strategic Framework 2016-2020," which charts the way toward developing disaster and climate resilience in the region.
- The Great Green Wall for the Sahara and the Sahel Initiative is a pan-African program launched in 2007 by the African Union to address land degradation and desertification, boost food and water security, and support communities to adapt to climate change. The Sahel and West Africa Program (SAWAP) is a \$1.1 billion World Bank and GEF contribution to the Initiative focusing on 12 countries.
- In Somalia, the Drought Management and Livelihood Protection Project provided targeted

emergency support to drought affected populations. It offered cash for work to preserve the livelihoods of communities and distributed agricultural inputs, livestock feed, and veterinary services to support the recovery of agriculture and livestock production.

- In Malawi, two consecutive disasters – devastating floods from 2014-2015 and dry spells between 2015-2016 – led to agricultural drought and widespread crop failure, leaving over 6.7 million people food insecure. The GFDRR conducted a Post-Disaster Needs Assessment (PDNA), which, along with the Government of Malawi's Food Insecurity Response Plan and drought recovery strategy, informed the design of the Malawi Drought Recovery and Resilience Project (MDRRP), allowing more than 1.6 million people to recover from drought and build resilience against future shocks.
- Given its harsh experience with drought, Ethiopia has established one of the world's largest safety-net programs with World Bank support, allowing the country to plan in advance before drought strikes.
- In China, the Ningxia Desertification Control and Ecological Protection Project supports the government's efforts to address and reverse desertification and degradation through treatment of sand dunes and degraded sand land, shrub planting and vegetation restoration, and other ecological protection measures, directly benefiting about 3 million residents and protecting key infrastructure facilities on the eastern bank of the Yellow River. People living as far as Beijing or Tianjin also indirectly benefit, as the project areas are located in a wind corridor affecting major parts of northern China and have been identified as one of the major sources of sandstorms.
- Exacerbated by climate change, the impact of natural disasters on Morocco's economy amounts to an average of US\$ 800 million per year and causes significant human casualties. A GFDRR-supported multi-hazard risk assessment informed the Integrated Disaster Risk Management and Resilience operation, which introduces a comprehensive approach to managing natural disasters, including drought, by combining institutional reforms with disaster risk-reduction investments and the introduction of a catastrophe risk insurance program.
- With Afghanistan's Irrigation Restoration and Development Project (IRDP), agricultural production has increased as the farmers are

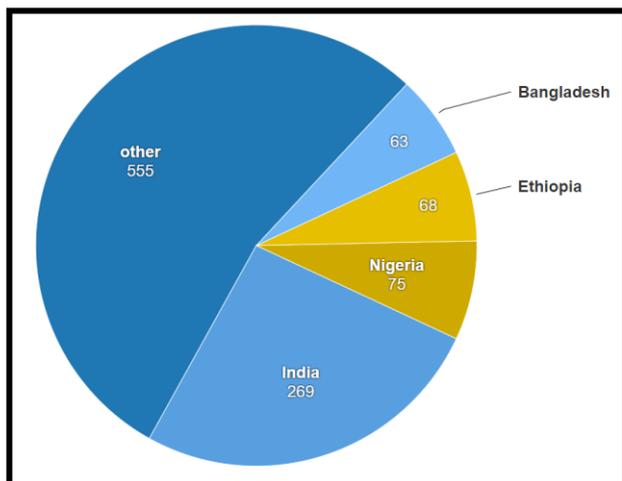
now able to cultivate areas of their land that were previously uncultivable because of the lack of irrigation. The IRDP supports the rehabilitation of irrigation systems serving some 300,000 hectares of land across the country. So far, a total of 98 irrigation schemes has been rehabilitated, covering 100,000 hectares of irrigation command area and benefiting over 63,000 farmers.

- Pakistan is vulnerable to a number of adverse natural events and has experienced a wide range of disasters over the past 40 years, including floods, earthquakes, droughts, cyclones, and tsunamis. These hazards are due to an active floodplain fed by snow and glacial melt from three mountain ranges – Himalayas, Karakoram and Hindu Kush, its location on a

seismically active geological plate, a predominantly semi-arid landmass, and a coastline frequented by cyclonic events. The Disaster and Climate Resilience Improvement Project (DCRIP) is helping the government to manage disasters and climate variability.

“Resilience is key to protecting hard-won development gains” emphasized Sameh Wahba, World Bank Director of Urban and Territorial Development, Disaster Risk Management, and Resilience. “Collective effort has driven achievements in resilience thanks to ongoing strategic planning and effective implementation, but much still needs to be done. The time for action is now.”

Globally, Over 1 Billion People Lack Access to Electricity

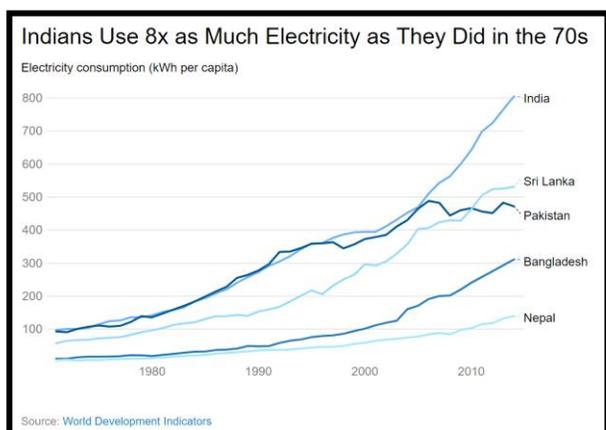


People without access to electricity (millions) in 2014
Source: [World Development Indicators](http://www.worldbank.org/)
<http://www.worldbank.org/>

In 2014, around 15 percent of the world’s population, or 1.1 billion had no access to electricity. Nearly half were in rural areas of Sub-Saharan Africa and around a third were rural dwellers in South Asia. Just four countries - India, Nigeria, Ethiopia and Bangladesh are home to about half of all people who lack access to electricity.

SOLAR POWERS INDIA’S CLEAN ENERGY REVOLUTION

With 1.3 billion people, India is the world’s third largest consumer of electricity. Over 450 million ceiling fans are in use and 40 million sold each year, but 240 million people still have no legal electricity connection. Demand for electricity is growing at the same rate as in France or Germany as millions of people in rural or impoverished areas seek access to power in their homes and workplaces.



What if India planned to meet that need with energy sources like coal?

It isn’t. In fact, the country is focused on just the opposite.

With a sweeping commitment to solar power, innovative solutions and energy efficiency initiatives to supply its people with 24x7 electricity by 2030, India is emerging as a front runner in the global fight against climate change.

That’s good news, because if the world expects to reach its Paris Climate Agreement objective of containing global warming to under a 2-degrees Celsius increase, it is imperative for India – the third largest emitter of carbon

dioxide -- to be a global leader on renewable energy.

About 1/6 of India's Electricity Comes from Renewables

The World Bank is committed to supporting India's solar energy push. The Bank is providing more than \$1 billion to support India's solar plans, starting with a Grid Connected Rooftop Solar project that aims to put solar panels on rooftops across the country, and 100MW of energy has already been financed through this project. Exactly a year ago, on June 30, 2016, the institution signed an agreement with the International Solar Alliance (ISA), consisting of 121 countries led by India, to collaborate on increasing solar energy use around the world and mobilize \$1 trillion in investments by 2030.

With its conscious choice to use significantly more clean energy to fuel its growth, India is contributing to global efforts to save the planet from the effects of climate change. Just a few weeks ago, the country also walked away from plans to install nearly 14 GW of coal-fired power plants, largely because it is as affordable now to generate electricity with solar power as it is to use fossil fuels.

Solar as a solution

In India and beyond, solar power is starting to displace coal as an energy source. The cost of electricity from solar photovoltaic (PV) is currently a quarter of what it was in 2009 and is set to fall another 66% by 2040. That means, a dollar will buy 2.3 times as much solar energy in 2040 than it does today.

With nearly 300 days of sunshine every year, India has among the best conditions in the world to capture and use solar energy. Clearly, the market agrees, as is evident from the significant drop in the cost of solar power. In its latest solar auction, the country achieved a record low tariff of INR 2.44/unit (4 cents/unit) for a project in the desert state of Rajasthan.

The Indian government is setting ambitious targets that include 160 gigawatts (GW) of wind and solar by 2022. Not only will this help hundreds of million people light their homes it will also enable children to study at night, provide families with refrigerators to preserve their food or TVs to entertain themselves after a long day of work. It is also an incentive for international firms to invest in India's solar market.

The Bank is also working with India on solar parks, innovative solutions to store solar power and support for mini grids. The institution's backing will increase the availability of private financing, introduce new technologies, and enable the development of common infrastructure to support privately developed solar parks across India.

"The World Bank financing, routed through State Bank of India (SBI), is the first time that a dedicated institutional financing has been made available for rooftop solar power plants," Sanjeev Aggarwal, Founder and MD& CEO of Amplus Solar. "This financing will help in expeditious adoption of distributed solar by Indian consumers and will act as a significant catalyst for the growth of the rooftop solar sector in India. We will continue to work with World Bank and SBI to create innovative credit structures so that benefits of this attractive financing scheme will reach the maximum number of consumers."

Lighting innovations

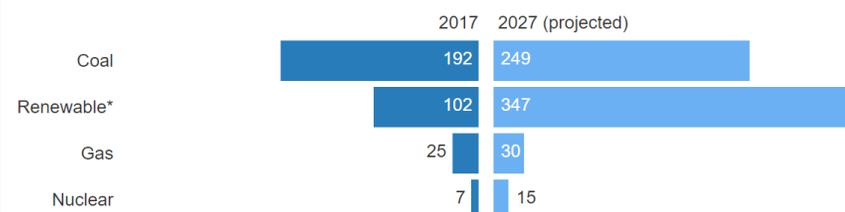
In turning to solar, India has sought creative solutions to challenges such as limited land availability to host solar panels for a rapidly growing population. It must go beyond what Morocco has done, for instance, with its concentrated solar power that requires large tracts of land to set up giant mirrors and lenses. So, in addition to its solar parks, India is installing solar panels on rooftops and floating solar platforms on rivers and other bodies of water. It also has ambitious plans to only sell electric cars by 2030.

Still, is that enough?

India's greenhouse gas emissions are predicted to keep increasing at least until 2030 – something it is working hard to change with serious energy efficiency measures.

Over 50% of India's Power to Come from Renewables in 10 years

India's total installed power capacity (in GW) by source



Renewable includes hydro, solar, wind & bio-power

Source: Draft National Electricity Plan (PDF)

The Bank is also supporting India's UJALA program, through which the country has distributed more than 241 million LED bulbs, making it the largest and the first zero-subsidy national LED lighting program in the world. Residential consumers can get LED bulbs from UJALA distribution centers or through participating retailers and pay upfront or in smaller installments, which make the bulbs more accessible for poorer customers.

The program has helped save more than 6,000 MW of energy and resulted in a

25-million ton reduction in CO₂ emissions per year. India plans to replace all of its 770 million incandescent bulbs with LEDs by 2019.

Other countries in the region are also adopting clean energy measures with support from the Bank.

Regional Advances

Take Pakistan, for instance. Recognizing the potential of solar energy in the country, the Bank is helping map the country's annual average solar power potential with a free, web-based app that has the capacity to zoom into areas with a spatial resolution of 1 km, or 0.6 of a mile. The tool provides access to high resolution global and regional maps and geographic information system (GIS) data, providing investors and solar developers with an easily accessible and uniform platform to compare resource potential between sites in one region or across multiple countries.

The Bank is also working with Pakistan on the Dasu Hydropower Project, which aims to improve the country's energy security through the use of more low-carbon energy sources and make electricity access more affordable and prevent frequent blackouts for millions of consumers, including industry, households and farmers.

And in Bangladesh, more than 18 million people have electricity thanks to solar home systems, making it the largest program of its kind in the world. The country is also turning to standalone solar mini-grids to power up small businesses and homes in remote areas that the electricity grid does not reach, helping women like Lota Khatun earn an income.

Khatun lives with her family on the remote island of Monpura, which is served by a solar mini-grid. She now has electricity at night, and runs a sewing business from home.

"When we got solar, I bought this (sewing) machine," Khatun said. "Now that we have light at night, I can sew at night."

India's efforts demonstrate its serious commitment to mitigate climate change. But more has to happen for millions of the country's citizens to have some of the basic conveniences that electricity provides.

"I have on more occasions than one discussed with world leaders that it's time that the world collectively decides that wherever technologies are focused towards a safer planet, we must try and make it open access... make it available to the whole world, so that we can encourage clean energy (and) sustainability while making it more affordable," said Piyush Goyal, India's Minister of State with Independent Charge for Power, Coal, New and Renewable Energy and Mines, at a recent event in Vienna.

"If we believe in it, and we work towards it collectively, all of us can make a difference."