

The Implications of a Changing Climate

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Abstract: Climate change and its damaging effects present challenges to the world that must meet them with coordinated efforts and funding. World Bank research has shown that in the face of climate challenge, without rapid, inclusive and climate informed development, 100 million more people will be pushed into poverty by 2030. The transition to a low carbon economy and increasing the world's resilience to climate shocks will not be cheap by any measure. It will require trillions, not billions, of dollars in new investments. Public funds simply cannot do it. The private sector will be essential.

The Mekong Delta in southern Vietnam is a region described as a maze of rivers, swamps and islands. Home to more than 20 million people, it is one of the most intensively cultivated areas in Asia, producing 25 percent of the rice sold on the export market.

Over the past 20 years, the region has been able to significantly boost its rice production, with the benefit of fertilizer intensive farming. But it is a region facing significant challenges in the future, with climate change expected to take a toll. Rainfall patterns are expected to change, sea levels rise and the region also is

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expected to face an increasing number of typhoons, amid global forecasts of a rising number of natural disasters.

As Vietnam's Deputy Prime Minister, Hoang Trung Hai described it earlier this year, the Mekong Delta is "rich but vulnerable land."

It is a region where development has traditionally taken place in an un-coordinated way, with roads, irrigation and agriculture all planned by different entities. The delta a region already feeling the impacts of climate change and development, with coastal lands already being degraded and agricultural yields impacted from saline intrusion and flooding.

And to adapt to a future changing climate, the region recognizes the need for coordination.

The backbone of agriculture – rice – will have to be adapted to suit changing rainfall patterns. With more people moving to cities like Ho Chi Minh, also known as Saigon, in southern Vietnam, roads will have to be planned so people can move in and out of cities in ways that do not increase flood risk. Barriers, like mangroves, will be needed to stem the flow of seawater onto lands. All development must be undertaken with a watchful eye on the flow of the famous Mekong River, influenced by dams built upstream.

Roadmaps for the Future

To seek solutions to challenges from ongoing development and climate change, work has begun on an integrated Mekong Delta program, from the provincial level up, to coordinate planning for the future. In laying out a roadmap with different scenarios for the region's development, including projected impacts from climate change, all elements like the need for climate smart agriculture, are being factored in.

The work being undertaken on the Mekong Delta, supported by the World Bank Group, stands as an example of how a changing climate is impacting investment and development decisions. This project also serves as a clear reminder of the inextricable link between climate change and poverty. If agricultural yields go down, farmers earn less and there is less food. Poverty and hunger can rise. As our own research has shown in the face of the climate challenge, without rapid, inclusive and climate informed development 100 million more people will be pushed into poverty by 2030.

What is happening in the Mekong Delta and future projections for the area also serve as a stark illustration of the need for greater spending and planning to help people and countries adapt to a changing climate.

That was a clear call from a number of developing countries, especially small island states, in Paris last December, when 195 nations struck an historic agreement on climate change. The agreement's main aim is to keep the global temperature rise well below 2 degrees Celsius and to drive efforts to limit the temperature increase even further to 1.5 degrees Celsius above pre-industrial levels.

Delivering on Promises

To achieve that goal, countries need to deliver on their national commitments to climate action, or INDCs, the Intended Nationally Determined Contributions, prepared for the Paris agreement. Implementing the pledges, worth trillions of dollars in investments, is vital for the ultimate success of the Paris accord.

Implementation of COP21 will require concerted action now by national governments, international organizations like ours, civil society and the private sector. The World Bank Group is already working with dozens of governments and the private sector to help countries reach their INDCs. The list of "to do's" is long and entails working to help countries wean off their dependency on fossil fuels and opt for renewable energy and more energy efficiency in buildings to bring down harmful polluting emissions.

We are under no illusions. And equally we know it is a long and costly exercise to cut emissions to where they need to be. But we all know it must be done to curb a warming planet and ensure cleaner air for us and future generations.

Innovation will be vital for achieving the goals, whether it be innovation in storing agricultural products, finding new ways to cut emissions or developing products or new ways of better withstanding a changing climate. But of course the price tag for innovation is never really cheap.

We already know the transition to a low carbon economy and increasing the world's resilience to climate shocks will not be cheap by any measure. It will require trillions, not billions, of dollars in new investments. Public funds simply cannot do it. The private sector will be essential.

In our recently launched Climate Action Plan, we laid out measures to accelerate private sector investment, through working with regulators, creating "green banking champions" and continuing to promote development of the green bond market.

Our private sector arm, the International Finance Corporation, IFC, also aims to increase its climate investments from the current US\$2.2 billion a year to a goal

of \$3.25 billion a year, and will lead on leveraging an additional \$13 billion a year in private sector financing by 2020.

We all know we must bend the curve of emissions. It is why we have strongly advocated putting a price on carbon pollution and ending costly fossil fuel subsidies now being paid out by governments. Much better use can be made of the millions paid out by governments on subsidizing fossil fuels.

Putting a Price on Carbon Pollution

Pricing the pollution that spews into our air will help not only cut emissions, but also give governments the funds they need to help drive investments into a low carbon future and give a spark to the innovators of the world.

Currently some 40 governments and 23 cities, states and regions put a price on carbon pollution, accounting for about 12 percent of annual global greenhouse gas emissions. This marks a three-fold increase over the past decade, amounting to a collective value of US\$50 billion.

Momentum for putting a price on carbon pollution is growing. Some 90 countries mention carbon pricing in their INDCs. In addition, more than 450 companies around the world have reported using a voluntary internal price on carbon in their business plans. More companies plan to follow suit in the next two years.

Support also is growing at the political level. The Bank Group has been the prime mover behind the Carbon Pricing Leadership Coalition, a global initiative that brings together more than 20 national and state governments, more than 90 businesses and civil society organizations and international groups, aimed at garnering public-private support for carbon pricing around the world. Partners who recently joined the coalition include Côte d'Ivoire, Colombia, Finland and the United Kingdom; companies including [Iberdrola](#), [Rusal](#), and [Tata Group](#); and [Yale University](#).

Bank Group President Jim Yong Kim and the International Monetary Fund's Managing Director Christine Lagarde also convened the [Carbon Pricing Panel](#), a high level leadership group that aims to spur further, faster action in the wake of the Paris climate talks.

The panel, which includes the Chancellor of the Federal Republic of Germany, Angela Merkel, and the Presidents of France and Canada, laid down a global challenge by setting a goal of expanding carbon pricing to cover 25 percent of global emissions by 2020 and achieving 50 percent coverage within the next decade.

Moving Away From Fossil Fuels

To deliver on Paris, it will be critical for the world to wean itself off dependency on fossil fuels and “flick the switch” to renewable energy sources. Under our action plan, we have laid out a target to help developing countries add 30 gigawatts of renewable energy over the next five years – enough to power 150 million homes – to the developing world’s energy capacity.

We are also aiming to invest US\$1 billion to promote energy efficiency and resilient building in cities, who alone are responsible for two thirds of the world’s energy consumption. It is a fact clearly recognized by many city leaders around the globe. The Paris climate talks saw a unique gathering of city mayors, all determined to play their part in moving forward on a climate smart agenda.

Our Cities at Risk

It is a must do agenda underpinned by *ethical imperatives*. Many of the world’s largest cities are either coastal, in a delta, or on a riverbank and at risk from powerful storms or sea level rise. Globally, 60 percent are at risk from tsunamis and storm surges. Despite all these risks, our cities are beacons for people. It is estimated over a million people move to cities every week.

The Global Commission on the Economy and Climate suggests that over the next 15 years, roughly \$90 trillion of infrastructure will need to be built, most of it in cities. The infrastructure of the future must be climate smart, given the risk cities face by virtue of geography and also by virtue of being such energy hubs. Today our cities are already responsible for an estimated 70 percent of all greenhouse gas emissions. If just 100 of the world’s cities embark on a low carbon development path, global greenhouse gas emissions will decrease by an estimated 10 percent a year.

For this reason, why we are planning to work with over 30 cities to come up with lower carbon city plans to help deal with the influx of people to urban areas. And it is why we are now also promoting an initiative, called Sustainable Mobility for All – to help ensure transport systems of the future are able to both move people and goods in a sustainable manner.

As leaders involved in the planning for the Mekong Delta illustrate, we cannot afford in the midst of all the challenges to forget the most basic of needs – agriculture and the need to feed people. By 2050, the world will have to feed an estimated nine billion people.

For the Poorest People

This need also is why climate change is a key focus for our work in the world's poorest countries, funded by IDA, the International Development Association. We know only too well climate change hits the poorest people the hardest. Far too many poor people are at risk from the vagaries of a changing climate and from the prospect of more natural disasters, like cyclones.

Consider Bangladesh. The country is one of the most vulnerable globally to cyclones and floods, and is located in a seismically active and high-risk region. Bangladesh has been proactive in setting up the institutions to manage disasters and mainstream their management into development plans.

A recipient of IDA, our fund for the poorest, we have been helping Bangladesh in the wake of cyclones with support ranging from making coastal and river embankments more resilient, to helping farmers deal with salt water intruding on their farmlands, with emergency management systems, enforcing building codes and also building shelters. Multi-purpose shelters have been built that serve as schools during the day and a safe haven for all people when disaster strikes.

Bangladesh is one of the most densely populated areas in the world, with nearly 150 million people on a landmass of about 147,500 square kilometers. It also stands as an example of how solar can help people in rural areas: more than 70,000 solar homes systems are being installed every month, making the Bank funded program the fastest growing program of its kind in the world.

These kinds of changes helps the world make the transition to a low carbon more resilient future. At this point, the Paris agreement is slated to come into force in 2020. The years between now and then will be critical, to help countries adapt to the changing climate wrought by a warming planet.

And as the planning for the Mekong Delta illustrates, the world cannot afford to wait even one more year for action. With every day climate change just gets that bit harder to mitigate.
