

THE HUMAN CAPITAL PROJECT & CLIMATE



WORLD BANK GROUP
Climate Change

#INVESTinPeople



BACKGROUND



HUMAN CAPITAL

The sum of a population's health, skills, knowledge, and experience. It enables people to reach their full potential and is increasingly recognized as a primary driver of economic growth.

THE HUMAN CAPITAL PROJECT

IS ACCELERATING MORE AND BETTER INVESTMENTS IN PEOPLE GLOBALLY

1. **Human Capital Index (HCI):** Makes the case for investment in the human capital of the next generation; first released October 2018.
2. **Measurement & Research:** A new program of measurement, research, and analysis will support investments in human capital formation.
3. **Country engagement:** Support HCP countries as they develop and implement accelerated priorities for human capital development.

CLIMATE CHANGE AT THE WORLD BANK

Systematically increasing direct financing and deepening climate mainstreaming, increased focus on adaptation. Climate action and targets included in IBRD Capital Package and proposed IDA policy commitments.



WORLD BANK GROUP
Climate Change
Action Plan
2016–2020



2025 Targets to Step Up Climate Action

Ahead of COP24, the WBG announced a major new set of climate targets for 2021–2025, doubling its current 5-year investments to around \$200 billion in support for countries to take ambitious climate action, with a strong focus on increasing adaptation, leveraging private sector finance and supporting increased systemic climate action at the country level.

► The \$200 billion across the Group is made up of approximately \$100 billion in direct finance from the World Bank (IBRD) IDA, and approximately \$100 billion of combined direct finance from the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA) and private capital mobilized by the World Bank Group.

Overall, this is a comprehensive package boosting efforts on five fronts:

- 1. Systematically increasing direct financing** of \$123 billion from the IBRD, and **deepening climate mainstreaming throughout World Bank Group.** The latter includes expanding screening of projects for climate risks and taking it to appropriate risk mitigation measures, disclosing both gross and net greenhouse gas emissions, and applying a shadow carbon price for all material investments, and increasing the tracking of climate outcomes in WBG country partner ship, transactions and financing.
- 2. Significantly increasing leverage of private finance** (\$27bn from WBG) and **crowding markets for climate business.** This will focus on increasing the number and scope of activities that crowd in private investments and/or finance through scaled up policy and advisory support, complementary and enabling public investments, and use of de-risking instruments.
- 3. Boosting support for adaptation.** Direct adaptation financing will reach around 150 billion per FY21–25, while helping countries to increase the range of financial instruments, including insurance and other contingent financing instruments, to scale up resilience and to get agencies to access to additional private finance for resilience. Countries will be supported to mainstream adaptation and resilience into their development plans in a systematic fashion (both at the level of Minister of Finance and Planning and sectoral ministries). WBG will also develop a joint framework for setting a new rating system to track and incentivize global progress towards building systemic resilience, to be piloted in FY19–20.
- 4. Increasing systemic impact in countries.** For example, WBG will support the integration of climate considerations into national policy planning, investment design, budgeting, public procurement and implementation and evaluation, and increase engagement with Ministries of Finance and Planning in the design and implementation of transformative low-carbon and climate-resilient policies. Together with the NDC Partnerships, the WBG will support at least 20 countries to systematically implement and update their NDCs and support an increasing number of countries to develop integrated and systemic low-carbon and climate-resilient strategies.
- 5. Elevating climate actions in key sectors.** Some of the key indicative five-year targets include supporting the operations, integration, and enabling infrastructure for 30 GW of renewable energy, and supporting 1.5 million GWh equivalent of energy savings through efficiency improvement. In cities, helping 100 cities achieve low-carbon and resilient urban planning and urban-oriented development, and in food and land use, increasing integrated landscape management in up to 50 countries, covering up to 20 million hectares of forests.

These 2025 targets build on the World Bank Group's 2016 Climate Change Action Plan.



THE WORLD BANK GROUP'S

Action Plan on Climate Change Adaptation and Resilience

MANAGING RISKS FOR A MORE RESILIENT FUTURE



Climate Change and Development Series

SHOCK WAVES

Managing the Impacts of Climate Change on Poverty

Stephane Hallegatte, Mook Bangalore,
Laura Bonzanigo, Marianne Fay,
Tamara Kane, Ulf Narloch,
Julie Rozenberg, David Treigler,
and Adrien Vogel-Schilt



Why

CLIMATE?

Increasing and more intense heatwaves, floods, and other extreme weather events pose a serious threat to the human capital of billions of people.

Low-carbon and resilient growth could deliver economic benefits of US\$26 trillion by 2030. The Human Capital Project can support this shift to the new climate economy.

CLIMATE CHANGE IS A THREAT
to human capital



Human capital can play a critical role
IN REDUCING GHG



**WITHOUT
ACTION...**

...severe **stunting** could increase by 31-55% in regions of sub-Saharan Africa and 62% in South Asia.¹

...the **health** of millions of people could be adversely affected through increases in vector-related diseases, heat related illness, waterborne diseases, air pollution, and severe weather events. For example, hundreds of million additional people could be at risk of vector related diseases and the burden of diarrhea could increase by 10%.²

...**learning** and educational attainment can be adversely impacted by extreme heat and poverty. For example, research shows that extreme heat can reduce learning by up to 15%.³

...more than 100 million people could return to **extreme poverty**.⁴

...because of the extreme heat, **productivity** of an average person on Earth could be reduced by 23% in 2100, and as much as 75% in the poorest 40% of countries.⁵



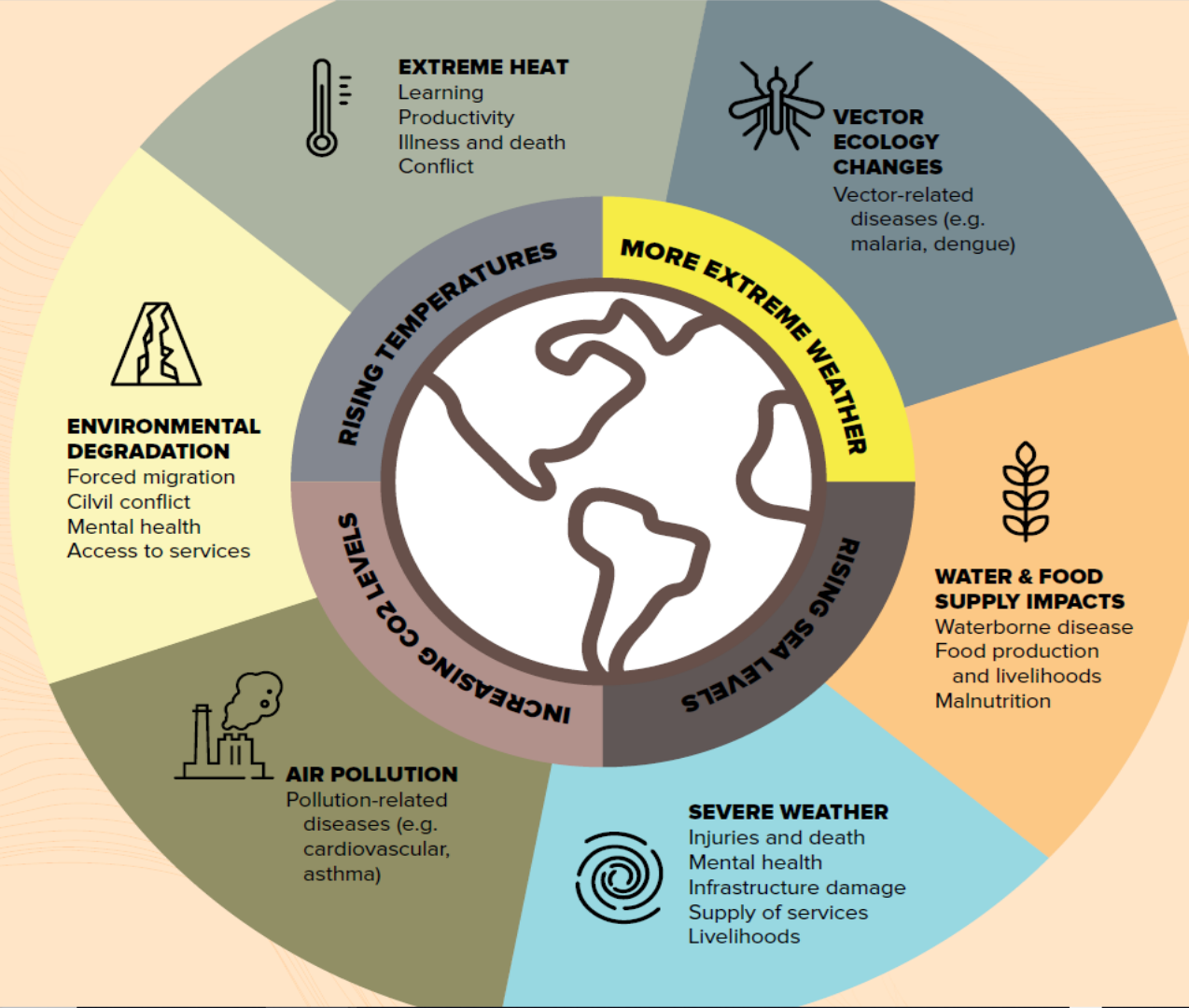
BUT IF WE ACT NOW...

we could reduce the expected negative impacts of climate change on human capital and reduce the carbon footprint.

HOW CLIMATE *affects Human Capital*

Impacts occur through different channels, affecting a range of interconnected outcomes.

The impacts on human capital—which depend on physical exposure and adaptive capacity—are location specific, and disproportionately affect the poor. Research suggests that investments in human capital enhance adaptive capacity, thereby reducing vulnerability.⁶

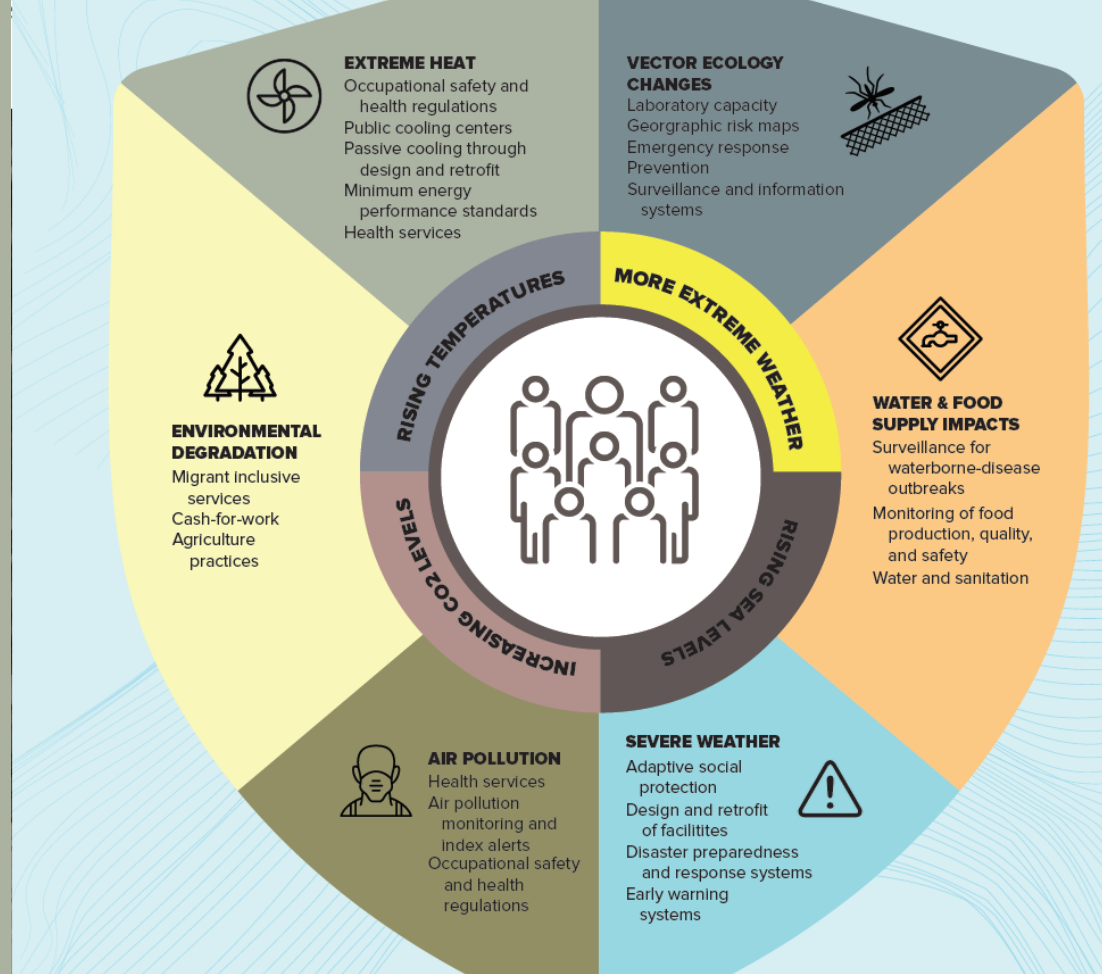


ACTING NOW:

Supporting Adaptation

Climate-smart policies and interventions can significantly reduce the expected negative impacts of climate change on human capital.

Climate-smart action requires awareness of risks, an understanding of context specific vulnerabilities, and country capacity to execute effective solutions. It also requires working across sectors.





ACTING NOW:

Reducing the carbon footprint

Positive Behavior Change

Carbon emissions are the result of billions of decisions made by individuals. Human capital has a critical role to play in shaping important decisions on home energy, reproductive health, food choices and waste, transport, and many others.

By taking steps towards universal education and investing in reproductive health services in developing nations, the world could reduce 120 billion tons of emissions by 2050.⁷ That's roughly 10 years' worth of China's annual emissions as of 2014.



Low Carbon Services

Designing, building, operating, and investing in delivery systems and facilities in smart ways can generate substantial reductions of greenhouse gases.

Low carbon services consider a range of aspects, including building design and construction; use of energy; waste minimization and management; transport and water consumption policies; procurement policies.



The New Climate Economy

The Human Capital Project can support a shift to the new climate economy through a just and inclusive transition through retraining and skills for the jobs of tomorrow.

The green transition could create millions of jobs, but would require major investments in reskilling. By 2030 the green transition is expected to create nearly 25 million jobs, while 7 million jobs may be lost globally. Massive investment will be needed to train workers on new skills.⁸

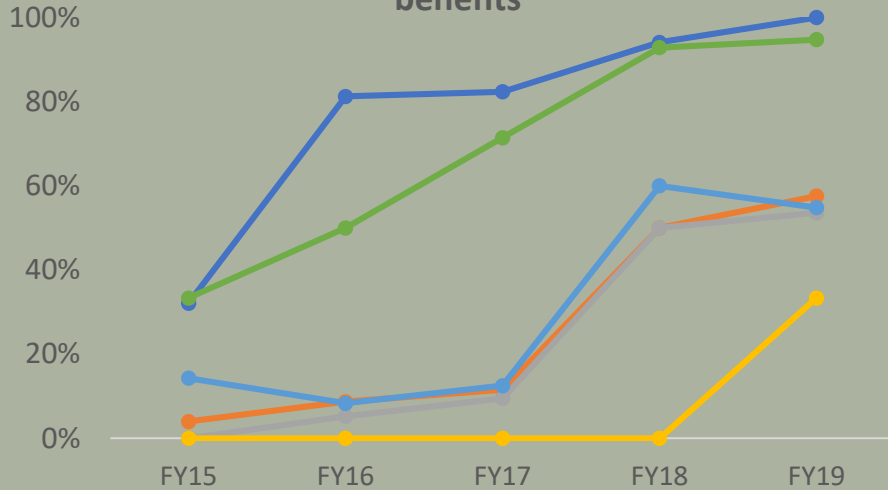


WHAT IS THE WORLD BANK DOING?

PORTFOLIO TRENDS: CLIMATE CO-BENEFITS

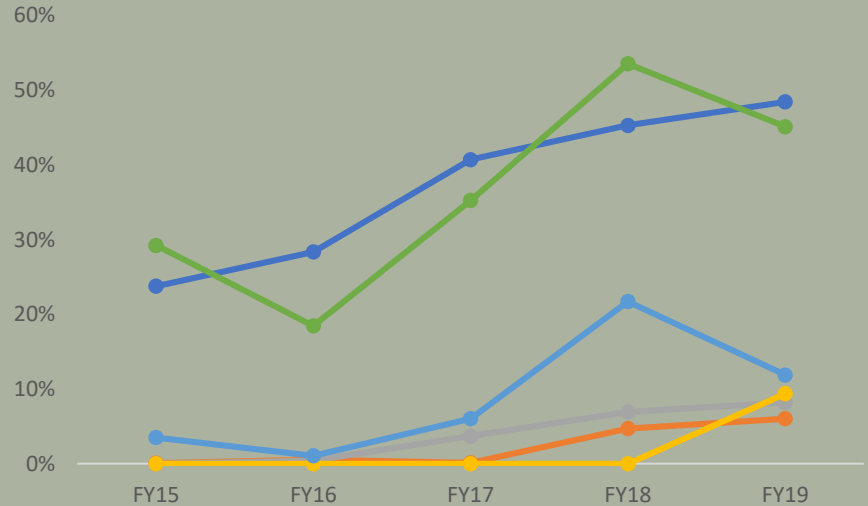
Rise in number of operations with climate co-benefits, but over 40% of operations in Education, HNP, SPJ and POV without any co-benefits.

Share of Operations with Climate Co-benefits



- Agriculture
- Education
- Health Nutrition and Population
- Poverty and Equity
- Social Protection and Labor
- Water

Share of Climate Co-benefits



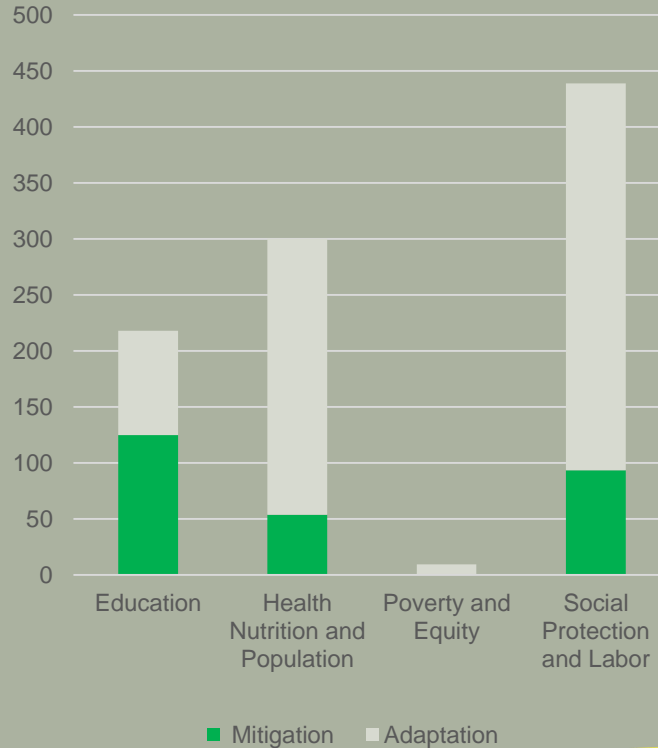
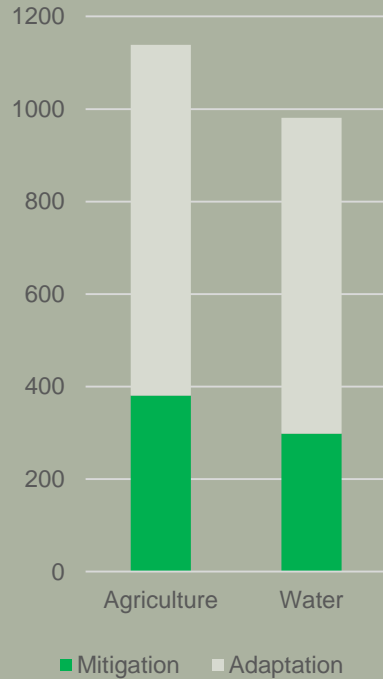
- Agriculture
- Education
- Health Nutrition and Population
- Poverty and Equity
- Social Protection and Labor
- Water



PORTFOLIO TRENDS: CLIMATE CO-BENEFITS

Bulk of climate action in lending operations is focused on adaptation, with the exception of EDU.

Climate co-benefits (FY19, US\$ millions)



EXAMPLES OF CLIMATE ADAPTATION



Regional Disease Surveillance Systems

REDISSE aim to strengthen integrated vector management approaches and align timing and location of activities with potential climate-induced shifts in disease burden.



Bangladesh – Transforming Secondary Education (P160943)

Incorporate adaptation measures in the construction and retrofitting of education facilities such as schools, labs, and training centers



Chad Social Safety Nets

Building resilience of the poorest through cash transfers and accompanying measures. Program scale-up in response to weather shocks. DPO supported the creation of a social registry helping shock responses.



Disease surveillance



Retrofitting of education facilities



Adaptive social protection

EXAMPLES OF MITIGATION



Egypt Healthcare Reform Project (P167000)

Establish a climate and health research program that is accompanied by higher education and a specialized skills program to reduce energy consumption in healthcare systems.



Bangladesh Quality Learning for All Program (P162619)

Content on climate change mitigation in school curricula.

Tanzania Education Program for Results (P162470)

Construction or retrofit facilities to be more energy efficient.



Ethiopia Productive Safety Nets (P163438)

Activities such as afforestation, terracing, rehabilitation of degraded lands, soil conservation through public works and cash-for-work program



Climate and health research



School curricula



Retrofitting of education facilities



Cash for work supporting afforestation



DRIVING POLICY CHANGE THROUGH DPFS

DPFs can play an important role in supporting climate and human capital objectives.

Cote d'Ivoire - FIRST HUMAN CAPITAL, CLIMATE CHANGE, AND DIGITAL ECONOMY
DEVELOPMENT POLICY FINANCING

The Program Development Objective (PDO) of the proposed operation is to:

- (i) strengthen the efficiency and financial sustainability of social protection and health services;
- (ii) support climate change mitigation and adaptation; and
- (iii) foster the development of the digital economy.



HOW BEST TO DRIVE **POLICY REFORM?**

Large rise in DPFs (27% of lending in FY19) provides an opportunity to embed HCP and climate objectives—is there need for specific guidance or training on this?

Nepal – DRM Development Policy Credit with Cat-DDO (P166788)

The CAT-DDO has been designed to support the response to natural disasters including health emergencies, and the Pandemic Emergency Financing Facility (parallel financing) will support responses to large-scale qualifying disease outbreaks through insurance and cash windows.



SAHEL **ADAPTIVE** SOCIAL PROTECTION (ASP) PROGRAM

Building household resilience and supporting households in response to climate shocks is key to prevent long-term impacts on human capital

The ASP Program addresses this need by:

1. Strengthening household resilience of the poorest - through cash transfers and complementary activities
2. Scaling up programs in response to shocks
3. Building linkages to early warning systems
4. Developing contingency (risk) financing mechanisms
5. Designing targeting mechanisms to identify ex-ante those most vulnerable to shocks



AFRICA CLIMATE BUSINESS PLAN

Galvanizing platform for climate action since its launch in December 2015

AFRICA REGION



Accelerating Climate-Resilient
and Low-Carbon Development

*Africa Climate Business Plan
Third Implementation Progress Report & Forward Look*

Executive Summary

November 2018

Progress in FY16-FY18

Social protection operations, with scaled-up safety net programs, based on early warning systems for the use of seasonal assessment to creation of new triggers based on satellite data and public works programs.

Going Forward

Health and education recognized as foundational platforms to deliver human capital that is healthy and skilled to address and counter climate change impacts.

ACBP proposes to step up action to support scaled-up transformational investments in key sectors, including smart health and education, to strengthen health systems and build skills for climate-resilient economies of the future.

AFRICA CLIMATE BUSINESS PLAN

Galvanizing platform for climate action since its launch in December 2015

Climate-Smart Health

This is a new component with overarching outcomes to support: (i) adaptation to climate change through planning for and adapting to climate and disaster impacts and reducing the burden and impact of climate-sensitive diseases; and (ii) investing in low carbon investments in low carbon healthcare, which is planned, built and delivered with minimal emission of greenhouse gases through:

(Strengthening Resilience: Human & Social Capital)

- Strengthening regional, national, and local institutional capacity for climate change adaptation and enhance climate change mitigation;
- Strengthening the public health and environmental response to climate-sensitive diseases; and
- Scaling-up investments to address climate change in the health sector and “Health in All Policies” approach in non-health sector.

The proposed activities will benefit all IDA/IBRD countries with active operations, with a focus on the 21 countries with high health and habitat vulnerabilities in the short term (high priority countries), the 19 moderate countries with high health or habitat vulnerabilities in the medium term, and the remaining low-priority countries in the long-term. The HNP Africa Climate and Health strategy (2018-2030) builds on the analytical and operation experience (REDISSE, Rwanda cookstove) gained over the years to support SSA countries reduce the impact of climate change on all aspects of health, strengthen the climate resilience of their health systems, and contribute towards climate change mitigation.

Climate-Smart Education

This is a new ACBP component. The key outcomes sought include the following: Reduce climate change impact and support knowledge generation and capacity building in climate change by: (i) financing climate-smart infrastructure; (ii) integrating information on climate change issues and responses in basic education curriculum development and teacher training; and (iii) supporting skills acquisition in technical and vocational education and training and research at the tertiary level in relevant fields.

(Strengthening Resilience: Human & Social Capital)

FY18: the Africa Education Portfolio saw a five-fold increase in its commitments with direct climate co-benefits (from \$1 million in FY17 to \$5 million in FY18). Six projects were approved, supporting climate-smart education in the region. In the technical and vocational sub-sector, the Bank has supported the shift from traditional skills acquisition to more modern training that focuses on renewable energy, energy efficiency, and environmental preservation, and these skills are not only beneficial for building resilience but are deemed to be the drivers for economic growth in the target countries as they replace outdated markets.

Climate-Smart Health



Planning/adapting to climate and disaster impacts, including climate sensitive diseases



Investing in low carbon investments to minimize GHG

Climate-Smart Education



Basic education curriculum development and teacher training



Supporting skills acquisition in technical and vocational training and research at tertiary level.

<https://openknowledge.worldbank.org/handle/10986/30932>

GLOBAL PROGRAM FOR SAFER SCHOOLS



Taking action at scale for safer and more resilient school infrastructure



Integrating risk reduction into education projects



Developing global evidence based knowledge



Providing in country technical assistance



Sharing Knowledge



Building Partnerships

Resources:

- Global program for safer schools [website](#)
- [The roadmap for safer schools](#) is an operational tool to guide the interactions of World Bank project leads with infrastructure managers and stakeholders.
- The [Comprehensive School Safety](#) (CSS) framework is the most recent global agreement seeking to reduce disaster risk in the education sector. Contains 3 pillars (the global program for safer schools focuses on pillar 1).

REDUCING THE CARBON FOOTPRINT CAN ALSO HAVE IMMEDIATE BENEFITS TO HUMAN CAPITAL

Air pollution plays a key role in human capital

- Fourth-leading risk factor for deaths worldwide largely affecting children
- Negatively impacts productivity



MDTF program supports pollution management

- Support developing countries to significantly reduce pollution through planning and investment.
- Generate and share knowledge on pollution and its health impacts in urban, rural and marine areas.
- Promote awareness among policymakers, business partners, city leaders, and the general public.

DEATH IN THE AIR
→ AIR POLLUTION COSTS MONEY AND LIVES ←

Air pollution has emerged as the fourth-leading risk factor for deaths worldwide. While pollution-related deaths mainly strike young children and the elderly, these deaths also result in lost labor income for working-age men and women. The loss of life is tragic. The cost to the economy is substantial.

A LEADING KILLER ACROSS THE GLOBE

The loss of life due to air pollution is causing human suffering and reduced economic development.

1 IN 10 DEATHS WORLDWIDE IS ATTRIBUTABLE TO AIR POLLUTION EXPOSURE.

EFFICIENT AND **CLEAN COOLING** PROGRAM

Providing energy-efficient and environmentally friendly cooling solutions for all
Keeping children safe from extreme heat, food nutritious, and economies productive



Program aims to accelerate the uptake of sustainable cooling solutions, including air conditioning, refrigeration, cool surfaces and cold chain in developing countries.



Technical assistance to identify vulnerabilities and cooling access gaps to ensure that efficient cooling is included in new WBG investment projects and mobilize further financing. Important opportunities in education and health.



Helping countries develop the necessary market infrastructure, financing mechanisms, and policies and regulations to deploy sustainable cooling at scale.



Working with public and private sector partners to raise awareness around efficient, clean cooling opportunities in emerging markets.

HEALTH-CLIMATE INITIATIVE

Climate-smart healthcare aims to promote a low-carbon, resilient health systems.

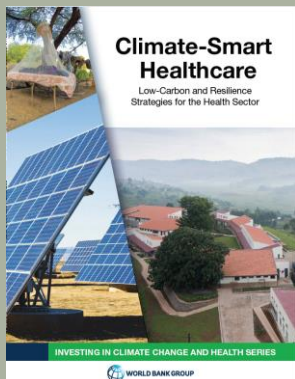


US\$4-12 billions annually

Estimated cost of treating future cases of malnutrition, malaria, and diarrhea resulting from climate change (*IPCC, 2014*)



Health sector contributes significant emissions through the energy and transport it relies on, as well as the products that it manufactures, uses, and disposes of.



Ongoing initiatives:

- Climate & health vulnerability assessments
- Assessment of health carbon footprint

Resources:

- WB health-climate [website](#)
- [Climate-Smart Healthcare](#)
- [Climate and health action plan](#)
- [Reducing climate-sensitive disease risks](#)
- [Geographic hotspots for Bank action](#)
- [Climate change and health diagnostics](#)



RESILIENCE RATING SYSTEM (P168950)



Develop, test, and implement a resilience rating system that can be applied to WB and non-WB projects to:

- 1) Better measure and report on the quality of WBG projects with regards to adaptation and resilience
- 2) Create the support and resources for WB and non-WB project developers to do more and better in achieving climate resilient growth objectives
- 3) Create a global standard used in financial markets (e.g. resilience bonds) and public procurement (e.g. infrastructure projects) to influence beyond our portfolio and support global climate resilient growth

SUMMING UP



SUMMING UP

1

Substantial evidence documenting **large adverse impacts of climate change on human capital** is a call to step up action.

2

Impacts on human capital heavily mediated through non HD sectors. Moving forward requires working closely across GPs and Practice Groups.

3

Human capital has an **important role to play** in supporting climate mitigation and adaptation.

4

The Bank has developed many resources on climate change and HD, but **no centralized platform**, or a **human capital - climate change narrative**.

5

The Bank is mainstreaming adaptation and mitigation in support of human capital objectives, but **many opportunities to do more**.



POTENTIAL AREAS OF WORK

Country Engagement



Identify HCP country CPFs with large human development programs and mainstream climate action. Provide TA

HCP Co-Benefits Analytics



Detailed assessments on climate co-benefits potential in human capital projects

Analytical Agenda



Develop an analytical agenda based on gaps identified. Example: assess impacts of climate change on the HCI

Funding



Identify trust funds to inform upstream knowledge on human capital and climate

Knowledge & Learning



Make knowledge easily accessible. Example: website, video, infographics
Develop learning clinics, brochures

Action Plan



Developing an HCP Climate action plan as a platform to galvanize climate action. Ensure engagement across GPs

A FLAGSHIP ON HCP & CLIMATE?

HOW CLIMATE

affects Human Capital



- *A flagship could quantify the impacts of climate change on human capital outcomes (e.g. Human Capital Index) and assess quantitatively the impact of various adaptation measures to reduce adverse impacts.*



- *It could quantify the enhanced adaptive capacity and reduced vulnerability associated with investing in human capital.*



ANNEXES

TOOLS AND RESOURCES (1)

Health

- **Climate-smart-Healthcare strategy** – defines the challenge and opportunities and provides tools and resources to help practitioners turn knowledge into action.
- **Climate-and-Health-Action-Plan** – aims to connect research to investment
- **Reducing climate-sensitive disease risks** - aims to help practitioners reduce the risks of climate-sensitive infectious diseases by strengthening risk management systems for disease outbreaks
- **Health Sector Recovery Note** provides action-oriented guidance targeted to local and central government health sector officials who face post-disaster challenges related to health sector recovery.
- **Geographic Hotspots for World Bank Action on Climate Change and Health** highlights countries at high risk.
- **Climate Change and health diagnostics** - methodological guidance to assess climate and health impacts and opportunities, and link directly to investment
- **WHO toolkit on climate change, WASH and health**: one-stop resource containing key resources that address climate change and health issues.
- **WHO guidance to protect health from CC through health adaptation planning**
- **WHO tool to estimate health and adaptation costs**
- **Dedicated CC-health websites: WHO and WB**



TOOLS AND RESOURCES (2)

Education

- **WB guidance note for safer schools** operational tool to guide the interactions of World Bank project leads with infrastructure managers and stakeholders, to promote a more informed and structured dialogue on investing in the safety of new and existing school infrastructure as a means of mitigating disaster risk.
- **Global alliance for disaster risk reduction & resilience in the education sector (GADRRRES):** aims to strengthen global coordination, increase knowledge, and advocate on risk reduction education and safety in the education sector
- **Comprehensive School Safety Framework** provides an approach to reducing risks from all hazards to the education sector

SPJ & poverty

- **Shock waves:** Managing the Impacts of Climate Change on Poverty: examines the impact of climate change on poverty reduction. Guidance on how to create a “win-win” situation so that climate change policies contribute to poverty reduction and poverty-reduction policies contribute to climate change mitigation and resilience building.
- **BRACED initiative** - Building Resilience and Adaptation to Climate Extremes and Disasters. [Website](#) containing plenty of resources.
- [Building Resilience to Disaster and Climate Change through Social Protection](#) toolkit

Cross-cutting

- [Guidance note](#) on integrating climate into HD operations



www.worldbank.org/humancapital

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climate



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- ¹ Lloyd, S.J., R.S. Kovats, and Z. Chalabi, 2011: Climate change, crop yields, and malnutrition: development of a model to quantify the impact of climate scenarios on child malnutrition. *Environmental Health Perspectives*, 119(12), 1817-1823.
- ² van Lieshout, M., R.S. Kovats, M.T.J. Livermore and P. Martens, 2004: Climate change and malaria: analysis of the SRES climate and socio-economic scenarios. *Global Environ. Chang.*, 14, 87-99. ; Hajat, S., M. O'Connor, and T. Kosatsky, 2010: Health effects of hot weather: from awareness of risk factors to effective health protection. *Lancet*, 375(9717), 856-863. ; The World Bank, 2017. "Death in the Air: Air Pollution Costs Money and Lives"; IPCC, 2014. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects.* ; Hales, S., N. de Wet, J. Maindonald and A. Woodward, 2002: Potential effect of population and climate changes on global distribution of dengue fever: an empirical model. *Lancet*, 360, 830-834.
- ³ Goodman, J., Hurwitz, M., Park, J. and Smith, J., 2018. Heat and learning. NBER Working Paper No. w24639.
- ⁴ Hallegatte, S., Bangalore, M., Bonzanigo, L., Fay, M., Kane, T., Narloch, U., Rozenberg, J., Treguer, D. and Vogt-Schilb, A., 2015. Shock waves: managing the impacts of climate change on poverty. The World Bank.
- ⁵ Burke, M., Hsiang, S.M. and Miguel, E., 2015. Global non-linear effect of temperature on economic production. *Nature*, 527(7577), p.235.
- ⁶ Lutz, W. and Muttarak, R., 2017. Forecasting societies' adaptive capacities through a demographic metabolism model. *Nature Climate Change*, 7(3), p.177. ; Lutz, W., Muttarak, R. and Striessnig, E., 2014. Universal education is key to enhanced climate adaptation. *Science*, 346(6213), pp.1061-1062.
- ⁷ Hawken, P. ed., 2017. *Drawdown: The most comprehensive plan ever proposed to reverse global warming.* Penguin.
- ⁸ World Employment and Social Outlook 2018: Greening with jobs International Labour Office – Geneva: ILO, 2018