WATER FOR A SUSTAINABLE WORLD

SOCIETY

THE WATER AND SOCIETY RELATIONSHIP

3 BILLIONS PEOPLE LACK ACCESS TO DRINKING WATER THAT IS REALLY SAFE

1/4 POPULATION LIVES IN DEVELOPING COUNTRIES THAT FACE WATER SHORTAGES DUE TO

- INFRASTRUCTURES TO TRANSPORT WATER FROM RIVERS AND LAKES IS INSUFFICIENT
- WEAK GOVERNANCE

1/5 POPULATION LIVES IN AREAS WHERE WATER IS PHYSICALLY SCARCE

INVESTING IN IMPROVED WATER MANAGEMENT AND SERVICES IS ONE PREREQUISITE TO REDUCING POVERTY AND ACHIEVING SUSTAINABLE ECONOMIC GROWTH

IN 2012 2,5 BILLIONS PEOPLE DID NOT HAVE ACCESS TO SANITATION FACILITIES

POOR PEOPLE RECEIVE VERY DIRECT **BENEFITS** FROM

- IMPROVED WATER SERVICES
- IMPROVED SANITATION SERVICES

THROUGH

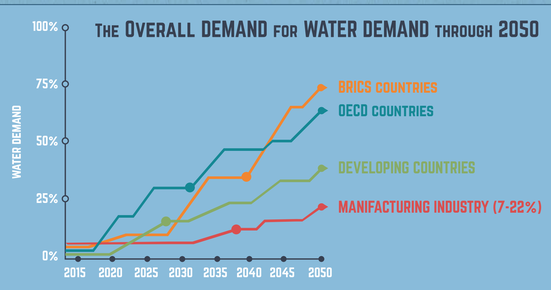
- BETTER HEALTH
- REDUCED HEALTH COST
- TIME SAVING
- INCREASED PRODUCTIVITY

POVERTY ⟷ **WATER**

THE RELATION BETWEEN WATER AND POVERTY IS A TWO-WAY STREET

ACCESS TO ADEQUATE AND SAFE WATER SUPPLIES IS ESSENTIAL FOR POVERTY REDUCTION, YET POVERTY ITSELF CAN BE A DRIVER OF POLLUTION AND UNSUSTAINABLE USE OF WATER RESOURCES.

THE OVERALL DEMAND FOR WATER DEMAND THROUGH 2050



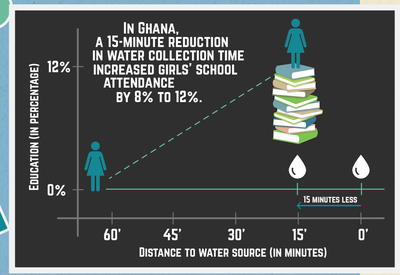
MORE THAN **80%** OF THE WORLD'S POPULATION LIVES IN COUNTRIES WHERE THE **INCOME DISPARITIES** ARE WIDENING

TIME TO CHANGE

IMPROVED **GENDER EQUALITY** IS A KEY TO BOOSTING WATER MANAGEMENT AND ACCESS. ONE 2012 ESTIMATE SUGGESTS THAT CUTTING JUST **15 MINUTES** OFF THE **WALKING TIME** TO A WATER SOURCE COULD REDUCE UNDER-FIVE CHILD MORTALITY **BY 11%** AND THE PREVALENCE OF NUTRITION-DEPLETING DIARRHOEA **BY 41%**.

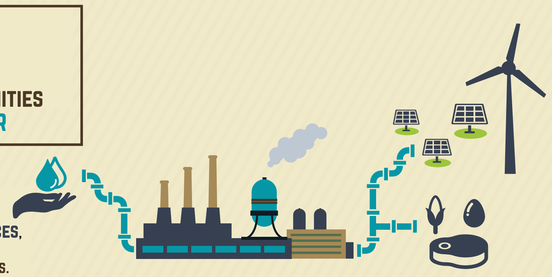
WATER MANAGEMENT CONTRIBUTES TO FOUR KEY DIMENSIONS OF POVERTY REDUCTION:

1. **ENHANCED LIVEHOODS SECURITY** — A RANGE OF PRODUCTION ACTIVITIES REQUIRE RELIABLE WATER SUPPLIES
2. **HYGIENE IMPROVES HEALTH AND REDUCES POVERTY** — IMPROVED ACCESS TO SAFE WATER, BASIC SANITATION AND IMPROVED HYGIENE IS ONE OF THE MOST EFFECTIVE WAYS TO IMPROVE HEALTH
3. **REDUCED VULNERABILITY** — REDUCING THE RISKS AND IMPACTS OF HAZARDS RELATED TO VOLATILE POLITICS AND ECONOMICS AS WELL AS UNSUSTAINABLE ENVIRONMENTAL TRENDS AND SHOCKS FROM WATER RELATED NATURAL DISASTERS
4. **ECONOMIC GROWTH** — WATER PROVIDES LIVELIHOOD AND ENTREPRENEURIAL OPPORTUNITIES, GENERATING HIGH RETURNS FOR LOCAL ECONOMIES



ECONOMY

EXPANDING ECONOMIC OPPORTUNITIES THROUGH WATER



WATER IS AN ESSENTIAL RESOURCE IN THE PRODUCTION OF GOODS AND SERVICES, INCLUDING FOOD, ELECTRICITY AND MOST MANUFACTURED PRODUCTS.

WATER SUPPLY (QUANTITY AND QUALITY) MUST BE RELIABLE AND PREDICTABLE TO SUPPORT FINANCIALLY **SUSTAINABLE ECONOMIC** ACTIVITIES. INFRASTRUCTURE THAT REDUCES RISKS FROM WATER SCARCITY AND WATER-RELATED DISASTERS SUCH AS **FLOODS** AND **DROUGHTS** INCREASES THE RESILIENCE OF ECONOMIES.

IN PAKISTAN

IMPACTS OF 3 YEARS OF REPEATED (2010-2012) FLOODS

- 3,072 LIVES LOST
- US$16 BILLIONS IN DAMAGES
- CUT THE EXPECTED ANNUAL GROWTH RATE IN HALF (2.9% INSTEAD OF THE PROJECTED 6.5%)

IMPACTS OF NEGLECTFUL WATER MANAGEMENT

OVER **80%** OF WASTEWATER WORLDWIDE IS **NOT** COLLECTED OR TREATED.

SMALL-SCALE INDUSTRIES, SUCH AS AGRO-PROCESSORS, TEXTILE DYEING AND TANNERIES, CAN RELEASE **TOXIC POLLUTANTS** INTO LOCAL WATERS.

UNTREATED EFFLUENT FROM URBAN SETTLEMENTS AND INDUSTRY POSES A MAJOR HEALTH THREAT TO PEOPLE, THE ECONOMY AND THE ENVIRONMENT.

DEFORESTATION

RESULTS IN DEGRADATION AND DESERTIFICATION OF WATERSHEDS AND CATCHMENT AREAS, AND **REDUCES** THE AMOUNT OF SAFE WATER AVAILABLE DOWNSTREAM.

BASIC PROVISION OF **WATER** AND **SANITATION** SERVICES IS REQUIRED TO UNLOCK THE POTENTIAL OF **ECONOMIC GROWTH**, PARTICULARLY TO BREAK THE VICIOUS CYCLE OF LOW PRODUCTIVITY **LINKED** TO POOR HEALTH AND LACK OF EDUCATIONAL OPPORTUNITIES THAT MAINTAINS POVERTY AND ECONOMIC STAGNATION.

DROUGHTS

IN THE UNITED STATES, THE 2012 DROUGHT AFFECTED **80%** OF FARMS AND RANCHES, RESULTING IN **CROP LOSSES** IN EXCESS OF US$20 BILLION AND A WIDE RANGE OF RIPPLE EFFECTS.

THE FULL COSTS ARE ESTIMATED TO BE AS HIGH AS US$50 BILLION.

ENHANCING WATER RESOURCES MANAGEMENT

A US$15 TO US$30 BILLION INVESTMENT IN IMPROVED **WATER RESOURCES** MANAGEMENT IN DEVELOPING COUNTRIES CAN HAVE **DIRECT** ANNUAL INCOME RETURNS IN THE RANGE OF US$60 BILLION.

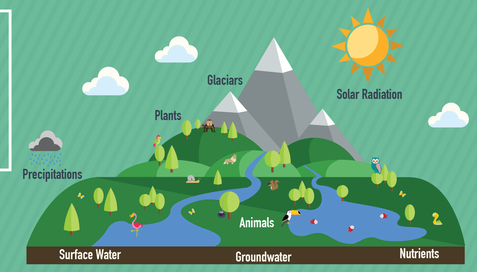
EVERY US$1 INVESTED IN WATERSHED PROTECTION CAN SAVE ANYWHERE FROM US$7.5 TO NEARLY US$200 IN COSTS FOR A NEW WATER TREATMENT AND FILTRATION FACILITY.

THERE IS A NEED TO CHANGE THE WAY IN WHICH WATER AND THE ENVIRONMENT MORE GENERALLY ARE VALUED, MANAGED AND USED, AND TO REFOCUS INVESTMENTS ACCORDINGLY.

SUSTAINING THE GAINS OF ECONOMIC PROGRESS REQUIRES **INVESTING** IN THE PROTECTION OF ECOSYSTEMS FOR **MAINTAINING** THE VARIOUS WATER-RELATED ENVIRONMENTAL SERVICES THEY PROVIDE, AND UPON WHICH THE ECONOMY DEPENDS.

ENVIRONMENT

AQUATIC ECOSYSTEMS ARE CENTRAL TO SUSTAINING **BIODIVERSITY** AND ALL FORMS OF **DEVELOPMENT**.

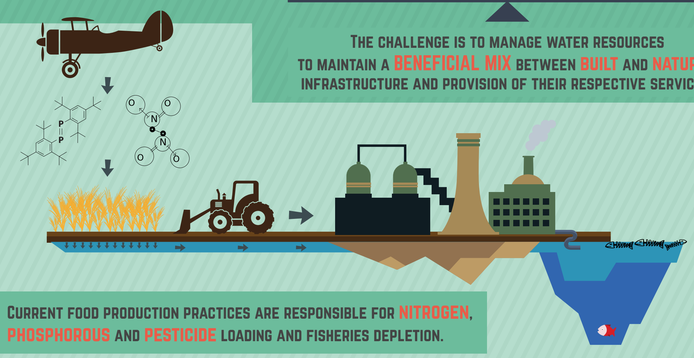


'NATURAL INFRASTRUCTURE' USES ECOLOGICAL PROCESSES TO PROVIDE MANY OF THE SAME SERVICES THAT HUMAN-BUILT INFRASTRUCTURE DOES. IT OFFERS MANY ECONOMIC BENEFITS, ESPECIALLY WHEN THE DESTRUCTION OF NATURAL INFRASTRUCTURE REQUIRES INVESTMENT IN BUILT INFRASTRUCTURE TO PERFORM THOSE SAME SERVICES.

THERE IS A NEED TO SHIFT TOWARDS ENVIRONMENTALLY SUSTAINABLE ECONOMIC POLICIES THAT ALSO CONSIDER THE INTERCONNECTION OF ECOLOGICAL SYSTEMS TO ADDRESS HUMAN IMPACTS AND MAINTAIN PRODUCTIVE ECOSYSTEMS.

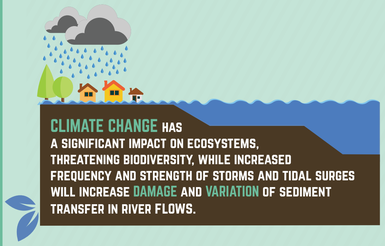
IN SOME CASES, HUMAN-BUILT INFRASTRUCTURE CAN CAUSE **BIODIVERSITY LOSS** AND DEGRADATION OF ECOSYSTEM SERVICES.

THE CHALLENGE IS TO MANAGE WATER RESOURCES TO MAINTAIN A **BENEFICIAL MIX** BETWEEN **BUILT** AND **NATURAL** INFRASTRUCTURE AND PROVISION OF THEIR RESPECTIVE SERVICES.



CURRENT FOOD PRODUCTION PRACTICES ARE RESPONSIBLE FOR **NITROGEN**, **PHOSPHORUS** AND **PESTICIDE** LOADING AND FISHERIES DEPLETION.

IT IS ESTIMATED THAT BETWEEN US$4.3 AND US$20.2 TRILLION PER YEAR WORTH OF ECOSYSTEM SERVICES WERE **LOST** BETWEEN 1997 AND 2011 DUE TO LAND USE CHANGE.



CLIMATE CHANGE HAS A SIGNIFICANT IMPACT ON ECOSYSTEMS, THREATENING BIODIVERSITY, WHILE INCREASED FREQUENCY AND STRENGTH OF STORMS AND TIDAL SURGES WILL INCREASE **DAMAGE** AND **VARIATION** OF SEDIMENT TRANSFER IN RIVER FLOWS.

THE CREATION OF '**GREEN CORRIDORS**' ALONG RIVERS, FLOODPLAINS AND STREAMS CAN LINK **ECOSYSTEMS**, THUS ABSORBING NUTRIENTS AND REDUCING WATER POLLUTION.

POLICIES SHOULD SEEK TO INCREASE PARTICIPATION OF ALL STAKEHOLDERS (LOCAL, REGIONAL AND NATIONAL) INCLUDING **RURAL WOMEN** IN DEVELOPING COUNTRIES, WHO ALREADY ACT AS GRASSROOTS ECOSYSTEM MANAGERS.

AS POPULATIONS INCREASE AND ECOSYSTEM SERVICES DECLINE, THE RISK OF RESOURCE CONFLICTS RISES ESPECIALLY WHERE TENSIONS ALREADY EXIST.

ECOSYSTEM VALUATION IS BASED ON WHAT USERS WOULD BE WILLING TO **PAY DIRECTLY** FOR SERVICES, OR WHAT IT WOULD COST TO REPLACE THE SAME SERVICES WITH BUILT INFRASTRUCTURE.

THE CONTENT OF THIS INFOGRAPHIC HAS BEEN EXTRACTED FROM THE UNITED NATIONS WORLD WATER DEVELOPMENT REPORT (WWDR) 2015.
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