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Water, Sanitation & Hygiene (WASH) and COVID-19

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WASH and COVID-19

Safely managed water, sanitation, and hygiene (WASH) services are an essential part of preventing and protecting human health during infectious disease outbreaks, including the current COVID-19 pandemic.

WASH and COVID-19

Ensuring good and consistently applied WASH and waste management practices in:

- **Communities,**
- **Homes,**
- **Schools,**
- **Marketplaces,**
- **Prisons and**
- **Health care facilities**

Hand hygiene

- **Hand hygiene is extremely important to prevent the spread of the virus.**
- **Hand hygiene also interrupts transmission of other viruses and bacteria causing common colds, flu and pneumonia, thus reduces the general burden of disease.**

COVID-19 economic impacts

- **The economic impacts of the virus are projected to force an additional 40 million to 500 million people into poverty.**

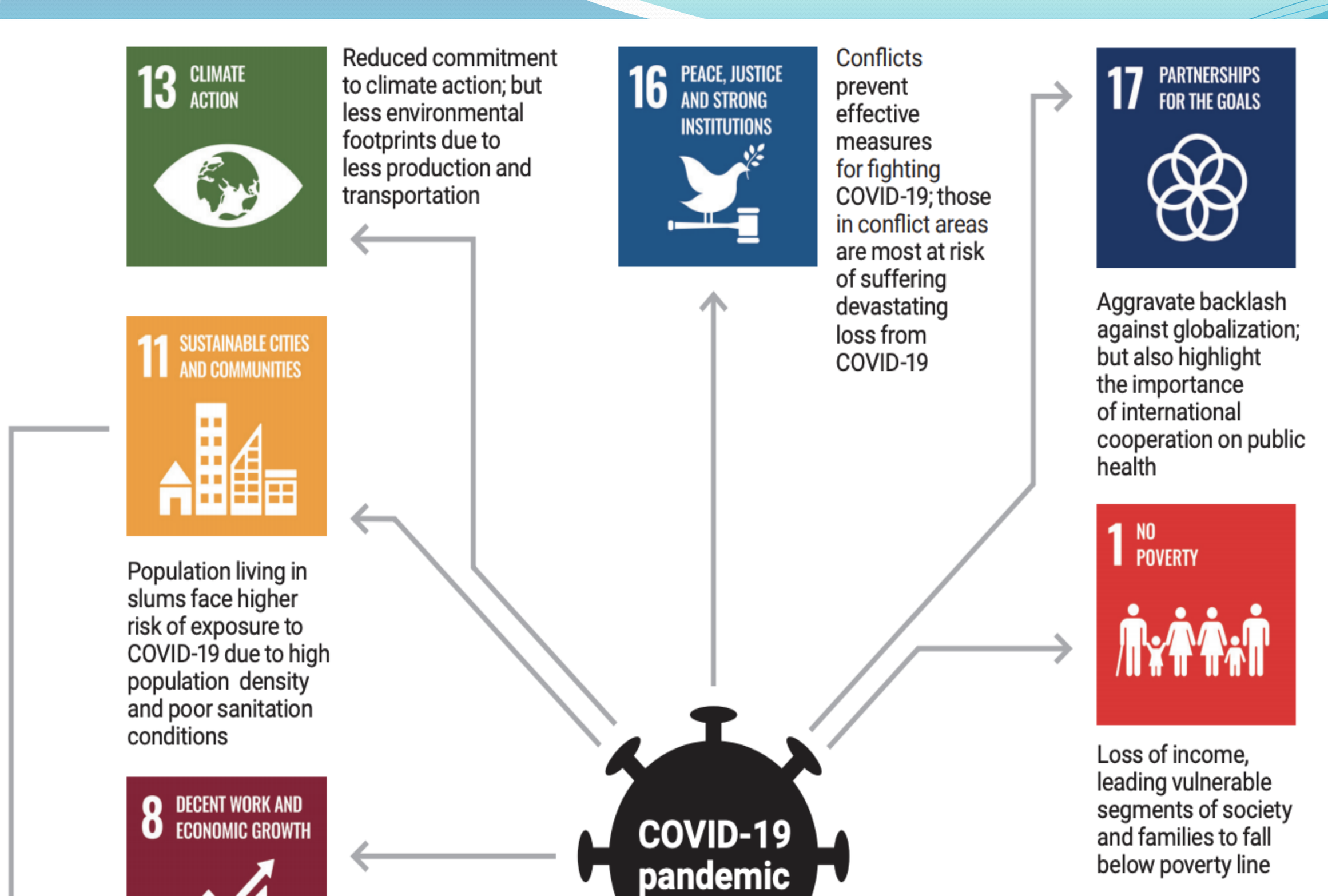
- **According to International Monetary Fund(IMF) the cumulative loss to global GDP over 2020 and 2021 could be about US$9 trillion, greater than the combined economies of Japan and Germany.**

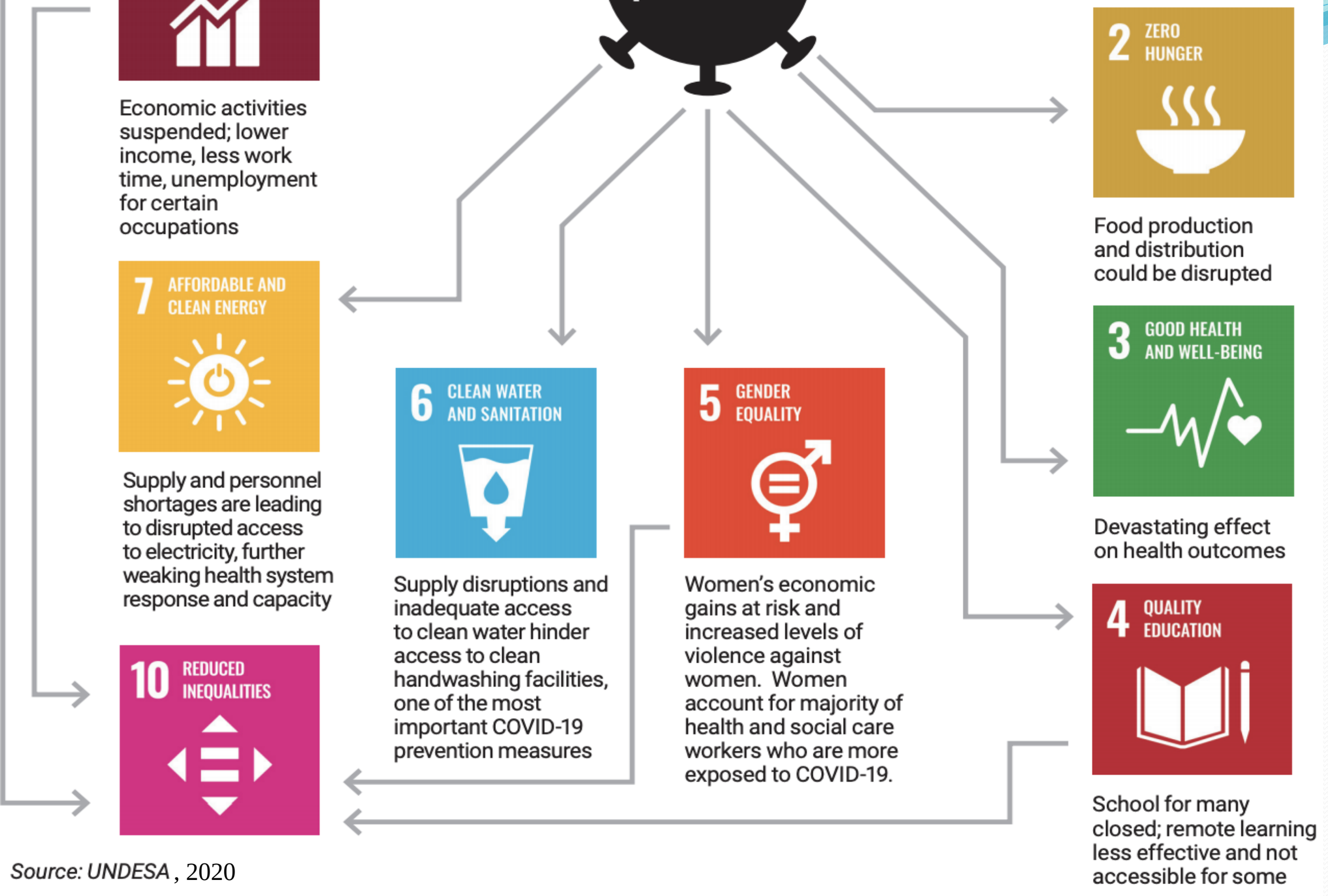
Source: https://blogs.worldbank.org/

SDGs as a roadmap to recovery from COVID-19

- The SDGs offer us an integrated perspective to combat COVID-19.

- COVID-19 should not be an excuse to delay action, but rather reason to accelerate action on the SDGs.


13 CLIMATE ACTION
Reduced commitment to climate action; but less environmental footprints due to less production and transportation
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
Conflicts prevent effective measures for fighting COVID-19; those in conflict areas are most at risk of suffering devastating loss from COVID-19
17 PARTNERSHIPS FOR THE GOALS
Aggravate backlash against globalization; but also highlight the importance of international cooperation on public health
11 SUSTAINABLE CITIES AND COMMUNITIES
Population living in slums face higher risk of exposure to COVID-19 due to high population density and poor sanitation conditions
1 NO POVERTY
Loss of income, leading vulnerable segments of society and families to fall below poverty line
8 DECENT WORK AND ECONOMIC GROWTH
COVID-19 pandemic



Source: UNDESA , 2020

Cost-effective strategies for pandemic preparedness

Cost-effective strategies for increasing pandemic preparedness, especially in resource-constrained settings:

- **Investing in core public health infrastructure**, including **water and sanitation systems**

- **Providing good WASH and waste management practices**, as barriers to human-human transmission of the SARS-CoV-2 virus in houses, communities, health care facilities, schools, and other public spaces.

Mitigation of secondary impacts of COVID-19

Safely managed WASH services are critical during the recovery phase of a disease outbreak to mitigate secondary impacts.

Secondary impacts include:

- Disruptions to supply chains (water, sanitation, …)
- Inability to pay bills
- Negative impacts on the continuity and quality of services
- Inability of schools, workplaces and other public spaces to maintain effective hygiene.

If not managed, secondary impacts can increase the risk of further disease spreading.

Priority Areas

The priority areas in the WASH sector:

- **Regarding the importance of safe drinking water, water resources management is now very important.**
- **Public education for highlighting the importance of hand-washing practice**
- **Quantification of the presence of virus in raw and treated wastewaters is essential.**
- **Conducting training workshops for virus detection like PCR and Rt-PCR techniques**

Priority Areas

The priority areas in the WASH sector:

- **Performance assessment of water and wastewater treatment plants**
- **Fostering Sanitation Safety Planning (SSP) and Water Safety Plan programs for assessment the risks.**
- **Provision of financial supports**

Actions taken in Iran

In **Iran**, we (**CWQR (IER) and School of Public Health, TUMS**) are:

- Providing necessary scientific information about COVID-19.
- **Provision of disinfection technologies** to **ensure that drinking water is clean and safe.**
- **Monitoring wastewater treatment plant processes** for reduction of virus.

One conducted study to monitor SARS-Cov-2 in wastewaters in Iran

The goal was :

To study the presence of SARS-Cov-2 in inlets (raw municipal wastewater) and outlets (treated municipal wastewater) of wastewater Treatment Plants (WWTPs) in three epicenters of Iran: Tehran, Qom and Anzali.

Recently undertaken another study

- **Title:**

  An investigation on the occurrence of COVID-19 disease virus in water treatment and distribution and wastewater collection and treatment systems in Tehran

- **Basic Aims:**

  - **Quantification of SARS-CoV-2 in inlet and outlet of wastewater treatment plants in terms of gene copy/liter**
  - **Determination of wastewater treatment plants performance**

Topics for further studies in Iran

- **WASTEWATER-BASED EPIDEMIOLOGY (WBE):** **providing rapid, inexpensive mass surveys.**

- **QUANTIFICATION OF THE MAGNITUDE OF EXPOSURE: Using Quantitative Microbial Risk Assessment (QMRA)**

- **DISINFECTION TECHNOLOGIES: the assessment of chemical and non-chemical disinfection processes**

Fostering link between policy and projects

Actions to be taken in IORA academic groups :

- **Develop a stronger research environment for WASH**
- **Add more focus on matters of concern like WASH vs. COVID-19**
- **Conduct research aimed at enabling better regional policy outc omes**
- **Develop a stronger regional policy foundation**
- **Enhance collective regional awareness**

Thanks for attention