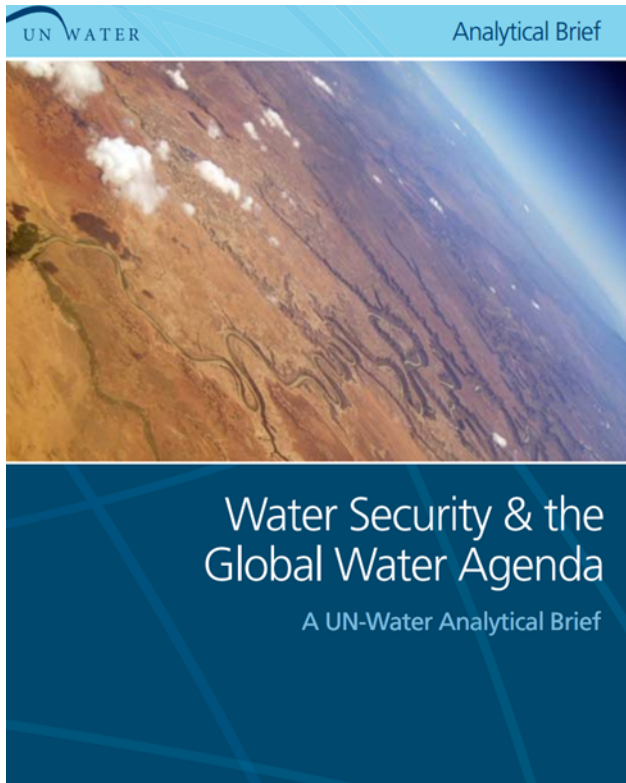


Nexus of water and health insecurity due to climate change: focus on women and children

Anna Tsvietkova, State Ecological Academy of PE&M, Ministry of
Ecology and Natural Resources of Ukraine
NGO 'Women Water Partnership-Ukraine'

Water security : UN Water



Working definition of water security:

- “The capacity of a population to safeguard *sustainable access to adequate quantities of acceptable quality water*
 - ✓ for sustaining livelihoods, human well-being, and socio-economic development,
 - ✓ for ensuring protection against water-borne pollution and water-related disasters,
 - ✓ and for preserving ecosystems in a climate of peace and political stability.”

Ukraine: water security

- Seasonal and territorial **natural water scarcity** due to uneven Water availability: average locally available surface WR - 1240 m³/capita/year, 12 of 24 regions are water limited < 1000m³/capita/year
- **Man-made water deficit** due to a lack of IWRM: huge old water infrastructure from soviet times: highly modified rivers by dumbs & reservoirs, open channels & pipelines. 55 km³ accumulated, including 43,8 km³ in 6 DNIRPO river reservoirs:
- water losses on evaporation and drainage in reservoirs & channels (annual losses of 10 km³ of Dnipro river runoff; 35% water is loosed in WS systems)
- man-made contamination of water:
- ✓ fresh water used for dilution of solid and liquid wastes
- ✓ rivers are main sources of drinking water & reservoirs receiving wastewater after treatment, lack of WWTPs and old WW treatment technology , 10-20% of WW discharged to rivers without proper treatment



Climate change impacts on water

Ukraine is highly vulnerable to ClCh

- Rapid warming: more thermal resources

Ukraine -0.60°C /per 10 years, Europe - 0.40, Global – 0.29 .

- **Increasing extreme weather events:** floods & droughts, since 1990 **droughts** become **annual phenomenon** (only 1993 & 1997 were without drought, in 2019-2020 – first **winter drought** – no snow during winter season)
- Water scarcity increasing by
- ✓ **decreasing quantity of available Water** (of river runoff, interruption of surface-ground water connection, and decreasing of ground water levels and aquifer recharging, wells drying)

in May 2020 (data of the Institute of Water Problems and Reclamation of NAAS,

Dnipro river runoff was 38% of the norm, Pripjat - 18% of the norm.

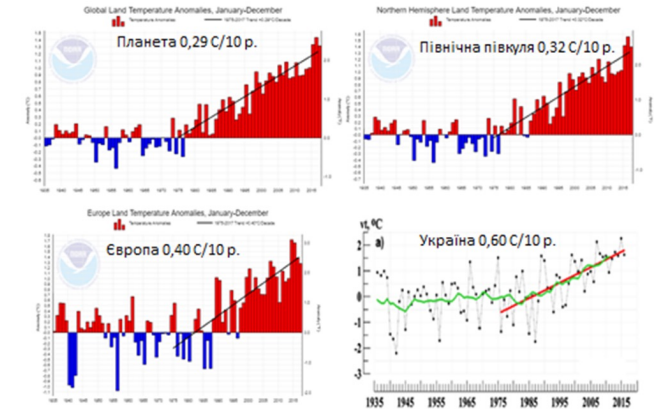
- ✓ **degradation of W quality** due to natural and man-made WR contamination during floods and droughts.

Increasing competition for water among different water users - sectors

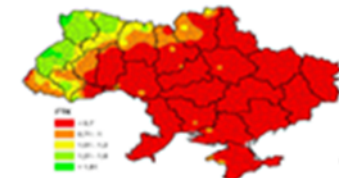
Forecast estimates by 2050 :

- river runoff will be **reduced on 25% - 50%**, especially in summer **except for the rivers of the Carpathians and Transcarpathia**
- Water resources of the plain part of UA will be reduced till 70%

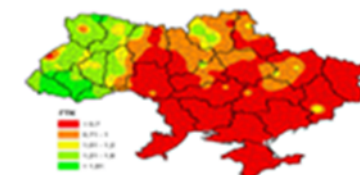
Динаміка зростання середньорічної температури повітря



за період травень - червень 1961-2013 рр



травень 2003



травень 2007

Water – health security nexus -1

- **Lack of access to Water :**

- ✓ 69% population connected to **centralized WS**,
- ✓ 31% - decentralized WS – **shallow wells & boreholes**
- ✓ 270 000– 950 000 people use **transported water/water trucking**),
no official data about water trucking in Donbas Region& Crimea.
- ✓ In 2018: **children** in 1436 (**11.6%**) **kindergartens** and 2580 (**16%**) **schools** used water from **wells or boreholes**
- ✓ children in 370 (**3%**) **kindergartens** and 504 (**3.1%**) **schools** used **transported water**

Gender disaggregated official statistics are not available

- ✓ **Humanitarian Crisis in Donbas Region** - Humanitarian Response Plan

2021: 2,9 Mln are in need, including **WASH needs of 1,6 Mln**

1,5 Mln received HA, incl. 0,9 women & girls 0,5 Mln children

Transported water : State Water Agency		
	Settlements	Population
	number	Thousand people
1997	1250	
2000	1228	814
	Including 737 regularly	including 383
2007	1274	850
2013	1323	950
2017	> 1300	> 950

Water – health security nexus -2

Lack of access to safe Water & Sanitation :

- Contamination of drinking water due to a lack of safe sanitation:

- 47.8% population connected to sewer, but not all sewers connected to WWTPs., 52% people use small sanitation systems: septic tanks & pit latrines – main sources of wells' contamination

lack of proper sanitation under CICh significantly increases shortage of fresh water and safety of water for drinking, bathing or hygiene needs, increasing health risks

Health impacts - outbreaks of Water related diseases:

- fecal contamination: **infectious** diseases, caused **diarrheas**: VHA, rotaviruses infections, cholera, others (2018 – reported 3 outbreaks of WRD, 180 residents affected, including 70 children; 2017 – 5 outbreaks, 299 people affected, including 134 children),
- nitrates contamination of wells in rural areas resulted in **blue baby syndrome** and **babies mortality (2018 – 3 cases reported officially, 2017 – 5 cases**, in Poltava, Kyivska , Zhytomyrska, Kharkivska, Rivenska regions
- fluorine contamination of groundwater in rural areas of Poltava, Chernihiv and other regions: cases of **fluorosis** - children in Poltava region.
- **Water eutrophication** resulted in **water blooming by** Cyanobacteria – **green-blue algae** in Dnipro river reservoirs– sources of water for drinking purposes for 70% of population; high risks for health. EU revised Drinking water Directive 2020/2184 introduces new WQ Parameters– microcystin LR – toxin of Cyanobacteria

Children & women are vulnerable to water-related risks under climate change in Ukraine

Lack of access to safe water & sanitation in Ukraine under ClCh put **Mlns of Ukrainians under high water-health insecurity.**

Due to rapid warming and significant migration processes in Ukraine, the **risks of water related diseases that have previously occurred in the country (malaria) or new infectious diseases** are **increasing.**

Most vulnerable water consumer groups are **residents of small towns and rural settlements** using small decentralized WS systems or water tracking regularly or seasonally (in summer or drought periods).

Children are especially **vulnerable to water risks** as young growing organism needs more water for growth and consists of water on 75% (children of 5-14 years old) up to 85% (newborn – babies).

Women and girls are also **vulnerable** group as they **need more safe water for hygiene**, particularly **menstrual hygiene**. Women are usually main water user at household level.

In 2011 **National Targets to the Protocol on Water & Health** set the targets on improvement access to safe WS for children at schools and kindergartens in Ukraine, till now there is no national action plan or state programme of measures to achieve these NTs.

Draft **Water Strategy, State Programs** on water management development or “Drinking water of Ukraine” 2022-2026 have **no gender sensitive or water adaptation measures.**

THANK YOU FOR ATTANTION

