SECOND NATIONAL CONSULTATION DIALOUGE in Ukraine

1. General Data

Country:	**Ukraine**
Organizer:	**Ukrainian HydrometCentre and GWP-Ukraine**
Date & Place:	**12 December 2014 , Kyiv**

Participants: (name & institution & email)

№	Name	Institution
1	Adamenko Tatiana	Head of the Department on agrometereology, UkrHydroMetCenter
2	Budnyak Tetiana	UNENGO „MAMA-86",Member GWP-UA
3	Buksha MAxim	Deputy Director,Ukrainian Research Institute on Forestry and Agro-Frestry Melioration named after G. Vysotskyi
4	Demydenko Andriy	UCEWP, member GWP-UA
5	Ivanyuta Sergiy	Chief Consultant, National Institute of Strategic researches
6	Kusnetsova Natalia	Head of the Department on forecasting in Kyiv Region
7	Kolmaz Yuriy	Head of the Sector on Land Resources, Ministry of Ecology and Natural Resources (MoE)
8	Legka Olena	Chief Specialist of the Sector of Land Resources , MoE
9	Nasvit Oleg	National Institute of Strategic researches
10	Protsenko Leonid	Director of InterEcoCentre
11	Prokopenko Anatoliy	Deputy Director of UkrHydroMetCentre
12	Savytskiy Andrey	Ministry of Economic Development and Trade of Ukraine, Department of Mineral Resources Basis Development
13	Yatsyuk Viktoriya	UkrHydroMetCenter , leading agrometeorologist
14	Tsvietkova Anna	UNENGO «MAMA-86» / GWP-UA
15	Shvets Katerinaa	Ministry of Agropolicy and Food of Ukraine
16	Khorev Sergiy	State Agency of water Resources of Ukraine, chief Specialist
17	Yatsyuk Mukhaylo	Independent expert on Water management

Attachments: (attendance list, photos, etc.)

Attachments:

1) *Scan of the list of attendance*
2) *Photos of the 2d NPD on droughts management*
3) *http://www.mama-86.org.ua/index.php/en/watersan/watersan-news/658-2014-12-15-12-24-19.html*

2. Agenda

Objective : *Presentation and discussion about the draft of the Guidelines for Drought Management Plans with the aim to contribute to its completion – elaboration of comments to the Guidelines and provide national experience according to the templates in Annexes I – VI*

Special objectives:

1) to present and discuss the results – outcomes of the IDMP and pilots A5.2 and A5.6:

- agroclimatic zoning of the territory of Ukraine under climate change,
- outcomes of the pilot A5.2 about the prognouses of drought impacts on forests of the Eastern part of Ukraine.

2)To present the Draft Guidelines for Drought Management Plans , collect comments and amendments

3) Discuss the Ukraine contribution to the Annexes of the Guidelines

Agenda:

Timec	Agenda Issue	Speaker
09:30 – 10:00	***Реєстрація учасників***	
10:00 – 11:45	**Plenary session I:**	
10:00 – 10:20	Opening : IDMP CEE film showing - on behalf of UkrHydroMetCentre - on behalf of the Ministry of ecology and Natural resources - on behalf of GWP-Ukraine	Anatoliy Prokopenko, Deputy Director Yuriy Kolmaz, Head of the Land Resources Sector, Department of Natural Resources Anna Tsvietkova
10:20 – 10:25	Introduction of participants	Table tour – all participants
10:25 – 10:35	About IDMP	Anna Tsvietkova, GWP-Ukraine
10:35 – 11:00	Outcome of A5.6 pilot – new agroclimatic zoning of the territory of Ukraine under Climate Change	Tetiana Adamenko, UkrHydroMetCentre
11:00 – 11:15	Q&A	
11:15 - 11.30	A5.2 pilot results on forest and droughts in Ukraine	Maxim Buksha, Ukrainian Research Institute on Forestry and Agro-Frestry Melioration named after G. Vysotskyi, c.Kharkiv
11.30 – 11.40	Q&A	

11:40-12:00	***Coffee break / Showing GWP CEE-IDMP film on water retention systems***	
12:00 – 14:00	**Plenary session II. Plan of Drought Management**	
12:00 – 12:10	European policy framework and key principals of droughts management	Anna Tsvietkova, GWP-Ukraine
12:10 – 12:30	Presentation of the Draft of the Guidelines for Drought Management Plans	Andriy Demydenko UCEWP, GWP-UA
12:30 – 13:00	Discussion of comments to the Draft Guidelines	All participants
13:00 – 13:30	Discussion of the examples to the Guidelines' Annexes: а) the national methodologies for assessment of historical drought b) the national drought indicator systems and evaluation methodologies c) the national drought classification, thresholds and early warning systems d) the national organizational structures to deal with drought e) the national program of measures for preventing and mitigating drought f) the national research programme supporting drought management Підведення	Всі учасники
13:30 – 13:45	Summarizing and closing	Anna Tsvietkova, GWP-Ukraine
14:00 – 15:00	***Lunch***	

Main points of discussion:

Link between drought management and land desertification combat, flood protection, IWRM.

Global and regional contexts: Post 2015 SDGs, especially Target #6 "on access to water and sanitation for all" and Target #15 "to protect, restore and support sustainable land ecosystems use, sustainable forests management, combat desertification and restore degraded land and soils, including lands, affected due to desertification, droughts and floods, and strive to achieve neutral land degradation in the world."

Synergy between droughts management and Convention on combat desertification is needed.

Drought monitoring technics upgrading and development, information management and access to information.

Lack of early warning system on droughts, no coordination mechanisms to deal with drought management. Existing Interdepartmental Commissions dealing with reservoirs level regulation in the basins of main rivers can be authorised to be responsible on drought management, or separate coordination mechanism can be established.

Enlargement of the droughts risk areas, new agroclimatic zoning, decreasing of humid areas. All these need revision of water management, with focus on adaptation and water retention measures.

Droughts are the first and the most harmful natural events which caused the biggest harm for agriculture and economy in Ukraine.

For Drought Management the water legislation has to be harmonized with EU Legislation, first of all WFD, Floods Directive. The Association Agreement between Ukraine and EU creates a momentum for introduction and development of the drought management policy and planning tool.

Drafting of the NAP on combat desertification and land degradation process can be used to incorporate the droughts mitigation and adaptation measures for forestry and agro sectors, developed by IDMP CEE demonstration projects (act. 5.2 and act. 5.6).

Drought adaptation and water scarcity reduction measures are included and approved in different state programmes, duplication and not efficient, lack of financing, there is no proactive approaches and pre but are not integration systematic approach and

3. Report (max 3000 characters)

Leonid Prokopenko, UkrHydrometCenter, highlighted the urgency of drought problems for Ukraine, during last years the droughts are observed in new regions, Marshall (humid) zone; agriculture, drinking water supply and hydroenergy are significantly influenced by droughts. Yurii Kolmaz, the Ministry of Ecology and Natural Resources of Ukraine, highlighted the importance of interrelation between actions to combat desertification and droughts management and the synergy needed between implementation of UN Convention to combat desertification and mitigate the effects of drought through National Action Plans (NAP), achieving Post 2015 SDGs (especially SDG#6 and #15) and development of the drought management policy and Plans. In Ukraine now the preparation of National Action Plan (NAP) to combat desertification is ongoing, good momentum to incorporate NPD-2 and IDMP A5.2 and A5.6 outcomes in the NAP.

During the Draft Guidelines discussions participants emphasized a need to harmonize the Ukraine water legislation to EU water legislation. As part of the implementation of the EU-Ukraine Association, drought management issues should be considered in the context of EU water legislation, in particular it requires harmonization of the Water Code of Ukraine with the provisions of the Water Framework Directive (WFD), the Flood Directive, etc., by incorporating the principles of River Basin Management, Integrated Water Resource Management, introduction of planning cycles based on River Basin Management Plan (RBMP) and others. Additionally the rethinking and revision of National Security, including Water security concepts are needed.

Drought management needs integrated management of water, land and forest resources. Public and decision makers' awareness on Climate Change and main climatic trends has to be raised; facts on droughts impacts on economy and the crops production in Ukraine have to be well promoted. Main barriers for drought management are: lack of legal framework, lack of understanding new concept on risk management and proactive approach to drought management. Upgrading tools and methods for drought monitoring and forecasting is needed as well as allocation of financing and Government support. It is necessary to improve information management for decision making. Use of space remote techniques is one of the ways to improve the droughts knowledge and monitoring,

at the same time the existing traditional monitoring and analysis of long-term continuous meteorological observation have to be used and updated. Information about droughts, adaptation and mitigation measures have to be properly taken into account in strategic documents, Action Plans / Program on management of natural resources, including water, land, forests.

Application of the Guidance for DMP depends on harmonization of Ukrainian water legislation with EU legislation, as DMPs must be relevant and be a part of RBMP, regarding to the WFD.

Today in Ukraine several sectorial programs which include measures to combat water scarcity and droughts are approved, but there is a lack of systematic integrated approach to their design and implementation.

There is no coordination mechanism with a competence on droughts management. There is the Interdepartmental Commissions (leading by the State Agency of Water Resources) on setting the operational regimes for reservoirs of complex usage in the main River Basins. These Interdepartmental Commissions could be the coordination mechanism for drought management in Ukraine, if they will have a relevant responsibility/power. Moreover, taking into account specificity of droughts development in new regions that were previously quite humid – Marshes zone (Polissya), now there is a need in these areas to shift from drainage measures to water retention and moisture conservation measures and irrigation.

Currently the preparation of Program on adaptation measures in agriculture is ongoing by the Ministry of AgroPolicy and Food of Ukraine.

4. Conclusions

Outcome of the public consultation:

The IDMP and the outcomes of its A5.2 and A5.6 were presented by GWP-UA partners and well accepted and discussed by participants of the 2d NPD.

Active discussion was about risk management and integrated droughts management, water security, proactive approach.

The Draft Guidelines was considered by participants, some comments and additions (links with global processes on UN Convention to combat desertification implementation and Post2015 SDGs, development of NPD to combat desertification) were proposed. The examples of national droughts definitions, indicators, drought classification, thresholds, program of measures and research programmes were presented by participants and promised to send in written form.

Brief information about actual status of production of DMP:

DMP is not a legal instrument in Ukraine. DMP development depends on the compliance by Ukraine the requirements of Association Agreement Ukraine-EU, especially on water legislation harmonisation, river basin approach, IWRM and introduction RBMPs.

For now as it was proposed by participants the drought adaptation and mitigation measures can be included in the NAP to combat desertification, which is now in process and can be drafted till April 2015.

Templates for elaboration of the national experiences included into Annexes of the Guidelines

Annex I: Examples of the national methodologies for assessment of historical drought

Country: Ukraine

Indicators used for the historical data assessment:
In Ukraine there are about 35 main indicators that can be used for drought characterization.
For the comparative analysis of droughts there are several criteria applied to select applicable parameters and indexes, including possibility to obtain those indicators in limited time, simplicity of calculation, simultaneous application to descript atmospheric and soil drought. The following indicators are used:
1) hydrothermal indicator (HTI) of Selyaninova;
2) humidification indicator of Shashko (Md);
3) moisture content indicator of Protserova (V,%);
4) number of days with relative humidity ≤ 30% (No);
5) number of days with maximum temperature > 30 °C (NT);
6) content/supply of productive moisture in 0-20 cm soil layer of the lands with winter, early spring and late ardent crops (W0-20);
7) content of productive moisture in 0-50 cm soil layer of the lands with winter, early spring and late ardent crops (W0-50);
8) content of productive moisture in 0-100 cm soil layer of the lands with winter, early spring and late ardent cultures (W0-100).
9) since 2014 SPI was introduced.

Mentioned indicators are determined by standard hydrometeorological observations on precipitations, temperature, elasticity of water vapour in the air, content of productive moisture in the soil.
Online drought monitoring is carried on with one decade step (10 days).

Short methodology of assessment of long-term series of meteorological data or picture illustrating evaluation of the historical data for the chosen parameters/indicators:
Comprehensive methodology is applied on the basis of long-term meteorological and hydrological monitoring, impact assessment in different sectors of the economy held after the drought event.

Annex II: Examples of the national drought indicator systems

Country:

Parameter/indicators included or proposed into the national drought indicator system:

Methodologies used for evaluation of the chosen parameters/indicators:

Annex III: Examples of the national drought classification and early warning systems

Country: Ukraine

Indicators included into drought warning system:

Thresholds for chosen indicators for four drought stages (normal, pre-alert, alert, emergency):
Drought is classified by intensity: very strong, strong, medium, weak, absence of drought.
Limit values for differentiation of the different categories of drought intensity are presented in the table:

Indicators of drought evaluations	Drought categories based on droughts intensity				
	very strong	strong	medium	weak	absence of drought
HTI	0-0.2	0,3-0,5	0.6-0.9	1,0-1,2	1,3 -5.0
Md	0-0.09	0.10-0.19	0.20-0.30	0.31-0.40	0.41-3.0
V, %	0–40	41–50	51–60	61–70	71–100
No	8-11	6-7	3-5	1-2	0
NT	8-11	6-7	3-5	1-2	0
W0–20, mm	0-5	6-10	11-15	16-20	21-70
W0–50, mm	0-15	16-25	26-35	36-45	46-140
W0–100, mm	0-25	26-40	41-60	61-80	81-280

Appearance and development of droughts are tracked within time from the beginning of vegetation period to its finishing, consistently (each 10 days) by data of each meteorological station. The decade at which the drought was appeared at first time are highlighted. This decade accepted as the beginning of drought. Further evaluations determine the development of the process (amplification, attenuation, status quo, suspension).

Early warning system includes media informing, ten-day agrometeorological bulletins, meteorological forecast and special information for users at different levels - from the farmer to the government.

According to economic losses (proposed by Demydenko)
The damage from drought in the agricultural sector can be presented as a part of the production of grain-crops as profit, which has not been obtained. It can be calculated based on the prices of grain-crops in different years and presented in % of “GNP of agriculture" in a particular year. The key problem is access to needed data.

Answer on questions:

- *is monitoring system sufficient for running of early warning system or requires upgrading ?*
- *are there technical means available for timely dissemination of warnings?*
- *How often should be actual data updated – daily or weekly?*

Annex IV: Examples of national organizational structures to deal with drought

Country: Ukraine

Competent authority:
National authorities dealing with drought issues are Cabinet of Ministers of Ukraine, Ministry of Ecology and natural resources, Ministry of agro policy and food, the UkrhydrometCentre, the Oblast authorities: Departments on agriculture.
In Ukraine a Mandate on drought management can be given to the Interdepartmental Commission on setting the operation regimes for the reservoirs of complex usage (this Commission established within the State Agency of Water resources in the basins of major rivers more than 40 years ago). The Ministry of ecology and Natural Resources has to initiate the consideration of the issue at the meeting of the Commission on technogenic and ecological security and emergency situations. This Commission is established at the State Service on Emergency Situations and chaired by vice-premier of the Government. This Commission has to issue the competence on drought management of the Interdepartmental Commission to the State Agency of Water Resources or to make

relevant amendments to the Regulation about the Interdepartmental Commission

Proposed composition of Drought Committee indicating involvement of all actors on three levels:

- *governing level*
- *professional level*
- *affected stakeholders*

Schema of organizational structure for drought management is recommended:

Annex V: Examples of national program of measures for preventing and mitigating drought

Country: Ukraine
List of the measures identified on the base of the national situation in drought management structured at least into three groups:

- *organizational*
- *operational*
- *preventive*

The example how to develop program of measures is provided in Annex V of the Guidelines (Slovak proposal)

All central (national) and local programs have measures to prevent and mitigate droughts, responsible for the implementation of these measures are authorities: Cabinet of Ministers of Ukraine, Ministry of Ecology and Natural Resources of Ukraine, Ministry of Agrarian Policy and Food of Ukraine, the State Water Resources Agency, the State Service in Emergency Situations, Ukrainian Hydrometeorological Center, Regional State Administrations (through Departments of Agriculture). At the State Agency of Water Resources there are such programs: National targeted program of water management development and ecological restoration of the Dnipro River Basin by the period up to 2021, such programs exist in each area/sector in each region.

List of examples of such measures can be found in the National targeted program of water management development: http://zakon2.rada.gov.ua/laws/show/4836-17 Examples of measures from the Program for the Kiev Region:

The main objectives and activities of the Programme, carried out in the period from 2013 to 2021 by 2 phases. At the first stage (2014-2016 years) the key measures are the following:

1) to ensure the operation of water management and amelioration complex, sustainable operation and environmental safety of drainage systems on the area of 119.7 thousands hectares;
2) to restore functioning of farm melioration systems, to carry out the reconstruction and modernization of its engineering infrastructure on the area of 3.5 thousands hectares;
3) to take immediate measures to:
- restore and maintenance of proper hydrological regime and ecological conditions of small rivers;
- protection of settlements, industrial facilities and agricultural lands from harmful impacts of water;
4) to provide centralized drinking water supply to rural settlements, which were affected by radioactive contamination;
5) to complete the construction of the second line of water pipeline from the reserve water abstraction c. Bila Tserkva to v. Bloschyntsi;
6) to complete the construction of group water pipeline for water supply of villages of Bilotserkivskyi district,

which were contaminated by oil products;

7) to take immediate measures to restore and maintain favourable hydrological regime and ecological status of water bodies and conducting banks protection of the Kiev reservoir in the villages Yasnogorodka and Stari Petrivtsi of Vyshgorodskiy district;

8) to ensure restore and maintenance of proper hydrological conditions of small rivers;

9) to determine the boundaries of protection areas and install coastal protection zones boundaries in practice according to land use technical documentation, especially for water bodies, which are sources of drinking water supply, or which have environmental or recreational value.

Example 2. During developing of Drought Management plans the hydrological, water conservation and environment forming functions of forests have to be taken into account. The forests contribute directly and indirectly on reduction of peaks of snow melting water by reducing the intensity of snow melting in the catchment area, as well as the volume of runoff during snowmelt and heavy rains. Forests contribute to the surface runoff regulation, recharging of the groundwater by surface runoff (thus they contribute in river flow increasing in the low-flow period), and help to clean water from exogenous elements. Ameliorative role of forests and plantations of agro-forest ameliorative ecosystems to mitigate microclimate on woodlands and adjacent areas, what is extremely important under conditions when the droughts' frequency and intensity are increasing.

In the forest sector a national program of measures to facilitate the prevention and mitigation of droughts in Ukraine is being implemented. Such measures are stipulated in the State target program "Forests of Ukraine for 2010 - 2015 years", which was approved by the Cabinet of Ministers of Ukraine on September 16, 2009, № 977 (http://zakon3.rada.gov.ua/laws/show/977-2009-п). As Ukraine has one of the lowest levels of forest covering in Europe, the Program priority activities include increasing forest area, building resource and ecological potential of forests and icreasing of forest ecosystems resistance and ensuring of forest concervation and protection (table 1).

Table1. Program "Forests of Ukraine" for 2010 - 2015 years" measures, which contribute directly on droughts prevention and mitigation, and performance indicators.

Description of measure	Indicator
Increasing of the forest area	• Area of forestation
Building of resource and ecological potential of forests, ensuring sustainable forest management	• Area of forest renovation • Forest area, where forest formation and restoration cuttings were made • The volume of total logging made due to forest formation and restoration cuttings
Increasing of forest ecosystems resistance, ensuring of the forest conservation and protection	• The length of the created fire breaks and mineralized bands, which are maintained • Area, on which forest protection measures have been conducted

Annex VI: Examples of the national research programme supporting drought management

Country: Ukraine

List of suggested actions for the national research program supporting drought management (eventually supplemented by short description of the action):

In the framework of the Thematic research plan of the State Forest Agency of Ukraine, agreed with the National Academy of Sciences of Ukraine, the scientific researchers are conducted. The results of these researches are important for support of drought management. Among these research activities there is monitoring of forests of Ukraine, which carried out since 1989, considered with the requirements of the International Joint Programme of

Assessment and Monitoring of Air Pollution Impacts on Forests in the UN Economic Commission for Europe Region (UN-ECE ICP Forests).

The basic indicator for forest state assessment in UN-ECE ICP Forests is the crown defoliation (or premature loss of leaves or needles), which indicates deterioration of general physiological condition of trees due to the impact of harmful factors (in particular - the droughts impact). Defoliation index characterizes the lack of leaf mass on the trees due to abnormal or premature loss of leaves or needles. Defoliation of tree crowns is a universal indicator of changes in physiological state of trees, which is the same indicator as a body temperature for warm-blooded animals and humans. There are several classes of defoliation based on the level of defoliation: from 0 to 10% - not existed, from 11 to 25% - poor, from 26 to 60% - middle, 61 to 99% - strong, dry trees - defoliation 100%.

The correlation between the level of defoliation and drought is confirmed by a number of scientific studies, but features of drought response of different tree species in different forest conditions are characterized by large amplitude and have specifics related to the species.

Besides defoliation other monitoring indicators are detected according to the Guideline of UN-ECE ICP Forests (Букша І.Ф. Сучасний стан та перспективи розвитку моніторингу лісів в Україні // Зб. Наук. статей IX міжнарод. наук. – практ. конф. "Екологічна безпека: проблеми і шляхи вирішення" – Т 2. – Х, 2013. – С. 62–67; Букша И.Ф. Мониторинг и оценка динамики состояния лесов Украины в первой декаде XXI века / И.Ф. Букша, Т.С. Пивовар // "Моніторынг і ацэнка стану раслiннага свету", мат. IV міжнарод. навук. конф. – Минск : Инст. экспериментальной ботаники им. В.Ф. Купревича, 2013. – С. 99–101).

Table. Measures and indicators of forest monitoring program

Measure description	**Indicators**
Monitoring of the forest state	• Area on which the state of forests was monitored • Classes of defoliation of forest species • Types of damages of forest species • Biometric indicators of forest species • Forestry – taxonomic parameters