

ATTACHMENT 4 – Catalogue of measures to counteract the effects of drought

No.	Type of action	Action's name	Description of the action	Range of impact (national/regional/local)	Entity responsible for:		Expected result of the action	Implementation priority
					development/preparation of a legal act/grounds for the implementation of the action	implementation		
1	Retention	Increasing the amount and duration of water retention on agricultural land	<p>Implementation of both technical and non-technical methods to slow down the outflow of water from agricultural areas, including:</p> <p>a) slowing down or stopping the runoff of surface waters from small catchments in areas used for agriculture through appropriate agrotechnical measures (increasing soil water retention), which will also improve soil structure and reduce its evaporation, as well as limit water erosion through the use of no-till cultivation systems, the maintenance of a year-round plant cover, as well as the permanent sodding or afforestation of areas with a steep slope, while areas with slopes not as steep will be cultivated in the direction opposite to the tilt of the slope;</p> <p>b) enhancing the ecosystem services of rural areas, mainly by: the creation of buffer strips; preservation and restoration of midfield ponds and wetlands; maintenance or restoration of sodded slopes and protective belts in the form of shrubs or midfield trees in order to protect and strengthen the water retention of soil; reduction of potential effects of the destructive force of wind, evaporation of soil water and field drying;</p> <p>c) increasing micro-scale retention, including, i. a., the reconstruction and protection of ponds, the construction of small ponds and retention reservoirs on agricultural lands, as well as the collection and storage of water from the roofs of buildings and paved surfaces within farms;</p> <p>d) restoring the functional connectivity of the river bed and the river valley, enabling the accumulation of water in the soil and on the lands along the watercourses.</p> <p>Detailed methods of water retention in rural areas should stem from the developed best practices in the field of rationalisation of water consumption in agriculture and methods of its retention. The selection of measures will depend on the existing conditions in a given farm.</p>	regional/local	<ul style="list-style-type: none"> - minister in charge of agriculture and rural development; - minister in charge of water management; - minister in charge of environment; - minister in charge of climate; - minister in charge of construction, spatial planning and development and housing; - NFH NFH SF; - SGU 	<ul style="list-style-type: none"> - farmers; - National Support Centre for Agriculture; - ARMA; - water users 	<p>The implementation of the measure will result in an increase in the amount and duration of soil water retention, i.e. limit and slow down the outflow of water from surface runoff to rivers and field drying, and thus increase the resistance of a given area to the risk of agricultural drought. This will directly increase the availability of soil water for crops, thus reducing irrigation needs. The measure will also contribute to the improvement of the condition of the natural environment, including the condition of waters.</p>	high

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2	Retention	Increasing natural and artificial retention on forest land	<p>The action concerns both the development of an analysis of the needs and possibilities of increasing retention on forest land and the adoption of possible solutions indicated in this analysis. These solutions achieve the following objectives:</p> <p>a) slowing down or stopping water outflow within small catchments on forest land through the use of technical solutions concerning the construction and reconstruction of water facilities such as damming devices, gates, dams, weirs and dykes;</p> <p>b) maintaining watercourses and related infrastructure in good condition;</p> <p>c) preserving the landscape as close to its natural state as possible;</p> <p>d) the restoration/reclamation of watercourses and the restoration/reclamation of wetlands;</p> <p>e) increasing the retention capacity and preventing floods and droughts in forest ecosystems in lowland areas;</p> <p>f) counteracting water erosion related to the runoff of rainwater in mountain areas, as well as maintaining mountain streams and related infrastructure in good condition;</p> <p>g) the comprehensive Forest and Forestry Adaptation to Climate Change project - small retention and counteracting water erosion in mountain areas;</p> <p>h) the comprehensive Forest and Forestry Adaptation to Climate Change project - small retention and counteracting water erosion in lowlands.</p>	national/regional/local	- NFH SF; - SGU	- NFH SF; - forest land users	<p>The implementation of forest retention measures by slowing down the outflow of water from the catchment areas and increasing water retention and enhancing the natural retention capacity of forest soils will increase the resistance of forest ecosystems to the effects of drought. Moreover, the implementation of this measure will indirectly contribute to the increase in biodiversity of forest ecosystems. Activities in this area have been carried out in the State Forests for many years, and since 2007 they have been co-financed by the European Union.</p>	high
3	Retention	Retention and management of rainwater and snowmelt in urbanised areas	<p>Integrated rainwater management (of rainwater and meltwater) based on rainfall management techniques at the place of its occurrence. The aim is to keep rainwater at the place of its formation and to use it during periods of atmospheric drought, as well as to reduce the susceptibility of urban areas to the phenomenon of drought. This action includes the analysis of the possibilities of rainwater management and the possibility of increasing the share of permeable areas in urbanised areas and post-industrial areas, development of the so-called green and blue infrastructure and taking into account relevant provisions or changes in local spatial development plans. This action also covers the implementation of investment tasks related to increasing the retention of rainwater in urban areas.</p> <p>In the case of cities for which Urban plans for adaptation to climate change or a Strategy for adaptation to climate change have been developed, the measure concerns the implementation of the provisions of the developed documents concerning counteracting the effects of drought.</p>	local	- SGU	- SGU	<p>The implementation of the measure will contribute to increasing the resistance of the area to the risk of drought by increasing the share of biologically active surfaces and areas with permeable surfaces in urbanised areas, and thus increasing the retention of rainwater at the place of their formation. In addition to mitigating the effects of drought, such activities will also contribute to better adaptation of urban areas to climate change and to counteracting urban flooding.</p>	high
4	Construction/Retention	Implementation of projects aimed at increasing or restoring natural retention	<p>The aim of the measure is to implement investments in the field of construction and reconstruction of water facilities, as well as non-technical activities enabling the increase of natural retention and projects aimed at changing the use of water resources to improve the functioning of water and dependent water ecosystems. The measure includes both technical projects within the watercourse and related to it, as well as restoration and reclamation activities in the valley in order to restore the functions of ecosystems dependent on water and wetlands and the retention capacity of riverbeds and valleys. When implementing those measures, information on surface water restoration recorded in the second update of the river basin management plans should be taken into account.</p>	regional/local	- SWH PW; - water users	- SWH PW; - water users	<p>The implementation of the action will restore the natural water retention capacity of riverbeds, river valleys and wetlands (including the ecosystems of swamps and peatlands), ensuring an increase in natural retention. Restoring this ability to ecosystems will slow down the outflow of water from the catchment areas, increase the amount of available resources and increase the resistance of those areas to the effects of drought. Moreover, these activities will contribute to increasing landscape retention while maintaining the good condition of the natural environment, and therefore will also reduce the risk of flooding. At the same time, they will contribute to the improvement of water status.</p>	high

5	Construction/ Retention	Lakes water damming in order to counteract the effects of drought	The measure aims to stabilise and raise the water level in lakes. It is important that the implementation of the measure does not adversely affect the ecological status and ecological functions of lake waters and watercourses in the sections below the lake, e.g. through accelerating eutrophication of lake waters or limiting the possibility of ichthyofauna migration. Water retention in lakes should be carried out within the limits of natural fluctuations of the water table. The action should be preceded by an analysis of the lake bathymetry, topography, catchment area management and the dynamics of lake water levels, as well as a preliminary assessment of the possibility of increasing water resources in individual lakes and the expediency for implementation, taking into account the use of surface waters in a given river-lake system.	local	- SWH PW; - water users	- SWH PW; - water users	The implementation of the measure will contribute to increasing the retention and maintaining an appropriate water level in lakes, which will delay the outflow of water from the catchment areas and maintain the ecosystem in the proper condition. Additionally, increasing the water level will enable coordination an irrigation systems, which will help counteract the effects of agricultural drought.	medium
6	Legal	Analysis of the possibilities of increasing retention in catchments with the use of natural and artificial retention	The action covers the development of analytical documents defining the needs and possibilities of shaping water resources for individual water catchments in river basin areas in order to counteract the effects of drought by implementing activities increasing natural retention and activities in the field of small artificial retention as an alternative or supplement to the planned reservoir retention. The measure should take into account environmental goals and planned investment tasks in a given planning cycle.	national	- SWH PW	- SWH PW	The development of analytical documents on the possibility of increasing retention with the use of natural and artificial retention will contribute to indicating the areas where projects in the field of preventing and minimising the effects of drought should be implemented. These documents will enable the rational design of activities in a given catchment, taking into account natural and economic conditions. These activities should cover all types of retention as an option for complementary drought mitigation. The measure implements the objectives of flood risk management and counteracting the effects of drought. It will contribute to proper water management and shaping of water resources in catchments and river basins.	high
7	Construction/ Retention	Implementation of investment activities in the field of shaping water resources by increasing artificial retention	The aim of the action is to build hydrotechnical facilities, and thus to enable the control of water circulation using artificial water reservoirs (small and large) or ponds. The measure should apply only to areas where it is not possible to apply measures that are more favourable from the point of view of environmental protection. The measure includes the implementation of investments (mainly the construction of water facilities and hydrotechnical facilities) set out in the currently applicable planning documents, i.e. the update on the water management plans in river basin areas and flood risk management plans. The source of activities may also be investments that have been assessed under the water law and meet the objective of counteracting the effects of drought. To select measures, the developed results of measure No. 6 should be used (=Analysis of the possibilities of increasing retention in catchments with the use of natural and artificial retention).	regional/local	- SWH PW; - SGU; - water users	- SWH PW; - SGU; - water users	This action will contribute to increasing the amount of available resources that can be used in drought conditions therefore the resistance of the adjacent areas to the risk of drought. In addition, the implementation of these activities, in particular small retention facilities, will increase biodiversity.	high

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8	Construction	Construction and reconstruction of irrigation and drainage devices to increase soil retention	Construction of new irrigation and drainage water melioration devices or reconstruction of existing devices from drainage to irrigation-drainage ones. This measure is aimed at increasing water retention in soil on agricultural land with the use of water irrigation and drainage devices. The irrigation and drainage systems are to enable the current shaping of water resources and be a response to the hydrometeorological situation.	local	<ul style="list-style-type: none"> - minister in charge of water management; - minister in charge of environment; - minister in charge of climate; - SWH PW; - minister in charge of agriculture and rural development; - NFH SF 	<ul style="list-style-type: none"> - SWH PW; - farmers; - owners of drainage facilities; - water companies and their associations 	The expected results of the measure implementation include, first of all, a slowdown in the outflow of water from agricultural catchments, which will increase soil water retention in rural areas and their resistance to the effects of drought. These activities will also contribute to improving the natural environment, reducing the risk of flooding and reducing crop losses.	high
9	Change of use	The use of water from drainage systems for fertilisation and irrigation of field crops	Reuse of water from drainage systems coming from fertilisation and watering crops, in particular tunnel and greenhouse crops, where fertilisation is carried out by an overflow system. Implementation of this measure requires the construction of impermeable reservoirs enabling the retention of drainage waters with the possibility of using them for fertilising agricultural land. Detailed guidelines on technical solutions should stem from the developed best practices in the field of rational water management in agriculture.	local	<ul style="list-style-type: none"> - minister in charge of agriculture and rural development; - minister in charge of water management; - minister in charge of environment; - minister in charge of climate 	<ul style="list-style-type: none"> - farmers; - water users 	This action will contribute to reducing water consumption and losses in fertilisation during watering and fertilising of tunnel crops, greenhouses, etc. The use of drainage waters in periods of rainfall deficits will contribute to limiting losses related to the occurrence of agricultural drought.	medium
10	Construction	Construction and reconstruction of groundwater intakes for agricultural irrigation, as well as construction and reconstruction of water-saving irrigation systems using groundwater resources	Construction and reconstruction of groundwater intakes for agricultural irrigation under the conditions specified in applicable law and the introduction of water-saving irrigation systems using groundwater resources by reconstructing the existing systems or building new ones.	local	<ul style="list-style-type: none"> - minister in charge of agriculture and rural development 	<ul style="list-style-type: none"> - farmers; - SWH PW; - ARMA 	The implementation of the measure will contribute to limiting losses to the occurrence of the agricultural drought phenomenon.	medium
11	Legal	Including hydrological and hydrogeological drought issues in crisis management plans at all levels	The provisions of the Act on Crisis Management provide for the creation of national, voivodeship, district and communal crisis management plans. Crisis management plans include, i. a., a master plan, containing the characteristics of threats and risk assessment of their occurrence, including those related to critical infrastructure, as well as risk maps and threat maps, tasks and responsibilities of crisis management participants in the form of a safety net, a list of forces and resources planned to be used in crisis situations, and a team for emergency projects, including those related to critical infrastructure in the field of water supply. The measure is to lead to the identification of droughts in the event scenarios developed in crisis management plans and to the verification of the needs for infrastructure ensuring the continuity of water supply for human consumption.	regional/ local	<ul style="list-style-type: none"> - GCS; - SGU 	<ul style="list-style-type: none"> - GCS; - SGU 	The implementation of the measure will contribute to the introduction of drought to crisis management plans and the development of appropriate procedures enabling the implementation of measures in the event of drought-related crises. Undertaking appropriate measures included in the crisis management plans will allow to secure the basic needs of society, i.e. supply of drinking water. Identification of drought issues in crisis management plans will allow: a) taking drought into account in risk scenarios and its differentiation into agricultural, hydrological and hydrogeological drought, as well as monitoring the risk of drought-related crises; b) verification of the available water resources intended for human consumption and fire protection purposes;	medium

							<p>c) identification of users of waters and other recipients particularly sensitive to drought;</p> <p>d) introduction of drought risk management and drought management into the safety net;</p> <p>e) assessing the adequacy and preparation of critical infrastructure in the event of drought.</p>	
12	Legal	Development of a project of an integrated drought monitoring system and the definition of administrative and legal assumptions for its operation	<p>The purpose of the action is to develop the principles and administrative structure for the implementation of an effective drought monitoring system - taking into account the scope and operability of state meteorological, hydrological and hydrogeological monitoring.</p> <p>In addition, this action includes the provision of data for the purposes of effective drought risk mitigation together with a forecast of rainfall deficits and changes in the amount of flowing and groundwater resources.</p> <p>The integrated drought monitoring system must include the monitoring of droughts in the full range of its types (atmospheric, agricultural, hydrological, hydrogeological, both on agricultural and forest land). When implementing the action, one should act, inter alia, Europe's Medium Term Weather Forecast (ECMWF) data. In the field of hydrogeological monitoring, there is control of groundwater system checkpoints, prioritization for the usable levels and the first aquifer in the balance units of available groundwater resources. In cooperation with a local government unit and free from cooperation with institutions responsible for management management, with the need for an independent local government. The aim of the action is to improve the operational drought monitoring systems and their mutual integration and inclusion in the crisis management system, as well as in the early warning system against dangerous phenomena. As part of the task, it is required to undertake work on changing legal instruments to enable the implementation of an integrated drought monitoring system.</p>	national	<ul style="list-style-type: none"> - SWH PW; - minister in charge of water management; - GCS; - minister in charge of internal affairs; - minister in charge of agriculture and rural development; - minister in charge of environment; - minister in charge of climate; - National Support Centre for Agriculture 	<ul style="list-style-type: none"> - SWH PW; - minister in charge of water management; - IEP-NRI - ISSPC-SRI; - GCS; - SGU; - NFH SF; - minister in charge of agriculture and rural development; - SHMS; - SHS 	<p>The drought monitoring system will provide ongoing information on the monitored drought phenomenon, in particular in the field of agricultural drought and in agricultural, forest, hydrological and hydrogeological areas. This will enable, through local information and management systems, to inform the local society and implement adequate ongoing activities. The measure will indirectly contribute to limiting the effects of drought in all sectors of the economy.</p>	high
13	Legal	Optimising the rules of granting a designated subsidy to cover part of the compensation for damages caused by agricultural drought and concluding insurance contracts against the risk of agricultural drought	<p>The action concerns the improvement of the subsidised insurance system through:</p> <p>a) The creation of a uniform database on agricultural drought, which will contain information from ISSPC-SRI, ARMA, IMWM-NRI, IGC and other entities;</p> <p>b) Providing access to the database for insurance companies and farmers in order to calculate premiums (for companies) and to assess the reliability of monitoring (for farmers).</p> <p>c) The collection of data on actual crop yields divided into individual crops and plots.</p> <p>d) Improving and standardising the methods of estimating agricultural drought by insurance companies (the method may be used in a further step, i. a., by municipal commissions estimating losses). As part of the elimination of information asymmetry, this data would also be available to farmers and associations of farmers.</p>	national	<ul style="list-style-type: none"> - minister in charge of agriculture and rural development; - minister in charge of public finance; - ISSPC-SRI; - ARMA 	<ul style="list-style-type: none"> - insurance companies; - minister in charge of agriculture and rural development 	<p>Providing historical information on the phenomenon of agricultural drought will allow insurance companies and/or the Ministry of Agriculture and Rural Development to prepare quotation of insurance premium rates. At the same time, tools for shaping current information about the phenomenon of agricultural drought and its course and effects in relation to crops are necessary for insurance companies to decide on the actual involvement in the insurability of the drought. The availability of data from the created database should increase the number of farmers covered by the drought insurance.</p>	high
14	Construction	Construction and reconstruction of groundwater intakes and construction or reconstruction of main water pipelines to transfer water to areas at risk of hydrological drought for the purposes of collective water supply intended for human	<p>The aim of the measure is to create, along with the required infrastructure, alternative water intakes or to modernise them for the purposes of collective water supply for human consumption. Groundwater will be used for this purpose. This will enable the protection of surface water resources in the event of a hydrological drought and will contribute to ensuring the continuity of collective water supply for human consumption. This action should be based on analyses of groundwater usage possibilities as well as a holistic approach to ensuring continuity of water supply.</p>	local	<ul style="list-style-type: none"> - SGU/ water and sewage companies 	<ul style="list-style-type: none"> - SGU/ water and sewage companies 	<p>The measure will reduce the effects of hydrological drought in the municipal sector. Additional underground intakes in the event of a shortage of surface water will ensure the continuity of the supply of water for human consumption.</p>	high

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		consumption by residents of these areas						
15	Legal	Development of an effective drought risk management system in terms of temporary limitation of water use	Undertaking legislative actions and creating a system of procedures which will enable: a) the introduction of water rationing in the area covered by the collective water supply system located within the range of the phenomenon of hydrological or hydrogeological drought; b) the temporary restriction on the power of companies to provide water services other than to supply water intended for human consumption to the public; c) the temporary limitation of water use for users who do not use it for human consumption nor control critical infrastructure installations or devices, as defined in the provisions on crisis management. The developed system of procedures should be implemented when one of the circumstances justifying the declaration of a drought disaster occurs or when a different limit value for drought is reached in surface waters or/and groundwater.	national	- minister in charge of water management; - GCS	- SWH PW; - minister in charge of water management; - voivodes	The measure will enable real implementation of the statutory delegation to limit water use in the event of drought. This will reduce the effects of drought on key sectors of the economy, i.e. water supply for human consumption, energy and animal breeding.	high
16	Legal	Temporary limitation of water consumption from the water supply network	Establishing procedures for ensuring the supply of water for human consumption in the event that the continuity of services and appropriate parameters provided by water and sewage companies are impossible to achieve or they are limited due to the occurrence of hydrological or hydrogeological drought. For this purpose, regulations of water supply and sewage disposal should respect the principles of limited access of recipients of services of water supply and sewage water for human consumption, which can be used in case of drought, hydrological or hydrogeological.	local	- water and sewage companies	- commune council	The implementation of the task enables the prioritisation of needs (e.g. by limiting garden watering) and ensures continuity in the supply of water for human consumption.	high
17	Legal	Temporary limitation of water use	Introducing, in accordance with a previously developed procedure, restrictions in the use of water, in the occurrence of drought. As a result of the restrictions, some users would be forced to change the way they use water, in particular in terms of water abstraction. Each time this action is taken, the group of users covered by its scope must be individually determined depending on the area covered by the action and the priorities adopted for the use of water.	local	- voivodes	- water users	The implementation of the measure will contribute to ensuring the continuity of water supply for the purpose of human consumption and for the prioritised use established in the crisis management procedure.	medium
18	Legal	Change in the method of implementation and postponement of the completion dates of maintenance works on watercourses included in the water maintenance plans due to the	Development and implementation rules of the verification and optimisation methods of execution and scheduling the current maintenance works related to the ongoing watercourses maintenance i. a. the removal of vegetation from the river bottom and banks and the floating plants and plants rooted in the bottom, and the introduction of these rules in the event of a decrease in the water level in watercourses to the point indicating the occurrence of hydrological drought. The	local	- SWH PW	- SWH PW	Delaying or changing the method of implementation of maintenance works in periods of low water levels caused by the occurrence of the hydrological drought phenomenon will contribute to limiting the outflow of water from the catchment area of a given watercourse. The presence	high

		occurrence of hydrological drought	schedule and rules should be implemented in updated water maintenance plans.				of vegetation in the riverbed extends the period of water occurrence in temporary or temporarily drying watercourses. Postponing the removal of the vegetation in the watercourse will have a positive effect on the hydrological functions of the watercourse during drought, e.g. ensure the extension of the channel retention time and slow down the river outflow. It will also reduce the impact of drought on aquatic and water-dependent ecosystems.	
19	Educational/ Legal	Development and implementation of changes to the core curriculum of general education for primary and secondary schools in terms of the definition of drought, causes of its occurrence, effects and methods of its identification, and counteracting its effects	<p>Introducing drought issues to the core curriculum of general primary school and secondary schools due to the fact that creating appropriate attitudes is extremely important in order to effectively implement measures to counteract the effects of drought. The measure will be possible to implement in the core curriculum for post-primary schools if its objectives are consistent with the education profile. The primary aim of this measure is to disseminate knowledge about drought among children and adolescents, which is going to include: the promotion of a water-saving culture with particular emphasis on the principles of water use during droughts, methods of rainwater management, and types of water retention devices.</p> <p>The measure is also particularly important in the context of social understanding of the planned key hydrotechnical investments on a regional and national scale, which are necessary to counteract the effects of drought. It will contribute to the protection of water resources and increase the national security in terms of the risk of drought.</p> <p>The measure complies with the applicable provisions of planning documents both at the national and European level (including the Water Resource Protection Plan and the Policy in the field of water scarcity and droughts).</p>	national	<ul style="list-style-type: none"> - minister in charge of water management; - minister in charge of education; - minister in charge of higher education and science; - SWH PW 	<ul style="list-style-type: none"> - minister in charge of education; - minister in charge of higher education and science 	Building public awareness of the drought phenomenon at the school stage is an extremely important activity from the point of view of supporting the implementation of measures to counteract the effects of drought in the future.	high
20	Educational/ Legal	Development and implementation of an educational program about the causes of drought, ways of identifying it, economic, social and environmental areas sensitive to drought, and counteracting its effects	Building public awareness of the drought phenomenon is an important activity from the point of view of the effectiveness of the implementation of other measures in the field of counteracting its effects. This action includes educational programs and educational campaigns targeted at various social groups, broken down by age, place of residence and different needs of water users. As part of the educational program, a number of tasks and activities aimed at various social groups should be developed, taking into account the most appropriate communication channels.	national	<ul style="list-style-type: none"> - minister in charge of water management; - minister in charge of agriculture and rural development; - SWH PW 	<ul style="list-style-type: none"> - SWH PW; - SGU; - NFH SF; - agricultural advisory units; - managing retention reservoirs 	A society aware of the problem of drought and its origins will respond more favourably to the recommended actions in the field of best practices, as well as the implemented investment activities. Due to the specificity of the phenomenon of drought, it is often invisible to social groups not directly related to the topic of environmental protection, water management, forestry or agriculture. The fact is, however, that drought as an extreme phenomenon affects all social groups, even those that are not directly related to its effects.	high

21	Educational	Education and raising awareness of farmers in the field of increasing retention on agricultural land, increasing organic matter in soil and promoting drought tolerant crops. Promotion of agricultural insurance	<p>Increasing the level of knowledge and awareness of agricultural advisors and farmers in the field of retention on agricultural land, activities promoting the dissemination of crops resistant to soil water shortages caused by drought, agrotechnical treatments increasing the content of humus in the soil and improving water retention in soil, and crop and livestock insurance. The forms of implementation of the action include training, workshops, demonstrations, and advice on techniques and solutions for increasing retention and adapting crops to soil and climate conditions, including crops resistant to soil water deficits and drought, as well as introducing effective mechanisms for managing the risk of drought in agricultural and fishery production.</p> <p>All forms of implementation of this measure must take into account the wide context of counteracting the effects of drought, i.e. education on drought (aspects of the threat of agricultural drought and the risk of its effects), water shortages and aspects of water management related to drought.</p>	national/regional/local	<ul style="list-style-type: none"> - minister in charge of agriculture and rural development; - minister in charge of water management; - agricultural advisory units 	<ul style="list-style-type: none"> - agricultural advisory units; - SWH PW 	<p>The implementation of the measure will contribute to increasing the awareness of agricultural advisers and farmers threatened by the drought, its origins and the possibility of counteracting it by shaping retention in agricultural areas, as well as the possibility of using crops more resistant to unfavourable weather phenomena, including drought, and the need to insure agricultural crops. As a result, a greater level of knowledge creates an opportunity to reduce crop losses and reduce the amount of funds needed to be paid as compensation for losses caused by drought. In addition, the implementation of training and educational activities will facilitate the introduction and implementation of other activities planned in the DECP in rural areas.</p>	high
22	Educational	Development of a set of best practices for the rationalisation of water use in agriculture	<p>Developing guidelines for farmers in the field of rational use of water in agriculture, taking into account best practices developed so far at various national levels and in other Member States, aimed at rationalising water consumption in agriculture and selected according to their adequacy to the conditions and scale of drought effects occurring in Poland.</p> <p>The developed best practices should include indications regarding:</p> <ul style="list-style-type: none"> a) water efficiency on farms and farmland, b) the use of more efficient irrigation installations and systems for transporting water used for irrigation, c) the collection and use of rainwater in agriculture; d) water reuse in agriculture, i.e. solutions that can be implemented under applicable legal provisions and that are provided for in the EU legislation; e) effectively managing water needs at a farm and a fish farm level; f) irrigation planning, including scheduling of any necessary irrigation; g) defining the principles of creating an efficient and reliable system for monitoring the current needs of irrigation and water abstraction; h) agrotechnical treatments increasing the content of humus in the soil, improving water retention in the soil and reducing evaporation in the cultivation process; i) adaptation of crop type to natural conditions (soil, water and climatic conditions), including the use of varieties resistant to soil water shortages and drought; j) measures increasing water retention on agricultural land by limiting surface runoff and retaining and using rainwater and snowmelt, e.g. by creating field plantings; k) the creation of ecosystem services in rural areas; l) the adaptation of agricultural production to the adverse effects of climate change, including water shortages, and adaptation measures in this regard. <p>The elements necessary for the proper implementation of the developed best practices in the agricultural environment are promotional activities, as well as informational and educational activities.</p>	national	<ul style="list-style-type: none"> - minister in charge of agriculture and rural development, - minister in charge of water management; - SWH PW; - research institutes supervised i.a. by the minister in charge of agriculture and rural development 	<ul style="list-style-type: none"> - units under the minister in charge of agriculture and rural development 	<p>The implementation of the measure will contribute to increasing the level of knowledge in the field of water retention and reducing water consumption in agriculture. The development of guidelines, based on the results of properly functioning drought monitoring, will enable precise determination of the period in which it is necessary to conduct irrigation. Moreover, due to the reduction of the amount of water abstraction, the promotion of measures presented as best practices, information and education through training will contribute to the reduction of water consumption and will save the expenses incurred by farmers on this account. Applying the principles included in the set of best practices will contribute to reducing the level of the effects of agricultural drought.</p>	high
23	Educational /Legal	Water reuse promotion	<p>The measure aims to promote water reuse among individual water users. It is based on promoting efficient water management, e.g. by applying solutions for the reuse of water and the retention and use of rainwater in households, enterprises and public buildings. The action also concerns</p>	national	<ul style="list-style-type: none"> - minister in charge of water management; 	<ul style="list-style-type: none"> - water users; - farmers; 	<p>Reuse of water and use of rainwater is extremely important due to the increase in water demand, especially in periods of high temperatures and a reduction in</p>	medium

			the development of a code of best practice in the field of water reuse for various sectors of the economy, taking into account reference documents in the field of best available practices (BAT), as well as training and workshops on this subject. The activity assumes the implementation of legislative works introducing and improving the existing legal instruments concerning and promoting the introduction of such activities as desirable.		<ul style="list-style-type: none"> - minister in charge of environment; - minister in charge of climate; - SWH PW 	- National Support Centre for Agriculture	the amount of available water resources. At the level of individual farms, the use of the so-called 'grey' water will significantly reduce the consumption of good quality water. The use of rainwater will contribute to delaying the outflow of water from the catchment area and limiting the use of tap water or water from individual intakes.	
24	Legal	Verification of the principles of water management in retention reservoirs	Conducting a verification of the principles of water management in retention reservoirs (including dry reservoirs), while taking into account the objectives of counteracting the effects of drought and the objectives of flood risk management. Carrying out the verification provides the basis for changing the functioning of the facility, including its reconstruction in the context of increasing the available resources of surface- and groundwater, without significantly deteriorating the effects of other tasks performed by these facilities. Verification should be performed at the time of issuing a water permit for special water use or at the request of the owner or administrator of the reservoir.	local	- SWH PW	- administrator/owner of the facility	The implementation of the measure will enable the transformation of the functions of some reservoirs, so that they can counteract the effects of drought, and thus indirectly contribute to increasing the amount of available resources and increasing the resilience of adjacent areas to the effects of drought.	medium
25	Legal	Review of water permits and integrated permits in areas with resources under intensive and very intensive use	Conducting a review of water permits for the abstraction of surface- or groundwater and the discharge of wastewater into water or soil, as well as integrated permits concerning these processes. The purpose of the verification is to adjust the volume of abstractions and discharges to the actual needs of water users, the availability of resources, and taking into account the priorities in water use. The review of water permits is an action to rationalise the use of water resources. The activity should be carried out as part of periodic reviews of water permits and integrated permits or additional reviews in connection with the threat to environmental objectives.	regional	- SWH PW	- SWH PW	The measure will result in limiting the excessive distribution of water resources, adjusting the provisions of permits to the possibility of their implementation and taking into account the priorities in the use of water. The measure will make it possible to specify the amount of water use and to make the results of water and economic balances more realistic.	high
26	Legal	Development of financing rules for measures to counteract the effects of drought in operational programs	The action is aimed at developing rules for operational programs and other national programs related to counteracting, limiting and mitigating the effects of drought that will regulate their financing. As part of this measure, operational programs should include such provisions that, in connection with the provisions of the drought counteracting plan, would prioritise the implementation of the catalogue of activities in the field of retention, construction of water intakes in agricultural, forest and urban areas, construction and reconstruction of irrigation and drainage systems, education in the field of drought, implementation of good agricultural practices, and effective use of water resources, including closed-loop management and water reuse, in areas threatened by drought.	national	<ul style="list-style-type: none"> - minister in charge of regional policy; - minister in charge of development; - minister in charge of environment; - minister in charge of climate; - minister in charge of water management; - minister in charge of agriculture and rural development; - minister in charge of fisheries 	<ul style="list-style-type: none"> - minister in charge of regional policy; - minister in charge of water management; - marshals of voivodeships; - NFEPWM; - SGU 	The possibility of implementing measures to reduce the effects of drought is largely related to the possibility of obtaining financing. Including activities related to counteracting the effects of drought in operational programs will help to increase the number of implemented activities. Prioritising the implementation of measures in conjunction with the provisions of the DECP will either directly contribute to increasing the resistance of a given area to the effects of drought through the implementation of investment activities, or indirectly, through increasing social awareness of drought. The integration of the provisions of operational programs and the DECP will also contribute to the rational use of funds.	high
27	Legal	Development of the Program for Counteracting Water Scarcity	Conducting in developing a strategic document on the possibilities and necessary directions of activities in the field of water retention development. The document will indicate activities, the implementation of which will increase water retention in the country. The program will take into account all types of surface water retention, distinguished by the scale (ie large, small and micro retention) and the nature of the retention (natural and artificial). The program will also cover landscape and soil retention.	national	- minister in charge of water management	<ul style="list-style-type: none"> - minister in charge of water management; - SWH PW 	The result of the measures will be the indication of specific actions that will contribute to increasing water retention, including landscape, soil-ground, surface water and rainwater retention.	high