

Ministry of Environment Announces 14 Candidate Sites for Climate Response Dams

- Selected three multipurpose dams, seven flood control dams, and four water supply dams
- Secured flood control capacity to accommodate rainfall of 80 to 220 mm at once and an annual water supply capacity of 250 million tons for 2.2 million people
- Reviewing a significant increase in the budget for supporting residents in areas surrounding the dams

On July 30 at the Government Complex in Seoul, the Ministry of Environment (Minister Kim Wansup) announced 14 candidate sites for climate response dams to protect the lives of citizens from extreme floods and droughts caused by the climate crisis and to support future water demand for the nation's strategic industries.

① Recent Flood and Drought Damage

In Paju, Gyeonggi-do (873 mm); Buyeo, Chungcheongnam-do (809 mm); and Iksan, Jeollabuk-do (704 mm), the rainfall in July alone exceeded half of the annual precipitation. Particularly in Iksan, Jeollabuk-do, significant damage occurred due to rainfall exceeding a 500-year frequency, leading to the designation of 15 cities and counties nationwide as special disaster areas.

The rainfall pattern is also characterized by very intense rain concentrated in

a short period of time. In 2022, Dongjak-gu, Seoul experienced a record-breaking downpour of 141 mm per hour, the highest intensity since weather observations began. However, this record was surpassed in just two years when Gunsan, Jeollabuk-do, saw 146 mm of rainfall per hour in July this year. The damage caused by extreme downpours and other related events over the past three years has exceeded KRW 1.6 trillion, with 85 casualties reported.

On the other hand, in 2022, the southern regions experienced the longest drought on record, lasting 227 days. This led to a shortage of water for daily use and brought the national industrial complexes to the brink of halting factory operations.

② Necessity of Climate Response Dams

Despite the reality of the climate crisis, no projects for constructing multipurpose dams have been initiated in the past 14 years since the Bohyeonsan Multipurpose Dam construction began in 2010. The Naengcheon basin in Pohang, Gyeongsangbuk-do, which suffered extensive damage from Typhoon Hinnamnor in 2022, could have prevented such damage if the Hanga Dam had been constructed upstream in advance.

The current water storage capacity is insufficient not only to manage floods but also to cope with extreme droughts and future new water demands. The Soyanggang Dam and Chungju Dam, the primary sources of water supply for the Seoul metropolitan area, have already utilized 94% of their capacity, making it difficult to ensure a stable supply of water for daily use in the event of an extreme drought. In addition, expanding water storage is necessary to meet the future water demands required to support national strategic industries.

③ Progress of Candidate Site Review and Proposed Sites

The Ministry of Environment has derived candidate sites for climate response dams that need to be promoted at the national level, based on scientific data evaluating the risks of floods and water shortages by watershed, in preparation for extreme floods, droughts, and the increasing future water demand since May of last year. In addition, local governments have actively proposed the construction of climate response dams for flood defense, and the appropriateness of each dam has been closely examined, with necessary dams reflected in the candidate sites.

There are a total of 14 candidate sites for climate response dams, including three multipurpose dams, seven flood control dams, and four water supply dams. By region, there are four sites in the Han River basin, six in the Nakdong River basin, one in the Geum River basin, and three in the Yeongsan River and Seomjin River basins.

In the Han River basin, there are four sites including the multipurpose dam on the Suipcheon in Yanggu-gun, Gangwon-do. In the Nakdong River basin, there are six sites including the flood control dam on the Yongducheon in Yecheon-gun, Gyeongsangbuk-do. In the Geum River basin, there is one multipurpose dam in Jicheon, Cheongyang-gun, Chungcheongnam-do. In the Yeongsan River and Seomjin River basin, there are three sites including the water supply dam on the Dongbokcheon in Hwasun-gun, Jeollanam-do.

* For detailed information on each dam candidate site, please refer to the attached materials.

④ Effects of Climate Response Dams

Through climate response dams, it is possible to secure flood defense capabilities that can accommodate rainfall of 80 to 220 mm at once for each

dam. For example, in 2023, Yecheon-gun, Gyeongsangbuk-do experienced three casualties and property damage amounting to KRW 11.7 billion due to flooding. However, with the construction of the Yongducheon Dam, it will be able to safely protect the downstream area from floods even during rainfall events with a frequency of 200 years.

In addition, the water newly supplied through climate response dams will amount to 250 million tons annually, which is sufficient for 2.2 million citizens. This water will be utilized to actively respond to extreme droughts and new water demands in national strategic industries. For example, in the case of the Dongbokcheon Dam in Hwasun-gun, if the dam had been in place during the drought in Gwangju and Jeollanam-do last year, it could have alleviated the crisis without reaching the highest severity level of drought.

The Ministry plans to significantly increase the budget for supporting areas around dams, including roads, water supply and sewage systems, waterfront parks, and campgrounds, to construct dams that are friendly to local residents. In addition, the Ministry intends to benchmark excellent cases of existing dams* that have greatly contributed to local development to enhance the lives of local residents.

* Examples include community participation in floating solar power at Hapcheon Dam and the revitalization of tourism linked to the waterfront space at Gimcheon Buhang Dam.

⑤ Future Implementation Plans

The Ministry has ensured that during the preparation of the candidate sites for climate response dams, additional regulations on water sources due to dam construction are either not imposed or minimized when absolutely necessary, and that the number of households displaced due to submergence is kept to a minimum. For example, in the case of the largest multipurpose dam on the Suipcheon (Yanggu-gun, Gangwon-do), there are no private homes that will be

submerged, and there will be no regulations on water source protection zones resulting from the dam construction.

The Ministry plans to actively explain and communicate with residents regarding their questions and concerns through regional briefings and public hearings starting in August, while also undergoing sufficient consultation processes with relevant agencies.

Once the consultations are completed, the candidate sites for climate response dams will be reflected in the river basin water resource management plan in accordance with Article 18 of the Act on the Investigation, Planning, and Management of Water Resources. Along with this, subsequent procedures such as basic conceptualization, feasibility studies, and the establishment of basic plans for each dam will be carried out, during which the location, scale, and purpose of the dams will be determined.

Minister Kim Wansup emphasized, “Since dam construction takes about 10 years even if it starts now, we can no longer afford to delay the construction of dams in light of the recent climate crisis.” He stated, “We plan to significantly increase the budget for supporting areas around dams, such as roads and water supply and sewage systems, to help improve the lives of local residents and revitalize the local economy.” He added, “We will create dams that are in partnership with the community by continuously communicating with local residents during the feedback process.”