

2016 implementation plan for expansion of erosion control works focusing on living spheres in Korea

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1. Introduction

Several characteristics of South Korea make it extremely vulnerable to landslides. The mountain slopes are very steep and, soil cohesion is low, as the soil mostly consists of sandy loam made by weathering of granites and gneisses. Mean annual precipitation ranges from 1,300 mm to 1,500 mm and every years' precipitation is mostly concentrated in summer. Especially considering the recent changes in weather patterns due to climate change, continuous preventive measures are required, as the incidence of landslides due to the localized torrential rain is expected to increase in the future (Korea Forest Service 2015). Therefore, the Korea Forest Service plans to carry out erosion control works in 2016 based on the following key policies: 1) the establishment of landslide prevention infrastructure; 2) the establishment of a landslide prevention and response system; 3) a focus on landslide-vulnerable areas; and 4) prompt and precise investigation and recovery for landslide-affected areas (Korea Forest Service 2016).

2. The cost and volume of erosion control works

Erosion control works in 2016 should be completed prior to the rainy season in order to ensure protection from landslides and to contribute to the development of the local communities. The total budget for the works is 372,259 million won (286,407 million won from national expenditure and 85,852 million won from local expenditure) (Table 1).

Table 1. Detailed summary of erosion control works in 2016

Name of work	Scale	Name of work	Scale	Name of work	Scale
Mountain erosion control	222 ha	Stream conservation works	575 km	Erosion control dams	825 sites
Management of erosion control dam	523 sites	Coastal disaster prevention forests	40 ha	Restoration of coastal erosion area	15 km
Forest watershed management	5 sites				

Total budget : 372,259 million won (286,407 million won from national expenditure and 85,852 million won from local expenditure)

3. Detailed implementation plan

3.1. Establishment of landslide prevention infrastructure

We aim to establish a landslide safety network, and to operate various programs, in order to minimize landslide damage and to enhance the on-site response capability of landslide prevention. In order to achieve these goals, we will strengthen response capabilities and equip support systems to prevent landslides, expand job training for landslide prevention to improve expertise, and provide more public information to promote a culture of landslide safety. In addition, we will conduct policy training for advanced landslide prevention technologies, and promote international exchange and cooperation, including the preparation of materials for the 12th Korea-Japan Sediment Disaster Prevention Technology Conference. The implementation schedule is as follows. We will conduct landslide prevention personnel training in January; hold a seminar for nationwide landslide prevention and response and meetings with the officials of relevant organizations and groups in May and June, respectively;

and hold the 39th nationwide landslide prevention workshop in December.

3.2. Establishment of a landslide prevention and response system

We aim to establish a safety network for landslide disasters by strengthening response capabilities and on-site prevention, with a focus on landslide vulnerable areas. In order to achieve these goals, we will build a prompt response system and step-by-step prevention scheme for landslide crisis response, perform investigations of areas of concern, and pursue designation and management of vulnerable areas. We also plan to enhance the stability and on-site utilization of the landslide information system. In addition, we will expand the number of the landslide prevention and response specialists that focus on on-site services, establish a system of collaboration with relevant organizations for landslide crisis response, and advance preventative measures for winter forest disasters. The implementation schedule is as follows: February, establish countermeasures for the thawing season landslide safety surveillance; April to May, conduct peripatetic education for the landslide information system; and May, run simulation training for landslide crisis response and for the landslide prevention support center.

3.3. Erosion control works focused on landslide vulnerable areas

We aim to complete erosion control works prior to the rainy season in order to ensure protection from landslides and to contribute to the development of local communities. To achieve this goal, we will focus intensively on landslide vulnerable areas for the implementation of the erosion control works, which will include the construction of coastal disaster prevention forests and coastal erosion prevention works. We will also establish a specialized system to evaluate the validity of designated regions for erosion control works. In addition, we plan to: utilize technical consultants to enhance the design and construction quality of the erosion control works; ensure protection against mountain disasters through strict management and follow-up of erosion control works; and reinforce field technology to improve the quality of erosion control works. The implementation schedule is as follows: February, conduct the field workshop for hands-on workers of erosion control projects; March to June, field supervision and guidance for the design and construction of the erosion control works as well as establishing a field advisory panel for the works; September, select the designated regions for the erosion control work quality contest.

3.4. Prompt and precise investigations and recovery of landslide-affected areas

We aim to conduct prompt and precise investigations of landslide causes and damage, and to pursue permanent recovery in order to create a safe living environment. In order to achieve these goals, we plan to establish a prompt and precise investigation system for areas affected by a landslide, to ensure a rapid and robust permanent recovery of landslide-affected areas, and to strengthen follow-up management of landslide recovery areas. The main implementation schedules are as follows. We will form a consensus on the 2016 selection criteria for forest disaster recovery costs in January–May, report the safety checks and other monitoring results for landslide recovery areas in June, and convene a “technical expert panel for landslide cause investigation” in May to November.

References

Korea Forest Service. 2015. 2015 annual report on forests and forestry trends. pp. 458.

Korea Forest Service. 2016. 2016 implementation plan for preventing landslides. pp. 390.

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