

Best Practices and Lessons Learned

There are many driving forces behind the success of the National Reforestation Program of the ROK:

Strong personal conviction of the leader: The centralized presidency of Park gave him the authority to prioritizing forest rehabilitation, which was reflected in his personal involvement in many activities centered on forests.

Systematic organization: As the Korean Forest Service was unable to fulfill its function under the Ministry of Agriculture and Forestry it was given more authority under the Ministry of Home Affairs. The central government mobilized and coordinated efforts of all provincial, county, city, and village units. Forest kyes and forestry cooperatives were organized in every village.

Integrated approach: The National Reforestation Program was integrated into multiple government programs across many government agencies. For example, in the nationwide tree-planting movement the Ministry of Culture and Education took responsibility for the student tree-planting movement, the Ministry of Home Affairs provided fertilizers, the Ministry of National Defense reforested the military bases, and the Ministry of Culture and Public Information designed campaigns for the movement.

Training: The government trained many forestry experts and officials for forest rehabilitation, starting with Seoul National University following the Japanese occupation.

Prioritization: The National Slash-and-Burn Clearance Project started in 1974 prioritized farmers in extreme poverty that depended solely on slash-and-burn agriculture. The project allocated 38.3 percent of the budget to 17,643 households, which was only 6.6 percent of the total.

Promotions: The government provided promotions for forest rehabilitation work: provincial forest divisions were promoted to forest bureaus, country forestry departments were promoted to forest divisions, and about two hundred forest officers were promoted.

Parallel programmes: Implementation of the Economic Development Plans, Saemaul Undong, National Slash-and-Burn Clearance Project and the Forest Rehabilitation Plans maximized reforestation efforts.

Unintended consequences: The top down approach of the National Reforestation Programme did not adequately account for forest owners preferences. For example, forestry cooperatives pointed out that landowners preferred tree species were not considered.

The full case study can be found at <http://www.cbd.int/restoration/>

Leveraging public programmes with socio-economic and development objectives to support conservation and restoration of ecosystems: Republic of Korea's National Reforestation Programme

The Strategic Plan for Biodiversity 2011-2020 recognises that biodiversity underpins ecosystem functioning and the provision of ecosystem services that are essential for human well-being. The fourth Global Biodiversity Outlook underscores that biodiversity is still being lost and ecosystems degraded at alarming rates. Actions for restoring degraded ecosystems need to be strengthened and scaled up. Some countries have developed public programmes with socio-economic and development objectives that invest in large-scale conservation and restoration of ecosystems. These programmes use labour-intensive approaches for both development needs and environmental goals.

This pamphlet, which is one in a series, outlines the elements of success of the Republic of Korea's National Reforestation Programme. The aim is to provide information on the potential of public programmes with socio-economic and development objectives to contribute simultaneously to development and environmental goals. This information may be useful to other countries considering implementing similar programmes in their countries, thereby scaling up biodiversity conservation.

Introduction

Korean forests were devastated following the Japanese occupation and the Korean War. In 1962, despite unfavorable economic conditions, the Korean government began a massive reforestation effort. Due in great part to the dedication of President Park Chung Hee towards forest rehabilitation as a means of alleviating poverty, reforestation was directly linked to the national agenda and major development plans. From 1962 to 1987, the National Reforestation Programme was responsible for reforesting over 2 million ha, supplying both fuelwood and a revenue source for local communities, and erosion control projects throughout the Republic of Korea. Furthermore, the planting of a variety of tree species laid the foundation for improving biodiversity: falling leaf litter from broadleaf forests improved soils, microorganisms and insects; and growing stock and soil quality increased the density of birds and mammals, such as the Korean hare, water deer, and wild boar.



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Forest Degradation

From 1955 to 1964, it is estimated that forest degradation was so severe in parts of Korea that monsoon flooding destroyed the livelihoods of 220,000 people, damaged 200,000 ha of farmland, and took away the lives of 1,300 people. The direct drivers of forest degradation were assessed to be the collection of fuelwood for household use, shifting cultivation methods including slash-and-burn, and illegal and indiscriminate logging. The indirect drivers were the South/North division, the Korean War, population increase, poverty, and weak administrative power.

National Reforestation Programme

The National Reforestation Programme, implemented over 25 years, can be divided into the four parts of Figure 1.



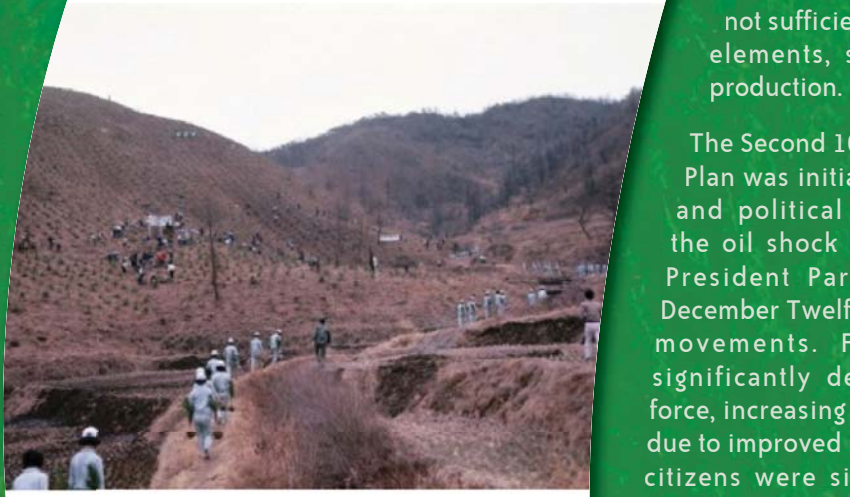
The First 5-year Economic Development Plan, while successful in increasing national income, was unable to establish sufficient fuelwood plantations (only 237,000 ha were established by 1965) to meet forest policy goals to: protect and nurture forests; enhance forest resources; preserve land; and develop the national economy. Furthermore, work stemming from the 1962 Erosion Control Work Act was of such poor quality that the land required much maintenance. Lastly, the government banned bringing fuelwood into the densely populated capital region to encourage the urban population to utilize coal instead.

In the Second 5-year Economic Development Plan the Korean Forest Service was established to direct forest efforts. During this period, 360,000 ha of fuelwood plantations were created, an additional 150,000 ha were reforested, and further erosion control work was carried out on hillsides and seashore.

Overall, as the First and Second 5-Year Economic Development Plans prioritized building infrastructure, such as railroads, highways, and electrical lines, little prominence was given to forest rehabilitation projects and expected results were not obtained. In a 1972 assessment conducted on 784,239 ha of fuelwood plantations established between 1959 and 1967, it was found that 47 per cent had failed. When President Park became aware of this, he reorganized the Korean Forest Service under the Ministry of Home Affairs, promoting it to lead organization for forest rehabilitation efforts.

It was assessed that a strong and comprehensive set of policies to promote fuelwood plantations, both to meet the energy needs of rural areas and to quickly restore degraded forests, would prevent further losses. Therefore, in 1973 the Korean Forest Service established the 20-Year Forest Rehabilitation Plan. In total, the plan aimed to restore 39 per cent (or 2,637,000 ha) of forested areas throughout the Republic of Korea.

The First 10-Year Forest Rehabilitation Plan had four objectives: making forest rehabilitation a patriotic duty; reforesting 39 per cent of denuded forest area; creating new economic zones in forest areas; and mobilizing all stakeholders. Appealing to patriotism, a 'tree-planting system by all people' quickly became a requirement: forest corporations and landowners mandatorily planted trees; each village was encouraged to reforest a 2 km radius from its



center; organizations and institutions were responsible for reforesting designated areas; and others which did not own forests were encouraged to voluntarily participate in the nationwide tree-planting movement. Furthermore, the Plan was closely aligned with *Saemaul Undong*, a rural livelihood improvement and development project that included replacing fuelwood use with coal and community-based tree planting.

With 1 million hectares of land reforested, the quantitative target of the First 10-Year Forest Rehabilitation Plan was successfully accomplished by 1978. Furthermore, the *Saemaul Undong* nursery project produced 6.5 million seedlings in 1976 alone. Overall, there was some criticism that the Plan did not sufficiently focus on the qualitative elements, such as healthy seedling production.

The Second 10-Year Forest Rehabilitation Plan was initiated during a time of social and political turmoil, which included the oil shock in 1979, the death of the President Park, the Military Coup of December Twelfth, and the democratization movements. Furthermore, migration significantly decreased the rural labor force, increasing labor costs. In urban areas, due to improved national standards of living, citizens were simultaneously demanding environmental protection and outdoor recreation. Despite these conditions, by 1987 another 1 million ha of land was reforested and tree tending was taking place on 1 million ha of plantations. Furthermore, the *Saemaul* nursery project led to the reforestation project, which planted 1.37 billion ha of trees over its lifespan, and the erosion control project, which implemented measure on 16,238 ha of vulnerable land.

Multiple Perspectives

Vision: President Park presented a clear vision for a greener Korea that reforestation and forest health was the top priority, and he set about changing the perspective of the nation on forest matters. For example, the President's participation in various reforestation activities was highly publicized, especially for National Arbor Day and National Tree-planting Month.

Budget: The government consistently invested monetary resources in the National Reforestation Programmes. In 1967, the Korean Forest Service was inaugurated with a budget of 2.1 billion Korean won. By 1973, the budget was more than 10 billion Korean won.

Community: In creating new economic zones in forest areas, the Forest Law outlined a forest leasing and profit-sharing system, detailing that profits from fuelwood plantations were to be divided between forest owners (20%) and forest *kyes*¹ (80%).

Continuous Economic Growth: In 1953 the Gross Domestic Product of the Republic of Korea was 1.1 billion USD. By 1973, at the beginning of the First 10-Year Forest Rehabilitation Plan, it was 11 times greater. In 1987, at the end of the Second 10-Year Forest Rehabilitation Plan, it was 108 times greater. As a result, the transition from household fuelwood use to fossil fuel use was possible. By 1970s, a daily wage could buy twenty-five briquettes, which would be sufficient for a week.

Population: The population of the Republic of Korea doubled from 21.5 million in 1955 to 32.2 million in 1970. The rural population only began to decrease in 1968, from 14.4 million in 1970 to 10.8 million in 1980, when workers migrated to cities in order to receive greater wages.

Water Resources: Erosion control work decreased sediment discharge in many areas. For example, in the Yangju Watershed Experiment Ground, at the start of the National Reforestation Program, the stream flowed only during the three months of summer. Thirty years later there was continuous stream flow all year.

Forest Recreational Resources: According to a national survey by Gallup Korea, 81.3 per cent of people (about 37 million people over the age of 19) in the Republic of Korea go for a hike at least once a year. Additionally, 51,000 adolescents and 42,000 kindergarteners receive forest educational programs.

¹ *Kye* is the Korean term for a type of social network within communities, created to share credit and labor and to buffer hardships.