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Editorial

Management of Invasive Alien Plant Species through the National Commitments and Context-Specific Action

Invasive Alien Plant Species (IAPS) are among the most serious and ongoing threats to the natural world, disrupting ecosystems and affecting the livelihoods of communities worldwide. Nepal's rich ecological diversity, direct dependencies of people on natural resources for their survival, and inadequate preparedness make the country highly vulnerable to biological invasions. IAPS are spreading at an alarming rate across Nepal, reaching almost all districts, and encroaching immensely on forests, wetlands, farmlands, and even within protected areas. This invasion is not only an environmental issue but also a challenge to the country's native biodiversity and threatens the economic stability of local communities who rely on healthy natural systems for agriculture, water, atmosphere, medicine, and income. As it has extensively invaded land, water, and even the atmosphere - disrupting food production, ecosystem services, and public health - it may pose even national security threats in the coming decades if its invasion continues unchecked.

Over the past decade, research on invasive species in Nepal has increased significantly. There is proper documentation on the spread and habitat preferences of major invaders like *Mikania micrantha*, *Chromolaena odorata*, *Lantana camara*, *Ageratina adenophora*, *Eichhornia crassipes*, and *Parthenium hysterophorus*. These studies have been important in understanding the severity of the issues, raising much-needed public understanding about the growing invasion problems. Most of the studies on invasive species have focused on their listing in different zones and landscapes, mapping the distribution, and tracking the spread across different landscapes. Though such research is crucial, it has yet to identify effective actions for management. There is very little research focused on the actual quantification of how invasive species affect native biodiversity, ecosystem functioning, agricultural productivity, hydrological systems, and local livelihoods across Nepal's diverse socio-ecological contexts.

The Forest Research and Training Centre has been working as a focal agency in Nepal for combating IAS invasion, and has recently launched the 'Invasive Alien Plant Species Register' to produce official statistics on IAS prevalence in Nepal. Besides, communities and various institutions have been engaged in controlling and managing invasive species through different activities such as pulling out invasive plants manually, using targeted herbicides in some cases, and experimenting with biological control methods. Awareness campaigns along with pilot control projects have been tested in the selected areas, resulting in the identification of the problem and the willingness of the people at the community level.

Ensuring the effective management of IAPS, it is essential to categorize them based on the degree of invasion and impact. In the case of low-level invasion, prevention, surveillance, and rapid response action programs are necessary to implement. For moderately established

invasive species, population reduction using various control methods (mechanical, chemical, and biological) can be a better option for their effective management. Whereas for widespread invasive species, complete eradication of such species has become ecologically, economically, and technically challenging. In such cases, adaptive management approaches, including controlled utilization and value addition, need to be considered. Wise use of invasive biomass for fodder, compost, bio-briquette, local handicrafts, etc., can help manage these species effectively by reducing pressure on invaded ecosystems. However, the use of IAPS should not promote commercial production of IAS as societal sympathy can indirectly undermine efforts to implement control measures.

In recent years, Nepal has made significant progress in recognizing and addressing the challenges associated with invasive species. The approval of the government's *Invasive Alien Species Management National Strategy and Action Plan, 2025*, is an important step forward, showing a clear commitment to protecting ecosystems, livelihoods, and local communities from the growing threat of invasive species. The plan offers practical guidance across the whole journey of IAPS management - starting with prevention and early detection, moving through control and restoration of damaged ecosystems, and strengthening the skills, coordination, and cooperation of the institutions involved. Building on this strategy, the first national conference on invasive alien species management, held from 12-13 December 2025, concluded with an 18-point unanimous declaration urging for concrete, collaborative and coordinated efforts from all governmental agencies, nongovernmental agency and sectors of society. The conference convened over 250 participants, including policymakers, academicians, researchers, field practitioners, and development partners. They have shown their unwavering support, solidarity, and shared commitment to collective and effective actions in invasive alien species management.

The conference concluded with an unprecedented declaration, reinforcing the country's commitment to managing invasive species through coordinated, science-based, and inclusive approaches that engage communities and stakeholders across all three tiers of Government. With the approval of the national strategy and the unanimous declaration issued by the national conference, it is high time to turn these commitments into action through the concerted efforts of all stakeholders.

- Seerjana Maharjan and Rajendra KC

