

INVASIVE ALIEN PLANTS (IAPS) AND URBAN FLORA OF POKHARA, NEPAL

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Background

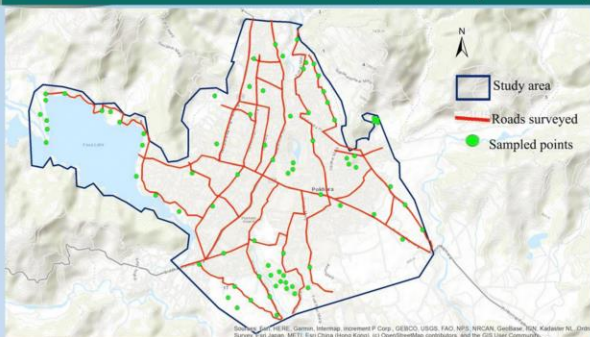
- Urban ecosystem often serves as befitting suitable microhabitat for IAPs and the increased incidence of invasion around the world poses a major threat to native biodiversity in urban settings too.
- Despite attempts to control it, the harmful effects of IAPs are becoming apparent on a local, regional, and global scale.

Why Pokhara ?

- With records of presence of IAPs, due to high human movements and dense road network, the urban ecosystem of Pokhara valley is prone to invasion.
- Due to limited research on the effects of IAPS on urban ecosystems, Pokhara was selected to examine the diversity of IAPS and their impact on urban flora.

Geographical Location Of Study Area

(28.2096° N, 83.9856° E)



Findings

General overview

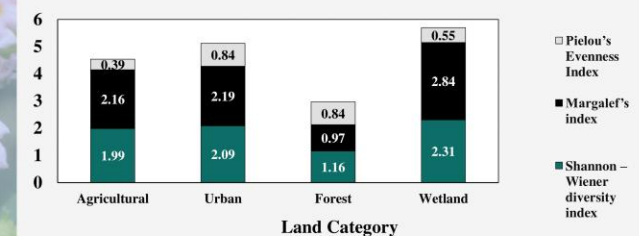
- 19 species of IAPs recorded while updating the checklist of IAPs of Pokhara to 22 species (*2 New species recorded)

IAPs

- Lantana camara* L. & *Bidens pilosa* L. were most problematic species as per IVI.

- Belonged to 10 families (Dominant: **Compositae**)
- 17 Dicotyledonous and 2 Monocotyledonous
- 15 species herb and 4 species Shrub

Comparison of ecological parameters



Factor governing IAPS and its impacts

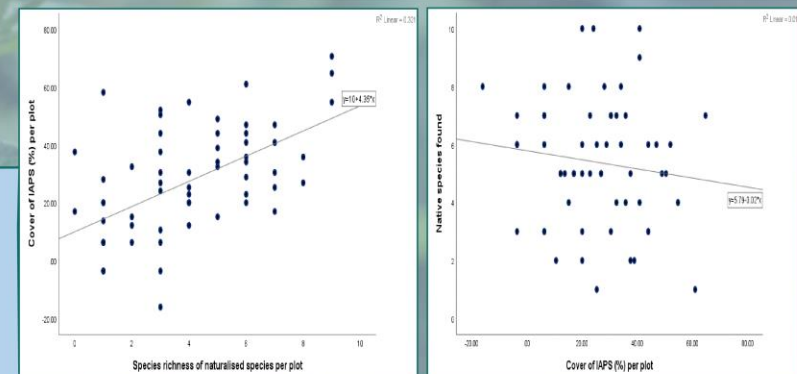


Fig. Variation of coverage of IAPs (%) with species richness of naturalized species

Fig. Variation of number of native species with the cover (%) of IAPs in each plot

Material & Method

Preliminary survey

- Preliminary roadside survey
- Land type classification (in 4 types)

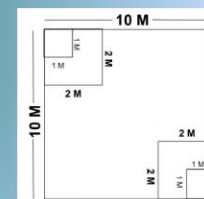
Vegetation sampling

- 80 sample plots (20 in each land types)
- Randomly laid plots

Data analysis

- Importance Value Index (IVI), Margalef's index of richness (SR), Shannon-Weiner's diversity index (H') and Pielou's Evenness Index (e), Linear regression.

- urban open space and city parks,
- lands near water bodies
- forest patches inside city area,
- agricultural land



In the nutshell

- Pokhara is vulnerable to invasion harboring a total of 22 species of IAPs found in Nepal.
- This study recommends use of combined control methods along with the options to subjugate usefulness of IAPs. and containment and eradication of IAPs which are early in the stage of invasion.

For more details:

