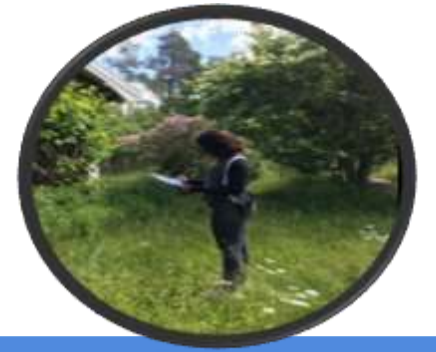


Ecosystem service provision across a gradient of urban gardens in Linköping

Oluwatoyin Odeyemi

Supervisor: Carolina Rodriguez and Anna Eklöf

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Introduction & Aim

Introduction

Urban gardens provide ecosystem service bundles essential for human health and well-being in urban areas where ecosystem services have declined due to urbanization. However, they have received less research than other ecosystems.

Aim

➤ This study investigated ecosystem service bundles provided by urban gardens in Linköping by examining varying levels of garden management intensity and the interaction among ecosystem service bundles.

Methods

- Case study were **26 gardens (9 Allotments and 17 Residential)**
- Located in **urban, peri-urban and rural areas**
- Assessment of **13 ecosystem services**
- Quantification of cultural services for two periods (**Pre-covid and Covid 19**)
- Data collection via **observation and structured interviews**
- Pearson correlation test for identification of **ecosystem services interaction**.
- Star plots for **ecosystem services visualization**

Results

- Identification of **three level of management intensities** (Table 1).
- **Positive interactions** among ecosystem service bundles for **both periods** (Fig. 1 and 2).
- **Rural and peri-urban gardens** had more ecosystem service bundles (Fig. 3).
- **Urban residential gardens** provided more ecosystem service bundles than **allotment gardens**.
- **Cultural services** were more **dominant** in urban gardens than other ecosystem services.

Intensity	Garden type and number	Garden location and number
Medium	Residential (6) Allotment (3)	Urban (7) Peri-urban (2)
High	Residential (10) Allotment (5)	Urban (8) Peri-urban (4) Rural (3)
Overgrown	Residential (1) Allotment (1)	Urban (1) Rural (1)

Table 1: Total number of garden type and location with their corresponding management intensity.

Discussion & Conclusion

Urban gardens contribute significantly to human life. However, management attitudes towards them are not the same. Varying management attitudes can have an effect on their capability to provide ecosystem services.

Results Continued

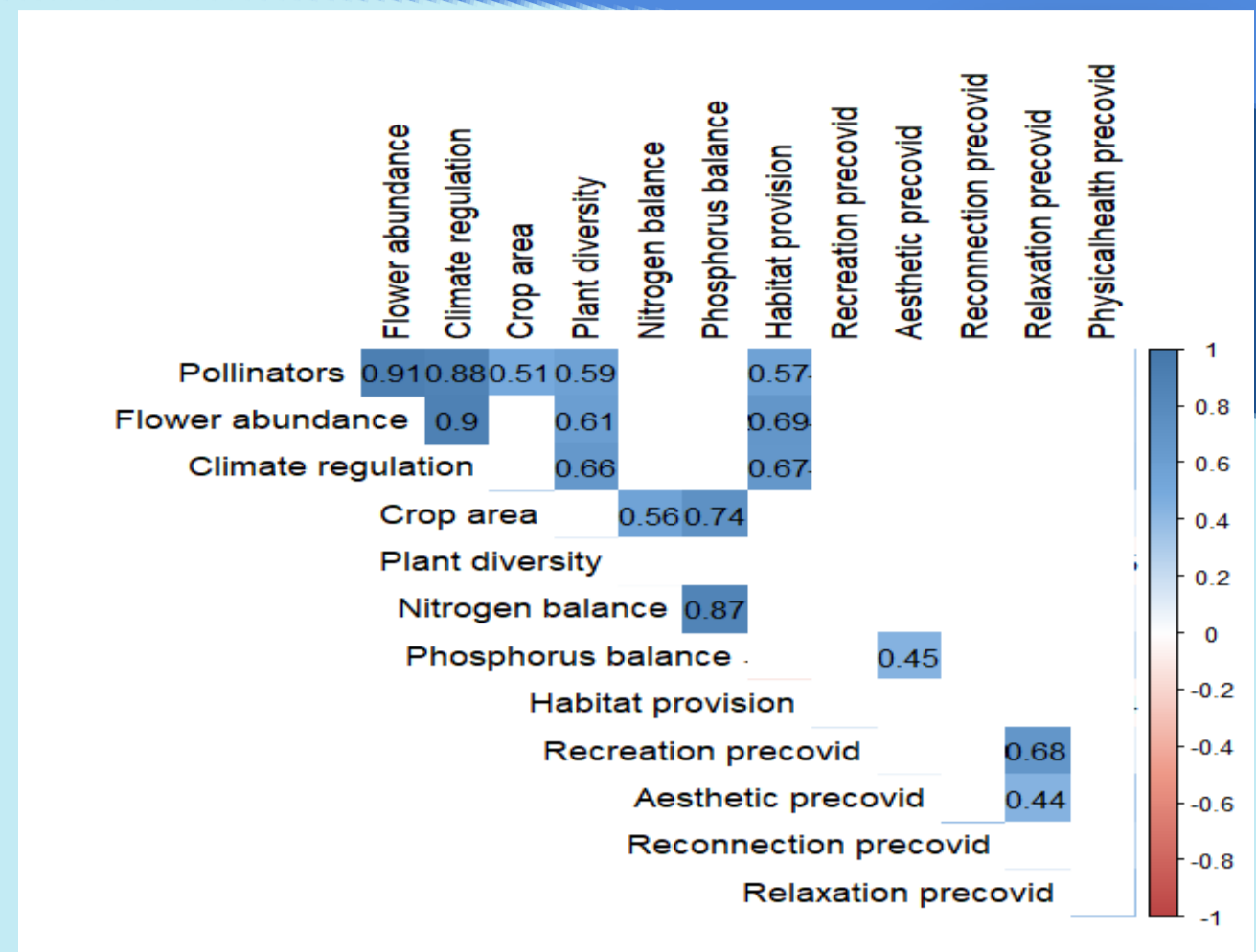


Fig. 1: Significant positive correlations amongst ecosystem service bundles for pre-covid period

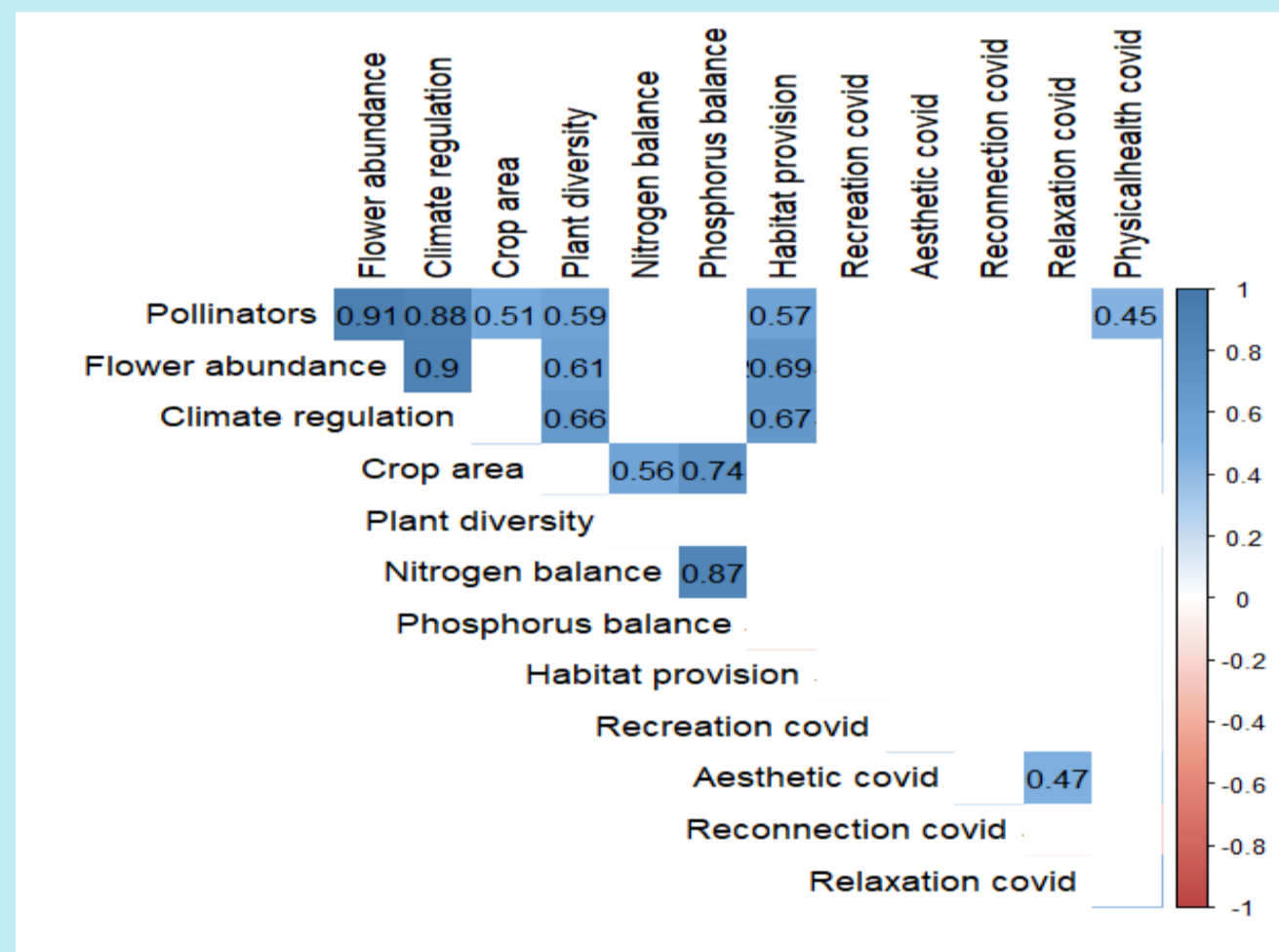


Fig. 2: Significant positive correlations amongst ecosystem service bundles for Covid 19 period

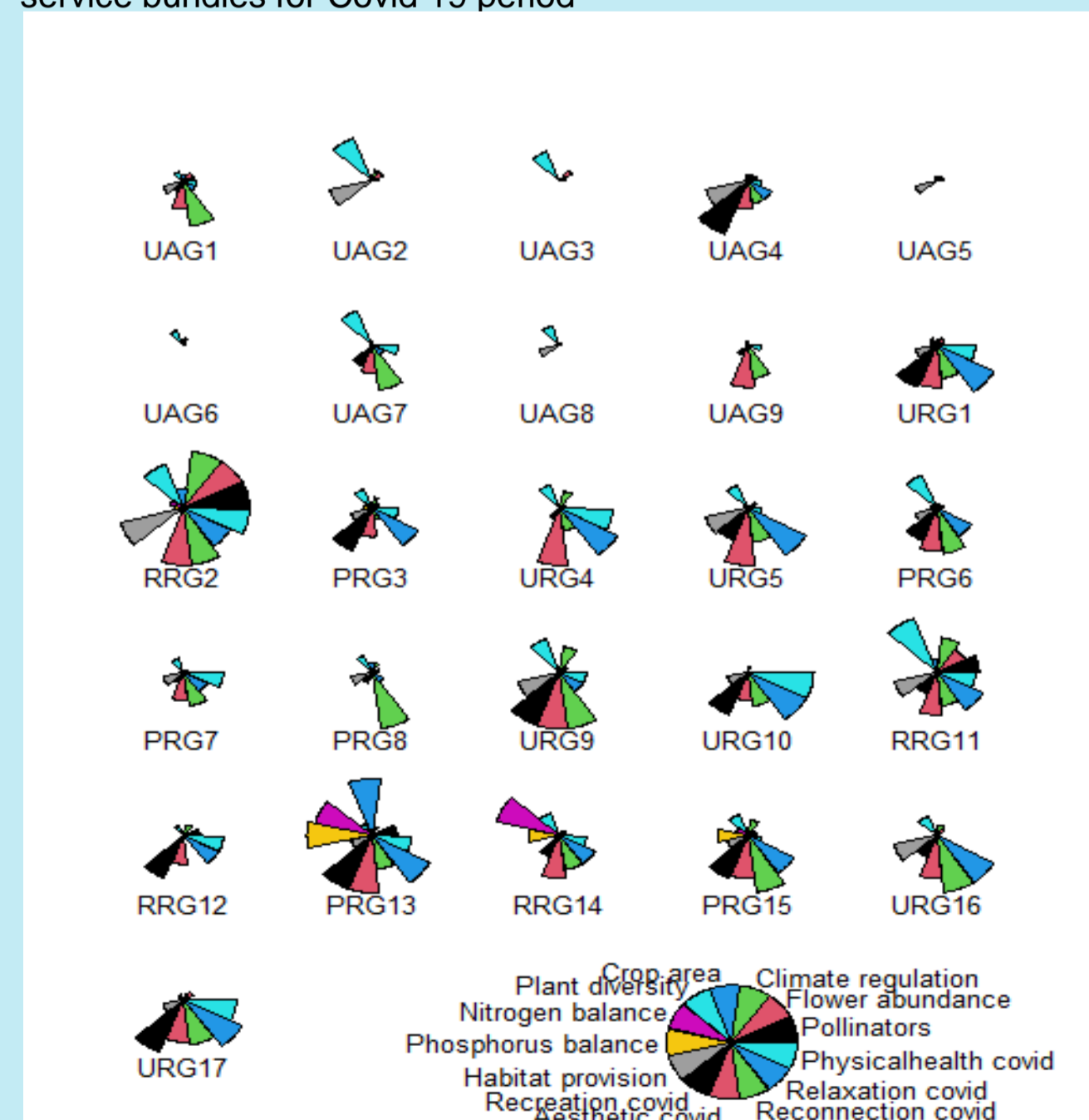


Fig. 3: Ecosystem services bundles provided by each garden (Urban allotment (UAG), Urban residential (URG), Peri-urban residential (PRG), Rural residential (RRG)).