

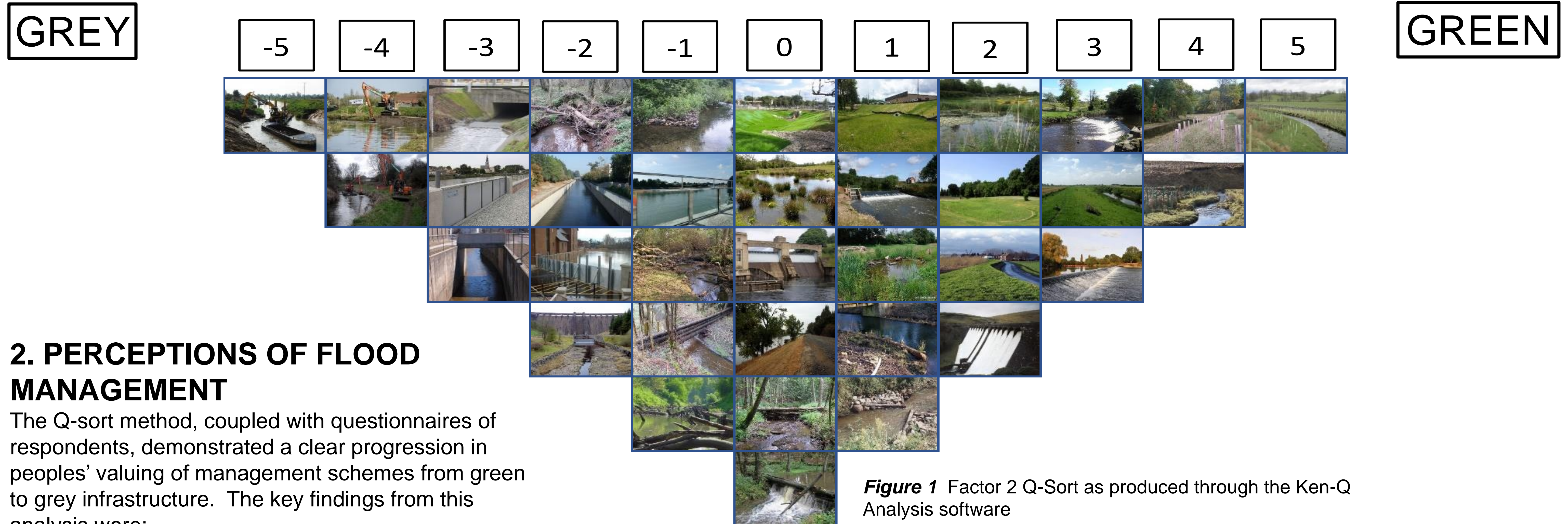
# PUBLIC PERCEPTIONS OF FLOOD MANAGEMENT SCHEMES IN THE UK

Mikaela D'Souza, Christopher D. Ives and Matthew Johnson  
School of Geography, University of Nottingham  
mikaela.dsouza@hotmail.com

## 1. INTRODUCTION

This research investigates the public's perceptions of flood management schemes in the UK. Mixed methods were used including distribution of an online questionnaire, face-to-face interviews, and Q-methodology. The research explored individuals' perceptions with regards to three main characteristics; the appearance, the effectiveness and the benefits to wildlife and how these impacted on their view of water management systems. Additionally, individuals' underlying values were established and these were compared with the individuals' perception of flood management options.

### Factor 2 Q-Sort: Grey – Green



## 2. PERCEPTIONS OF FLOOD MANAGEMENT

The Q-sort method, coupled with questionnaires of respondents, demonstrated a clear progression in peoples' valuing of management schemes from green to grey infrastructure. The key findings from this analysis were:

- **Preference for natural flood management (Figure 1)**
- 'Grey-infrastructure' seen to be an eye-sore
- Management options need to fit into its surrounding
- Woody debris considered to be messy
- **Wetlands were the highest rating option in the questionnaire (Table 1)**
- Natural flood management is aesthetically pleasing (Table 2)
- **A preference for 'green' coloured management (Figure 1)**

**Table 1** Average ranking overall for the management options (1= high and 6 = low)

Management scheme	Ranking
Hard Engineering	
Dam	2.96
Dredging	4.57
Weir	4.05
Natural Flood Management	
Wooden Dam	3.77
Wetlands	2.39
Tree Planting	3.25

**Table 2** Average score for appearance, effectiveness and benefits to wildlife for each of the management options in the survey (1 = low and 5 =high)

	Hard Engineering			Natural Flood Management		
	Dam	Dredging	Weir	Wooden Dam	Wetlands	Tree Planting
<b>Appearance</b>	2.81	2.49	3.30	3.23	4.40	4.52
<b>Effectiveness</b>	3.81	2.87	3.05	3.13	3.77	3.07
<b>Wildlife Benefits</b>	2.58	2.16	2.87	3.40	4.62	4.51

## 3. VALUES AND PERCEPTIONS OF FLOOD MANAGEMENT

Values were assessed in the questionnaire using Stern's et al. (1998) interpretation of Schwartz's values (1992). Following this a factor analysis was performed to form the value orientation groupings. A spearman's rank correlation co-efficient was carried out comparing the factor analysed values and the flood management options overall ranking average.

### Altruistic/Biospheric

- Steered towards more environmentally friendly behaviour (Stern and Dietz. 1994)
- **Preference for natural flood management**

### Openness to Change

- Open to new ideas and change (Schwartz, 1992)
- **Preference for wooden dams a newer form of flood management**

### Self-Enhancement

- Values that influence oneself (Stern et al., 1998)
- No relationship with any management option

### Conservatism

- Traditional values, sticking to the status quo (Schwartz, 1992)
- **Preference for dredging and weirs**

## 4. MANAGEMENT IMPLICATIONS

### Natural Flood Management

- Improve knowledge by having education points along the management schemes
- Flood management needs to 'fit into its surroundings'
- **Holistic approach to flood management**
- The use of multiple flood management options to prevent flooding

### Knowledge

- Improve knowledge
- **Have education points along the management schemes**

### Enhance Values

- **Dedicating messages towards certain values**
- Further research required as to why there is no relationship between the flood management options and 'Self-Enhancement'

### References

- Schwartz, S.H., (1992) Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In *Advances in experimental social psychology* (Vol. 25, pp. 1-65). Academic Press.
- Stern, P. and Dietz, T. (1994) The value basis of environmental concern. *Journal of Social Issues*, 50, 65-84
- Stern, P., Dietz, T. and Guagnano (1998) A brief Inventory of Values. *Educational and Psychological Measurement*, 58, 984 – 1001

**Figure 2** Showing the value grouping from the factor analysis with the results from the Spearman's Rank and relationships between values structures and flood management preferences