

Mapping the Agricultural Landscape Typology of Nueva Ecija, Philippine: Applying the Photo Elicitation Method in Visualising Farmers' Perception of Rice Fields

Abstract

In Nueva Ecija, the landscape identity is threatened by rapid urbanization and land conversion which sets put challenges in preserving the local's landscape identity. Landscape identity and visual perception harmonize the way humans view their surroundings; however, little is known on how identity is affected by one's visual perception and vice versa. This is a missed opportunity because visual perception constitutes up to 80% of human perception which can be used to better understand identities in the landscape. Hence, this research aims to integrate the visual perception of farmers in Nueva Ecija into typologies that can be used as digital representation of the province.

Governed by the Levels of Landscape Cognition, the researcher performed focus group discussions among 60 pairs through photo elicitation methods. After the ethnographic and statistical correlation analysis, the researcher identified the main landscape domains through the local's imageability, familiarity and associability to their landscape. In terms of imageability, results show that handtraktor has the highest mean with 75% of the pairs putting them in their perceived landscape elements among the 60 pairs. These are followed by karyada and halimaw respectively with 71.67% and 70% of the respondents identifying the same elements. Meanwhile, familiarity in the landscape depicts water motor pump had the highest score of 82. Lastly, in terms of associability, the top three answers include farm machineries they use in the farm with handtraktor, water motor pump, and halimaw ranking the first three with scores of 81, 76, and 69 respectively. These processes were replicated to carefully identify the landscape identity in palayan (rice fields), karsada (roads), patubig (water source), kabayanan (village) and other spaces. This study creates an important juncture to represent human perception into a virtual video landscape. The results of the study promise how to better integrate human perception into navigable media while minimizing identity and authenticity of the landscape being replicated. In return, local understanding and knowledge can be preserved in a setting that are timeless and enjoyed by many.

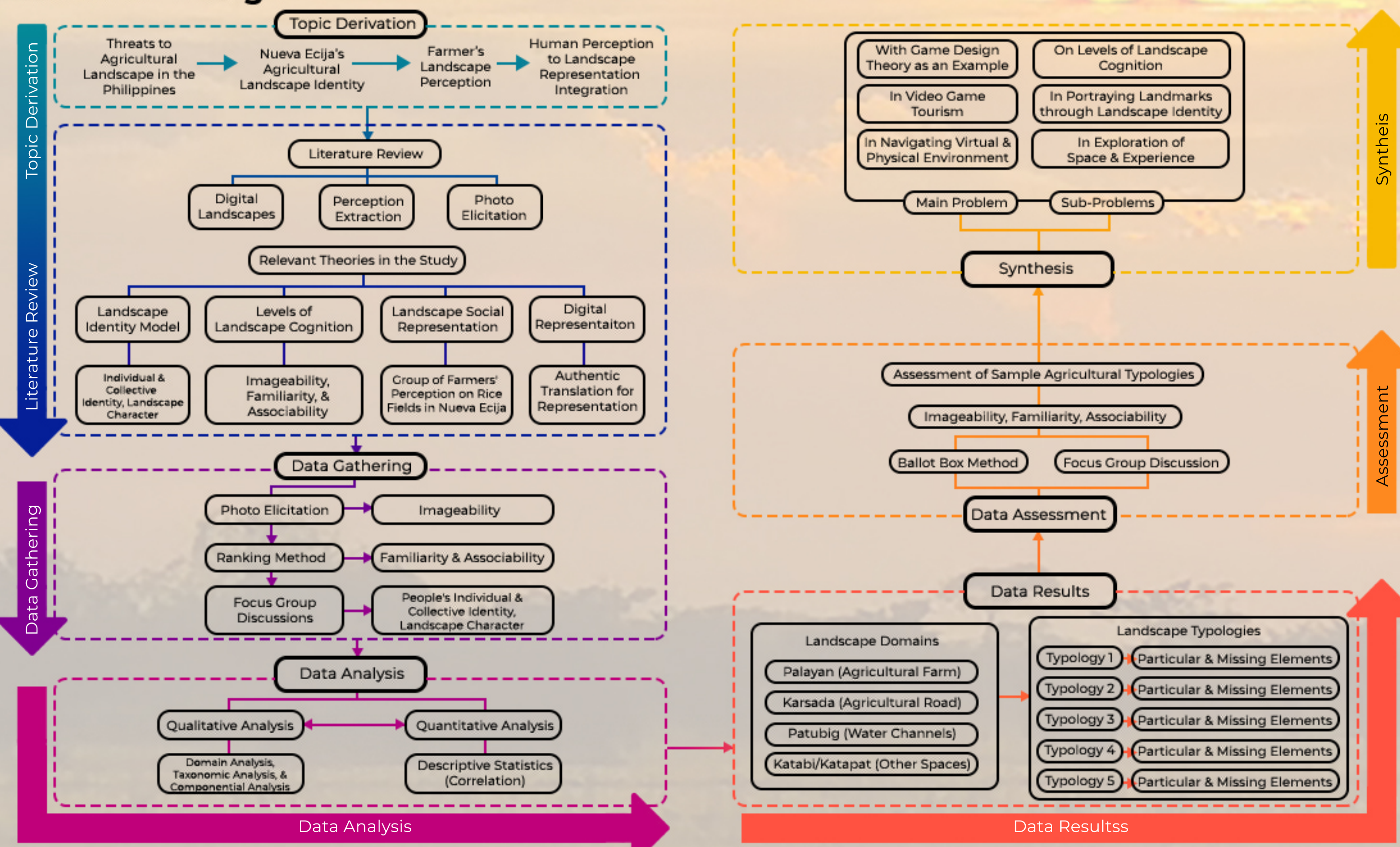
Research Goal

Map the human visual perception of farmers in the rice fields on Nueva Ecija, Philippines to be able to develop landscape typologies that can be used in representing the agricultural landscapes units of the province in a digital landscape.

Research Objectives

- Research related literature on integrating human perception to digital landscape representation.
- Use photo-elicitation method in order to identify prevalent landscape elements of farmers based on their perception.
- Analyze the result of consultative data gathering method in order to develop landscape typologies of agricultural farms in Nueva Ecija, Philippines.

Research Design

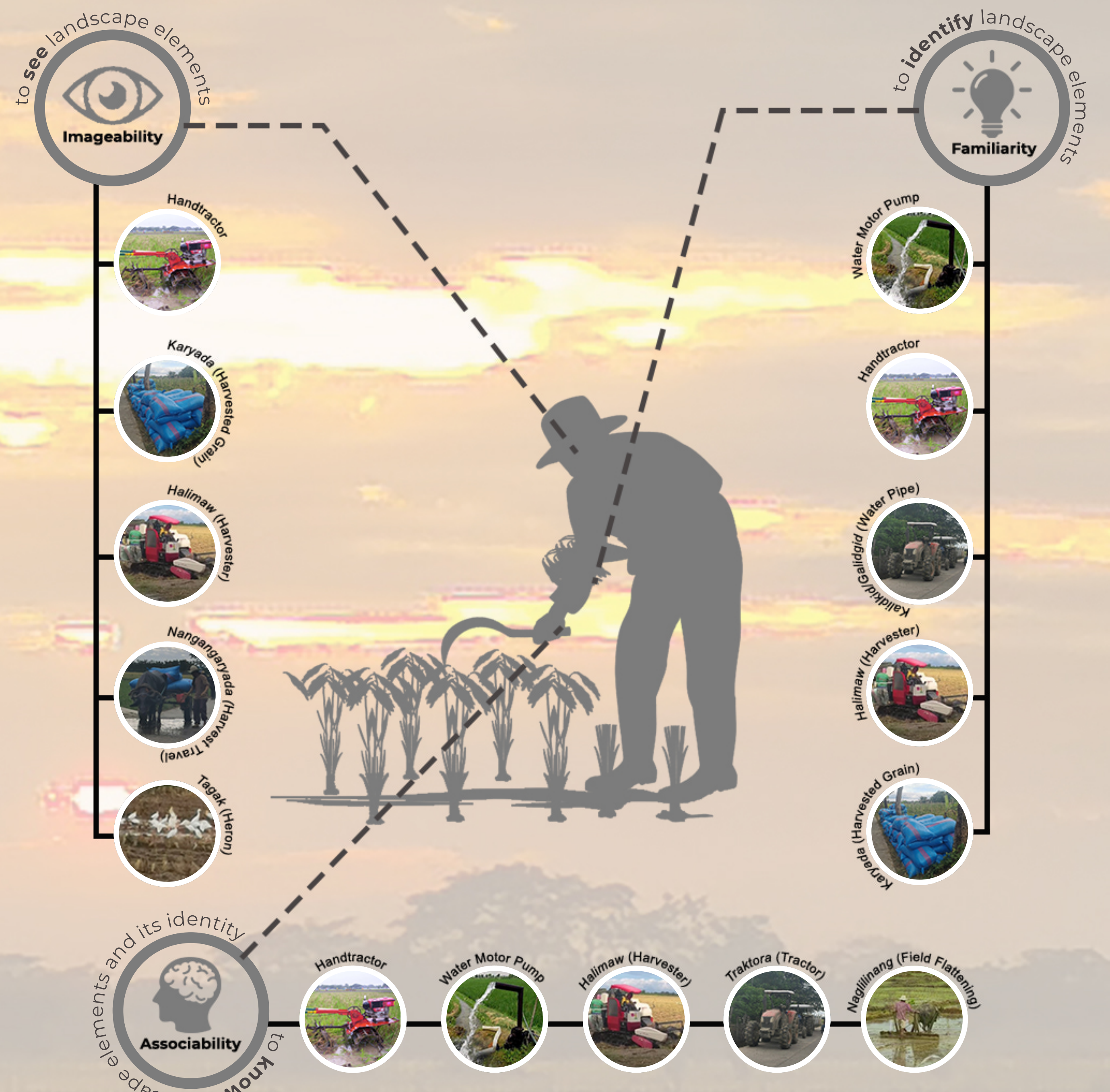


Data Results

Data was then analyzed quantitatively and qualitatively side by side. After analysis, data resulted in identifying 4 landscape domains and then was used to identify hierarchy of landscape elements in the taxonomic analysis and create different landscape typologies through the componential analysis. The landscape domains identified are:

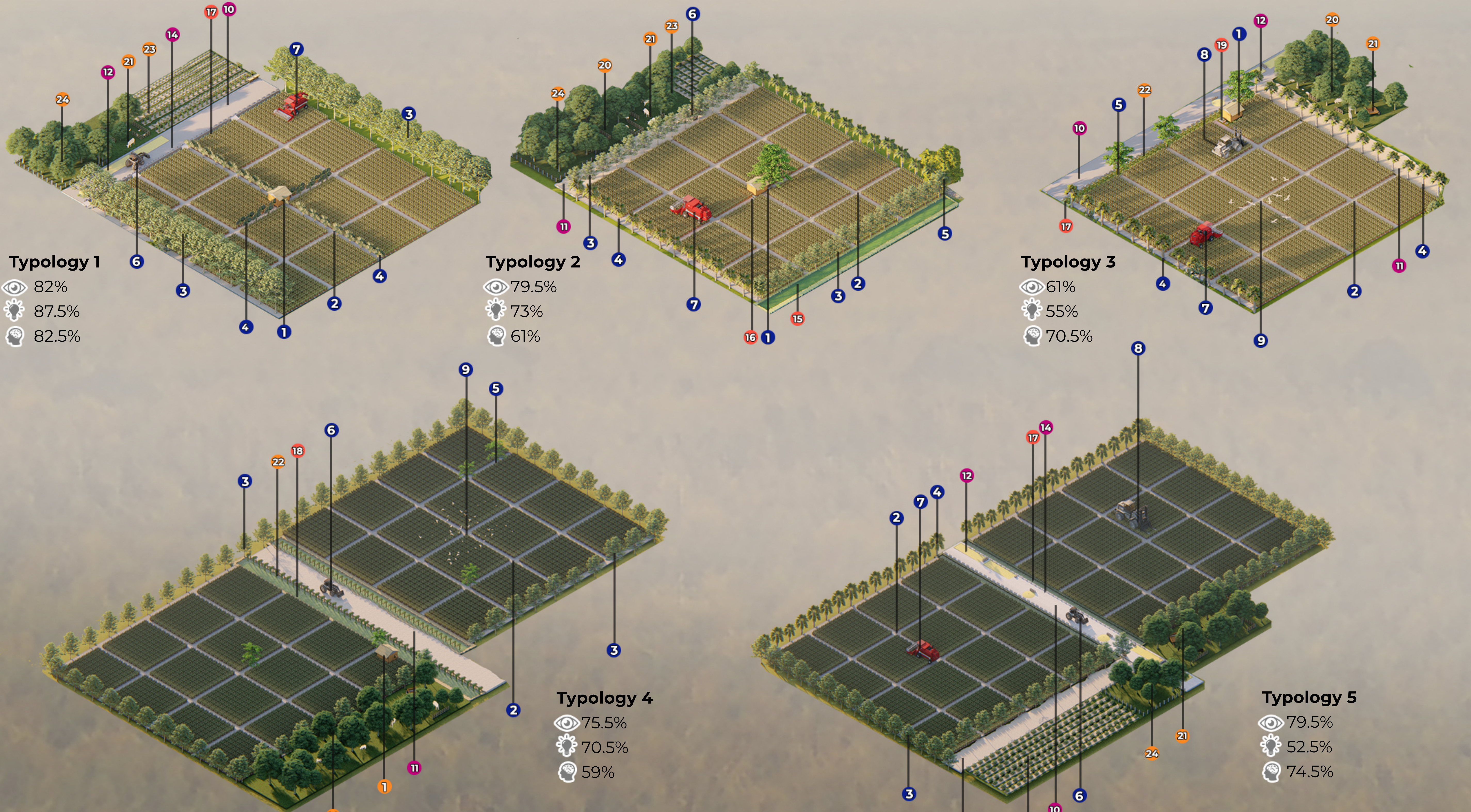


The images below shows the top 5 most dominant landscape elements according to farmers' perception.



Typologies

Shown below are the five different typologies produced based from the farmers' levels of landscape cognition. These typologies were then assessed to evaluate how respondents perceive their ricefields in a digital media using the same theory of landscape cognition which are separated into 3: imageability, familiarity, and associability. Perception rate for each typologies are shown below as well.



Legend:

- | | | | | |
|----------------------------|------------------------------|---------------------------|-------------------------------|------------------------------|
| 1 Kubo (Hut) | 6 Traktora (Tractor) | 10 Highway | 15 Ilog / Sapa (River/Creek) | 20 Pastolan (Pasture) |
| 2 Pilapil (Ricefield Dike) | 7 Halimaw (Harvester) | 11 Rough Road | 16 Deep Well | 21 Suga (Carabao Pasture) |
| 3 Mahogany Trees | 8 Bakulaw (Carrying Machine) | 12 Bilaran (Grain Drying) | 17 NIA (Funded Irrigation) | 22 Balag (Plant Trellis) |
| 4 Banana Trees | 9 Tagak (Heron) | 13 Pahingahan (Stalls) | 18 Kanal (Natural Irrigation) | 23 Tumana (Vegetable Farm) |
| 5 Talisay Trees | | 14 Harang (Fences) | 19 Voltron (Water Motor Pump) | 24 Manggahan (Mango Orchard) |