Pre-KAP Survey (Knowledge-Attitude-Practice Survey) associated with the Environmental Communication Component of the SPACES Project

Survey result

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Overall "KAP Survey" result

The overall scores were 11.72 and 19.2 (out of 30) for domestic visitors and PA staffs, respectively. PA staffs are more knowledgeable than the domestic visitors. However, these results informs that there is still a room to improve their knowledge further (please see

Figure 1, Figure 2, and Figure 3).

The assessment of the level of knowledge of domestic travelers and PA staff is divided into three subgroups: (i) Maintaining and managing PAs, (ii) PA features, and (iii) Code of Conduct. Based on the average score, survey participants were more knowledgeable about the PAs features, while they were relatively less knowledgeable about the Code of Conduct. For domestic visitors, female participants (11.9) had a higher level of knowledge than male participants (11.5). In regards to their age, young participants (11.12) tend to have a lower level of knowledge than middle-aged (12.04) and older (11.99) respondents (please see, Table 2, Table 3)

Sub-group 1. Maintaining and managing PAs

Even though the potential maximum points were ten, the average corresponding score of domestic visitors was 3.96, while for PA staffs it was 5.96. The average score related to maintaining and managing PAs depended on demographic characteristics and PAs. For example, the level of knowledge of maintaining and managing PAs was 4.36 and 3.45 among respondents at GTNP and OVNP, respectively. At KKSPA, it was lower (3.27).

The average scores of male and female domestic visitors were 4.1 and 3.85, respectively. That shows that male visitors were more knowledgeable than female ones, while the female PA staff (5.79) are more knowledgeable than male staffs (5.60). Furthermore, the average score depended on age. For example, the average score was 3.82 for young people, whereas it was 3.98 for older ones. The highest score - by age - was 4.06 among the middle-aged, as for PA staffs this indicator were same. Therefore, the most knowledgeable visitors – regarding maintaining and managing PAs - were middle-aged males, as for PA staffs were middle-aged females.

The knowledge level of maintenance and management of PA measured by how survey participants answered the four questions. Therefore, providing descriptive statistics (prevalence or frequency) about those questions' responses helps us to see why the knowledge level were insufficient.

When asked from domestic travelers what an ecosystem is, half of the participants (49%) knew what the term meant, while the remaining 51% did not know it at all. More specifically, 26.7% of respondents

answered that they had heard of the ecosystem but did not know what it meant, whereas 24.4% stated that they had never heard the term.

Only 6.9% of respondents stated that they did not know why the ecosystem was essential for human beings. The others (93.1%) referred to at least one reason why it was important for people. The top four reasons accounted for 73.8% of all responses. The top two reasons were 'preserve the environment for the future generations' and 'the relationship between the environment and human beings'.

Participants explained why PAs were created in their way. Most (95.6%) of all responses were correct. The most frequent response 'to celebrate our natural and cultural heritage', constituted 51.9% of all responses, followed by 'conserving vital gene pools' (15.6%) and 'providing safe havens for wild plants and animals' (13.5%).

The last question was about the name of the PA a respondent had visited. Interestingly, over one-fourth of participants (27.3%) did not know the correct name of the PA visited. It was 29.9% and 24.5% among female and male respondents, respectively. In respect to age groups, it was the lowest for middle-aged visitors (24.5%) and highest for older ones (30.5%). For young respondents, it was 29.9%. Even though it was the easiest question in this section, the share of respondents who do not know the correct name was higher than expected.

Sub-group 2. PA features

The average score of domestic visitors on PAs' features was 5.03, while for PA staffs was 8.43. When asked about the features of the each PA, visitors were more familiar with the names of the animals than with the PA's landmarks, rivers, lakes and plants (Table 1). In terms of the geography, the average score was highest among KKSPA's visitors. Generally, the average number of correct names was around (or less than) 50% of the potential, excluding animals. Compared to female respondents, males were more likely to refer to more correct names of PAs' features, excepting plants. Female visitors were more familiar with plants than males. Concerning age, there was no significant difference. For instance, the average score was 4.49 and 5.29 for young and middle-aged visitors, respectively. It was the highest among the elderly, at 5.34. To conclude, visitors were more knowledgeable about PAs' features than maintaining and managing PAs. However, the level of knowledge was still low because the average score was only slightly higher than half of the potential points.

Sub-group 3. Code of Conduct

The knowledge level of the CoC directly depends on a point on the related questions participants scored. According to researchers' calculations, the average score of the domestic respondents for the CoC was 2.78 out of 10, while for the PA staffs it was 5.12.

In terms of PAs, it was 2.78 and 2.74 for respondents visiting GTNP and OVNP, respectively, and for KKSPA, it was 2.43. In terms of age, the level of knowledge of the CoC decreased with age. For example, the average scores of domestic visitors were 2.82 (PA staffs – 7.82) and 2.67 (PA staffs – 8.57) for the young and the elderly, and for the middle-aged, it was 2.69 (8.53).

Concerning setting up camp inside a PA, 56.5% of all responses were correct. For male and female respondents, it was 57.8% and 55.3%, respectively. Males were more familiar with where they could set up a camp (inside PAs) than females. Visitors frequently stated they set up camp in designated camp spots. More specifically, an 'in designated camp spots' accounted for 42.7% point out of 56.6%, while the remaining 13.9% were other correct answers.

Regarding disposing of human waste inside PAs, the correct answers accounted for 54.7% of the total responses. The fraction of correct answers within the total response was 53.4% and 55.9% for males and females, respectively. That is, female participants were more knowledgeable on disposing of human waste inside PAs. Furthermore, this share was 53.0% and 58.1% for the middle-aged and elderly, respectively. For young visitors, it was 55.6%. The most frequent answer, 'leave excrement on the ground surface', which was incorrect.

In terms of showing respect for nature inside PA, 89.8% of the total responses were consistent with the pre-prepared list of correct answers. It was 89.5% and 90.1% for male and female visitors, respectively. In terms of age group, a fraction of correct answers in the total ones was comparable to each other (young – 91.1%, middle-aged – 89.4%, and old – 87.9%). The most popular answer was 'leaving dogs or other pets outside PA' (41.9%), followed by 'leaving whatever I see at its original place' (25.5%).

With respect to disposing of waste and leftovers inside PAs, respondents were more familiar with this topic in comparison with the previous ones. The fraction of correct answers was 98.1%, whereas wrong answers constituted just 1.9%. This ratio was constant over age and gender.

Regarding protecting local water systems inside PA, 83.0% of all responses were correct. For male and female participants, it was 79.3% and 86.4%, respectively. In addition, the proportion of correct answers was almost the same among the middle-aged (81.4%) and the elderly (81.3%). It was 85.9% for young visitors. The most frequent answer was 'don't throw trash near water resources' (36.7%), followed by 'don't wash yourself' (11.9%) and 'don't pee and poop near water resources' (11.5%).

Regarding off-road driving, correct answers accounted for 92.6% of all responses. The most frequent response was 'causing erosion' (38.0%), followed by 'damaging plants' (28.9%) and 'safety' (10.4%). The answers did not depend on age and gender.

Sources of information

The share of respondents who had seen and read the Comic Books, Goo Mongol, Tselmeg and Tsengeg Planted a Tree, and Snow Friend, which are devoted to provide information to domestic visitors and staff was just 0.8% (PA staffs - 10.2%) and 0.9% (PA staffs – 18.4%) for Snow Friend and Goo Mongol, respectively. For Tselmeg and Tsengeg Planted a Tree, it was 1.1% (PA staffs – 29.3%). Over 80% of domestic visitors and 70% of PA staffs answered that they had not seen and/or read the comics, implying that the books did not reach their target groups.

In terms of domestic visitors, most respondents (58.6%) did not have information about PAs before their visits. In terms of sources of information about PAs, the most common was verbal (informal) information (23.4%), followed by internet (14.0%) and social media (11.0%). The verbal information played the same role across all age groups and genders. However, the internet and social media were much more popular among
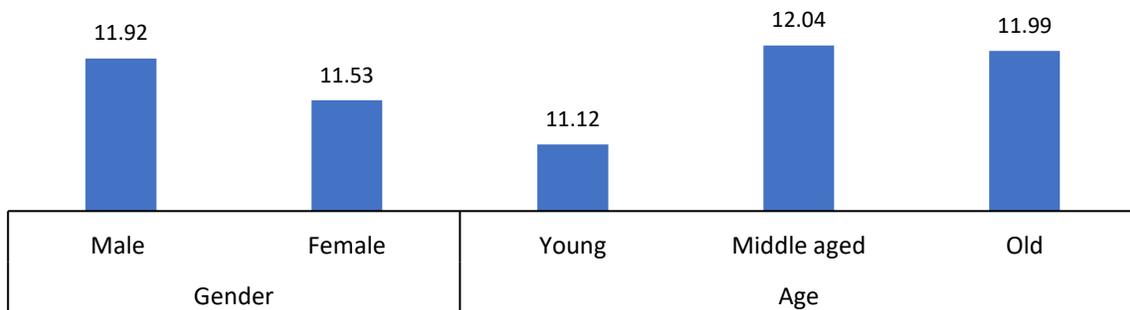
younger visitors compared to middle-aged and the elderly. Depending on the group targeted, the source of information about PAs must be prepared differently accordingly.

Figure 1. Overall score; by PA
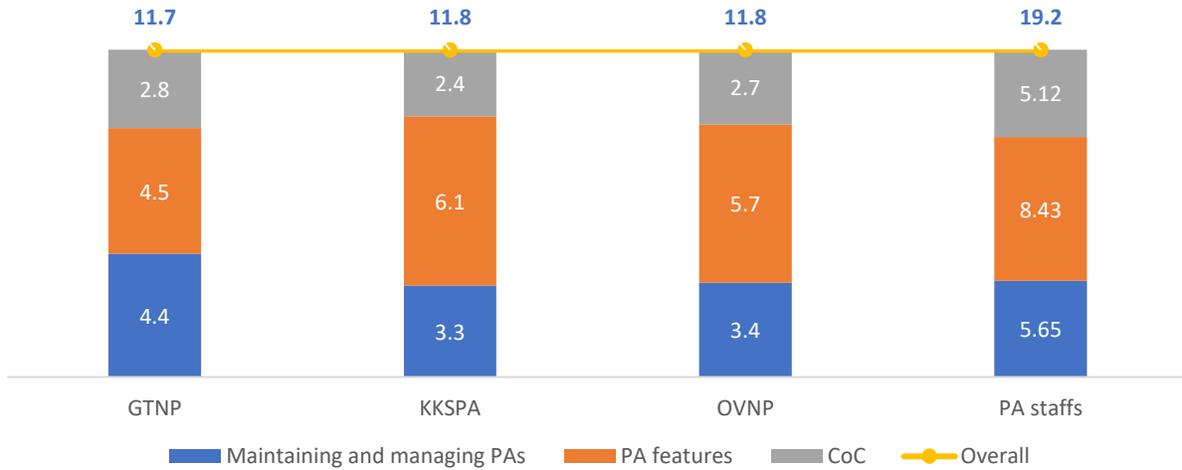
Source: KAP survey

Figure 2. Overall score of the domestic visitors, by gender and age

Source: KAP survey

Figure 3. Overall score of the PA staffs; by gender and age
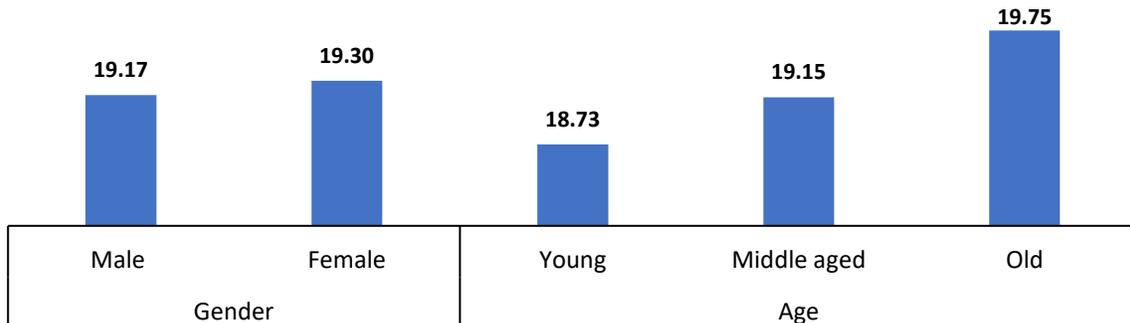
Source: KAP survey

Table 1. Average number of correct answers; by PA.

PA	Landmark	Rivers	Animals	Plants
GTNP	2.1	1.1	3.5	2.9
KKSPA	2.6	2.9	4.3	2.9
OVNP	2.5	1.3	3.6	2.6

Source: KAP survey

Table 2. Outcome matrix (domestic visitors)

Item	Male			Female		
	Young	Middle-aged	Old	Young	Middle-aged	Old
Maintaining and managing PAs						
Ecosystem (Q1)			green	red		
Importance for human beings (Q2)			green	red		
PAs are created (Q3)	green	green	green	red	red	red
Name of PA visited (Q4)	green					red
PA features						
Landmarks or cultural sights (Q5)		green		red		red
Rivers or lakes (Q6)			green	red		
Animals (Q7)		green	green	red		
Plants (Q8)	red					green
Code of Conduct						
Setting up a camp (Q9)		green				red
Disposing of human waste (Q10)		red				green
Showing respect for nature (Q11)			red	green		
Disposing of waste and leftovers (Q12)			green	red		
Protecting local water systems (Q13)			red	green		
Off-road driving (Q14)		red				green

Note. The **'green'** represents the highest knowledgeable demographic group, where the **'red'**, the lowest.

Table 3. Outcome matrix (PA staffs)

Item	Male			Female		
	Young	**Middle-aged**	**Old**	**Young**	**Middle-aged**	**Old**
Maintaining and managing PAs						
Ecosystem (Q1)	red					green
Important for human beings (Q2)			red	green		
PAs are created (Q3)			green		red	
Name of PA visited (Q4)	red				green	
PA features						
Landmarks or cultural sights (Q5)	red					green
Rivers or lakes (Q6)			green	red		
Animals (Q7)			red		green	
Plants (Q8)		green		red		
Code of Conduct						
Setting up a camp (Q9)	red					green
Disposing of human waste (Q10)	green				red	
Showing respect for nature (Q11)	green				red	
Disposing of waste and leftovers (Q12)	green				red	
Protecting local water systems (Q13)		red		green		
Off-road driving (Q14)		red		green		green

Note. The **'green'** represents the highest knowledgeable demographic group, where the **'red'**, the lowest.