

Building Urban Climate Resilience: Assessing Awareness, Perception, and Willingness regarding Nature-Based Solutions and Climate Change among Stakeholders in Iligan City, Philippines

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SUPPLEMENTARY MATERIALS

Table S1. Adapted questionnaires from Salem et al. (2022) and Ferriera et al. (2021), consent form, and demographic profile sheet.

Consent Form

Participating in this survey is voluntary, all information and data collected will be kept highly confidential. You have the right to refuse to participate or to withdraw your participation at any time without penalty. If you choose to withdraw from the study, your responses will not be used in the research.

I hereby understand and give my consent to take part in this survey.

Name and Signature

Date

Part I.

Instructions: Please read and answer the following items truthfully. Write N/A if not applicable.

Palihug basaha ug tubaga nga matinud-anon ang sumusunod na mga aytem,. Isulat ang N/A kung wala ni nahitabo sa imo.

Demographic Profile	
Respondent No.	
Name (Optional)	

Sex	() Male () Female
Age	
Educational Attainment	
Religion	
Estimated Monthly Income	
Job/Livelihood	
Civil Status	() Single () Married () Widowed () Separated
Affiliation/Organization	
Employment/Job/Position	
Home Address/Barangay	
Ethnolinguistic Background	[] Tausug [] Cebuano [] Tagalog [] Maranao [] Molbog [] Kolibugan Subanon [] Iranun [] Sangil [] Other: _____
Years of Residence	() 1-2 years () 3-4 years () 5-10 years () More than 10 years

II. Awareness

Rate the following statements according to what applies to you and put a (✓) in the spaces provided below:

1 - Strongly disagree, 2- Disagree, 3. Slightly disagree, 4 - Agree, 5 - Strongly Agree

		1	2	3	4	5
1	I am well aware of global warming or climate change and its impacts					
2	Climate change affects urban city residents' overall well-being such as physical health and mental health.					
3	Vulnerable groups are at more risk of climate change.					
Who are the groups at risk of climate change?:						

<input type="checkbox"/> Children, <input type="checkbox"/> Urban poor and the disadvantaged, <input type="checkbox"/> Workers, <input type="checkbox"/> Coastal residents, <input type="checkbox"/> Elderly, <input type="checkbox"/> everyone, <input type="checkbox"/> no group is more vulnerable than others. <input type="checkbox"/> Others: _____						
4	Climate change will be more severe in the future					
5	I am well aware that sea-level rise, urban heat, higher chances of flood, extreme weather patterns, and increased transmission of diseases are due to climate change.					
5	Developed countries contribute more to climate change.					
6	Industrial, economic, and human activities contribute to climate change					
<p><i>Which of the following factors are likely to contribute to global warming and climate change? (you can choose more than one answer)</i></p> <p><input type="checkbox"/> Carbon emission from vehicles and industries, <input type="checkbox"/> Methane emission, <input type="checkbox"/> Cutting down trees, <input type="checkbox"/> Use of appliances like air-conditioning, <input type="checkbox"/> Others: _____</p>						
7	I am aware of what nature-based solutions are.					
8	There are nature-based solution initiatives present in this city					
9	I know the benefits of nature-based solutions					
Cite examples: _____						
10	There are environmental policies implemented in this city for climate change adaptation.					
11	Nature-based solutions help in mitigating climate change risks and impacts					
12	<p>Where have you learned/heard about nature-based solutions?</p> <p><input type="checkbox"/> Social media (FB, twitter, Tiktok, etc)</p> <p><input type="checkbox"/> Websites of government institutions</p> <p><input type="checkbox"/> TV programs and documentaries</p> <p><input type="checkbox"/> Books and newspapers</p> <p><input type="checkbox"/> Family and friends</p> <p><input type="checkbox"/> Colleagues</p> <p><input type="checkbox"/> Educational programs and conferences</p> <p><input type="checkbox"/> Studying at school/university</p> <p><input type="checkbox"/> others _____</p>					

III. Perception

1 - Strongly disagree, 2- Disagree, 3. Slightly disagree, 4 - Agree, 5 - Strongly Agree

		1	2	3	4	5
1	Climate change is real and is a significant threat to this city.					
2	There is a need to address climate change in this city					
3	Climate change and urban landscapes contribute to the higher risk of environmental hazards.					
4	Nature-based solutions effectively combat climate change in this city?					
5	I support increased funding for environmental planning such as green spaces, constructed wetlands, and eco parks.					
6	I support the implementation of nature-based solutions in this city.					
7	Climate change can negatively affect the resident's health and well-being.					
8	Industrial activities greatly contribute to climate change and its impacts.					
9	Increasing the use of car transportation, and appliances can contribute to increasing the phenomenon of climate change.					
10	Climate change impacts (e.g. urban heat, sea level rise, intensified flooding, etc) are noticeable in this city.					

V. Willingness to engage.

1. Among your chosen significant interventions, how likely will you recommend these interventions as a project priority in this city?
 I. Most Unlikely II. Somewhat Unlikely III. likely IV. Somewhat likely V. Extremely likely

Please indicate why: _____

2. Among your chosen significant interventions, choose all the benefits that you think can be gained from these interventions:

- ☐ Coastal Resilience
- ☐ Green space management
- ☐ Improves or helps with water management

☐ Better air quality
☐ Climate mitigation and adaptation
☐ Urban regeneration
☐ Participatory planning and governance
☐ Social justice and social cohesion
☐ Public health and well-being
☐ Economic opportunities and green jobs
☐ Disaster risk reduction

3. I will be willing to participate in the drafting of NBS projects and the implementation of these interventions.

I. Very Unwilling II. Unwilling III. Somewhat willing IV. willing V. Very willing

4. I will be willing to participate in activities related to these interventions and the funding of it.

I. Very Unwilling II. Unwilling III. Somewhat willing IV. willing V. Very willing

Table S2. Dwass-Steel-Critchlow-Fligner pairwise comparisons among sectors. Results of pairwise comparisons among sectors are statistically significant at <0.05; N: 187.

Pairwise Comparisons						
Variable	Sectors			W	p-value	
Perceptions of climate change	Academe	–	Private sector	3.666	0.047	
	Academe	–	LGU	4.484	0.008	
	Academe	–	NGOs	4.628	0.006	
Perceptions of nature-based solutions	Academe	–	Private sector	-4.633	0.006	
	Academe	–	LGU	-3.852	0.033	

Table S3. Dwass-Steel-Critchlow-Fligner pairwise comparisons across the educational background of respondents.

Pairwise Comparisons					
Variable	Educational background			W	p-value
Perceptions of climate change	Masters graduate	–	High school graduate	4.253	0.032
Perceptions of nature-based solutions	Masters graduate	–	Vocational graduate	-4.217	0.034
Awareness of climate change	Masters graduate	–	Vocational graduate	-4.354	0.025
	Masters graduate	–	High school graduate	-4.367	0.025
Willingness to engage	Masters graduate – College graduate			-4.619	0.014

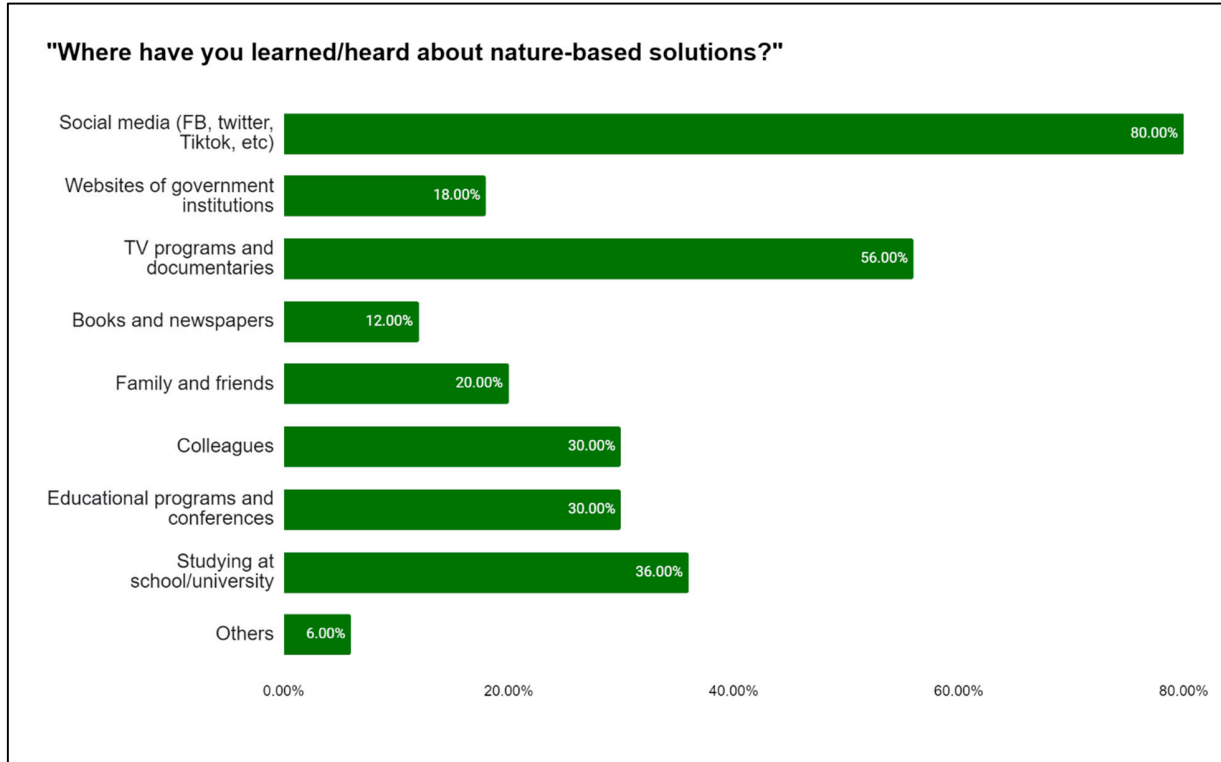


Figure S1. Summary of respondents' source of information regarding the topic surrounding NBS.