Climate Change

Fundamentals of Urbanization
Surabaya, Indonesia
12-16 Nov 2018
What causes the current trend of climate warming?

- 95% Increasing amount of greenhouse gas emissions in the atmosphere
- 5% Glaciers and polar ice melting
- 0% Earth's distance to the sun is decreasing
- 0% Rise of ocean temperature
Which of these activities will reduce your personal greenhouse gas emissions THE MOST in one year?

- Upgrading your light bulbs: 21%
- Switching to a plant-based diet, become vegetarian: 16%
- Avoiding one round-trip transatlantic flight: 0%
- Replacing your car with a hybrid: 63%
Indonesia is among top 10 GHG emitters in the world.
What are examples of climate adaptation?

- Riding bikes instead of driving cars: 10%
- Raising the level of the land to protect houses from floods: 14%
- Using public transport: 33%
- Planting crops that withstand bad weather: 14%
- Reducing consumption and reusing and recycling resources: 26%
- Installing solar panels: 2%
Select all direct indicators of climate change that would be expected to increase in a warming world:

- Sea level: 29%
- Temperature over land: 27%
- Ocean heat content: 12%
- Humidity: 16%
- Temperature over oceans: 16%
The richest half of the global population is responsible for which percentage of the world’s carbon emissions?
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Discussion Questions
How have the following aspects changed in your city over the last 30 years? (Select all that applies)

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic congestion (less or worse)</td>
<td>11%</td>
</tr>
<tr>
<td>Private car ownership</td>
<td>9%</td>
</tr>
<tr>
<td>More and/or higher concrete buildings</td>
<td>10%</td>
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<tr>
<td>Public access to green/open space</td>
<td>10%</td>
</tr>
<tr>
<td>Urban sprawl</td>
<td>9%</td>
</tr>
<tr>
<td>Use of plastic</td>
<td>9%</td>
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<tr>
<td>Urban waste (food, plastic, electrical appliances etc)</td>
<td>8%</td>
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<tr>
<td>Industrial activity</td>
<td>5%</td>
</tr>
<tr>
<td>Urban nature</td>
<td>6%</td>
</tr>
<tr>
<td>Clean urban beaches</td>
<td>6%</td>
</tr>
<tr>
<td>Air quality (noise, air travel)</td>
<td>10%</td>
</tr>
</tbody>
</table>
If some of the previous aspects did change, what was the main reason? (Select your top 3)
Over the last 30 years how was the climate in your city changed? (select all that apply)

- More severe heat waves: 15%
- Heavy rainfall: 8%
- Tornadoes: 5%
- Flooding/cyclones: 20%
- General increase of temperature causing increase of use of air conditioning: 19%
- Heavy or unexpected snowfall: 0%
- Rising water levels of sea, lake or rivers: 12%
- Lack of sufficient drinking water: 9%
- Severe drought: 11%
- No climate change noted: 0%
Does your city have measures to fight climate change? (select all that apply)
Your city's current climate change adaptation measures represent x% of our municipal budget.
In your city, are there any groups that are particularly vulnerable to climate change effects? (Select all that applies)

- Yes, all the above: 21%
- Yes, children: 15%
- Yes, the rich: 2%
- Yes, women: 11%
- Yes, the middle-income families: 11%
- Yes, the elderly: 15%
- Yes, the urban poor: 26%
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