

What should Bhutan do to address climate change?

FINDINGS FROM THE YOUTH CONVERSATIONS PLATFORM



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BHUTAN CENTRE
for MEDIA AND DEMOCRACY

Findings from the Youth Conversations Platform

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Youth Conversations Platform**

Introduction

Climate change is an impending and complex global problem. It leaves no region of the earth unaffected and threatens the very existence of life on this globe. Unique to Bhutan, its Constitution mandates 60% of the land to be under forest coverage at all times. Also, Bhutan has pledged to remain carbon-neutral. These national commitments stem from the country's recognition that mindless economic pursuits ravage the earth of its finite resources which could undermine the sustainability of life and wellbeing on this earth.

Climate change is widespread and its effects are intensifying by the year. The average global air temperature has increased by 2 degrees Fahrenheit in the last 100 years. Indeed, the last five years have been the warmest years in centuries. Greenhouse gas (GNH) emission was the highest in the last decade and despite the pandemic and multiple lockdowns across countries, the global average amount of carbon dioxide hit a new record high in 2020 with 412.5 parts per million (International Energy Agency, 2021). Human activities are the main drivers of climate change. A global breakdown shows that the energy use in the transport sector, industry and buildings contribute the largest share (73.2%) of GHG emissions, followed by agriculture, forest and land use (18.4%), and industry (5.2%) and waste (3.2%).

The effects of global warming are severe and far-reaching. The rising temperature of the earth disrupts weather patterns and causes imbalances in the order of nature that affects lives, livelihood and wellbeing. Acidification of ocean water affects coral reefs which serve as the habitat and source of food for marine life and income for fishermen. Rising temperatures cause ice and glacial lakes to melt causing floods in some parts of the earth while other regions turn into deserts.

As a landlocked country, Bhutan is most vulnerable to the effects of global warming. Bhutan is dependent on

on climate-sensitive sectors. 69% of its population is in the agriculture sector and the country's main source of revenue is hydropower. Glaciers in Bhutan are melting, increasing the risks of GLOFs and threatening the life and livelihood of communities living downstream. Both temperature and precipitation are expected to increase in future (NCHM, 2021) and we are already seeing increasing incidences of floods, flash floods, landslides, and glacial melts.

Thanks to the farsighted leadership of His Majesty the Fourth King, the country continues to be a carbon sink. Total GHG emissions from Bhutan in 2015 were estimated to be 3750.563 Gg of CO₂e while the total sink capacity is 9421.013 Gg of CO₂e. With the pressing need for Bhutan to grow economically and with the impending graduation from the LDC category, the tension between conservation and exploitation of the earth and its resources for economic gains will intensify. As an import-driven country from food items to technology, Bhutan is at the mercy of the innovation of the industrialised world to transition to energy-efficient and eco-friendly practices. However, as one of the consumers of the world economy, Bhutan can make a dent in the world's effort to counter climate change if we educate our citizens, influence their choices and behaviour, and make the right policy decisions that govern economic practices and everyday habits.

Bhutan already has a home-grown development philosophy – GNH- that makes Bhutanese more receptive to the idea of sustainable development. Additionally, there are numerous policies and strategies in place, e.g., Climate Change Policy (final draft), 2020; National Strategy and Action Plan for Low Carbon Development, 2012 (“Carbon Neutral Strategy”); and National Adaptation Programme of Action, 2006 and the Update Projects and Profiles 2012. The challenge for Bhutan is translating those policies and plans into actions and everyday practices.

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Generation of Seed Responses and Poll

The 2022 Winter Youth Initiative brought together 26 youths from various educational institutions, including graduates, to learn about climate change and brainstorm on Bhutan's response to mitigating and adapting to the global issue.

An eclectic mix of 6 speakers from government agencies and CSOs, independent consultants and researchers shed light on issues of urban development, transportation, industries, agriculture, and waste, their relation to climate change, and existing opportunities to address climate change in Bhutan.

The 24 solutions from this two-day exercise were uploaded on Youth Conversations - a digital engagement platform - that was live for about 2 months. In total, 7,069 people engaged on the platform to vote on the proposed solutions and provide additional responses to "What should Bhutan do to tackle climate change". The moderators of the platform screened and accepted new and distinct responses from online respondents and the total seed responses came to 37.

Responses from the camp and the poll range from talking about amending policies to mitigating climate change such as increasing royalties on the mining industry to adapting innovative planning such as including climate risk scenarios in local development plans. Collaborating with schools to educate and emphasise climate change was a popular solution, thus highlighting education's role in changing mindset on climate change

Data Analysis

The respondents could either ‘agree’ ‘disagree’ or abstain from voting on a solution and could also provide additional solutions. The Cognition Company provided the first round of analysis and has categorised the responses into Behavioural Change, Systems/Infrastructural Change and Law/Policy Change. The three themes were further broken down into thirteen categories of responses with some cutting across themes. They also analysed the consensus and divisiveness of responses under three broad themes. According to their analysis, there is more consensus on responses under Behavioural Change and more divisiveness under Law/Policy Change. BCMD further analysed the data using the same thematic grouping. The section on Key Findings includes overall demographic analysis, consensus/divisiveness in the three broad themes, and the top three categories of solutions that received the highest percentage of agreement followed by a more granular analysis of the top five specific solutions that received the highest percentage of agreement. The next section includes a demographic analysis and identification of the top categories of responses (determined by 5 of agreement) under each theme. The last section includes an analysis of the data from the youth group alone (16-26 years). It identifies the top solutions the young people support and gender differences.

Limitations

- This is not a research study but a poll to gauge how respondents react (agree or disagree) to the suggested solutions to the challenge of addressing climate change.
- The total number of respondents is not to be mistaken for sample size.
- As the poll was online, it could have excluded those who are not on social media or those who do not have access to the internet.
- The findings from this poll are from the general masses and not necessarily experts in the field of climate change.

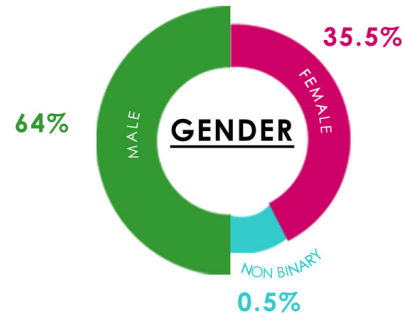
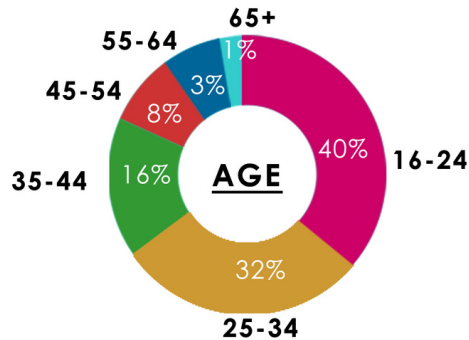
Key Findings

7,069
SURVEY RESPONDENTS

LOCATION

62%
URBAN RESIDENTS

38%
RURAL RESIDENTS



40% are youths (**16-24**) and **62%** are from urban centres.

Figure 1. Demography

As the data from the Youth Conversation Platform indicates, there is a huge level of support from the young population towards making “behavioural change” followed by systems/infrastructural and Law/policy change.

The poll on what Bhutan can do to tackle climate change engaged 7069 respondents from across the country. 40% were in the age range of 16-24 years followed by 32% in the age range of 25-34 years. 64% were male and 35.5% female followed by 0.5% who identified themselves as non-binary. The majority of the respondents were urban dwellers (62%).

The poll sought agreement/disagreement on 37 responses provided by 26 youth who attended a two-day workshop on climate change which also includes new suggestions provided by online respondents.

The responses were categorised into three themes – behavioural change, law and policy change and system and infrastructure change. There are thirteen categories of responses with some cutting across themes.

The solutions were organized into 13 categories

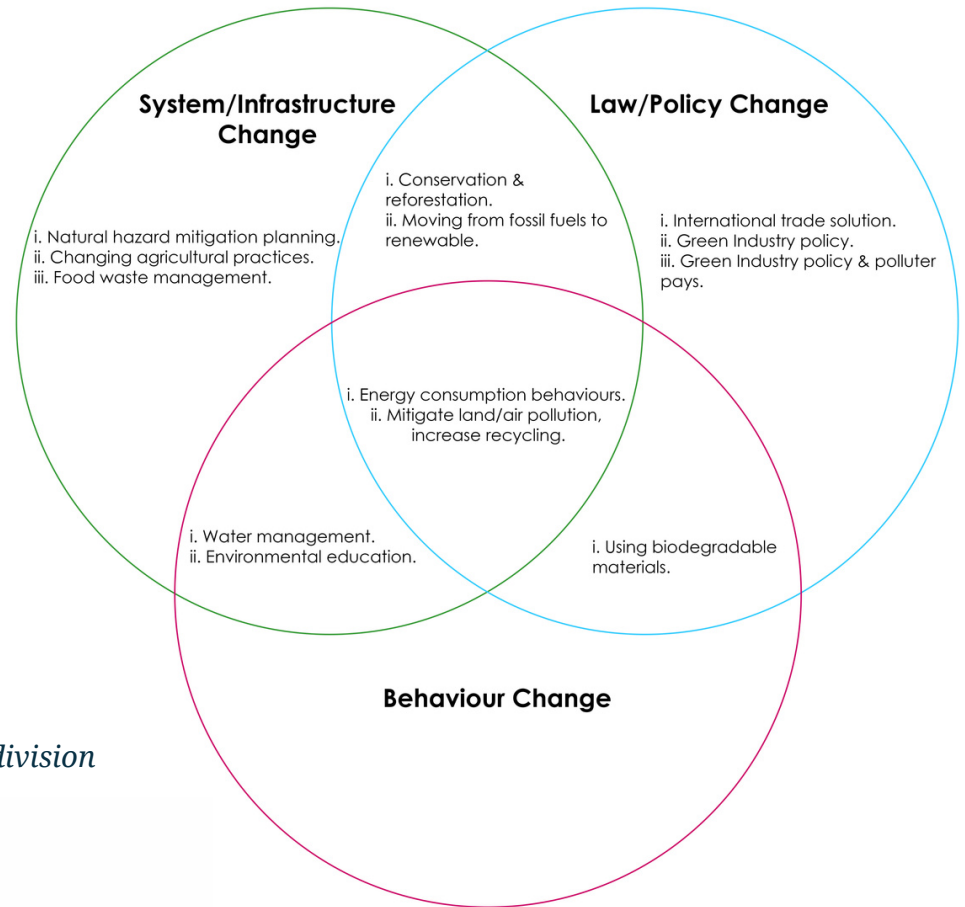


Figure 2. Theme & category division

In regards to consensus or divisiveness on the suggested climate responses, there is a greater agreement for responses in 'behavioural change' (91.77%) followed by system and infrastructural change (94.29%), and law and policy (95.81%).

Figure 4. Theme: Consensus & Divisiveness (down)

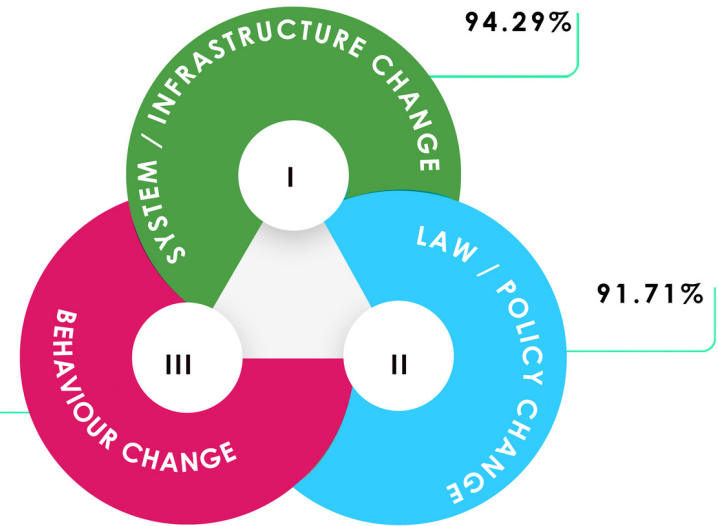
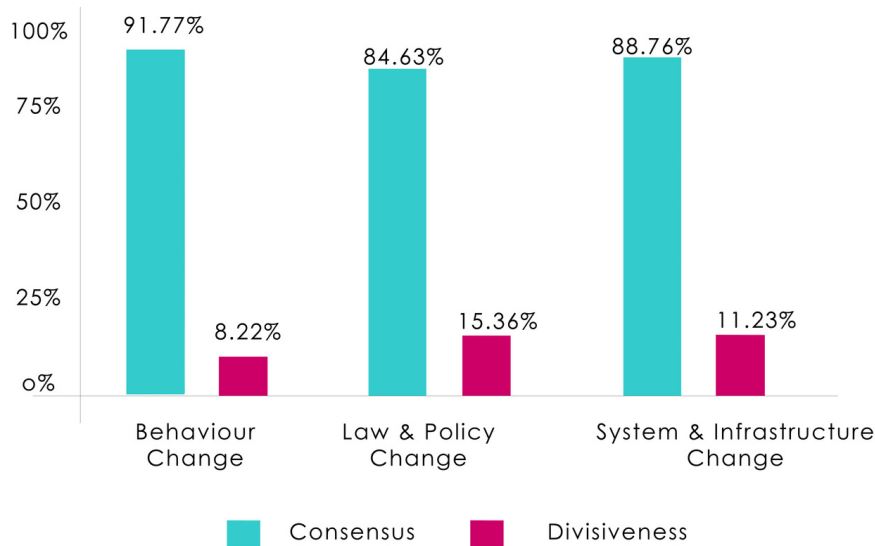


Figure 3. Theme: Percentage of agreement

Law and Policy Change had larger divisiveness (15.36%) among respondents compared to behavioural change (8.22%) and system and infrastructural change (11.23%). This divisiveness could indicate the recognition of complexities and the time required to effect law and policy change.

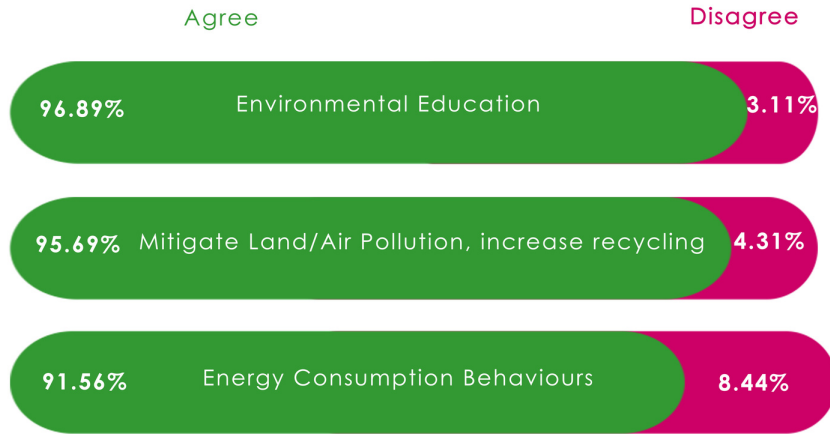


Figure 5. Categories: Percentage of the agreement (left)

Of the 13 categories of responses, the top three with the highest percentage of agreements are ‘environmental education (96.89%), followed by ‘mitigate land/air pollution (95.69%) and ‘energy consumption behaviours (91.56%).

The majority of the responses were concentrated on mitigation strategies (47.4%) as opposed to adaptation strategies (35.1%). While this could be due to the moderators’ influence as they determine whether to accept a response or not based on predetermined criteria, it could also indicate that a majority are more aware of mitigation as opposed to adaptation strategies. As effective climate action includes a combination of the two strategies, it could mean that there is a scope to increase awareness of adaptation strategies.

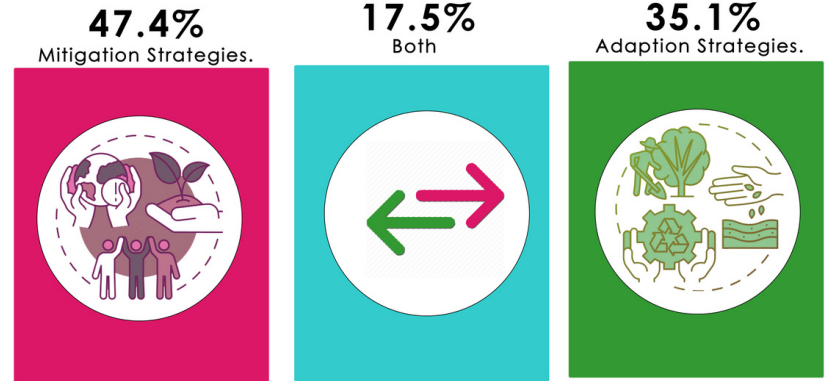


Figure 6: Mitigation and Adaptation

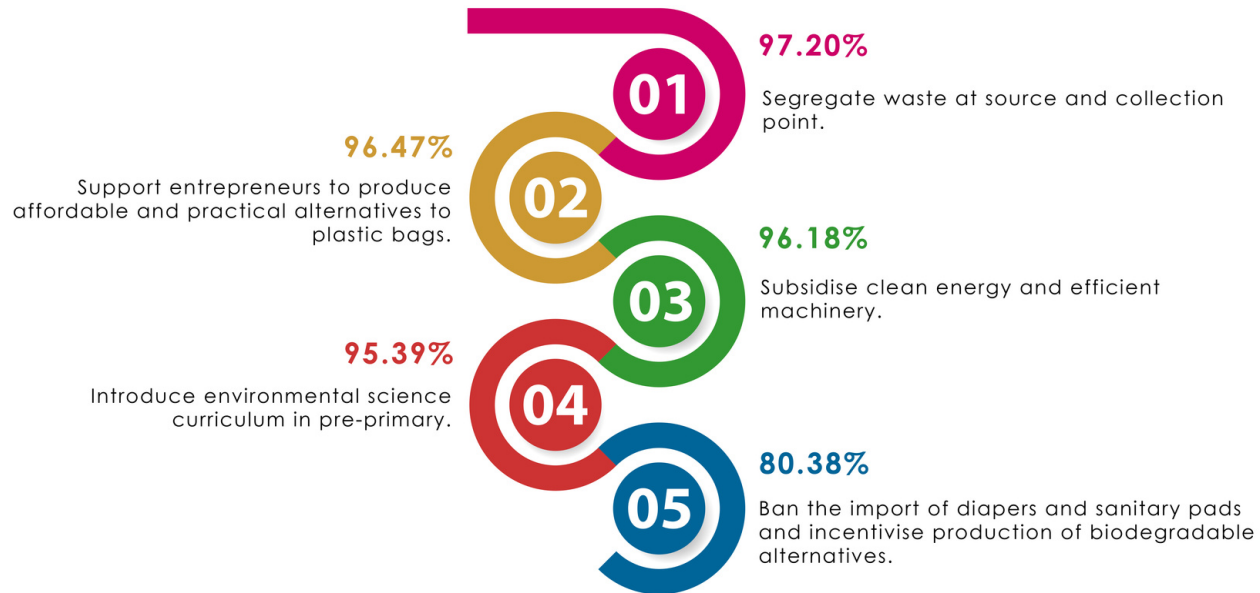


Figure 7: Top 5 solutions with the highest percentage of agreement

Of the 37 responses, the top five with the highest percentage of agreements include the need to segregate wastes both at source and at collection points (97.20%), followed by the need for enterprises to produce biodegradable alternatives (96.47%), subsidising clean energy (96.18%), implementing environmental education from pre-primary level (95.39%) and banning imports of diapers and sanitary pads for local production of biodegradable alternatives (80.38%).

Theme-wise Analysis: Law & Policy and Change



Green Industrial
Policy

94.19%



Conservation
& Reforestation

91.32%

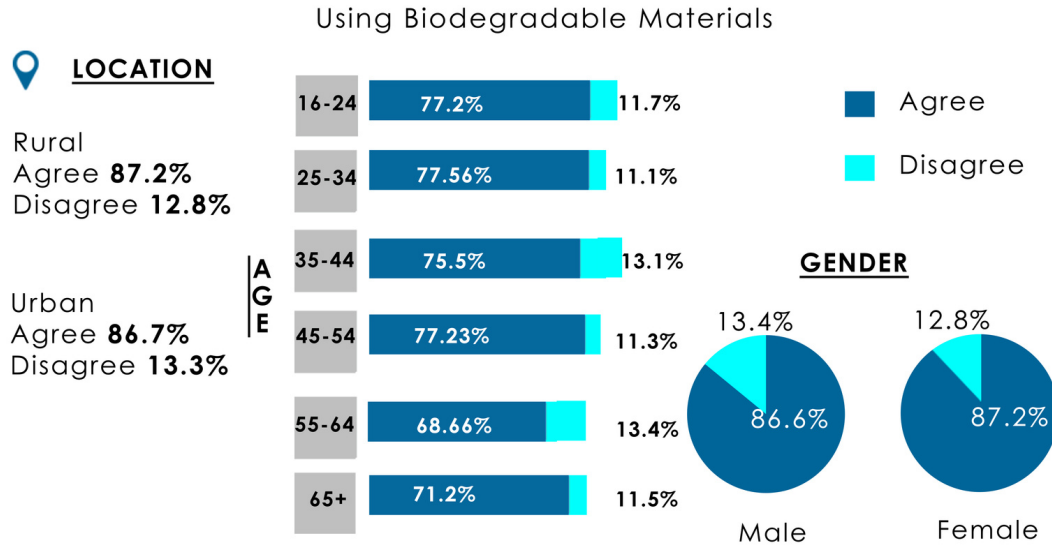


Using Biodegradable
Materials

86.83%

Figure 8: Law & Policy Change: Top 3 categories of solutions from the poll

Of the 37 responses, the top five with the highest percentage of agreements include the need to segregate wastes both at source and at collection points (97.20%), followed by the need for enterprises to produce biodegradable alternatives (96.47%), subsidising clean energy (96.18%), implementing environmental education from pre-primary level (95.39%) and banning imports of diapers and sanitary pads for local production of biodegradable alternatives (80.38%).



Hold industries accountable through levying tax / royalties for environmental damage and higher tax on use and throw products.

Figure 9: Law & Policy Change: Biodegradable demography analysis

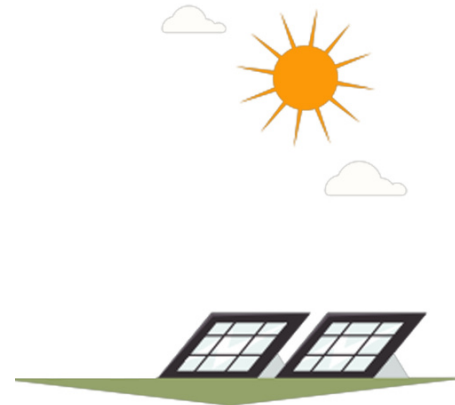
Under the category “Use biodegradable materials” one of the policy suggestions is to hold industries accountable through tax/royalties and levying higher taxes for use and throw away products, but this is also the most divisive.

Urban (13.3%) and male respondents (13.4%) disagreed more compared to rural (12.8%) and female respondents (12.8%) to the solution. It’s interesting to note that younger respondents (16-24 years) disagree less (11.7%) with these solutions while older respondents disagree more (13%).

Under the same theme, the top two solutions with the highest percentage of support include ‘subsidising clean energy and energy-efficient machinery/equipment (96.18%) and ‘banning the import of diapers and sanitary pads for local biodegradable alternatives’ (80.38%).

80.38%

Ban the import of diapers and sanitary pads and incentivise production of biodegradable alternatives



96.18%

Subsidise clean energy and energy-efficient machinery

Figure 10: Law & Policy Change: Biodegradable demography analysis

But banning the import of diapers and pads is also the most divisive (0.39) indicating that policy decisions need to be more gender-sensitive with increasing awareness about gender inequality issues.

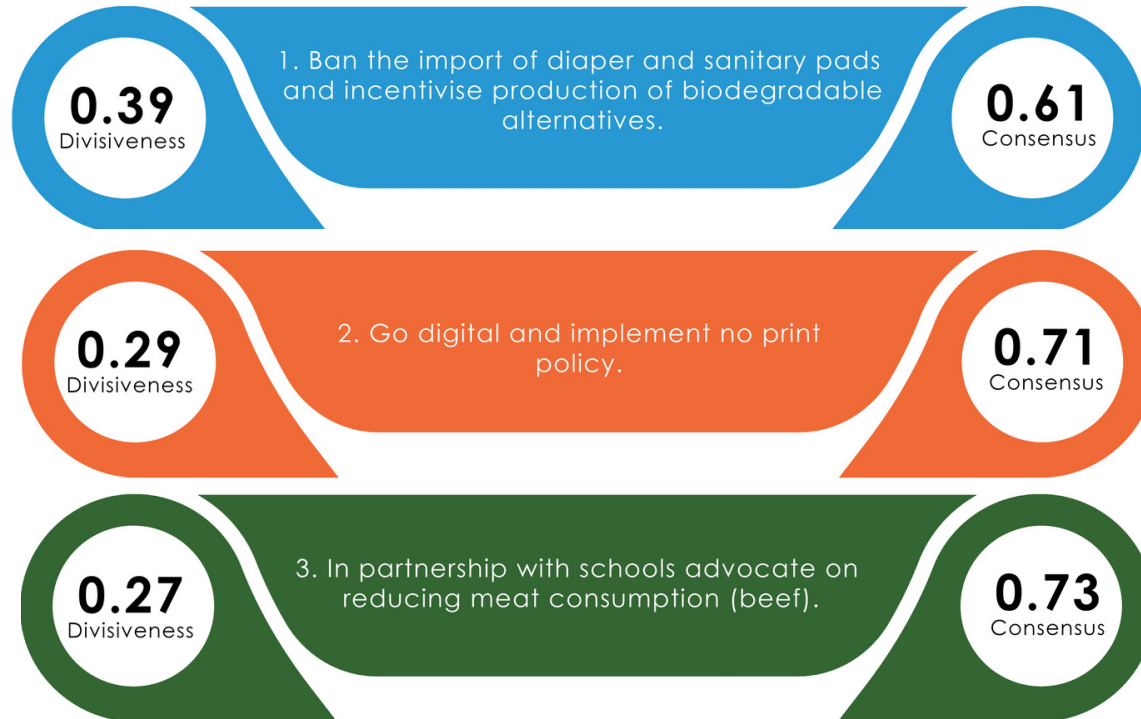


Figure 11: Top 3 solutions with the highest percentage of divisiveness

Theme-wise Analysis: Behaviour Change

The top three categories of solutions under this theme include “Using biodegradable materials” and “environmental education” (96.5%), followed by mitigating land/air pollution and recycling (93.3%).

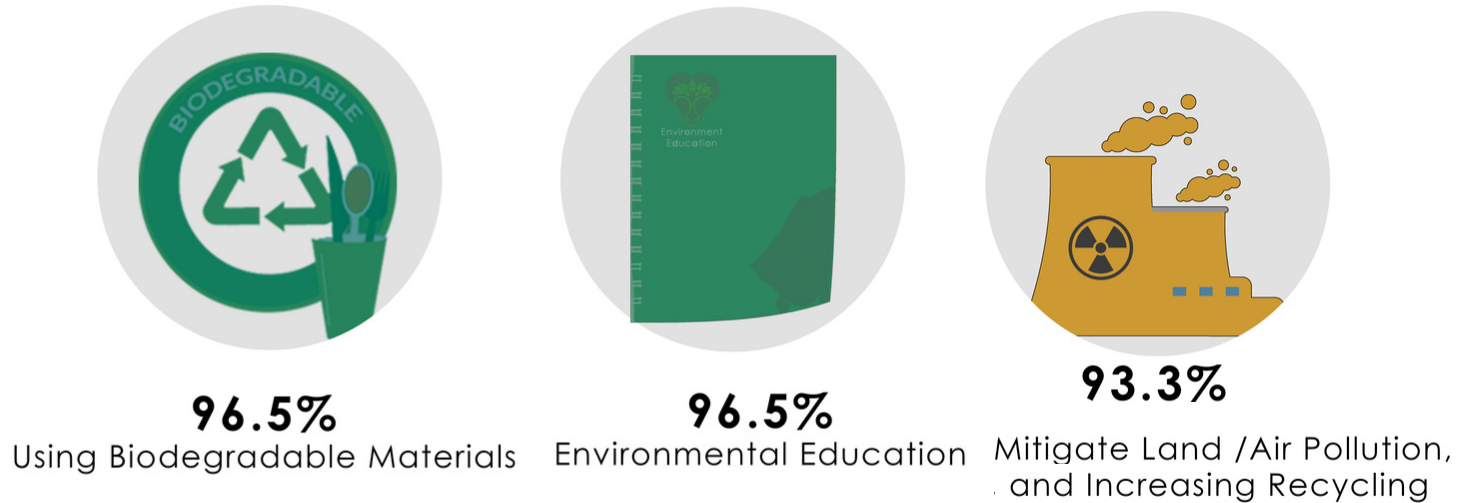
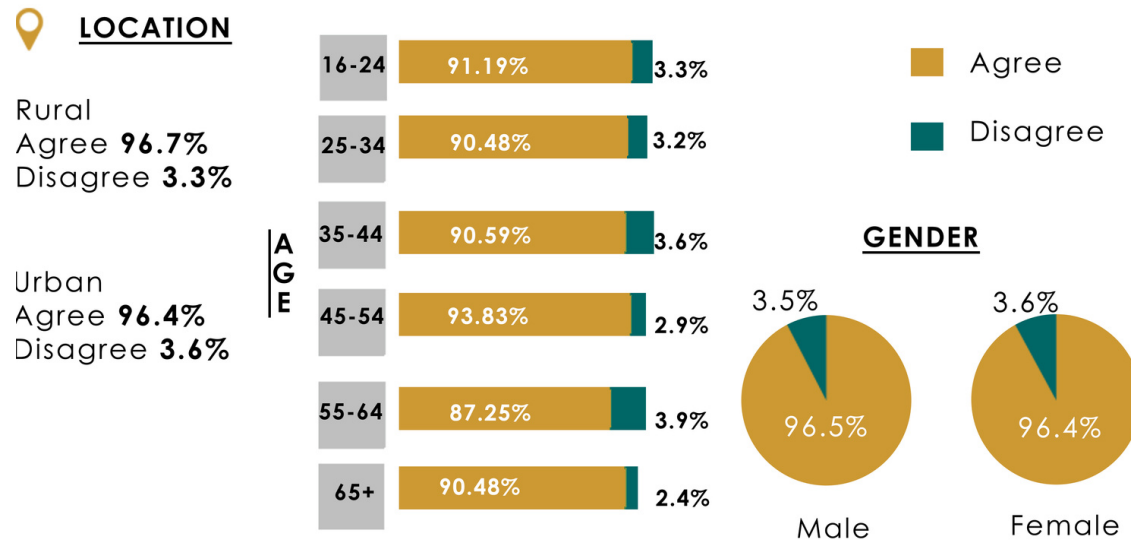


Figure 12: Behaviour Change: Top 3 categories of solutions

The top two solutions under this theme include implementing curricula on climate change from the pre-primary school level (95.39%) and supporting entrepreneurs to produce affordable alternatives to plastic bags (96.47%).

BEHAVIOUR CHANGE

Using Biodegradable Materials



Incentivise use and production of alternatives to plastic packaging.

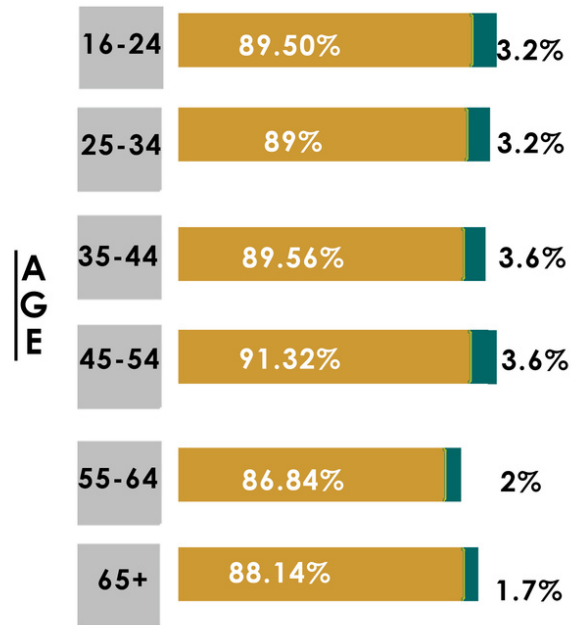
Figure 13: Behaviour Change: Using Biodegrade Materials

LOCATION

Rural
 Agree **96.1%**
 Disagree **3.9%**

Urban
 Agree **96.7%**
 Disagree **3.3%**

Environmental Education



GENDER

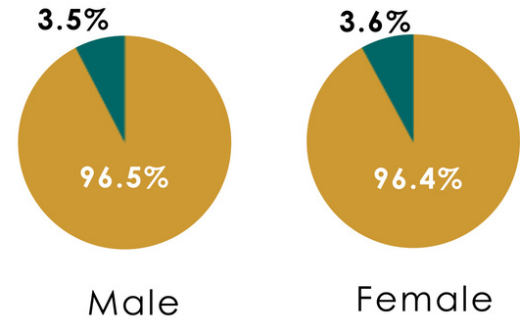


Figure 14: Behaviour Change: Environmental Education

Mitigate Land/Air pollution and Increase Recycling

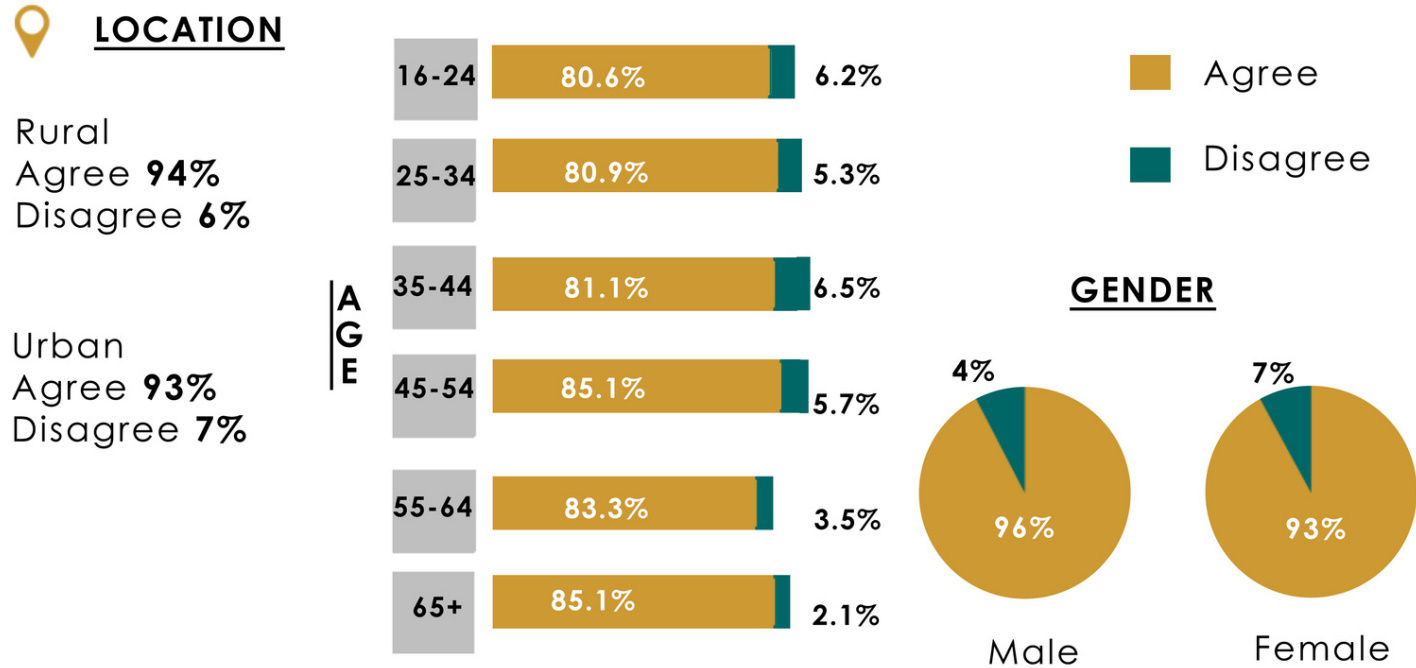


Figure 15: Behaviour Change: Mitigate Land/Air Pollution and Increase Recycling

The top two solutions under this theme include implementing curricula on climate change from the pre-primary school level (95.39%) and supporting entrepreneurs to produce affordable alternatives to plastic bags (96.47%).



95.39%

Support entrepreneurs to produce affordable and practical alternatives to plastic bags.



96.47%

Introduce environmental science curriculum in pre-primary.

Figure 16: Behaviour Change: Top 2 solutions with the highest percentage of agreement

Theme-wise Analysis: Systems and Infrastructure

The top two solutions under this theme include implementing curricula on climate change from the pre-primary school level (95.39%) and supporting entrepreneurs to produce affordable alternatives to plastic bags (96.47%).

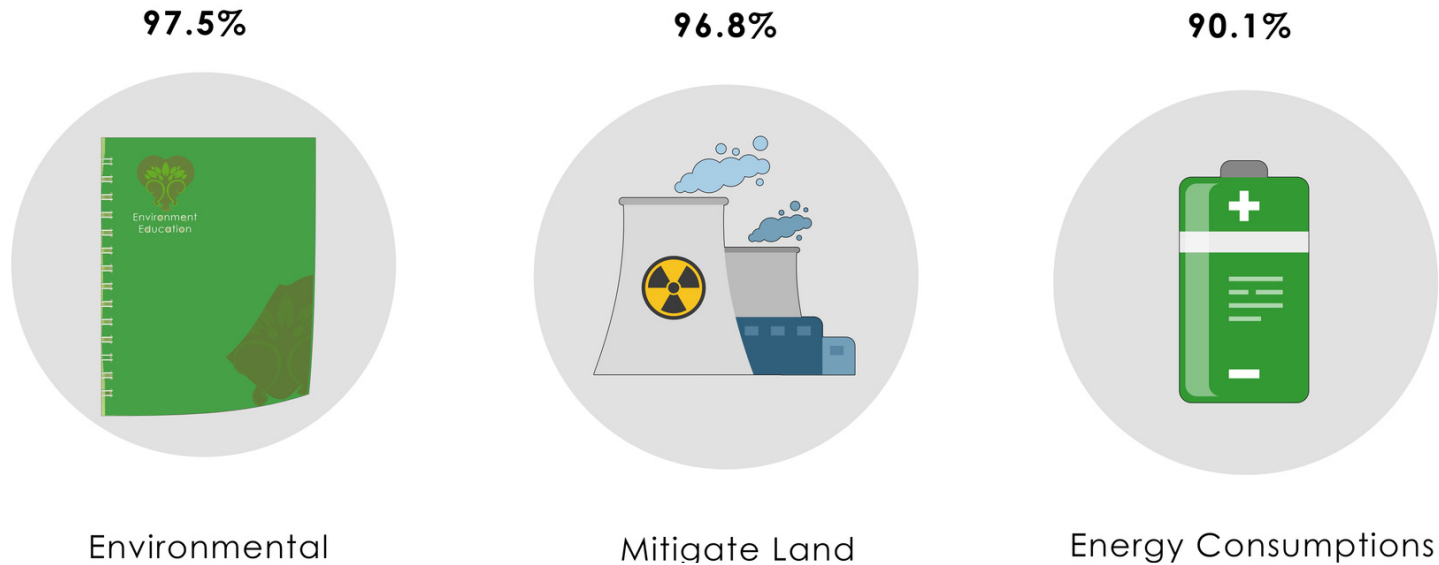
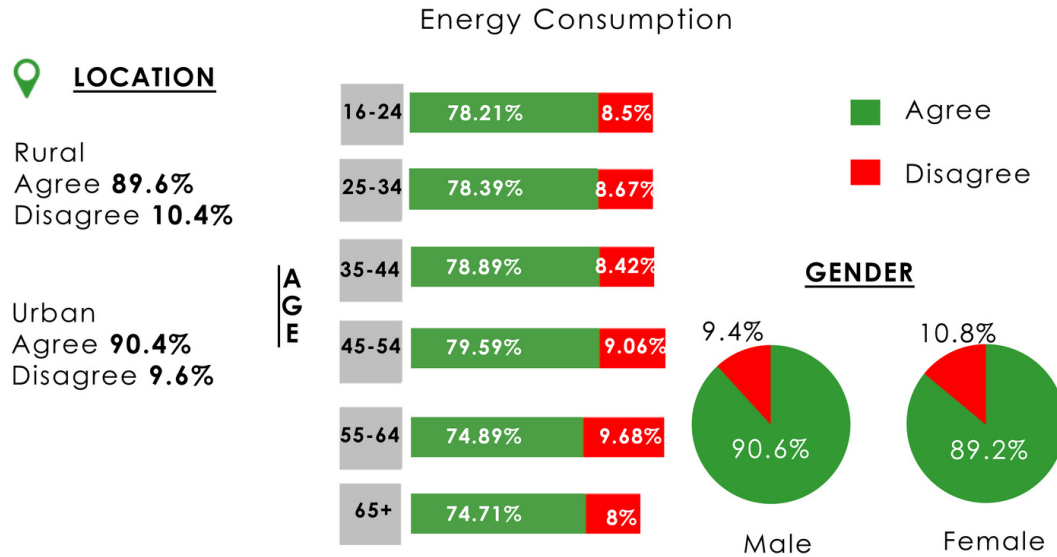


Figure 17: System and Infrastructure Change: Top 3 categories of solutions



Create awareness on green building and smart cities as well as the impact of livestock and farming practices on the environment.

Figure 18: System and Infrastructure Change: Energy Consumption

Of the top three categories of responses, there is a higher percentage of disagreement to responses under “energy consumption” which includes responses such as “create awareness on green building, smart cities and impact of livestock and farming practices on the environment”. The rural residents disagree (10.4%) marginally more than the urban respondents (9.6%) and females (10.8%) disagree more than males (9.4%). The percentage of disagreement by age groups under this category is higher compared to the other two categories but the difference is marginal.

The top two solutions with the highest percentage of agreements include collaboration among stakeholders to channel food wastes to animal shelters (96.60%) and segregating wastes at both sources and at collection points (97.20%)

96.60%

Stakeholders should collaborate and channel food waste to animal shelters.



97.20%

Segregate waste at source and collection points

*Figure 19: System and Infrastructure Change:
Top 2 solutions with the highest percentage of agreement*

Youth Perspectives

Of the six solutions with marked gender differences, three of the solutions are pertaining to transportation.

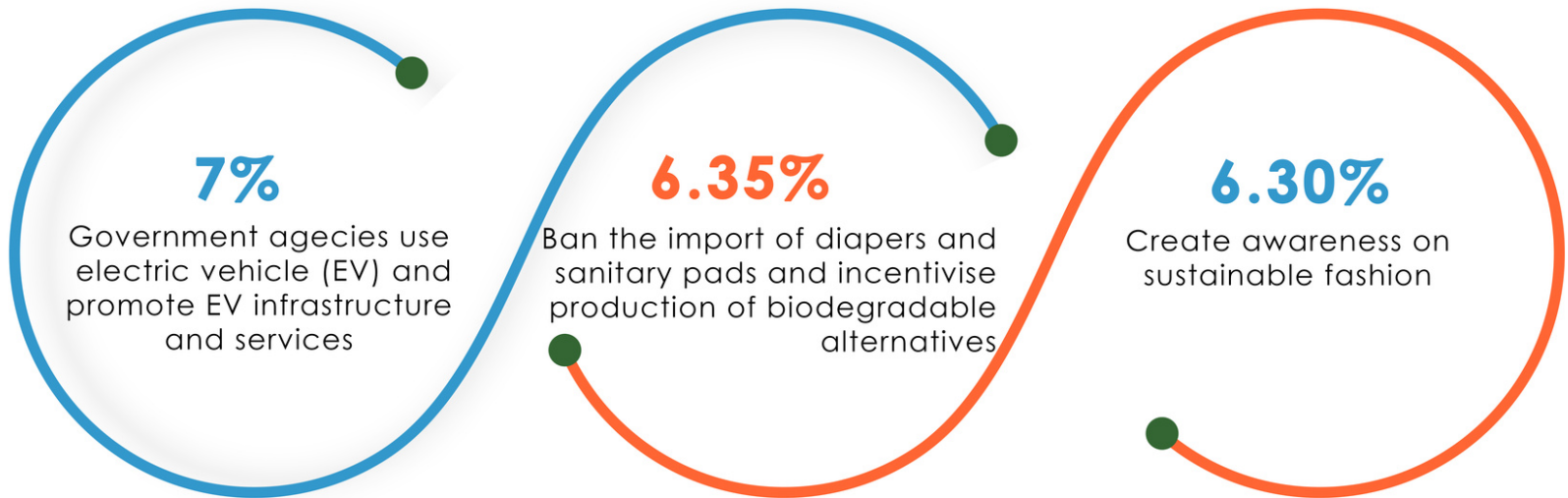


Figure 20: Top 3 agreed where this is marked gender difference (16- 24)

Proposed solutions where there are marked gender differences among the youth based on the percentage differences in disagreement include: i) leasing government land for urban farming (9.89% difference), ii) improving bus stop infrastructure with real-time information (8.65% difference) and iii) linking payment for public transport to banking Apps (7.73% difference).

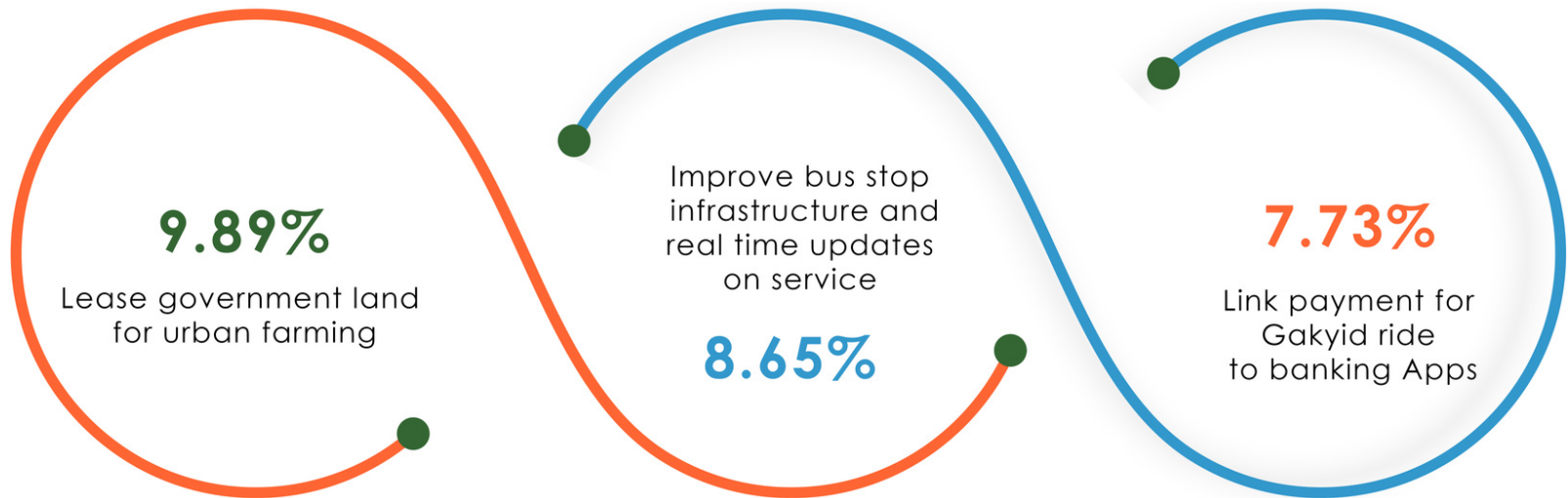


Figure 21: Top 3 disagreed where this is marked gender difference (16- 24)

Youth Perspectives

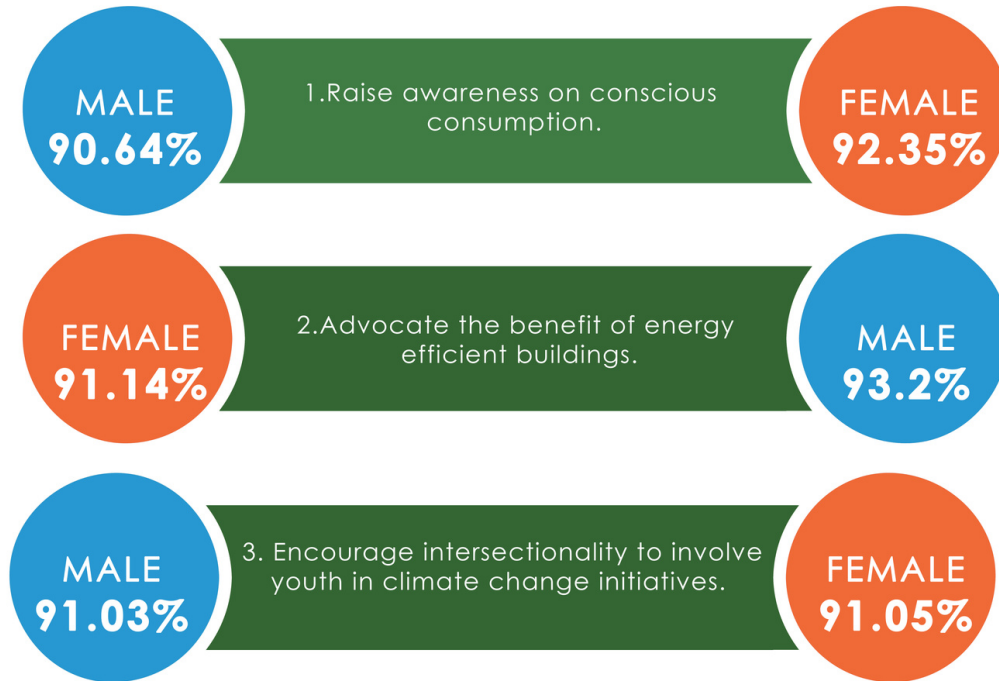
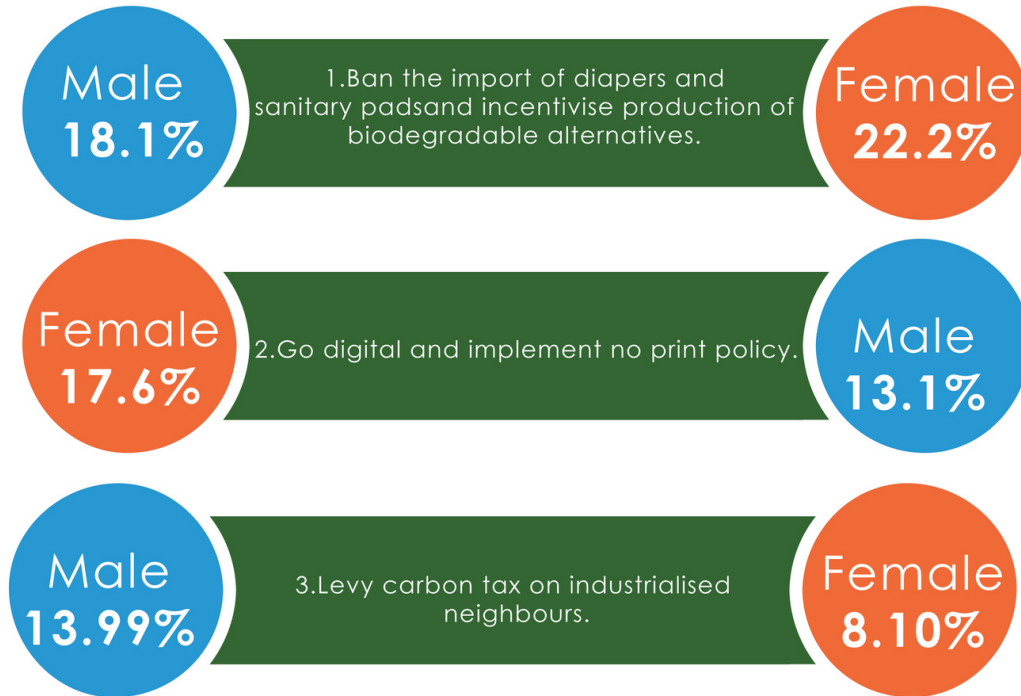


Figure 22: Top 3 solutions with the highest percentage of agreement among youth (16- 24)

Of the 37 solutions, a majority of the young people (16-24 years) agreed on creating awareness of conscious consumption (male: 90.64 % female: 92.35%), benefits of energy-efficient buildings (male: 93.20% female: 91.14%) and collaboration across sectors and the youth to address climate change (male: 91.03%, female: 91.05%).

Both young males and females have higher percentages of disagreements on banning diapers and sanitary pads (male: 18.01%; female: 22:20%). The next two solutions where young males and females disagree include 'imposing a carbon tax on industrialised neighbours (males: 8.10%; female: 13.99%) and 'no print policy' (male: 17.6%; female: 13.10%) in organisations.

Youth Perspectives



Proposed solutions where there are marked gender differences among the youth based on the percentage differences in the agreement include: i) Building the required infrastructure and switching to electric vehicles (7%) and ii) banning the import of sanitary pads and diapers (6.35 %) and iii) advocacy for sustainable fashion (6.30%).

Figure 23: Top 3 solutions with the highest percentage of disagreement among youth (16- 24)

Recommendations

- There is overwhelming support for “behavioural change” as per the poll. However, it is interesting to note that plastic packaging in particular has worsened after the pandemic. Almost all farm produce at the centenary farmers market is wrapped in plastic bags. This not only curtails consumer rights but is aggravating the plastic waste issue. One of the youth participants at the Camp pointed out that Bhutan introduced plastic bans multiple times but there has been no consistent enforcement or production of alternatives.
- Any law or policy change needs to be reviewed through a gender lens. Solutions that are framed positively also garner more agreement suggesting that citizens respond better to incentives, encouragements and motivation. One could also surmise that awareness or advocacy campaigns with positive framing of messages could affect more positive reactions than punitive framings.
- Most of the solutions on the Youth Conversation Platform are mitigation strategies. While the adaptive strategies are not far behind, the advocacy or awareness program on climate change could focus on both mitigation and adaptation strategies.
- Most of the solutions from the youth at the Camp were around plastic waste, the transport sector and industries. The facilitators observed limited awareness among youths on the connection between the textile industry, fast fashion and climate change. Similarly, there was limited critical thinking around farming and livestock practices and how the activities that affect climate change.
- Educational or advocacy programs need to make the connection between human activities and their effect on climate change and the consequent impacts on human existence

Annexe

Seed responses from the Youth Conversation Platform

Waste

- Relevant companies, such as mining industries and factories, should be held accountable for the waste produced.
- Waste collectors should not mix different kinds of non-degradable waste while collecting from households.
- There should be a proper division of areas in landfills for different wastes as not all waste can be composted.
- Every city or geogs should have scrap collector on salary basis where the young youths can sell by picking the waste anywhere they find.

Transportation

- Gakyid Ride can link MBoB/MPay for payment instead of opting for a transportation card to encourage using public transport and reduce waste.
- Improve existing bus stop infrastructures and information boards to show updated bus routes from the Gakyid Ride app.
- Government agencies should switch to electric vehicles. Then it could enhance political will to build infrastructure and provide services necessary for use of electric vehicles.

Urban Development

- Thromdes should encourage urban farming and vertical farming, by helping locate and lending plots of unused land in the city to interested locals.
- Incentivise eco-friendly and energy-efficient buildings or businesses through tax exemptions and lower interest rates.
- Organise a friendly competition among the districts/towns to reduce non-biodegradable waste and incentivise the creation of better local waste management systems.

*Highlighted texts are new seed responses, the rest are from the youth consultation camp (YI Winter 2022 camp)

Annexe

Seed responses from the Youth Conversation Platform

Industry

- Provide subsidies to importing clean energy and energy efficient machinery/equipment
- Strictly monitor reforestation in industrial areas (for example, mining sites).
- Civil society organisations and hoteliers can work together to channel food waste to food banks or animal shelters.
- Increase taxation on use and throw products, especially for big private companies to hold them accountable for their waste. TCB should work with tourist agencies on educating their travellers about littering and switching to eco-friendly options when travelling.

Transportation

- Effluent from automobile workshops should be monitored and its impact studied, and the relevant stakeholders should be held accountable.
- Organisations can initiate pool vehicles to reduce the use of individual cars.

Urban Development

- Incorporate elements of sustainable drainage such as those exhibited by a 'sponge city' for stormwater retention and reuse in towns.
- Include climate risk scenarios into local planning to prevent loss of investments due to changing climate and disasters
- Encourage Roof Top Rainwater harvesting to use for non-potable purposes, especially in water stress pocket areas.

*Highlighted texts are new seed responses, the rest are from the youth consultation camp (YI Winter 2022 camp)

Annexe

Seed responses from the Youth Conversation Platform

Industry

- Royalties in the mining industry must be significantly increased to pay for the damage & losses to the environment and communities nearby

Education

- Encourage people to carry their own container or bag when going shopping or requesting for takeouts.
- Create public awareness of the environmental impacts of practices in agriculture and livestock.
- Promote the idea of permaculture instead of a single product so that soil fertility can be improved.
- Research and develop advocacy programs to foster a positive attitude towards using public transport.
- Create awareness on the long-term benefits of eco-friendly and energy-efficient buildings

Technology/ entrepreneurship

- Support entrepreneurs to produce/develop alternatives to plastic bags, and make the alternatives accessible, affordable and practical.
- BAN the import of conventional baby diapers and sanitary pads; instead, incentivize import or production of proven biodegradable alternatives
- Develop early warning systems to reduce losses caused by natural hazards. Advocacy on fashion industry wastes & having an edge over thrifting clothes.
- Encourage thrift stores in the country

*Highlighted texts are new seed responses, the rest are from the youth consultation camp (YI Winter 2022 camp)

Annexe

Seed responses from the Youth Conversation Platform

Policy

- Bhutan should impose a carbon tax on the neighbouring countries as Bhutan is helping in sequestering excessive carbon produced by them.
- A no-print policy should be implemented to reduce paper usage, including using digital invoices and receipts.
- Incentivise the process of switching from plastics to eco-friendly alternatives to encourage the public and businesses to make the switch.
- Bhutan should encourage YOUTH leaders, changemakers, and stakeholders in their work towards climate change and encourage inter

Education

- Schools and media need to raise awareness of conscious consumption to help people reduce their carbon footprint.
- Government should implement a curriculum related to environmental science starting from pre-primary school.
- A national campaign in partnership with schools to encourage taking small, meaningful steps to reduce meat consumption, especially beef.

*Highlighted texts are new seed responses, the rest are from the youth consultation camp (YI Winter 2022 camp)



Partner:



Funded by:



A Bhutan Centre for Media and Democracy publication
PO Box 1662, Thimphu, Bhutan
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Bibliography

- Dominish, Elsa. (Working paper) Taking climate action: Measuring carbon emissions in the garment sector in Asia. ILO. Working paper. doi: 10.54394/WAWN5871
- Dominic Moran, Eileen Wall, Livestock production and greenhouse gas emissions: Defining the problem and specifying solutions, *Animal Frontiers*, Volume 1, Issue 1, July 2011, Pages 19–25, <https://doi.org/10.2527/af.2011-0012> Effects of Ocean and Coastal Acidification on Ecosystems. (2022). US Environmental Protection Agency. <https://www.epa.gov/ocean-acidification/effects-ocean-and-coastal-acidification-ecosystems>
- Gies, Erica. (October 25, 2016). Landfills have a huge greenhouse gas problem. Here's what we can do about it. ENSIA. <https://ensia.com/features/methane-landfills/>
- IPCC. Summary for Policymakers. In: *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 3–32. doi:10.1017/9781009157896.001.
- Ritchie, Hannah. (2020). A Global Breakdown of Greenhouse Gas Emissions by Sector. Visual Capitalist. <https://www.visualcapitalist.com/cp/a-global-breakdown-of-greenhouse-gas-emissions-by-sector/>
- Wangmo, Phuntsho and Singay Dorji. Bhutan State of the Climate. (2020). Weather and Climate Services Division, NCHM. <https://www.nchm.gov.bt/attachment/ckfinder/userfiles/files/Bhutan%20State%20of%20the%20Climate%202020.pdf>