

A Future for Planetary Health and Human Wellbeing 2050

UNEP Regional Foresight Workshop, Asia-Pacific

Organised by Stockholm Environment Institute Asia Centre, in
collaboration with the United Nations Environment Programme

Bangkok, Thailand, 5-6 December 2023



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Summary Document

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1. Introduction

UNEP has embarked on a strategic foresight initiative to institutionalise foresight and horizon scanning to establish a future-oriented culture. The initiative includes global-level horizon scanning and analysis, followed by regional workshops where stakeholders further validate global insights with regionally specific issues.

In partnership with UNEP and as part of a series of regional foresight workshops, in December 2023, the Asia Centre of the Stockholm Environment Institute (SEI Asia) facilitated the Asia-Pacific regional workshop with over 40 participants from countries across the region. This report documents the content of the discussions and critical insights from a series of backcasting exercises. It is accompanied by a process report, separately submitted to UNEP, capturing the methods and steps taken during the workshop.

The workshop took place over two days, where participants reflected on four global scenarios through an Asia-Pacific lens (Sensemaking), explored and assessed the emerging changes under these scenarios (Change pathways), and identified potential areas for interventions (Intervention planning) (See Annex 1 for the methods). This report captures general reflections on the scenarios in Section 2, key insights and narratives from the Sensemaking and Change pathways of each scenario in Section 3, and common areas for interventions in Section 4. Section 5 then summarises major recurrent themes that emerged during the workshop.

This report was written based on raw workshop notes to capture the different and diverse inputs of all participants during the workshop, who at various points may have diverged or conflicted understanding and interpretations of the scenarios. As explained further below, the regional scale covering Asia and the Pacific led to a relatively broad scope of discussion.

2. Background

The Asia-Pacific region* is vast and diverse, encompassing many physical landscapes and ecosystems. Sixty per cent of the global population resides here, and it hosts seventy per cent of the world's most densely populated cities†. Stretching from the mountain systems, steppes, deserts and plateaus of Asia to the islands of the Pacific, this region boasts a rich tapestry of

* The definition of the region is based on the UN Environment Asia-Pacific office's geographical coverage of 41 Member States. These are Afghanistan, Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Cook Islands, Fiji, India, Indonesia, Iran (Islamic Republic of), Japan, Kiribati, Korea (Democratic People's Republic of), Korea (the Republic of), Lao PDR, Malaysia, Maldives, Marshall Islands, Micronesia (Federated States of), Mongolia, Myanmar, Nauru, Nepal, New Zealand, Niue, Pakistan, Palau, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, Sri Lanka, Thailand, Timor-Leste, Tonga, Tuvalu, Vanuatu, and Viet Nam.

† See <https://www.unep.org/regions/asia-and-pacific>

flora and fauna in freshwater and saltwater environments. However, many are facing threats of biodiversity loss due to climate change and human development.

The Asia-Pacific is also one of the most vulnerable regions to climate change. Sudden-onset and slow-onset hazards such as floods, cyclones, rising sea levels, and rising temperatures devastate communities and economies across the region. This vulnerability is exacerbated by widening inequality, socio-cultural discrimination, economic fluctuations, and evolving political landscapes (United Nations, Economic and Social Commission for Asia and the Pacific (ESCAP), 2021).

With nearly a quarter of the world's international migrants and almost 40% of the world's refugee population, the Asia-Pacific is a hub of migration and displacement (United Nations, Economic and Social Commission for Asia and the Pacific (ESCAP), 2020). Millions of people move within and across borders, within the region, each year, voluntarily or involuntarily, seeking better opportunities or fleeing conflict, violence and environmental degradation.

Many countries, especially in Asia, are experiencing a shrinking civic space, with efforts to crack down on civil society, including criminalisation and prosecution of human rights and environmental rights defenders (CIVICUS, n.d.).

Economically, the Asia-Pacific is a powerhouse, experiencing rapid growth that has lifted over a billion people out of extreme poverty since the turn of the century. However, this growth has also widened inequality and is accompanied by an ageing population, with projections suggesting that 20% of the population will be over 65 by 2060 (OECD, 2022). Rapid urbanisation leads to high-density urban centres and haphazard planning in many places, with a high level of urban informality, especially in South and Southeast Asian cities.

Despite its economic success, the region faces significant environmental challenges. It is home to some of the world's largest emitters of greenhouse gases and experiences rapid urbanisation and industrialisation. This resource-intensive growth has led to unsustainable levels of natural resource extraction, contributing to the triple planetary climate change crisis, biodiversity loss, and pollution.

3. General reflections on the global scenarios

The introduction of the four scenarios prompted several reflections from participants. These reflections draw from the links between the current status quo and future scenarios. First, participants noted that while these are scenarios for 2050, **many elements described are either already happening or are symptoms of existing systemic issues**. This confirms that the scenarios reflect possibilities that can occur based on current conditions in the region. Similarly, a question was raised regarding the need to consider alternative scenarios, given that standards for human rights are in place but not being implemented. Thus, the exercise can play a role in identifying the way forward to realise these existing standards.

Second, throughout the discussion, the groups regularly discussed who the *winners* and *losers* would be in each scenario. Someone commented that, for instance, many participants in this workshop would belong to the winners' group in the Sustainability Paradox scenario and would want to maintain the status quo. Thus, the question became how to get to another scenario where they still win. **The discussions around who wins and loses highlight inequalities as an important area of concern in the region.**

Third, **the idea of "Asia and the Pacific" being a homogeneous region was challenged and considered difficult when reflecting on these scenarios.** Participants noted how Asia and the Pacific are large, diverse, and heterogeneous socially, economically, politically, and geographically. For instance, the Pacific, Southeast Asia, and South Asia are very different contexts with different challenges and need different solutions. Thinking "regionally" thus was a challenge many participants raised. At the same time, a participant also noted that Asia is such a large continent that separating what happens in the region from the global trend can be challenging.

The dynamics and interplay among countries in the region can also vary. Currently, regional cooperation through regional bodies such as the Association of Southeast Asian Nations (ASEAN), the South Asian Association for Regional Cooperation (SAARC), and the Pacific Islands Forum functions very differently. Furthermore, superpowers such as China and their role in the region influence regional dynamics within Asia and the Pacific.

These factors made contextualising the scenarios and backcasting exercises with regionally specific insights a challenge reflected in many "generic" discussions.

Finally, facilitators and participants noted that **our interpretations of a scenario or explanation for a trend may differ and contradict each other.** This is the case, especially for the Global Awakening scenario, where, for instance, some groups envisioned justice and democracy as critical enablers. In contrast, others insisted on authoritarianism as the driver towards this future. This suggests **that multiple possible pathways can lead to what is perceived as the same future** but also highlights the importance of a shared, collective understanding of how the future is described and the characteristics that make up that scenario.

4. The four plausible alternative futures

This section discusses how the four alternative futures, namely the **Sustainability Paradox**, **Post-truth Division**, **Fortress Multipolarity** and **Global Awakening**, may manifest in Asia and the Pacific, given the region's current development trends and context.

- The first scenario highlights the interplay between technology, economic systems and embedded power relations in a trend of continued environmental exploitation for economic growth.

- The second brings the dynamics between different forms of science and knowledge and technology and their implications on social dynamics and public narratives, shaping the human-nature connection.
- The third highlights the interactions among security, human progress and personal freedom in a controlled society where surveillance is deployed for environmental protection.
- The final scenario emphasises the importance of transformation in governance, social and economic norms and multilateralism for inclusive and sustainable development.

In all scenarios, however, it is worth recognising that resistance is likely for each possible change trajectory, for example, people's resistance against technology or hegemony, stemming from and further reinforcing different experiences of different groups under the same scenario.

4.1. Scenario A – Sustainability Paradox

Global Scenario Summary: *Science and technology are actively used to solve many environmental problems and resource scarcity successfully. Therefore, society believes economies can grow exponentially, and people continue to consume without limits.*

In Asia and the Pacific, this scenario is thought to unfold through the domination of high-income countries and private corporations in influencing world orders and distribution of wealth, widening the inequality gap, and producing new forms of colonisation. The “technological fix” may help tackle environmental challenges, including food security, but it will also introduce new problems, including ethical issues, waste and resource management, and conflict. Socially, the scenario sees the rise of individualism and consumerism, while geopolitically, it sees the rise of nationalism and protectionism.

- **Environmental governance is dominated by high-income countries, with new forms of colonisation perpetuating global inequity.** High-income countries play the primary role in environmental governance and management. This can lead to new forms of colonisation, exemplified by practices such as waste being sent to lower- and middle-income countries. This results from the phase-out of multilateralism, the weakening role of governments and non-governmental organisations in environmental governance, and the rise of the “business case” for sustainability.
- **Technological innovation continues to be a source of environmental exploitation, ethical concerns, and conflicts.** These include using AI to oppress dissenting voices, new planetary health challenges associated with space mining, or disputes over intellectual property due to the influence of virtual reality. Technological advancement can support food security and green urban development, but new pollutants and diseases will emerge from new forms of resource extraction, challenging livability and quality of life. Large powerhouse countries in AI development, like China, will become even stronger in the region but will likely keep technologies to themselves, preventing the global community from reaping the benefits.

- **A strong belief in the ‘technological fix’ leads to heightened individualism and consumerism and a loss of human and nature connections, but resistance can breed positive change.** Major value shifts may emerge, including cultural breakdowns, a loss of human purpose, and a phase-out of spiritual values. This results from the imbalanced investment in science, technology, engineering, and mathematics (STEM) and AI-focused education, causing a decline in diverse knowledge systems and transdisciplinary research. However, a backlash against technology due to the consequent loss of jobs could lead to the revival of traditional knowledge systems, new learning spaces, and peer-to-peer learning systems. Younger generations could lean further towards consumerism, contributing to heightened pollution, or be the force for change, leading to civic unrest and intergenerational conflict.
- **Private corporations gain power over decisions and governments. At the same time, there is potential for alternative trade relations to emerge.** Due to the dominant role of corporations and family dynasties in the region and their influence on both private and public spheres, corruption in government institutions will continue, and corporate social responsibility merely represents greenwashing. Consumers may have control over production and consumption patterns to an extent, and direct Indigenous-to-Indigenous trades may emerge as a form of resistance.
- **Inequality widens, and social protection declines while resource exploitation continues.** This is caused by reliance on GDP as an indicator of development and neglect of others, coupled with a need for more representation in decision-making processes. Mass environmental pollution and ecosystem collapse strain the delicate balance between human societies and nature. This trend leads to the erosion of trust and social cohesion within the society and less civic (or more violent) forms of demonstration and resistance.
- **Gentrification and displacement will increase due to resource scarcity.** This is enabled by unchecked growth of consumerism, environmental degradation and land use decisions. The societal trend towards consumerism, coupled with the younger generation's inclination for fast and convenient solutions (e.g., fast food and fast fashion), is poised to contribute to heightened pollution, reducing livable areas worsened by inequality.
- **The geopolitical landscape is shifting due to multi-polarization, new allyships, and resource conflicts.** As a result of nationalism and protectionism, multi-polarization is likely to occur with ramifications, including the disappearance of international development assistance. Nations may form a new alliance at the regional level, and new trade partnerships will arise, capitalising upon the region's stock of natural resources and rare earth minerals.

4.2.Scenario B – Post-truth Division

Global Scenario Summary: *Trust in science is eroded, and social groups choose their truths, aligned by shared attributes and beliefs. Conflicts exist within and across states and newly forming entities, down to the local level.*

This scenario is envisioned with the rise of selective truth, reinforced through echo chambers and populist agendas. Monopoly over resources and technology, the lack of environmental

concerns, loss of recognition for human rights, and erosion of social cohesion and public trust give rise to heightened conflicts and inequity and total degradation of the environment. There is a significant shift in consumption patterns with a localisation trend and greater reliance on local resources. Global environmental governance and national sovereignty cease to exist.

- **Environmental governance collapses.** There is no policy to protect the environment and resource-dependent communities. A lack of rule of law and rampant impunity raises questions about the role of the State in national governance. Both human rights and the rights of nature are not recognised, with failure or loss of existing green agreements.
- **Technology is limited in global progress, while its benefits and access remain unequal. Technological progress has halted as trust in science has eroded in favour of community knowledge.** The breakdown of institutions and lack of regulations over corporations lead powerful actors to monopolise existing technology, widening inequality within and between states.
- **Economic development shifts toward localisation, leading to both new opportunities and challenges.** This trend is enabled by the loss of trust in public institutions, the reevaluation of globalisation (and its adverse consequences in the region) and environmental degradation, prompting a return to locally based farming practices. This shift reduces the export economy and mass consumption and leads to the breakdown of international trade. Food security and systems vulnerability continue to be challenging as the scarcity of essential food items and staple crops becomes a focal point of conflict.
- **There is a broader trend of cultural erasure and fragmentation of community.** This stems from a diminishing trend in the stability of the educational system, Indigenous knowledge, cultural values, and personal sovereignty. At the same time, populist ideologies gain prominence, exacerbating social conflict, reinforcing traditional gender roles and compromising cultural diversity. A utilitarian and survival-focused education system takes over due to a rise in social unrest, constant uncertainties, and repercussions of worsening climate change and environmental degradation.
- **A survivalist mentality controls social dynamics, with increased conflicts at all levels of governance and the entrenchment of echo chambers promoting selective truth.** The wealthy 1% secure resources and land, leaving the marginalised dependent on dwindling resources. Transboundary water governance and maritime conflicts will increase, and so will domestic and gender-based violence. Distrust of institutions grows among the general public as AI and social media make it easier to discredit institutions and distort truths. Increased censorship, the closing of civic spaces, and the entrenchment of national news echo chambers fuel protectionist sentiments. This is also due to increased censorship and control over civil society and a decline in institutional integrity, shaping individual morality and prioritising personal safety and survival over collective good in a world where planetary boundaries have been breached.
- **Resource monopolisation deepens societal divides.** The ownership and control of critical resources become a powerful tool for those in positions of wealth and influence, further exacerbating the divide between the privileged few and the marginalised many, who will need essential services. Furthermore, the weaponisation of climate-altering technology

leads to new military capabilities and non-traditional security threats, threatening security and conflict risks.

- **Severe environmental impacts lead to extinction and biodiversity loss.** This stems from continued neoliberalism and a business-as-usual economy, with little regulation on corporations and concern for the environment. As the environment degrades, people will migrate away. A critical question arises: Will the environment be able to bounce back from these extensive losses?
- **Sovereign states cease to exist, global governance breaks down, and the role of multinational entities becomes uncertain.** The rise of extreme ideologies and protectionism erodes the traditional boundaries of states, undermining the idea of distinct and autonomous political entities. The prevailing protectionist mindset contributes to a breakdown in global governance, particularly in the region, where existing governance structures struggle to maintain cohesion.

4.3. Scenario C – Fortress Multipolarity

***Global Scenario Summary:** A future shaped by a polycrisis forces humans to reorganise themselves into hybrid fortified enclaves with megacities, in competition and occasional cooperation with other megacities, and with an emphasis on internal security and surveillance.*

In this scenario, ecological health is restored thanks to authoritative, AI-driven models of environmental governance. However, it comes with social and environmental implications, including intensive use of resources, the concentration of power in the hands of a few, widening inequality and stifling academic freedom and human creativity. Sustainable management and governance of resources and social dynamics within, beyond and between fortresses become essential. Fear is believed to be the main driver of the organisation and maintenance of communities.

- **Environmental governance through environmental intelligence emerges with a phase-out of traditional nation-state systems and increased authoritative governance.** More robust rules and stringent regulations are essential to an Earth-centric approach as imperative for survival. The scenario suggests the possibility of transitioning towards a form of authoritative governance, resembling a dictatorship or the current reality in the US, China and North Korea, as a response to the environmental challenges. This is enabled by high-control measures replacing communication and information access and governments exploiting ecological concerns for control over the people. Potential challenges emerge from the imbalance between fortress and population sizes, the movement in and out of fortresses, and the management of waste and resources outside enclaves.
- **The rise of AI and technology comes with potential benefits to ecological revitalisation and adverse environmental, intellectual and economic consequences.** These include AI implications on academic freedom and research independence, joblessness, and media authorities gaining significant power over society and decisions.
- **Large multi-corporates are established across fortresses.** This emerges from the fluid movement of capital across enclaves and the monopoly of large corporations, leading to

the decline of small businesses. AI renders many jobs obsolete, potentially leading to the adoption of universal basic income to meet basic needs, yet it may fail to enable humans to flourish.

- **Within fortresses, increased surveillance and diminished privacy pressure individual rights, mobility, creativity and diversity.** This is driven by a phaseout of democracy and new laws and legislations restricting human rights and civic freedom. Data monitoring, personal tracking, and chipping may begin with good intentions for safety but lead to severe surveillance and manipulation. It results from an increasingly technologically driven society and the disappearance of social movements and democratic spaces, enabled by the closing down of civic spaces and a governance structure driven by AI, technological corporations or the military.
- **Inequality widens.** The elites control society, and resource-dependent communities may be subject to harsh penalties. Social segregation has adverse impacts on different aspects of human life, including growing fear of the “others”, loss of humanity, disassociation with nature, loss of traditional practices and identity, and regressive gender impacts. Land degradation grows due to large-scale agriculture, leading to conflict over land and other natural resources.
- **Conflicts emerge within and between fortresses as control of resources continues to be a point of tension.** The breakdown of government structures and multilateralism collides with new geopolitical patterns controlled by superpowers, high-income countries, and large corporations.

4.4. Scenario D – Global Awakening

***Global Scenario Summary:** New generations recognise their actions' interconnectedness and impact on the planet's health. Supported by artificial intelligence and technology, they unite to create a world of harmony between humans and nature.*

This scenario envisions a future driven by transformative changes led by the younger generations and the deployment of AI as a tool. Environmental governance systems that recognise the rights of nature and environmental defenders play a central role. Transformative economic development models that ensure social security and sustainable resource use take over. Global and regional governance mechanisms have the potential for more equity and participation. At the same time, risks remain regarding the exploitation of resources for technology development, the ethics of AI and technology, the loss of traditional, Indigenous knowledge, the rise of intergenerational conflicts, the rise of surveillance and the loss of individual privacy, freedom and sense of wonderment.

- **The rights of nature are embraced and enacted through solid governance, capable institutions, and sensitised justice systems.** This is thanks to strengthened regional governance, where an institution like the Mekong River Commission will influence decisions and facilitate the recognition of upstream states about downstream needs.
- **Positive environmental outcomes are envisioned, enabled by a phase-out of coal and other fossil fuels and a shift away from extractive.** This is driven by enhanced capacity to transition to renewable energy and increased circularity in resource use.
- **AI plays an essential enabling role, but its ethics and implementation remain a concern.** Greener, less resource-dependent technologies emerge to enable the scenario, coupled with inclusive, transparent and open management and governance of data and

technology. Continued or new forms of resource exploitation to allow the technological transition demand close monitoring and strict regulations. The prospect of geoengineering to address environmental challenges is acknowledged as a potential contributor to increased extraction and exploitation of natural resources.

- **Alternative economic models take over with fundamental changes, ensuring workers' rights.** Big businesses will no longer dictate the development trajectory of the society. Workers' rights, including wages, hours, and social security, are protected for all – the informal economy will no longer exist. Market failures are accounted for, and a circular economy and resilient food systems are in place. Aspirational consumption, for example, of clean air and green spaces, is on the rise, enabled by new approaches to communication and marketing that depart from capitalist and materialist norms.
- **Responsible citizenship and an ethics- and justice-driven education system drive lifestyle and value changes.** A rise in civic responsibility, manifest through an increased willingness to accept limitations on personal freedom for the greater good and getting “good” disruptions that depart from social norms to embrace adaptability, are the drivers of change. This is enabled by shifting educational agendas focusing more on social sciences and the arts and the mainstreaming of environmental justice in the curricula. However, concerns are raised about the potential loss of essential life skills, innovation, creativity, and a diminished sense of curiosity and wonder due to AI influence. An education system focused on ethics and justice will be necessary, recognising resource redistribution needs. Whether AI and technology contribute to protecting existing cultures and traditional Indigenous knowledge or making them obsolete will be a significant question. Responsible citizenship is argued to be enabled by either deliberative democracy or authoritarian regimes.
- **Transformation takes place in social dynamics and cultural norms to accommodate the increasing role of the younger generations. Privacy and individual freedom are compromised due to increased monitoring and surveillance.** The scenario involves a significant shift in intergenerational roles, challenging traditional norms in many societies where older people typically lead decision-making. Concerns arise about potential intergenerational conflicts due to the ageing population resisting personal restrictions imposed by AI and the rise in youth leadership. Privacy and individual decision-making will be limited and restricted as everything individuals do becomes subject to monitoring, raising concerns about the potential for greater manipulation through AI.
- **Multilateralism and equitable global governance are at the heart of the geopolitical landscape. Transformation is needed in regional governance systems,** drawing parallels with models like the European Union (EU) and expanded versions of regional entities such as ASEAN. The scenario envisions multilevel governance that encourages engagement and connection at the city level, acknowledging the importance of diverse perspectives and local participation in shaping the direction of global and regional governance.

5. Intervention planning

This section documents interventions participants identified during the workshop, having done the Sensemaking and Change Pathways exercises, for Asia and the Pacific region to move towards planetary health and wellbeing. Key intervention areas include governance, economic and fiscal systems, education, and behaviour.

5.1. Governance

Effective governance with embedded environmental justice is needed in managing and operating the corporate sector and AI technology. AI requires collaboration across sectors and stakeholders to develop standardised systems for its potential and impacts. For corporations, regulations and legislative reforms are needed with environmental health and well-being integrated. Such a check and balance system is vital to monitor AI implementation, especially when corporates lead it.

Environmental governance can be strengthened through alternative models, policy integration and coherence, and the enforcement of the rights of nature. The region can draw from global models for inspiration, such as environmental ombudsmen and the independent authority for environmentally sound decisions in Wales. Crucial issues include the enforcement of the rights of nature as well as the establishment of mechanisms to ensure fair benefit-sharing in environmental and climate interventions. Furthermore, the region must also address the siloed nature of environmental issues by mainstreaming them into other sectors alongside environmental, health and social justice issues.

Governance structures should prioritise diversity, justice, equity and inclusion. Participants highlight the importance of i) a value-based approach to governance, integrating Indigenous values and principles into decision-making and political culture; ii) inclusive, bottom-up approaches and co-design and co-management methods to engage non-formal scientists, grassroots actors and diverse groups of people to enhance the effectiveness and accountability of environmental interventions; and iii) empowerment and amplifying the voices of marginalised communities. Strengthening the rule of law will be a critical enabler.

Making governance systems work is imperative at multiple levels. Global cooperation and oversight mechanisms, where UNEP, for instance, can be a watchdog, are highlighted globally. At the regional level, regional multilateralism can delve deeper into community and local levels to enable effective governance. At the local level, the concept of people's assembly was discussed to ensure people's voices were heard.

AI can be deployed to strengthen justice and governance systems. This is, however, contingent upon issues around data accessibility, data ownership and transparency, and a robust governance mechanism for AI.

5.2. Economic and fiscal transformation

A better understanding of how dynasties operate is needed through mapping actors, networks and embedded power relations. This is especially important for Asia, given the dominant and less understood roles of powerful and influential families and political dynasties over the economy and governments. This mapping can also identify critical regional actors with vested interests that can be engaged as “champions” for a sustainable future.

The disconnect between the corporate and environmental sectors must be addressed by building alternative narratives and addressing assumptions about the corporate sector.

Economic transformation can be enabled through investment in small and medium enterprises (SMEs), restructuring debt finance and transforming fiscal strategies.

Strengthened support, including innovative financing approaches, for the SME sector in the region can facilitate the development of new environmentally friendly products and services and the resilience of the local economies. Participants also highlighted the importance of debt reduction/relief, alternative fiscal spending strategies, and transparency in military spending.

5.3. Education and behavioural change

Transformation of the educational system is needed to drive positive change. Critical elements promoting environmental and social well-being and justice must be systematically integrated, including civic education, traditional and Indigenous knowledge, earth consciousness, environmental justice, mental health issues, continuous learning outside academic settings, faith, belief and spirituality.

Behavioural and lifestyle changes are crucial but cannot replace systemic changes. They can be enabled by financial incentives, alternative marketing strategies that portray sustainability as fashionable to broader audiences, or surveillance and monitoring mechanisms to track and encourage sustainable behaviours. Responsible consumption practices should address individual behaviour and scarcity issues through an efficiency-sufficiency model.

6. Conclusion

The workshop concludes with rich and fruitful discussions over two days. Several cross-cutting themes and recurring priorities emerged.

First are the intimate **interconnections between the environment and social, economic and political trends.** The discussions around the eight epicentres show how, in Asia and the Pacific, environmental degradation, climate change, and biodiversity loss, as well as actions to address these challenges, are intertwined with economic development, poverty reduction, technology deployment, international cooperation, social dynamics, education systems, conflicts and security, and so on.

Second, **equity, justice, human rights and the rights of nature** can be achieved or made worse depending on deliberate efforts to promote and protect the rights of marginalised groups. Progress made at all scales of governance, from global to local, can only be done if these issues continue to be prioritised moving forward.

Third, **governance** plays a vital role in deciding what the future looks like. Regional stakeholders in this workshop highlighted how current global, regional, and national governance systems are not working and how alternatives are needed to foster sustainable and inclusive development. Similar to equity, justice, and rights, governance cuts across sectors.

Fourth, **technology** can enable a desirable future, but its environmental impacts, ethical deployment, management and governance, and equity dimensions must be considered. Risks associated with the growth of technology stem from not only the question of who has access, who benefits and who loses out but also its impacts on Indigenous and traditional knowledge, cultural and societal values and relations, and human well-being.

Fifth, **economic and finance systems, family dynasties and private corporations** are strong determinants of the future for different socio-economic groups in the region. The government, media, and civil society sectors can work with these actors to minimise conflicts and ensure that resources and wealth are equally distributed. Environmental concerns and marginalised communities are included.

This, coupled with the heterogeneous nature of Asia and the Pacific region, means that diverse solutions are needed for **different scales**, and **systemic transformations associated with lifestyle and behaviour changes are necessary** for future planetary health and well-being.

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Annex 1. Information on the process

The strategic foresight programme of UNEP seeks to create a systematic method for foresight and horizon scanning. The aim is to cultivate a forward-thinking culture that acknowledges the need to address global systemic challenges by incorporating future-oriented knowledge and insights from various disciplines, knowledge systems, and sectors of society.

The process consists of two separate parts. Initially, a Foresight Expert Panel was convened at the global level to examine 29 emerging changes and over 1000 signals of change identified via a horizon scan survey. After conducting a global analysis, regional workshops were organised to evaluate the global results and offer regional perspectives to confirm and refine the emerging signals of change. These workshops also provided insights on region-specific matters, risks, and opportunities.

The format for Regional Foresight Workshops was collaboratively developed by UNEP's Office of the Chief Scientist and the European Commission Joint Research Centre (JRC) Foresight team in partnership with the International Science Council. Four exercises were undertaken:

Step One: Sensemaking

Participants were divided into four groups, which were determined before the workshop to ensure a balance of gender, country representation, perspectives, and expertise. Participants were invited to familiarise themselves with the four UNEP scenarios and consider what it would look like in Asia and the Pacific.

Step Two: Change Pathways

Now that discussions had been completed about what these scenarios would look like in Asia and the Pacific, groups then discussed the changes that would need society to move from where we currently are to reach those scenarios.

Step Three: Clustering

The groups were tasked with clustering and prioritising the changes identified in the previous exercise. These clusters were thematic areas to which more than one change could be linked. Changes that needed to be scaled up could be linked with changes that needed to be phased out if they were related to the same theme.

Step Four: Interventions Planning

Participants identified key intervention areas, including the "how" or actions, and the "who" or critical actors to implement such interventions.

The workshop took place over 1.5 days, following the Chatham House Rules. It consisted of a series of facilitated small group discussions in a world café format where groups moved across the four scenarios, such that every group would have engaged with all four scenarios in each of the three first activities. In the last activity, Interventions Planning, the groups stayed in the scenario they started with.

Annex 2. Participants of the Asia-Pacific Workshop

Name	Affiliation	Role
Aaron Situmorang	UN Global Pulse Asia Pacific	Scribe
Albert Salamanca	Stockholm Environment Institute	Facilitator
Andrea Hinwood	UNEP HQ	Facilitator
Annabelle Workman	The University of Melbourne	Participant
Ayu Dewi Shinta	Ranu Welum Foundation	Participant
Catherine Murupaenga-Ikenn	Te Waka Hourua	Participant
Chloe Pottinger-Glass	Stockholm Environment Institute	Facilitator
Chona Echavez	Research Institute for Mindanao Culture	Participant
Clare Steiner	Stockholm Environment Institute	Facilitator
Cynthia Crouse	Stockholm Environment Institute	Facilitator
Dechen Tsering	UNEP Asia Pacific Office	Participant
Dilani Wickramarachchi	National Science Foundation	Participant
Georgina Loyd	UNEP Asia Pacific Office	Participant
Grace Eunhae Kim	UNRCO	Participant
Haeun Lee	Stockholm Environment Institute	Scribe
Khairunnisa Ash'ari	Green Brunei	Participant
Lianyou Liu	Beijing Normal University	Participant
Malini Balakrishnan	Plaksha University	Participant
Marci Rose Baranski	UNEP Asia Pacific Office	Participant
Maria Milagros Ballesteros	C40 Cities	Participant
Maria-Goreti Muavesi	IUCN Oceania Regional Office	Participant
Marlene Nelsson	UNEP Asia Pacific Office	Participant
Minh Tran	Stockholm Environment Institute	Scribe
Mozaharul Alam	UNEP Asia Pacific Office	Participant
Nanqing Jiang	Institute of Carbon Neutrality and Circular Economy	Participant
Natalia Biskupska	Stockholm Environment Institute	Facilitator
Neshan Gunasekera	Raoul Wallenberg Institute	Participant
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