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Multiple resilience pathways:

# Climate Resilient Pathways to Sustainable Development

(IPCC AR5 WG2 Ch. 20)

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# Key messages about climate resilient pathways (Ch. 20)



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- 1. Climate change poses a moderate threat to current sustainable development and a severe threat to future sustainable development. (*high confidence; high agreement, medium evidence*).**
- 2. Climate-resilient pathways include strategies, choices and actions that reduce climate change and its impacts. They also include actions to assure that effective risk management and adaptation can be implemented and sustained. (*high confidence; high agreement, medium evidence*).**
- 3. The integration of adaptation and mitigation responses can in some cases generate mutual benefits, as well as introduce co-benefits with development policies. (*moderately high confidence; medium high agreement, medium evidence*).**

# Key messages about climate resilient pathways (Ch. 20)



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4. **Prospects for climate-resilient pathways are related fundamentally to what the world accomplishes with climate change mitigation, but both mitigation and adaptation are essential for climate change risk management at all scales. (*high confidence; high agreement, medium evidence*).**
5. **To promote sustainable development within the context of climate change, climate-resilient pathways may involve significant transformations (*high confidence; high agreement, medium evidence*).**
6. **Strategies and actions can be pursued now that will move toward climate-resilient pathways while at the same time helping to improve livelihoods, social and economic well-being, and responsible environmental management (*high confidence; high agreement, medium evidence*).**

# Key messages about climate resilient pathways (Ch. 20)



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- 7. Delayed action in the present may reduce options for climate resilient pathways in the future (*high confidence; high agreement, medium evidence*).**
- 8. More research about the relationship between mitigation, adaptation, and sustainable development is needed, as well as research on the relationship between incremental changes and more significant transformations for sustainable development (*high confidence; high agreement, robust evidence*).**

# The most important thing to know:



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**Climate change poses a moderate threat to current sustainable development and a severe threat to future sustainable development.**

*(high confidence; high agreement, medium evidence).*

# Resilient pathways, sustainable development



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**Sustainable development:** Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987).

**Climate-resilient pathways** are development trajectories that combine adaptation and mitigation to realize the goal of sustainable development.

# How does sustainable development fit with climate policy?



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*The **ultimate objective** of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a **time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.***

(UNFCCC Article 2)

→ One way to think about Article 2 is maintaining a 'safe operating space for humanity' (Röckstrom et al., 2009).





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# What we want, & why climate change matters



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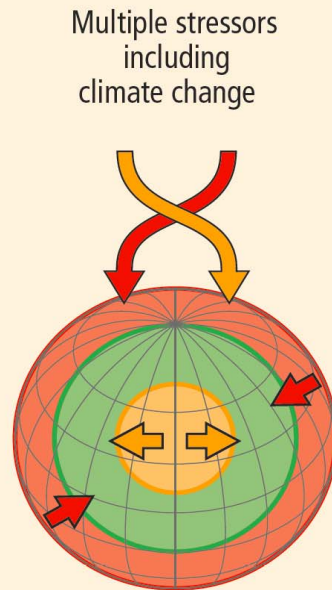
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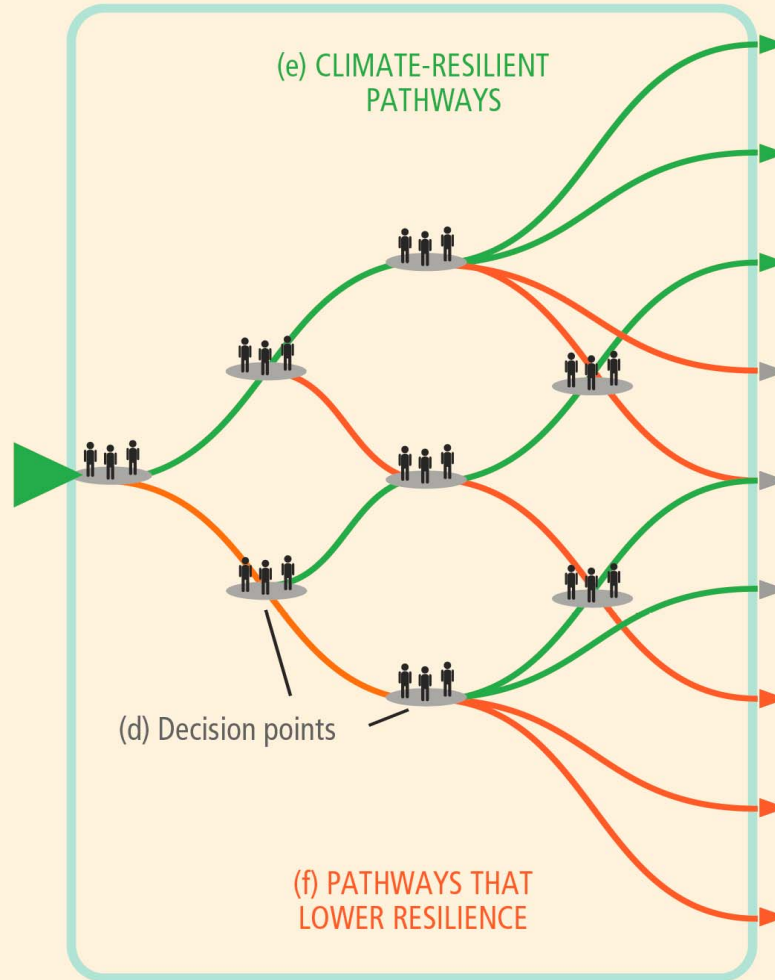
**What do trade-offs &  
decisions around climate  
resilient pathways really  
look like?**

(a) Our world

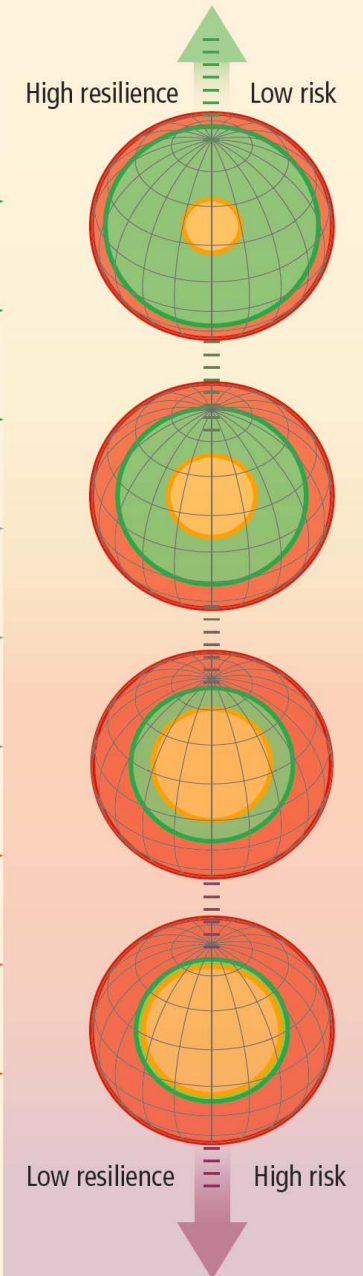


- Biophysical stressors
- Resilience space
- Social stressors

(b) Opportunity space



(c) Possible futures







- To promote sustainable development within the context of climate change, climate-resilient pathways may involve significant transformations (*high confidence; high agreement, medium evidence*).
- Strategies and actions can be pursued now that will move toward climate-resilient pathways while at the same time helping to improve livelihoods, social and economic well-being, and responsible environmental management (*high confidence; high agreement, medium evidence*).





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**Outlook:**

**Trade-offs & decision  
making under growing  
uncertainty**

# Policy challenges



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- Climate change calls for **new approaches** to sustainable development that take into account complex interactions between climate and social and ecological systems.
- **Prospects** for climate-resilient pathways are related **fundamentally to what the world accomplishes with climate change mitigation, but both mitigation and adaptation are essential for climate change risk management at all scales.** (*high confidence; high agreement, medium evidence*).
- **Delayed action** in the present may **reduce options** for climate resilient pathways in the future (*high confidence; high agreement, medium evidence*).

# Thank you.



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