

How does climate change link with vulnerability analysis and social protection?

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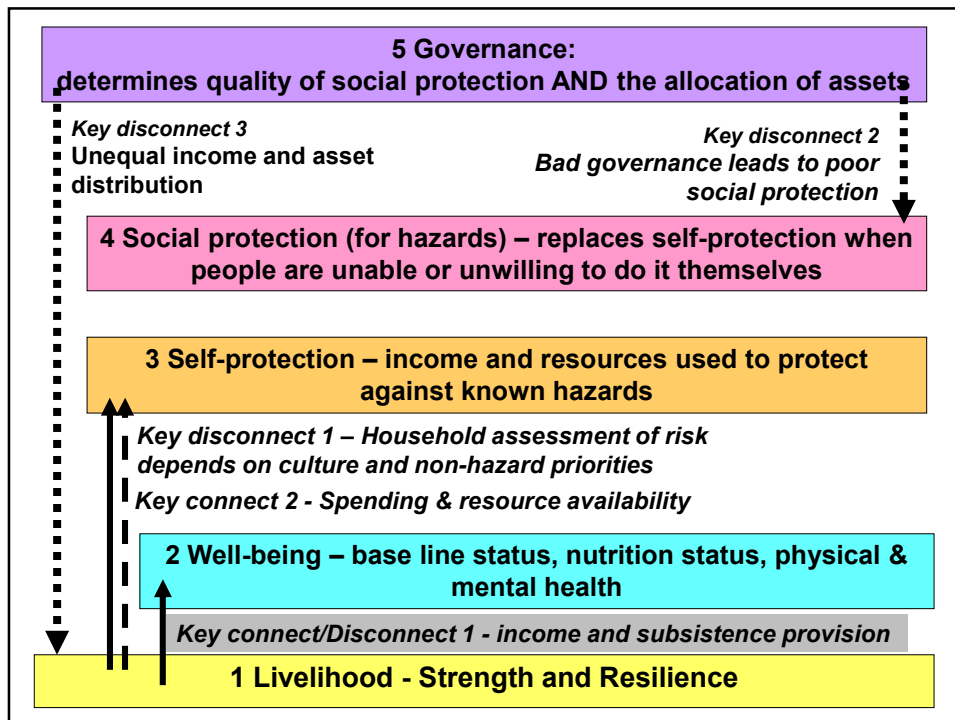
To *what* are people adapting?

Different types of climate change...

- **Slow onset changes**
 - sea level rise, glacier melt, changes/ disruptions of ENSO
- **Hazards stronger and/or more frequent**
 - Cyclones, floods
- **Increased variability**
 - Changed seasons, less predictability
- **Trends of rainfall and temperature rising**

Mnemonic with thanks to Glory Edwards (IDS alumna)

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The world is the way it is because those who have power want it to be that way....

- What we try to do is to support poor and vulnerable people to have something different and better
- Social protection is one of the methods – supported by some governments and by donor funding
- Why does it not happen anyway?

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Which countries have a political-economic system that is conducive to adapting to CC?

- What are the best arrangements for dealing with this inadequacy?
- What is the significance of adaptive social protection in dealing with it?
- What additional resources might be needed for CC in addition to 'normal' social protection?
- Where will they come from? Should they be loans?

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Power determines access to assets & income

- Allocation of production assets
 - land and other production resources used for livelihoods
- Distribution of income
 - Wage levels, redistributive taxation,
- Services (the “social wage”)
 - education, health services
- Welfare provision (universal benefits)
 - Sick pay, unemployment benefits, pensions
- Social protection (targeted benefits)
 - cash grants, income support, employment guarantees (NREGA India)
- Social protection for hazards
 - Building codes, land use zoning, flood defences, warning systems, evacuations, crop insurance, RC Forecast based finance

**External
funding**

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The Adaptation Gap – how relevant is Adaptive Social Protection?

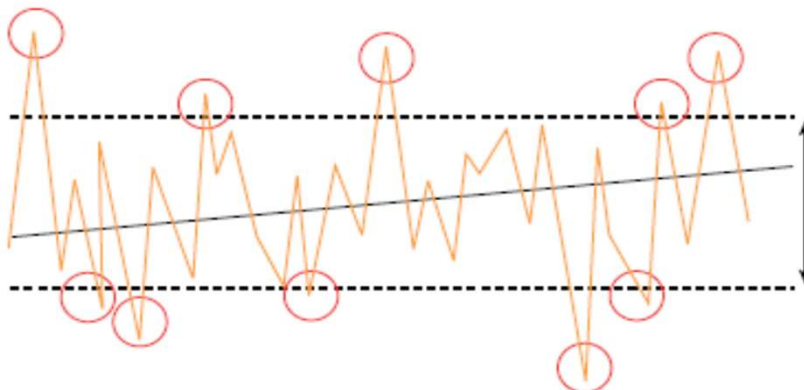
“The difference between existing resources and the additional *or transformed* resources needed by any particular entity to deal with the gap between ‘existing conditions’ and those that will result from climate change”

(Terry Cannon definition)

Is the gap smaller when people have ‘good development’?

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With climate change



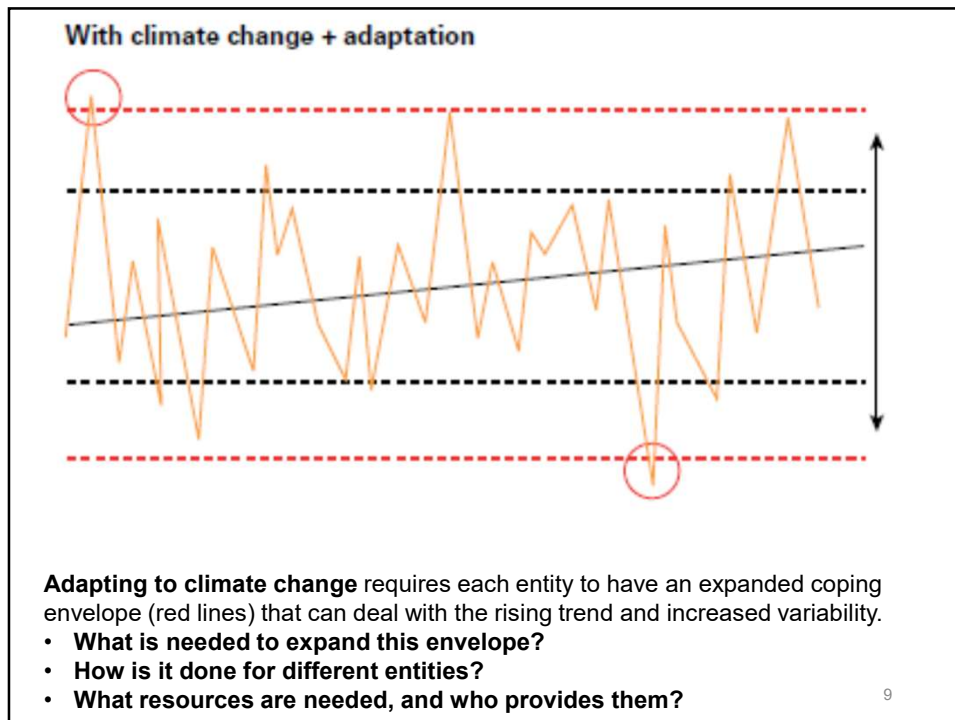
Trends – average annual rainfall is now rising because of global warming. The up and down yellow line are the actual annual measurements

Increased Variability – as global warming takes hold, the annual measurements increase in their movement away from the average and more of them (red circles) break through the envelope of coping for the chosen entity

Hazards – extreme events (red circles) above the envelope represent floods, those below are droughts.

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Rough calculation of adaptation needs

World Bank Malawi watershed project as guide* :

- 350,000 beneficiaries
- Total funding \$160 million \approx \$500 per head
- Global rural population 3.3 billion
- Assume 30% need adaptation support = 1 billion people
- Allowing \$500 per capita = \$500 billion
- Per year? Adapting to 5 years? 15 years? 30 years?

* <https://projects.worldbank.org/en/projects-operations/project-detail/P167860>

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Summary of Climate Finance 2017

- Total funding transfers \$71.2 billion

Of this:

Adaptation	19%	\$13.3 billion
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Mitigation	73%	\$51.9 billion
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Of the total around two thirds is 'public' finance (bilateral and multilateral)

And of this the multilateral is 90% in *loans*

The world is the way it is because those who have power want it to be that way....

Data source:

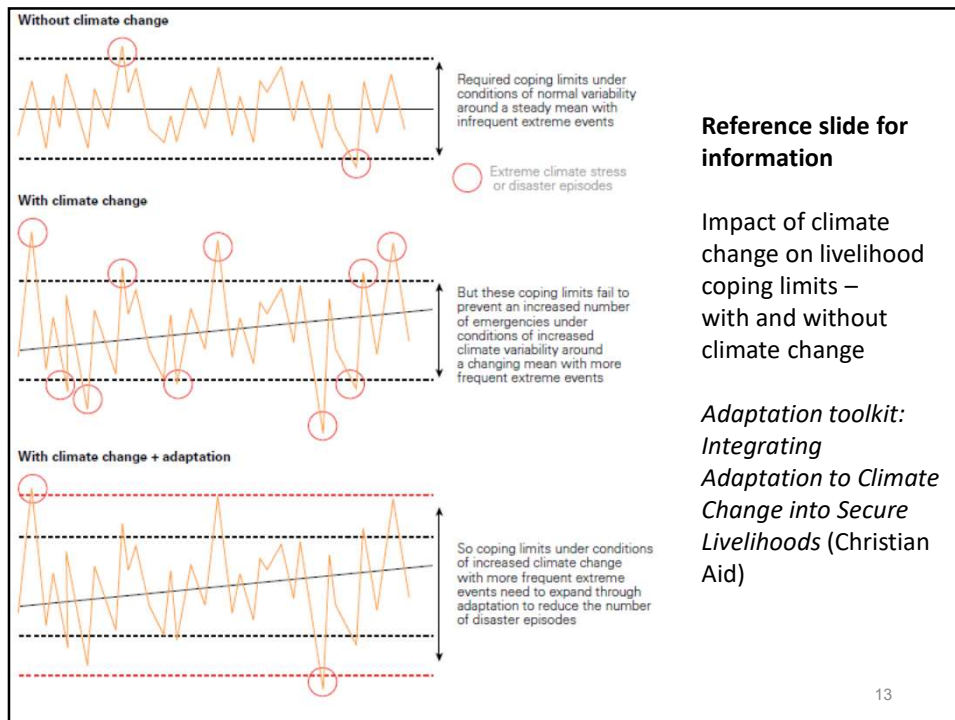
<http://www.oecd.org/environment/climate-finance-for-developing-countries-reached-usd-71-billion-in-2017.htm>

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Reference slides

- These are relevant frameworks that there is not enough time to discuss. If you have questions about them do contact me t.cannon@ids.ac.uk

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What and *who* is vulnerable to climate change?

- Which entity are we interested in having an impact?
- What are the risks they face?
- What is the difference between existing problems and risks, and those magnified by CC?
- What are the possible impacts that CC can have
- Why is the chosen entity vulnerable to these risks – what has *caused* their vulnerability?

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Vulnerability components	Sub-components	Main determinants	Measures & tools
1 Livelihood & its resilience	<ul style="list-style-type: none"> Financial assets Physical assets Human capital Natural capital Resilience of linkages between people & their employment Resilience of linkages between people's assets and income 	<ul style="list-style-type: none"> Amount & quality of assets owned or accessible Liability of assets to damage or loss by a given hazard Dependence on employment or other income-generating opportunities 	<ul style="list-style-type: none"> Household surveys of assets Develop historical profile of impact of disasters on employment, assets, productive and self-providing activities; use as baseline to compare with future disasters
2 Initial well-being	<ul style="list-style-type: none"> Nutritional status Physical health Mental health Security Identity – including with geographical location 	<ul style="list-style-type: none"> Livelihood strength & resilience Security and freedom from other stresses 	<ul style="list-style-type: none"> Nutrition surveys Physical health Mental health Security- subjective surveys of people's perceptions or objectively through reported number of incidents Identity – subjective survey; note- a key determinant in motivation for Self protection
3 Self-protection	<ul style="list-style-type: none"> Safely built houses Safely located houses 	<ul style="list-style-type: none"> Adequate income, which is the result of adequate livelihood Access to relevant materials, technical knowledge and construction skills Motivation to take necessary steps 	<ul style="list-style-type: none"> Safe houses- observation against established standards for building techniques & materials related to local hazards Safe location – against local risk map, probably developed with community Motivation- through simple questions, e.g. "if gave \$1000 what would you spend it on?"

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Vulnerability components	Sub-components	Main determinants	Measures & tools
4 Social protection	<ul style="list-style-type: none"> Disaster-resistant social infrastructure: includes knowledge, information, access to productive resources, marketing and social networks Collective interest community institutions Disaster-resistant physical infrastructure: including schools, health structures, government offices, workplaces, water structures, bridges & roads Community response plan for major disasters: including EW, evacuation & life-saving 	<ul style="list-style-type: none"> Adequate revenues (for local government and community institutions) Political will and motivation (e.g. to implement building codes, mitigation measures, to protect schools and infrastructure etc.) Availability of relevant technical knowledge and ability to implement 	<ul style="list-style-type: none"> Key infrastructure built in line with established building codes Social infrastructure.... survey of KAP towards disaster risks...? Venn diagram before and after programme? Existence of plan, knowledge of key life-saving measures, simulations undertaken involving high % of community..?
5 Governance	<ul style="list-style-type: none"> Social capital of people Political capital of people Degree of openness of political processes in the country Inter-group discrimination Level of gender inequality and women's rights Networks and institutions and their capacity to operate freely Degree of freedom of press 	<ul style="list-style-type: none"> Degree of democratic and press freedom and transparency Rights of minorities and women Level of inter-group rivalry and discrimination Rights of organisation of NGOs and CBOs 	<ul style="list-style-type: none"> Institutional analysis Venn Diagram – distance and strength of stakeholders as perceived by community/ households Stakeholder analysis Corruption index Human rights index Analysis of press, elections, NGO & CBO activities and freedom to operate

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Climate Trends & Shocks	Primary livelihood impacts	Possible Social Protection responses to primary livelihood impacts	Secondary Impacts
Precipitation regimes Variability/ unseasonality Spatial Extent Intensity Floods Droughts	Crop yields, income & subsistence Crop range – shifts in agro-economic zones; Land use changes; Land cover changes; Forest changes Irrigation impacts: changes in amount, extent, seasonality, quality	Insurance systems, especially those that promote adaptive behaviour; Public Works that promote resilience, e.g. for water supply, sustainable irrigation (but which include repair and maintenance) Education and training that supports livelihood diversification; Support for renewable energy systems through vouchers for training, to support mitigation and diversify livelihoods	Changes in crop, pasture, income etc have impacts on security, crime, Migration Changes in government revenue and foreign exchange leads to changes in welfare spending, foreign trade, food imports Effects on debt repayments Tourism-related livelihoods National parks and game reserves Coast and island holiday destinations Employment impacts of changes in HEP output Revenue and balance of payments impacts of HEP output
Temperature regimes Variability Spatial extent Extremes Humidity Desiccation Wildfires & set fires	Food crops and nutrition Food and cash crops and food supply & cash income Impacts on traded crops, livestock, fodder, grazing Human needs Drinking water Conflicts	Public Works for hazard preparedness (including repair and maintenance components)	
Storms Frequency; Precipitation; Wind speed extremes; Extended Cyclone range	Crop yields, income & subsistence; Loss of employment; Loss of home, tools, livestock	Public works for safe landslide prevention measures and for emptying or reducing glacial of lakes	
Landslides etc. GLOFs (Glacial Lake Outburst Floods)	Crop yields, income & subsistence; Loss of employment, home, tools, livestock	Public Works for sea walls, mangrove restoration; Support for managed retreat through vouchers for training and education;	
Sea Level rise: Inundation; Salinity intrusion Greater cyclone impact	Crop yields income & subsistence; Loss of assets, homes, employment;	Vouchers for training in pest and disease recognition and management (see CABI projects for crop clinics using farmers trained as "plant doctors". Public works for mosquito breeding site controls;	
Diseases & pests Extent & range of vectors & infectious agents; Seasonal variability; Intensity;	Human diseases: infectious, parasitic; Crop and post-harvest – pests; infectious viral and bacterial, fungal; Livestock diseases: infectious, parasitic; Forest diseases & pests;	Vouchers for training in pest and disease recognition and management (see CABI projects for crop clinics using farmers trained as "plant doctors". Public works for mosquito breeding site controls;	

Terry Cannon from [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DCD/DAC/ENV\(2013\)2&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DCD/DAC/ENV(2013)2&docLanguage=En)