Climate Change & Migration: Some Results and Policy Implications from MENA

Outline

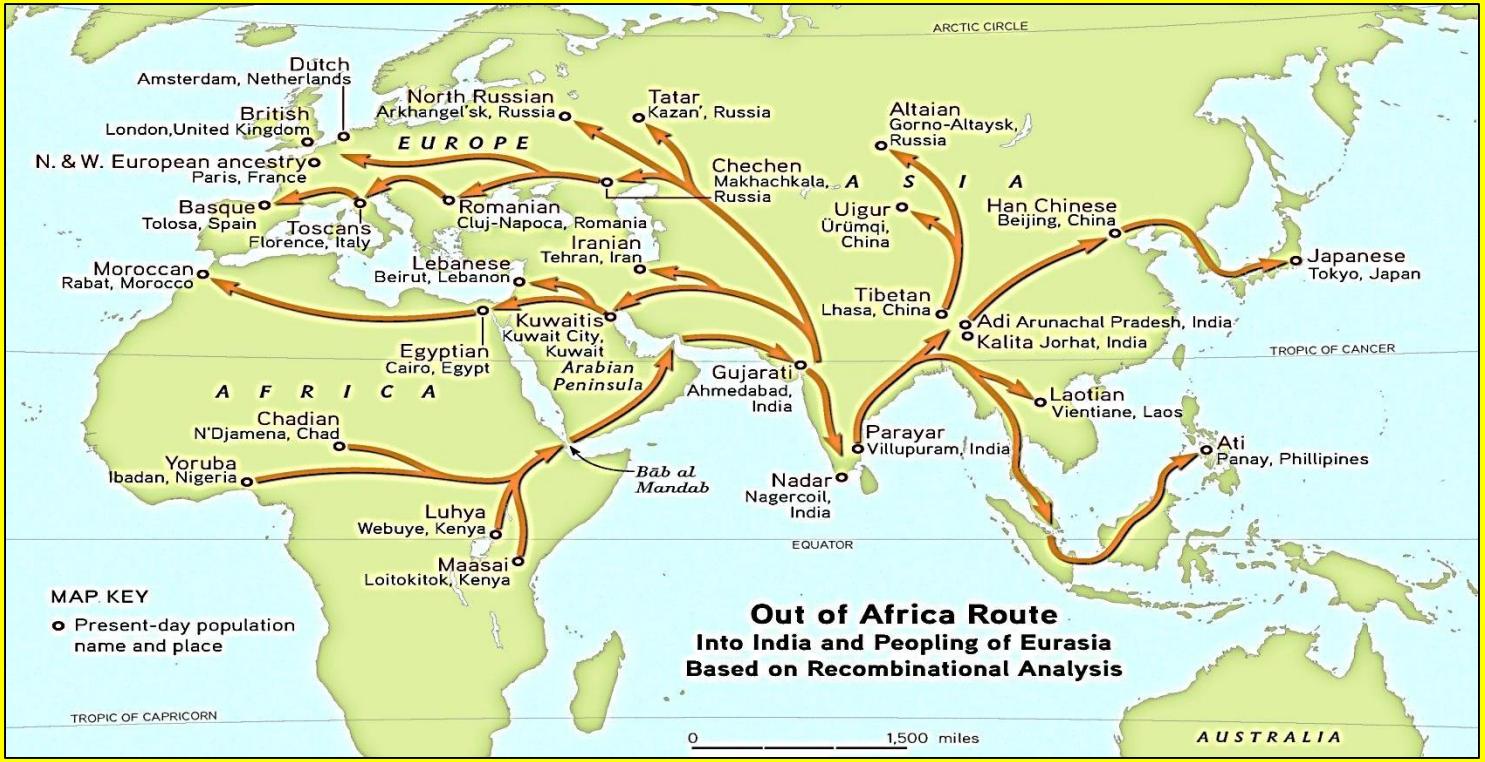
1. An abridged history of climate induced migration
2. Investigating CIM in MENA
3. Some results and policy considerations

An <u>abridged</u> history

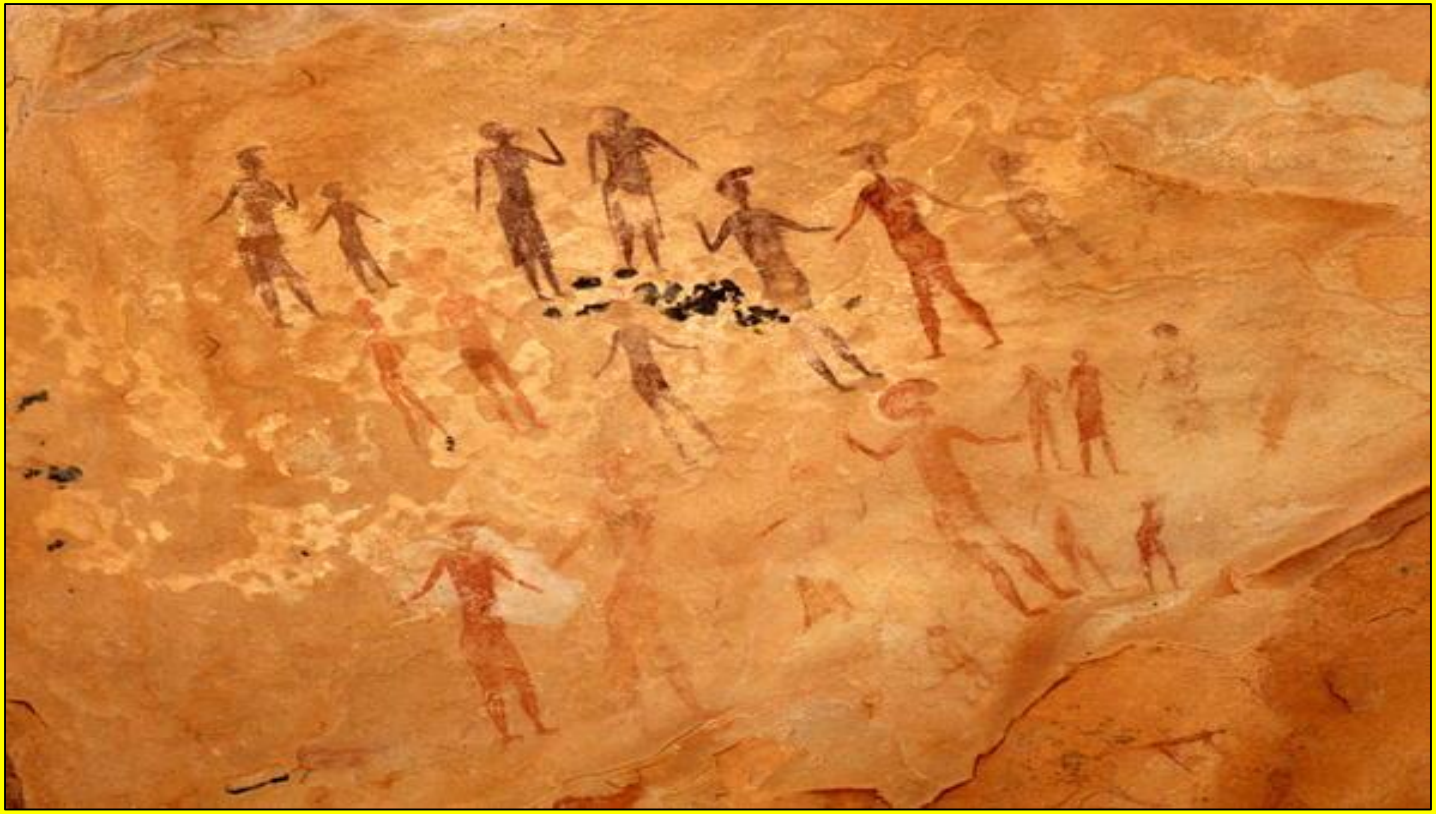
5 Million 100K

years

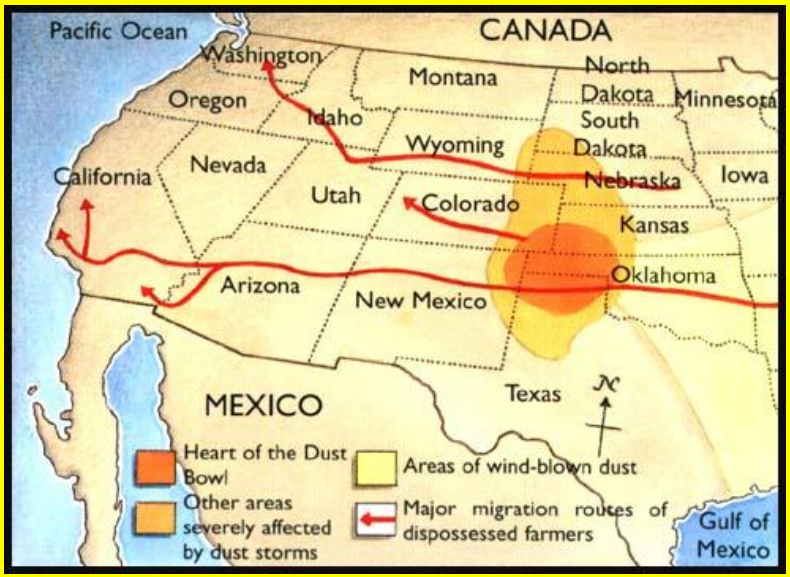
The Out of Africa Route theory

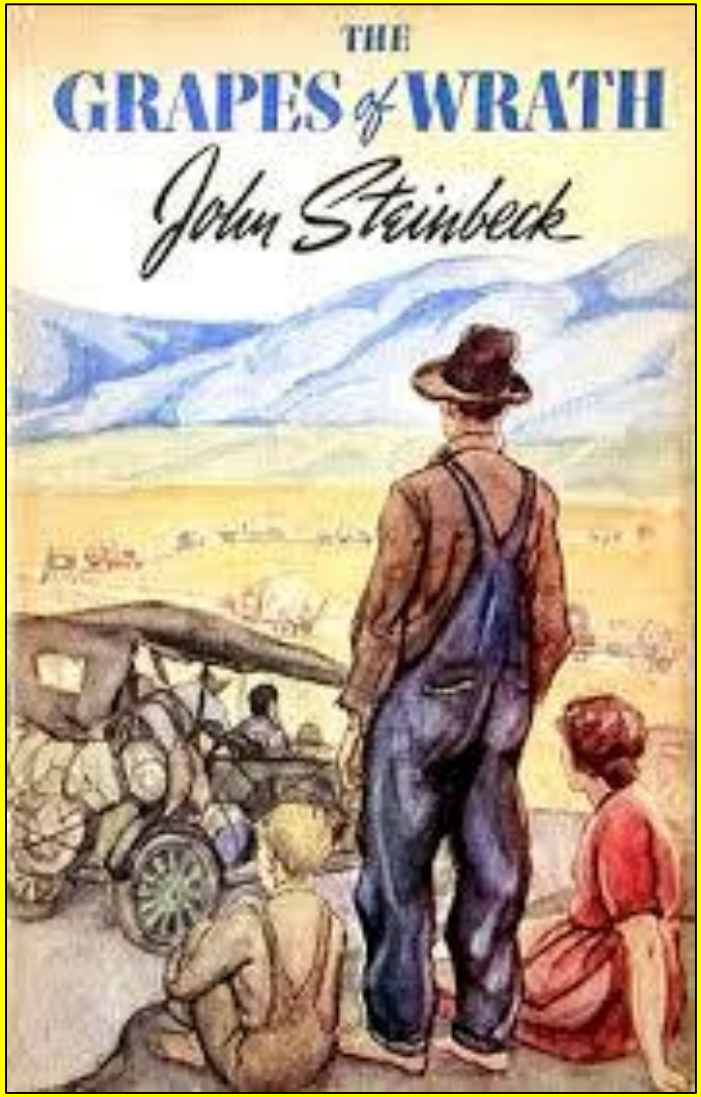


Buffalos as pull factors

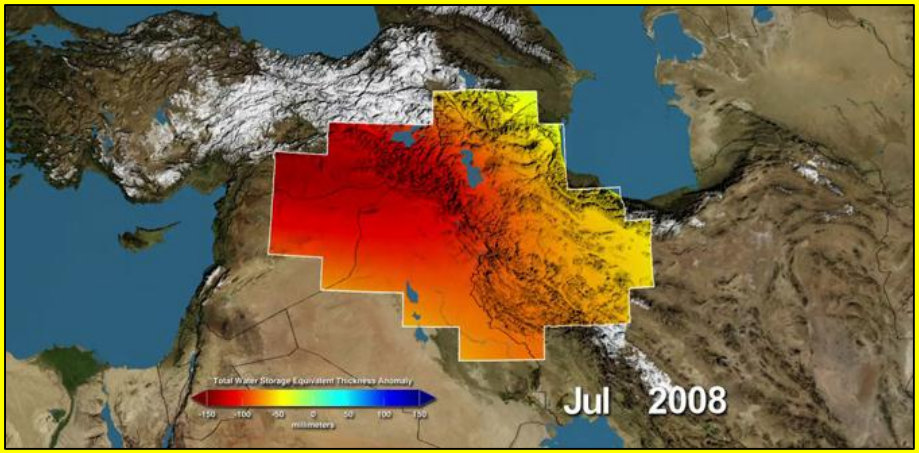


Environmental migration in the US…





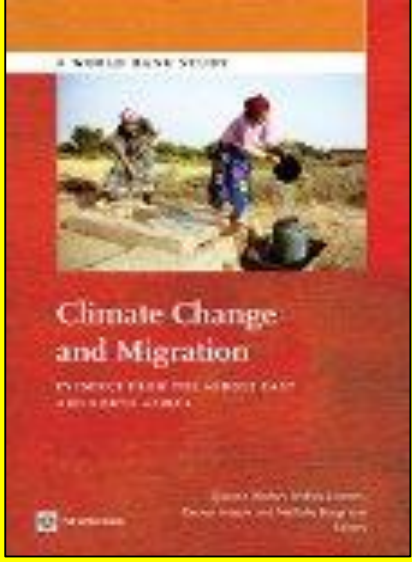
...and Syria


Total Water Storage Equivalent Thickness Anomaly
-150 -100 -50 0 50 100 150
millimeters
Jul 2008

Today's debate about climate migration

- Ballpark figures, assumptions but little solid research
- Climate negotiations and the climate refugees debate;
- Recent more robust research attention (UK Foresight study + recent IPCC results;

The MENA Study



Funding: WB, AFD and TFESSD

Methods:

- First multi-country analysis (5 countries)
- Specific survey instrument (data challenge)
- Robustness: results compared with evidence from other datasets (Morocco, Yemen) and methods (actual climatic variables and qualitative evidence)

Key Questions:

- How do WS impact HHs migration decisions?
- What is the role of migration for adaptation?

Policy implication #1

- Weather shocks only explain 10-20% of observed migration (today). This is likely to increase in the future.

→ The impact of CC on migration will increasingly need to be considered in policy and investments decisions.

Policy implication #2

- When weather shocks induce migration, that migration is mostly internal/domestic;

→The climate migration problem needs to be recast as a domestic policy issue.

Policy implication #3

- When weather shocks induce migration, that migration is mostly towards urban areas;

→Policy responses to climate shocks and migration are to be found in cities, as much as in sending areas.

Policy implication #4

- When weather shocks affect the livelihoods of poor HHs, migration is often a 'last resort' option;

→ Migration should not be considered simplistically as an adaptation "strategy", as it is normally considered as a suboptimal choice by those carrying it out

Policy implication #5

- Migration can be an effective adaptation tool (through remittances);

→ Policy needs to treat the individual migrant as an adaptation driver for the community / HH left behind.

Policy implication #6

- Climate shocks affect the poorest the most, and migration is costly - hence migration as adaptation is relatively precluded to the poorest (climate-migration trap).

→ Policy needs to target the poorest HHs to decrease the actual and perceived costs of migration.

Policy Implication #7

→ Policy options are context specific

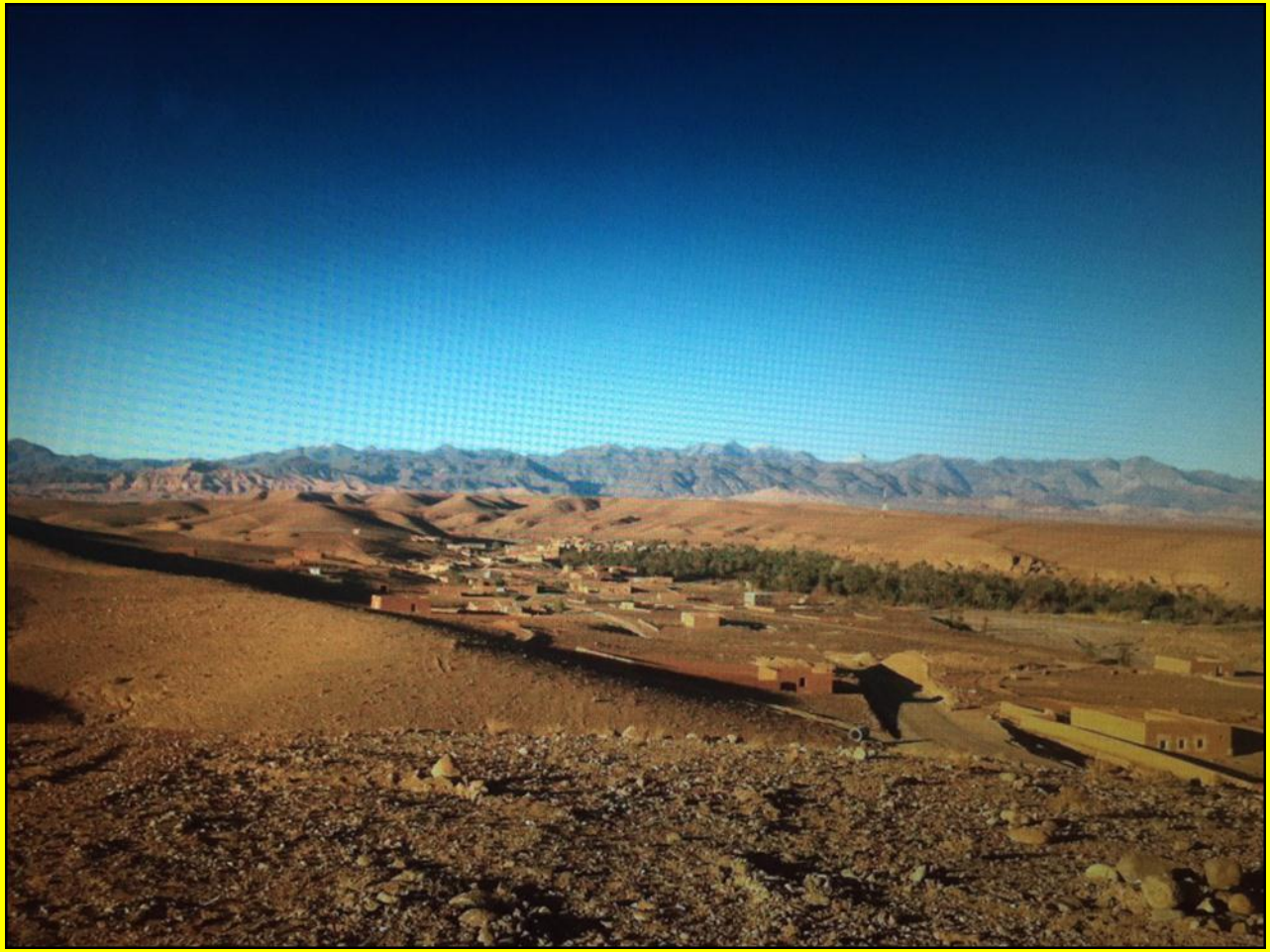
Leveraging migration for adaptation

Preventing migration

• Untargeted social expenditures •Standard safety nets •Spatially-blind investments	•Tailored skills •Urban planning (housing) •Transport (Connectivity)
•Spatially targeted investments (Rural infrastructure) •Ag investments and rural development programs	•Remittances reinvest opts (defiscalization); •Vuln. Linked CCTs; •Insurance schemes

Messages

- Weather shocks already account for some, though limited, migration today, but in the future CC will be a driver of both planned migration *and* forced displacement;
- *Planned* migration can provide an important adaptation option;
- Policy should focus on providing people with *informed choice*, not simply cash or services, to help them plan;
- Highlighting the potential impact of climate on migration can help focus policy makers' attention on the broader need for adaptation policy and investments;
- More research is needed for policy development



Impact of Shocks

	Country					All
	Algeria	Egypt	Mo.	Syria	Yemen	
Lost income	58.11	8.25	44.90	19.50	52.11	36.59
Lost crops	58.48	28.63	38.00	87.00	60.95	54.62
Lost livestock or cattle	31.21	3.75	26.92	17.00	38.18	23.43
	Quintiles					All
	Q1	Q2	Q3	Q4	Q5	
Lost income	46.37	44.14	43.21	29.25	20.72	36.59
Lost crops	58.12	61.96	62.13	49.42	42.10	54.62
Lost livestock or cattle	23.81	25.19	30.11	23.17	15.23	23.43

A closer look at impacts in Morocco

	Q1	Q5	All
Member involved in agriculture/related	70.69	5.30	28.07
LY due to inadequate rainfall	60.98	50.35	62.18
LY due to floods	39.89	19.15	38.17
LY due to poor soil quality due to erosion	22.91	16.51	21.80
LY due to pests	14.13	7.08	17.21
Reduced ag. job opportunities	43.75	34.15	43.86
Reduction in livestock due to less grazing land	37.55	10.61	31.24

Ability to recover from shocks is socially differentiated

	Q1	Q2	Q3	Q4	Q5	Urb.	Rur.	All
Weather shocks	51.79	29.99	14.77	7.04	3.93	6.88	45.70	21.58
No recovery	38.24	48.67	34.40	26.51	6.89	31.77	40.46	38.74
Some recovery	33.25	32.98	41.06	32.46	40.64	30.28	35.47	34.44
Substantial	21.93	15.61	13.88	21.04	41.85	27.10	17.83	19.66
Full recovery	6.58	2.73	10.66	19.99	10.62	10.86	6.24	7.16

Limited public interventions

- Provision of drinking water: 24.7%
- Cash or food for work programs: 9.9%
- Cash for food during floods and droughts: 10.1%
- Provision of training programs: 6.7%
- Provision of credit for crop loss: 12.0%
- Improved access to markets, transport: 10.3%
- Price support when agricultural prices are low: 10.1%
- Storage facility for crops: 10.4%
- Seeds, fertilizers, or fodder for livestock: 13.6%
- Boreholes, wells, irrigation, roads: 15.0%

Coping Strategies

- Main coping strategies
  - Used savings: 60.6%
  - Sold assets: 46.8%
  - Asked for loan: 46.2%
  - Sold livestock: 40.6%
  - Withdrew children from school: 36.4%
- Differences in sample
  - Differences between countries: withdrawing children from school not considered in Egypt
  - Share of households resorting to coping strategies higher among lower quintiles
  - Households with international remittances also less likely to resort to coping strategies, except savings.

Extent of Migration – 5 countries (Household level rates)

- Any type of migrant: 29.9%
- Resident Migrant (temporary): 13.5%
  - Last 5 years: **10.8%**
  - Domestic: 88.3%; Abroad: 11.7%
  - Urban: 65.4%; Rural: 34.6%
- Non Resident Migrant (permanent): 22.0%
  - Last 5 years: **16.1%**
  - Domestic: 68.7%; Abroad: 28.9%;
  - Rural: 20.6%; Small urban: 8.6%; Large City 71.1%

	All	Last 5y
Egypt	0.094***	0.025**
Morocco	-0.039***	-0.036***
Yemen	0.098***	
Factor 1	0.049***	0.033***
Factor 2	0.050***	0.035***
Lost income	-0.000	0.003
Lost crop	-0.005	-0.007
Lost livestock	-0.019***	-0.016***
Lost fish	0.006	0.002

Self-declared reasons for mig., 5 countries

	Scores	
	1st	2nd
Better employment opp.	34.79	17.17
Lack of employment	21.07	25.93
To accumulate savings	5.41	18.21
Transferred (job)	1.37	2.78
Schooling	1.78	0.69
Better infrastructure	2.42	3.99
Join family	4.52	4.77
Marriage	18.4	4.42
Escape flood	0.40	0.26
Escape drought	5.73	5.9
Poor quality of land or depleted soils	-	0.43
Total	100.0	100.0

Separate methodology for Yemen

- Data and methodology
  - Census, weather, and GIS-type data
  - Migration between districts, gross and net
  - Climate: temperature and rainfall (means and variability)
  - Controls: wide range of census-based and other variables
- Key results
  - Climate plays a role (migration is away from areas with poor climate), but less so than pull factors (characteristics of areas at the place of destination)
  - Decomposition: climate variables account for (only 15%) of the variance explained by the model in migration rates

Environmental factors play a role, but a relatively minor one, compared to other socio-economic factors.

When they do:

- Migration is internal (a domestic policy issue)
- Migration is from rural to urban (an urbanization issue)

→**The presence of environmental change does not need to diminish the role of standard rural development programs;**

→ **The (perceived) lack of government intervention offers policy space**

2) Migration as adaptation

- Not to be taken for granted
- Last resort (most costly) strategy
- Migration is precluded to the poorest
- When it's carried out, it works
- When climate induced migration takes place, it needs to be leveraged: the individual migrant as a driver of adaptation for a the community left behind
  - Remittances facilitation (cash transfer problem)
  - Banking sector (Loan)
  - Safety nets enhancement (detaxing SN contributions)

Survey Methodology

- **Face-to-face surveys (N= 800): measure the magnitude and depth of patterns**
- **Area sampling in 2 rural areas of each country affected by high environmental degradation and high migration**
  - **Ibb and Hudaydah**
- **Level of analysis – Households, selected randomly**
- **Unit of analysis – Household-head, 18 yrs. or older**
  - **Will provide migration history for household**
- **Target populations – migrant and non-migrant households; return migrants**