



# An Introduction to the Millennium Institute

*Dr. John D. Shilling  
Millennium Institute  
Dakar, March 17<sup>th</sup>, 2008*



# T21

INTEGRATED DEVELOPMENT MODEL



# The Millennium Institute



- MI is a not for profit organization based in Arlington VA, USA.
- Established in 1983 to promote long-term integrated strategic planning in national governments, international and regional institutions, universities, and the public
- MI has assisted over 45 countries to prepare strategic studies of sustainable development possibilities, build customized regional and sector models, and produce reports.

# Our Goals



- Develop and disseminate advanced analytical tools to support strategic planning on critical issues;
- Build capacity in countries to use our tools to help address critical issues;
- Develop a network of partners to inspire, endow, and implement more integrated planning towards a sustainable future;
- Work with stakeholders to learn about how to incorporate their primary concerns into our approach to better achieve more sustainable development

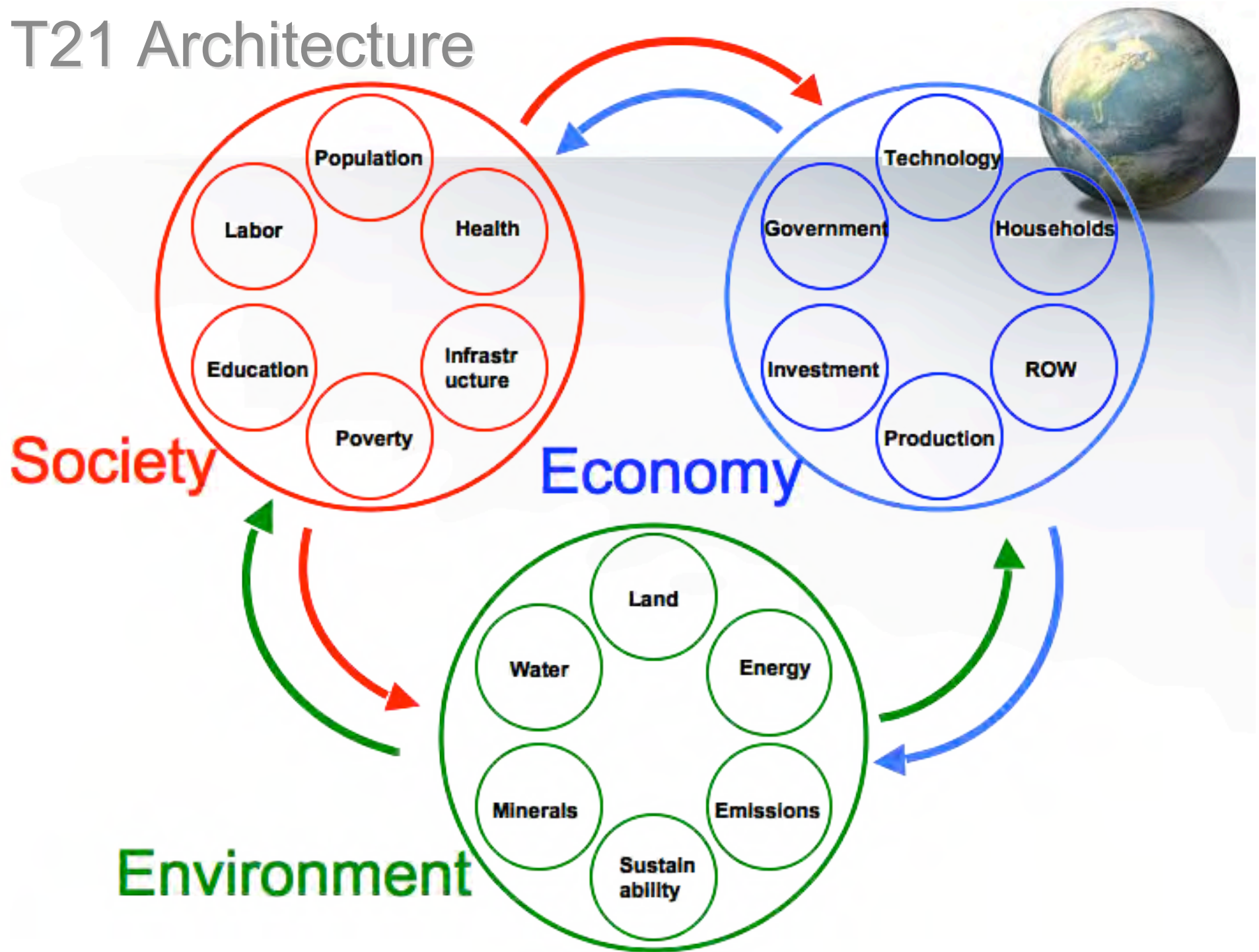


# The Threshold 21 Approach



- System dynamics methodology
  - Based on wide range of existing sector models and analyses
  - Built to reflect observed real world relations in country of application
  - Analyzes cross-sector links and feedback loops
- Composed of three main pillars
  - Economic -- based on SAM, key market balances, and production
  - Social -- based on dynamics in population, health, HIV/AIDS, education
  - Environmental -- based on country specific issues and information
- Adapted to specific data, issues, objectives, actual relations
- Calibrated against history and provides reality checks
- Transparent and easy to use

# T21 Architecture



# T21's Strategic Capacity



- Generates continuous long-term scenarios that provide a better framework for strategic planning
- Demonstrates full range of effects and impacts of different policies and assumptions on overall sustainability
- Compares the results of different options graphically or in tables for economic, social, and environmental results
- Helps identify ways to mitigate possible negative side-effects
- Help identify risks stemming from potential crises
- Monitors the MDGs and other indicators

# T21 Is Practical and Impartial



- Readily modified to specific challenges and characteristics
- Examines different timing and structure of policy options
- Facilitates sensitivity analysis of parameters and assumptions that are uncertain and can track changes
- Contributes to effective monitoring and evaluation, and can help find solutions where goals are missed
- Generates a scenario on laptop in 10 seconds

# Comments by Main Users



- **“It has been my dream since ten years to get the the PIOJ departments to work together...now its happening with T21; With T21 I can see team building and networking across the ministries and government agencies and effective communication”**  
Wesley Hugh, Director Planning office Jamaica
- **“I want that T 21 planning team in my office”**  
Président Amadou T Touré, Mali
- **“MI’s T21 analytical tool is essential for effective national development strategies”**  
Ed Cain, Carter Center
- **“MI’s long-term, integrated perspective is essential”**  
Pablo Guerrero, World Bank
- **“We need to use this tool at the Headquarters, in our embassies and help our country partner acquire it”**  
Dutch Ambassador Ton Boon von Ochsee
- **“MI’s integrated dynamic models have been vital for GM’s sales forecasts”** Paul Ballew, GM

# Thank You for Your Attention



*Andrea Bassi will now describe how T21 can be applied to Migration issues that IOM is addressing in this conference and overall.*

*Then we will seek comments from you about how best to apply T21 to your programs.*

[www.millennium-institute.org](http://www.millennium-institute.org)  
[Jed.shilling@verizon.net](mailto:Jed.shilling@verizon.net)



# T21

INTEGRATED DEVELOPMENT MODEL



Millennium Institute (MI)



# A Systemic Study on Migration's Determinants and its Effects on Development

*Andrea Bassi  
Millennium Institute  
Dakar, March 17<sup>th</sup>, 2008*



T21

INTEGRATED DEVELOPMENT MODEL



# A Systemic Migration Approach



Migration is a complex dynamic phenomena:

- 1- It requires a dynamic representation of its causes and effects*
- 2- It is needed to analyze the impact of various factors on the MDGs*
- 3- Influences the effectiveness of medium term strategic planning*

# Main Issues



High difference in quality of life

High economic disparity

Loss of intellectual capital

Loss of core and skilled labor force

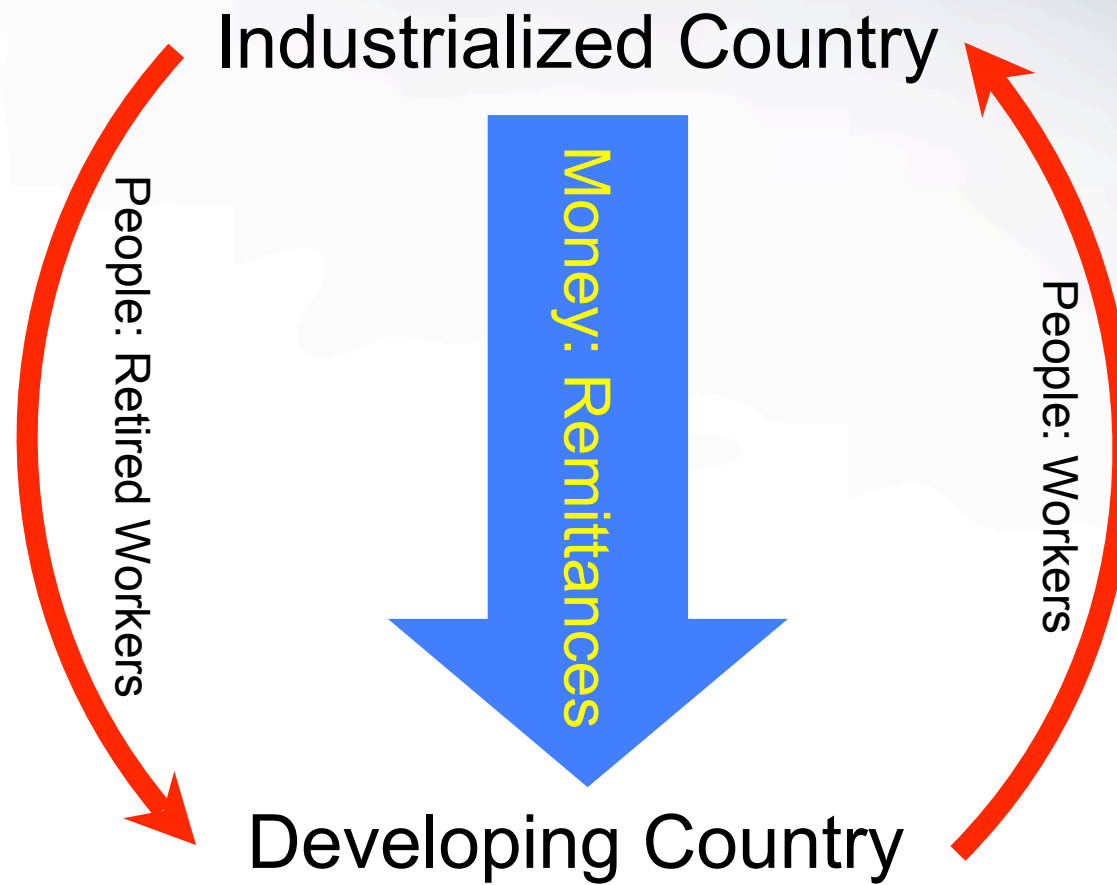
Loss of potential in creating modern industries

Disruption of national cultural traditions

# A Systemic Migration Approach



## Approach



# Model – 1



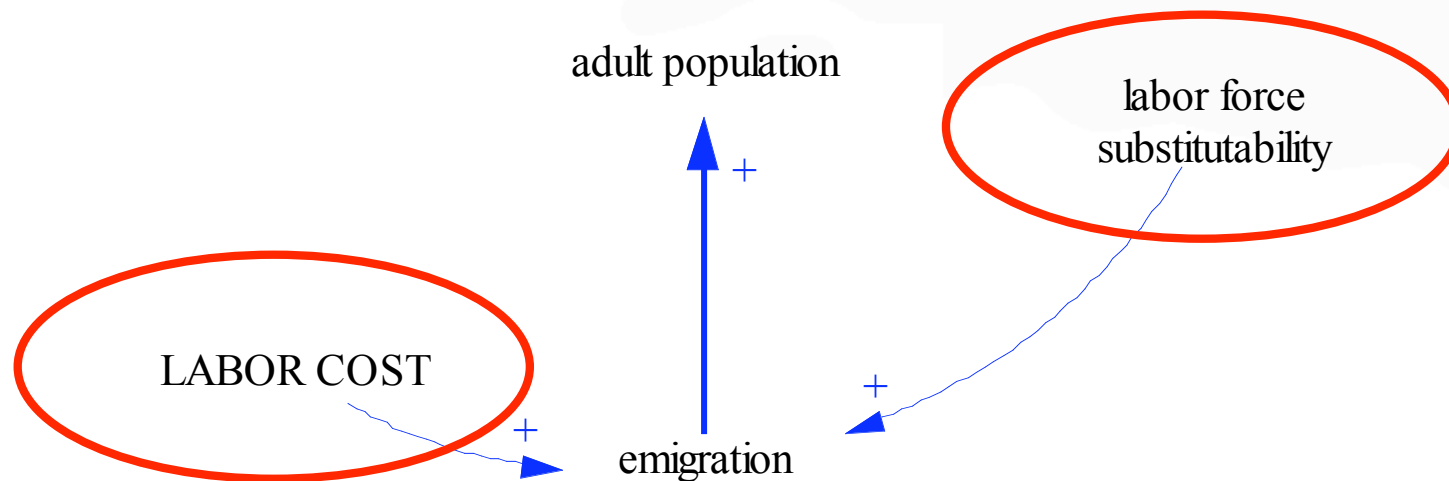
Migration is influenced by labor availability and cost.

a) Industrialized Country

Higher migration = higher adult population

b) Developing country

Higher migration = lower adult population



# Model – 2

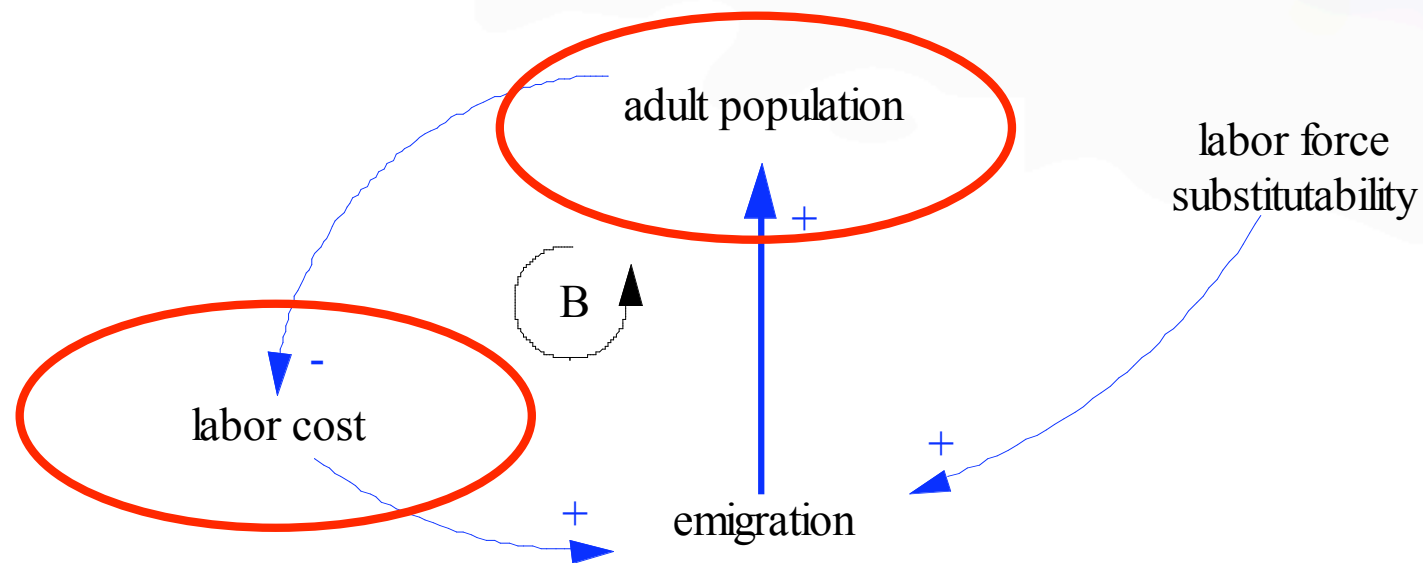


## a) Industrialized Country

Higher migration = lower labor cost

## b) Developing country

Higher migration = loss of core labor force



# Model – 3

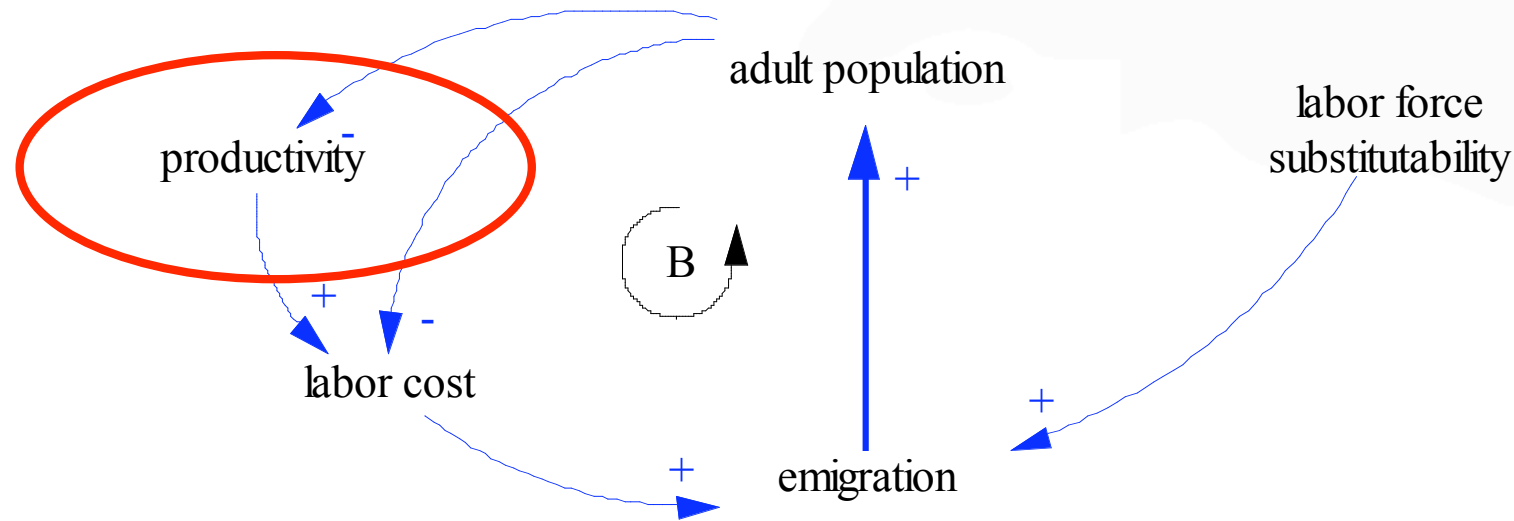


## a) Industrialized Country

Higher migration = changes in productivity and lower wages

## b) Developing country

Higher migration = loss of skills

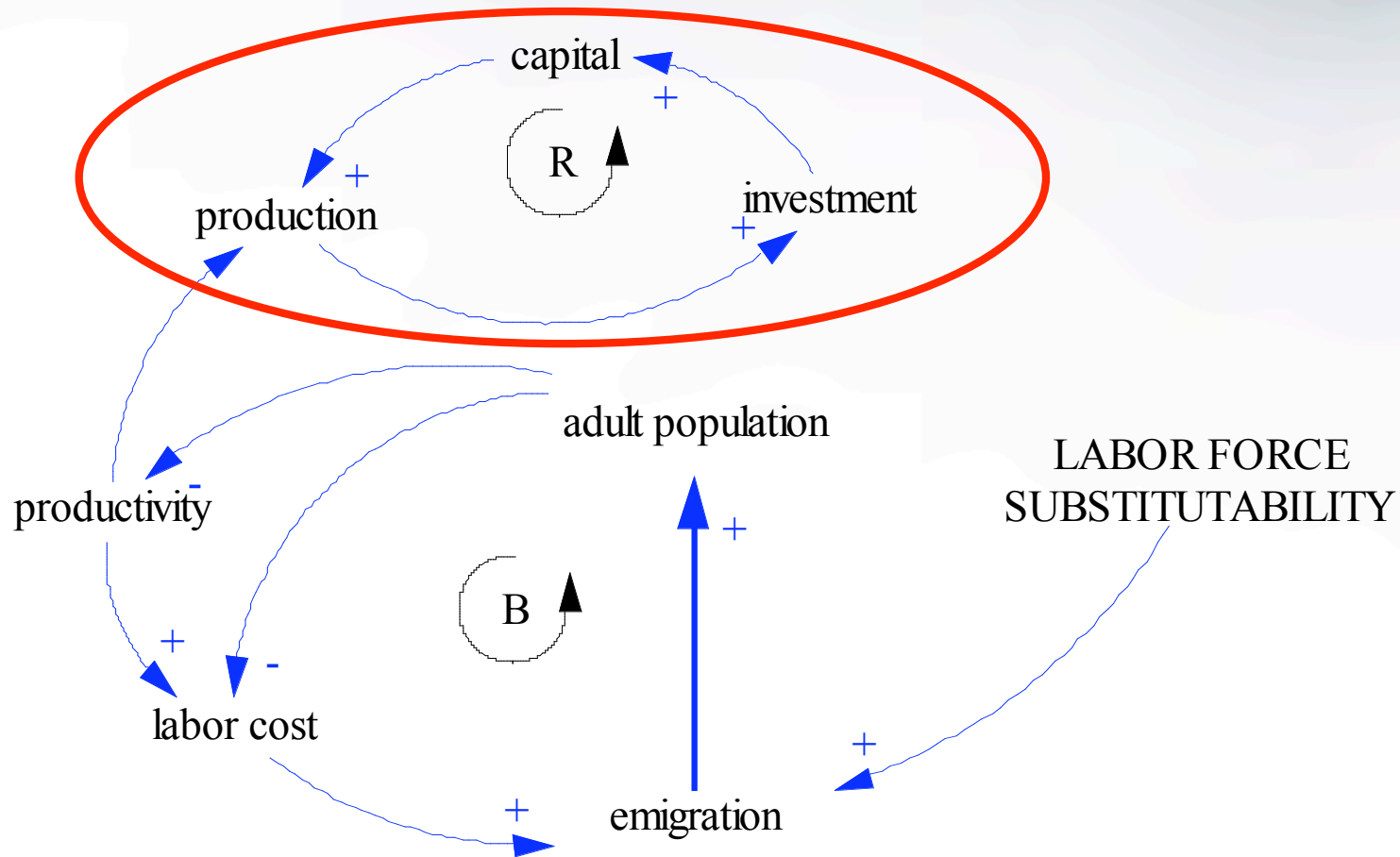


# Model – 4



a) Higher production = economic growth

b) Higher production = increasing remittances

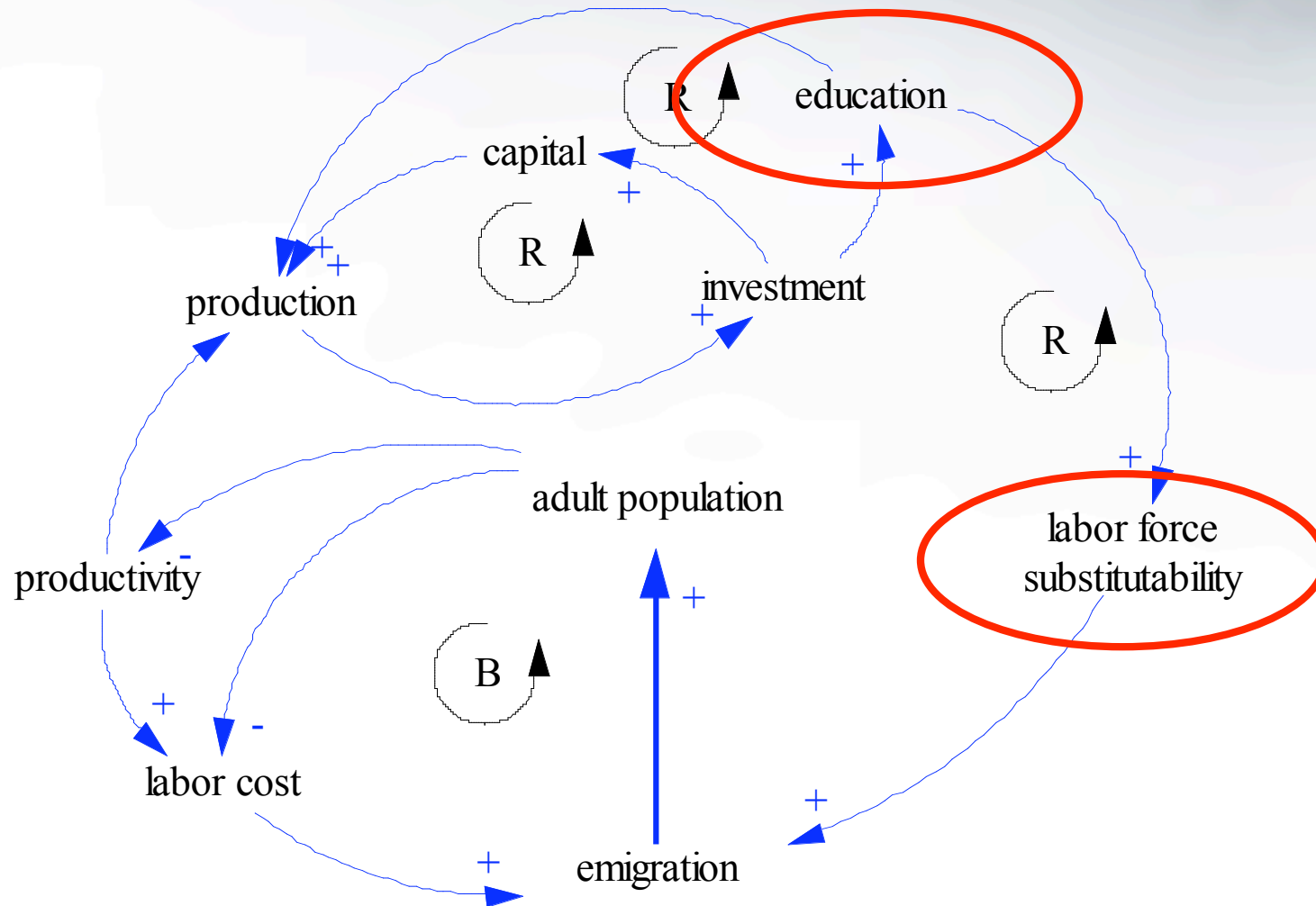


# Model – 5



a) Higher education = higher productivity

b) Higher education = new skills, more migration

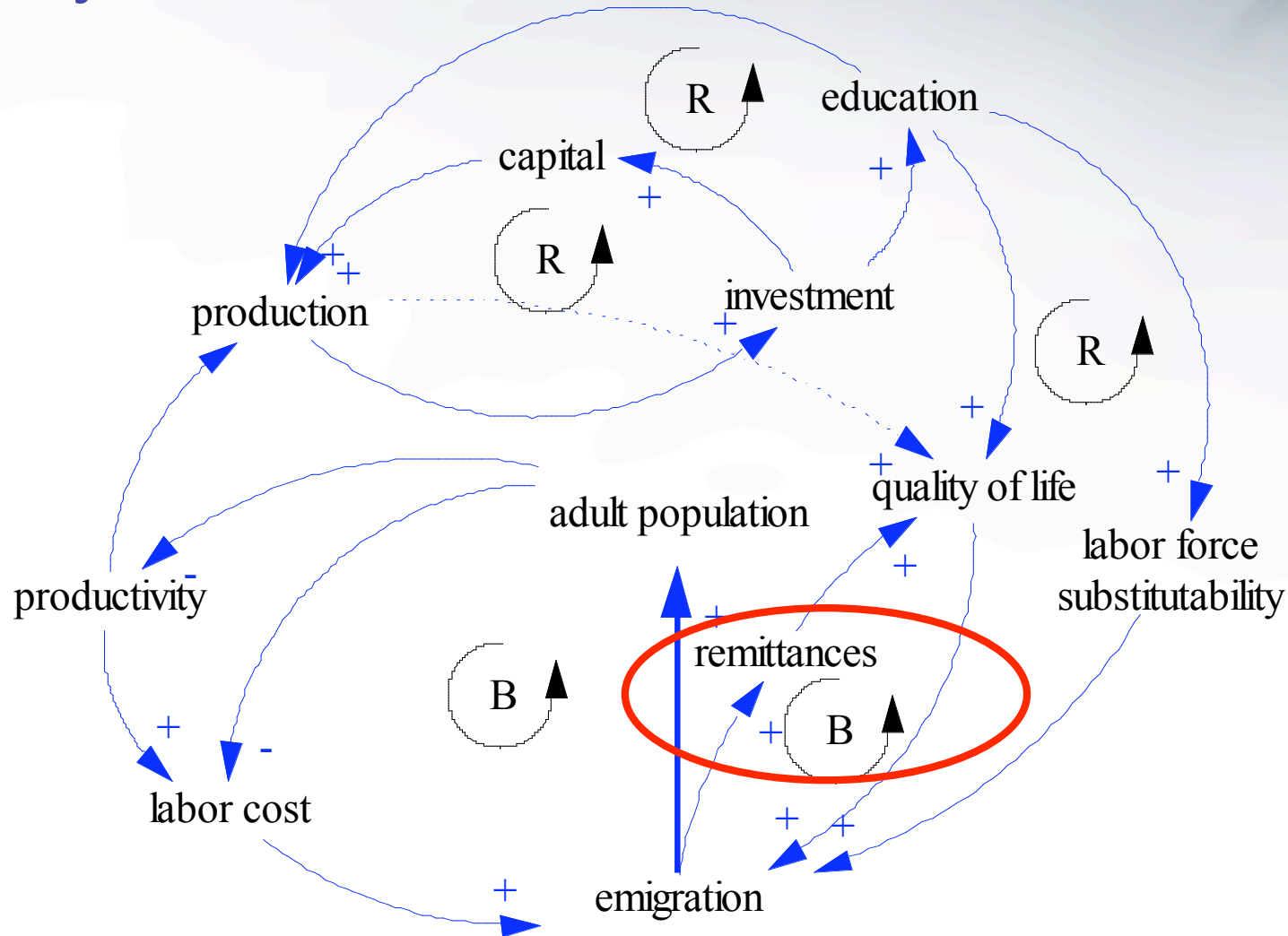




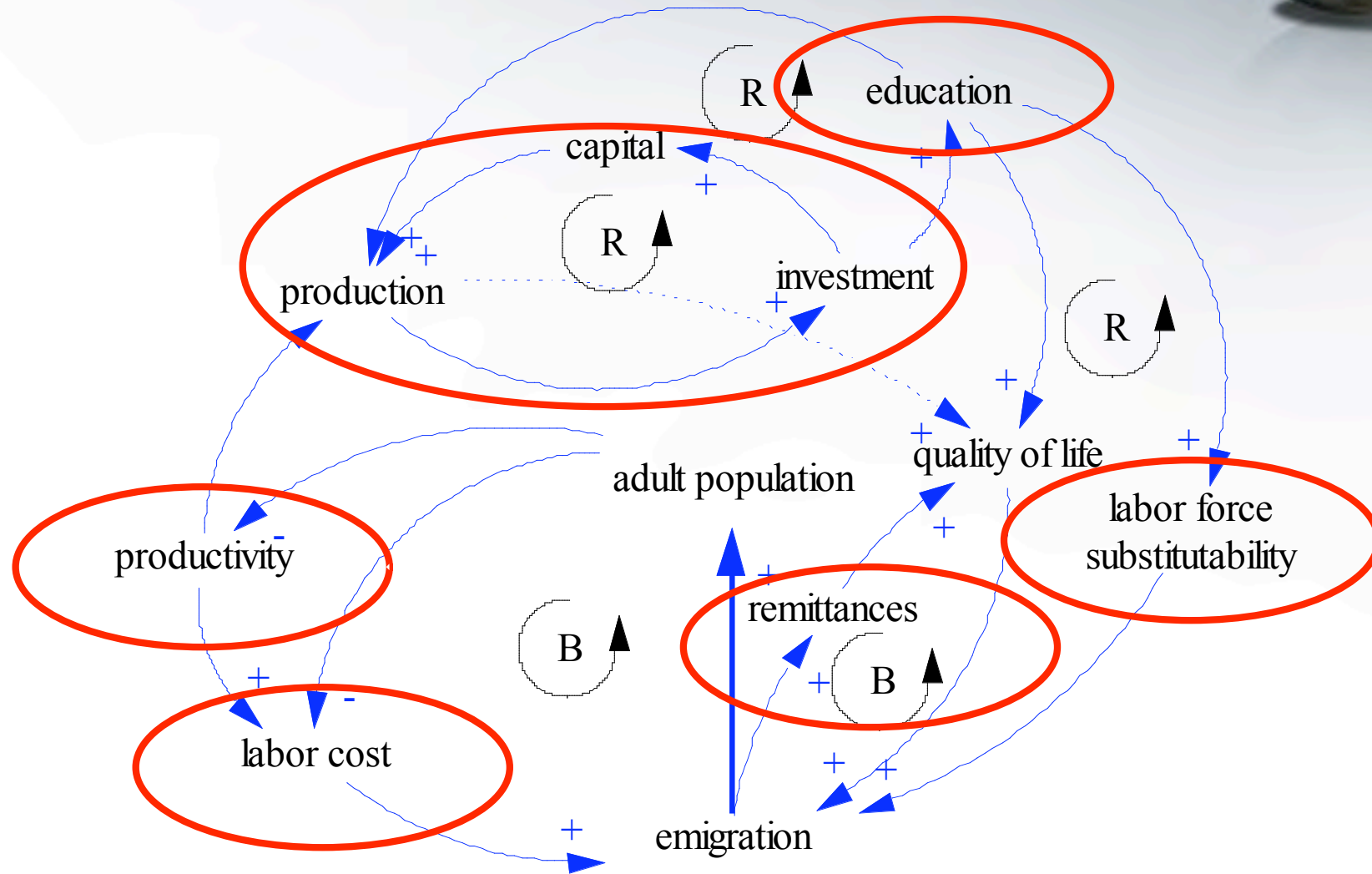
# Model – 7



b) Higher remittances = investment, better quality of life, better education, and more...



# Overview



# Migration and the MDGs



## Goal 1: Eradicate Extreme Poverty and Hunger

Trade, investment and remittances;

Loss of core skills, suboptimal investment.

## Goal 2: Achieve Universal Primary Education

Good use of remittances;

Low accessibility to good education services.

## Goal 3: Promote Gender Equality and Empowerment

Broad range of opportunities abroad;

Impacts on demographics and social development  
domestically, increasing role of women.

## Goal 4: Reduce Child Mortality

Investment in health care

Lack of skills and core competences

# Migration and the MDGs



## Goal 5: Improve Maternal Health

Investment and remittances;

Lack of infrastructure and local specialists.

## Goal 6: Combat HIV/AIDS, Malaria and other diseases

Investment and remittances;

Lack of infrastructure and local specialists.

## Goal 7: Ensure Environmental Sustainability

Cultural awareness and transfer of skills;

Impacts of demographic changes and exodus.

## Goal 8: Develop a Global Partnerships for Development

Migrants serve as the bridge between countries;

Regional strategies are needed.

# Moving from MDGs to PRSP



How to support effective policy formulation towards reaching the MDGs using the synergies that migration can offer?

- Understanding the implication of policies while working to mitigate short term negative consequences.

# T21 and Migration



An integrated approach that supports both policy formulation and evaluation, while monitoring the progresses towards the MDGs and economic development over the longer term.

How does this exercise fits with the work already done on PRSP and MDGs?

- Needs Assessment (NA) can be used as an input to the integrated analysis of migration
- The impact of PRSP suggested policies is analyzed through simulation

# Other Issues: ideas?



Climate Change: what are the long and short term impacts?

Remittances: how government policy can best allocate remittances?  
(both monetary and in-kind, or time)

Many issues are country dependent and any integrated approach is customized to specific countries.

# Customization: Challenges



- 1) Data quality and availability
  - 1) Most data can be found in available databases
  - 2) Collected new data is certainly an advantage
  
- 2) Development of a coordinated and participatory approach to secure longer term gains within a multi-sectoral perspective

Solutions? A correct implementation from design, data collection and maintenance.

# Data Requirements



## **Obtainable from International Data Sources**

- Population, Births, Deaths and Average life expectancy
- Emigration and Immigration flows and Stock of emigrated nationals
- Gross Domestic Product, Gross National Product and Investment
- Gross National Income, Gross National Savings
- Remittances flow
- Adult literacy rate and Education expenditure as share of GDP

## **Obtainable through Specific Research**

- Ratio of labor cost in country of origin and destination (for specific relevant sectors)
- Quality of life index (definition is country specific)

# Implementation process outline



Step 1: Refinement of focus issues

Step 2: Discussion on key elements to be considered, via a series of open sessions

Step 3: Elaboration of results from open sessions into a simulation model

Step 4: Testing and validating the model

Step 5: Elaboration of a base case scenario and alternative strategic scenarios

Step 6: Analysis and discussion of results

Step 7: Preparation of an analytical report

# Key Success Factors



## 1. Solid Model

- a) Data
- b) Information
- c) Participation

## 2. Modeling Capacity

- a) Training
- b) Practical use
- c) Time

## 3. Institutionalization

- a) Commitment
- b) Ownership
- c) Continuing support

# Concluding Remarks



- Migration involves flows of population between countries with different social and economic situations
- Migration is part of development mechanisms that determine the difference in social and economic conditions
- The result is a complex system that a systemic approach can help understand and manage



Computer simulation models support understanding the system and testing alternative policy options and scenarios

Thank You for Your Attention



*Questions and comments  
are welcome*

[www.millennium-institute.org](http://www.millennium-institute.org)

[ab@millennium-institute.org](mailto:ab@millennium-institute.org)



T21

INTEGRATED DEVELOPMENT MODEL

*You cannot solve a problem with the same thinking that created it. A. Einstein*

