



# **Research into the Long Term Impact of Development Interventions in the Koshi Hills of Nepal**

## **SUMMARY REPORT**

**Commissioned by  
Government of Nepal, National Planning Commission and  
UK Government's Department for International Development**

GRM International Ltd. in association with Effective Development  
Group and Foundation for Development Management  
September 2013

# Introduction

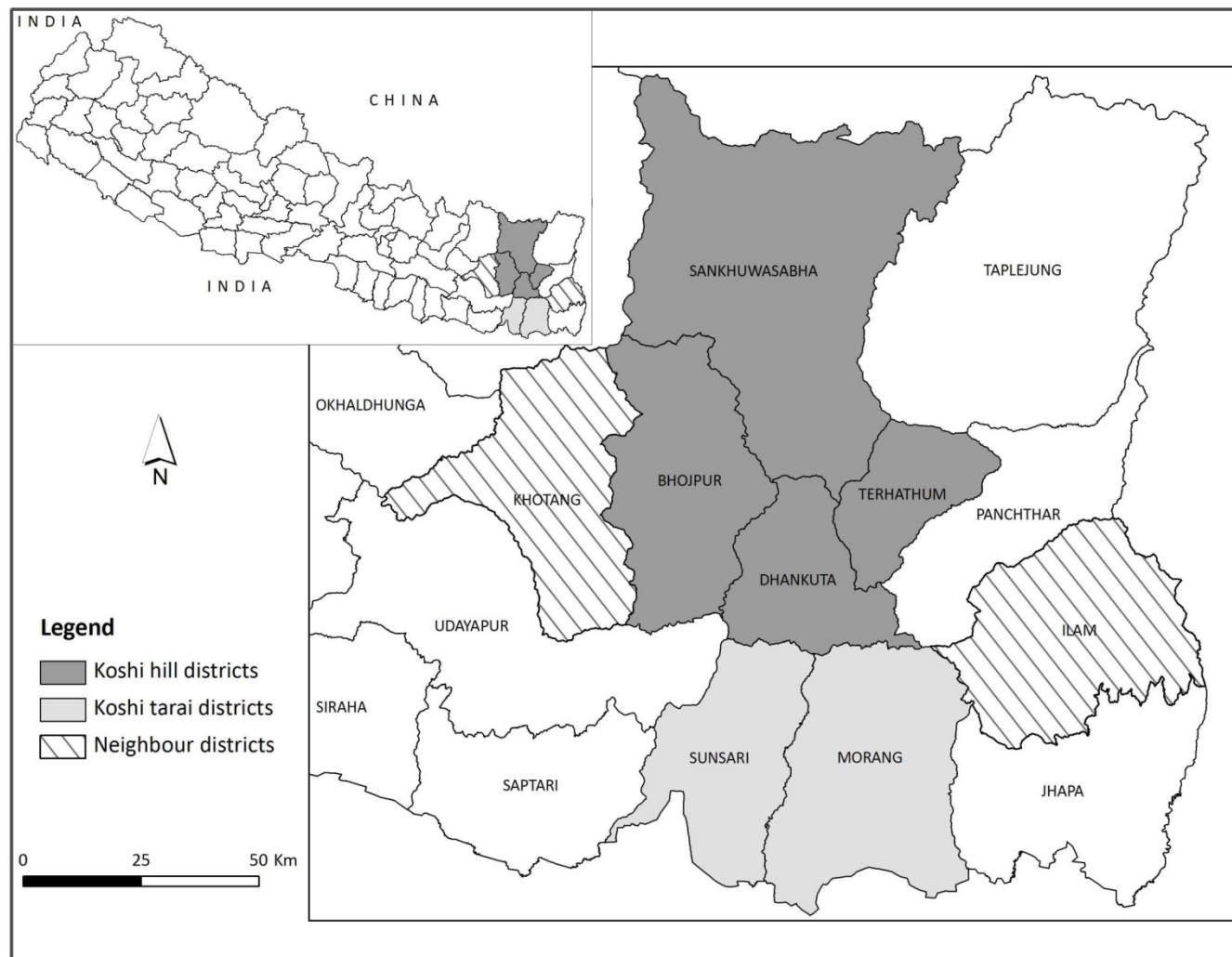
- Assess the impact of development interventions over the past 40 years in Koshi Hill region, eastern Nepal, encompassing an overall period since 1970s
- A range of actors: government of Nepal, donors, non-governmental organisations and private sector
- Cumulative impact on change in key socio-economic conditions of local communities

# Research Methods

## *Research Questions*

- What were the socio-economic changes that occurred in Koshi hills during the study research period?
- What were the enablers and drivers of these changes?
- What were the consequences of these changes on the lives of community members in Koshi hills?
- What was the contribution of aid within this process?

# Research Approaches



- Koshi hills: four districts
- Associated districts
  - i. Koshi Tarai districts
  - ii. Neighbour districts

# Independent Research Studies

In order to develop an overall 'hypothesis of change', outlining the major socio-economic changes in the Koshi hills area

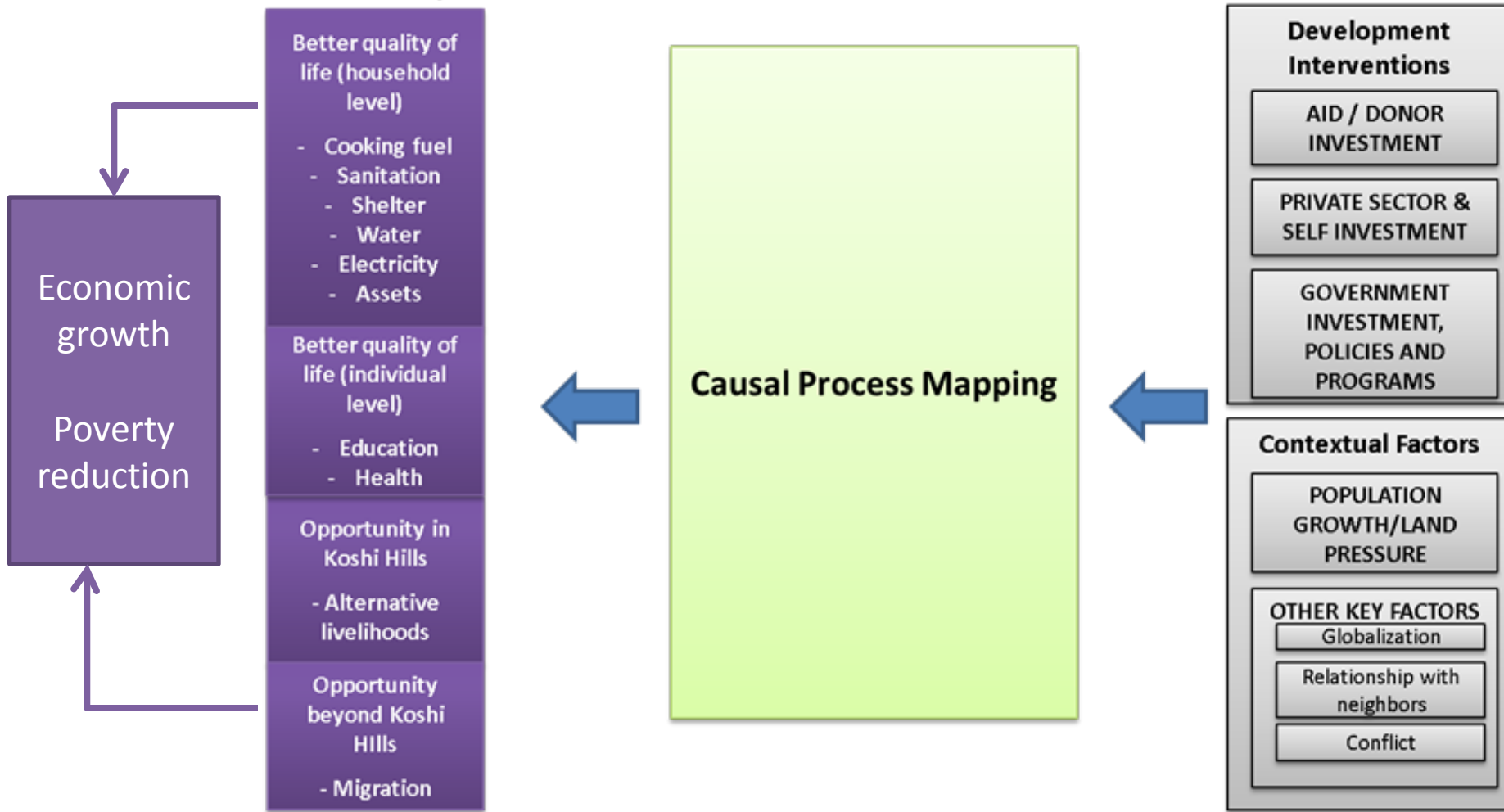
- Documentary review
- Spatial mapping analysis: GIS based
- Quantitative analysis
  - Economic
  - District-level poverty
- Qualitative analysis - reality checks approach
- Two consultative workshops at KH districts
- Field surveys
- Two brainstorming sessions

# Analytical Approach

- Developed analytical approach in structure to a 'Theory of Change' framework, based on five individual research studies
  - Causal process mapping
  - Key node analysis
    - Cumulative causation
    - Differential impacts
    - Strength of evidence assessment

# Causal process mapping

2011 ← *The Long Term Impact of Development Interventions in the Koshi Hills Region of Nepal* 1970s



# Key Nodal Analysis: Opportunities within Koshi hills

## LEGEND:

Key  
Change

Ag means  
of  
generating  
income  
diversified

Non-agr.  
jobs  
increased

Increased  
personal  
networks



# Key nodal analysis: Opportunities within Koshi hills

## LEGEND:

**Key  
Change**

Socio-  
economic  
change

**Ag means  
of  
generating  
income  
diversified**

Agri-business/  
forestry products  
increased

The export/ import  
capacity of the region  
was increased –  
increased trade

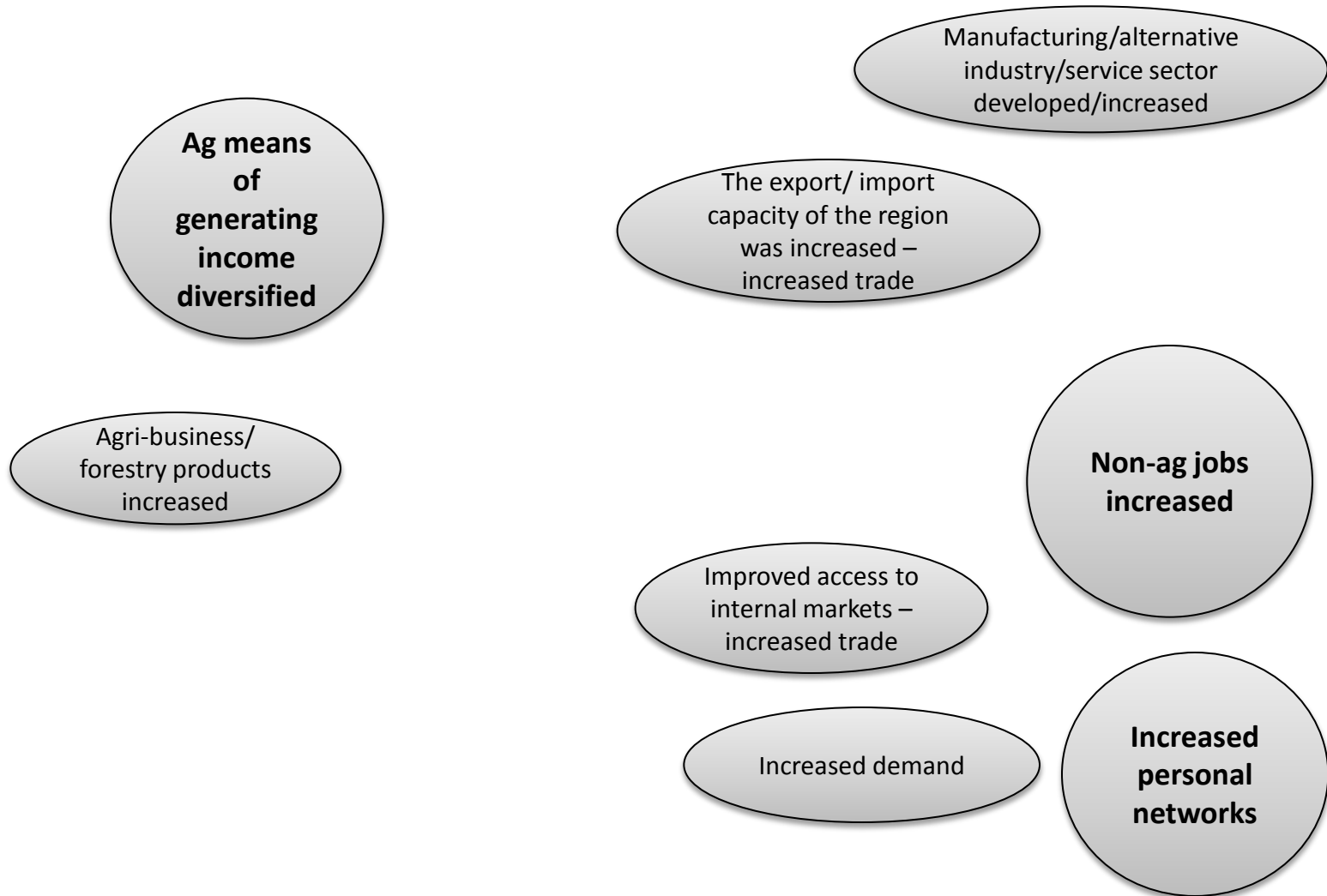
Manufacturing/alternative  
industry/service sector  
developed/increased

**Non-ag jobs  
increased**

Improved access to  
internal markets –  
increased trade

Increased demand

**Increased  
personal  
networks**



# Key nodal analysis: Opportunities within Koshi hills

## LEGEND:

**Key  
Change**

Socio-  
economic  
change

## Key nodes:

**Social  
development**

**Agriculture,  
industry and  
resource  
management**

**Migration**

**Infrastructure**

**Ag means  
of  
generating  
income  
diversified**

Commercial  
initiative

Manufacturing/alternative  
industry/service sector  
developed/increased

The export/ import  
capacity of the region  
was increased –  
increased trade

Agri-business/  
forestry products  
increased

Permanent  
Migration

New roads &  
bridges

**Non-ag jobs  
increased**

Remittances

Improved access to  
internal markets –  
increased trade

Private  
innovation

New or increased  
agricultural inputs

Increased access  
to information

Increased demand

**Increased  
personal  
networks**

## Key nodal analysis: Opportunities within Koshi hills

### LEGEND:

## Key Change

Socio-economic change

## Strong evidence

## Weak evidence

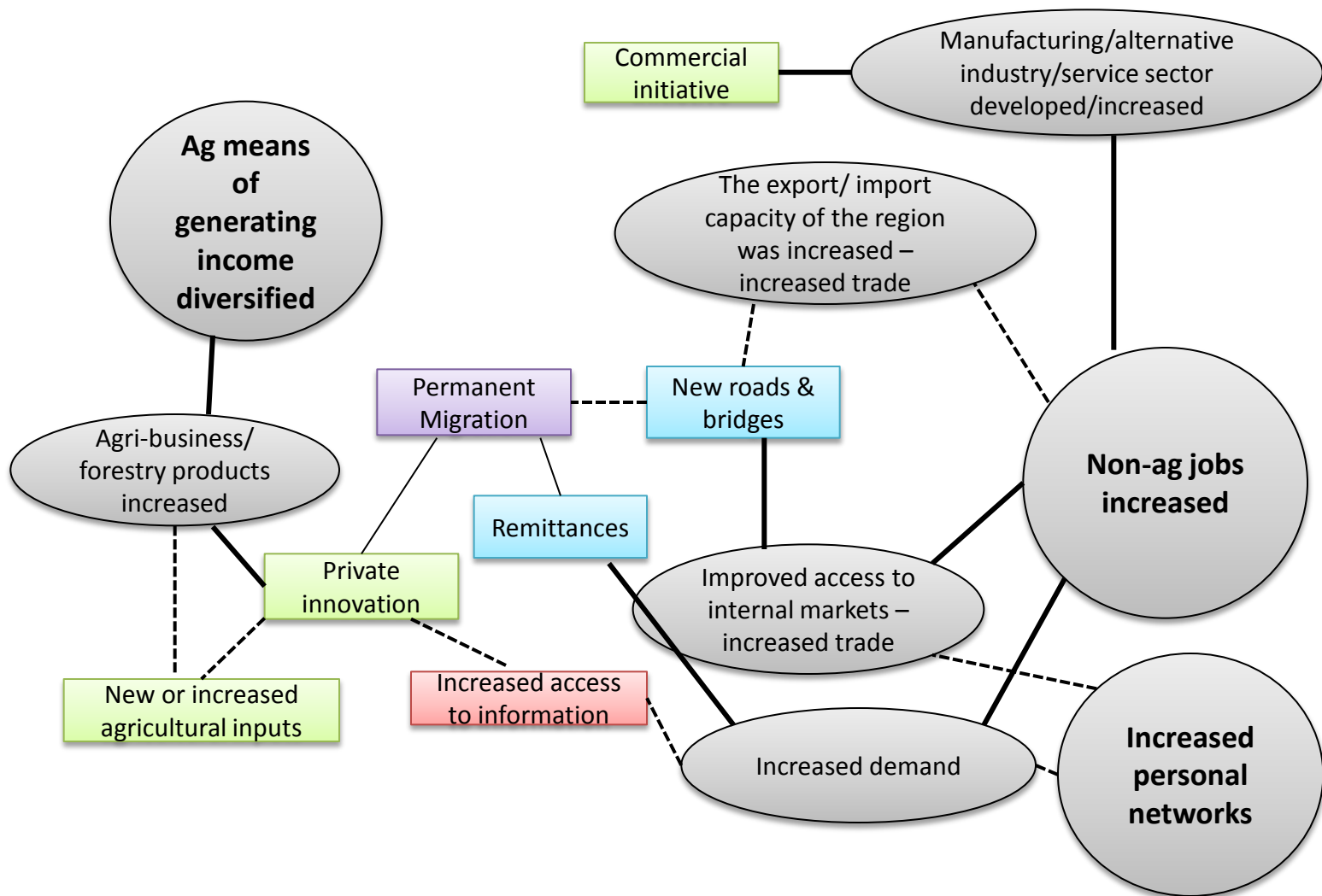
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## Infrastructure



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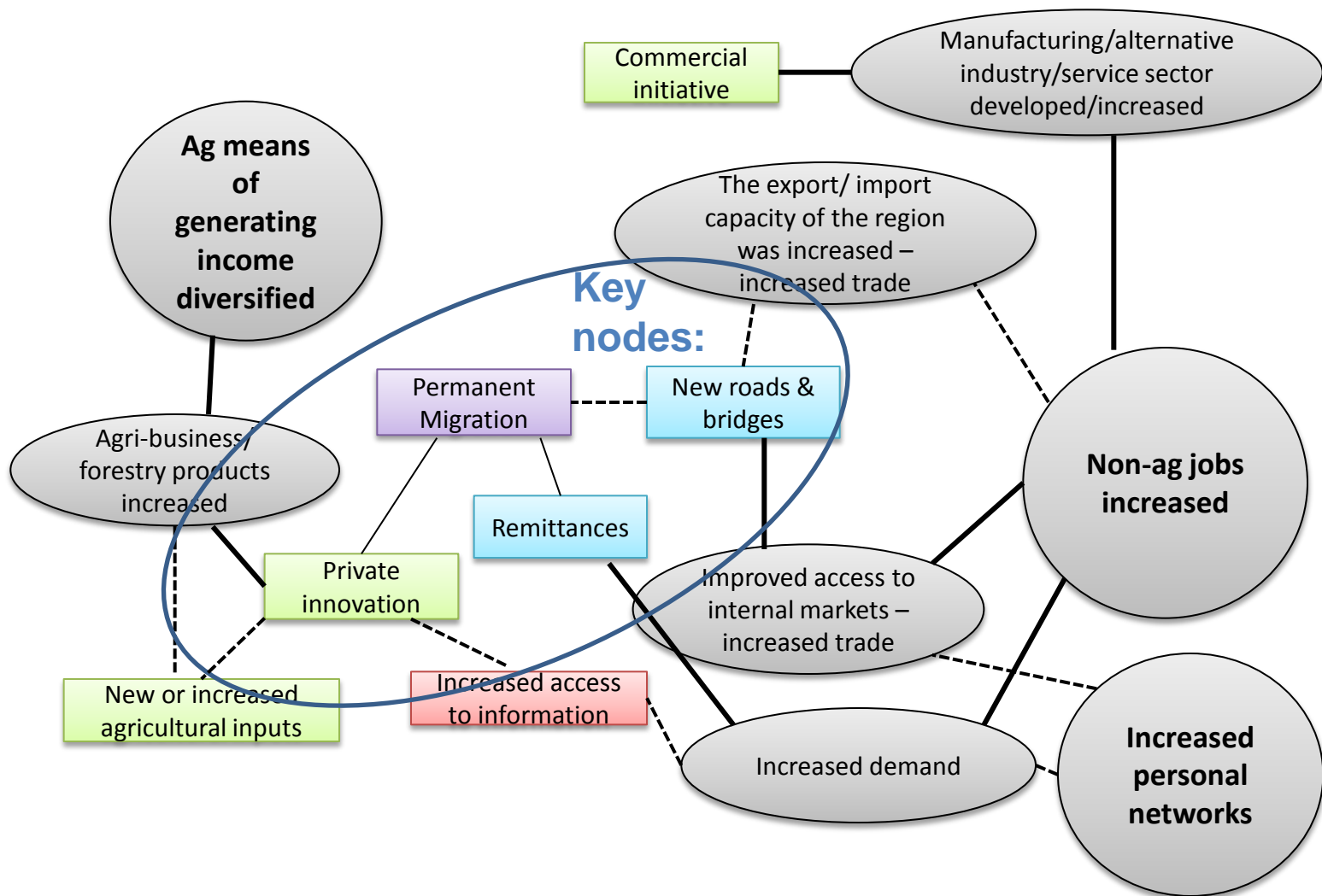
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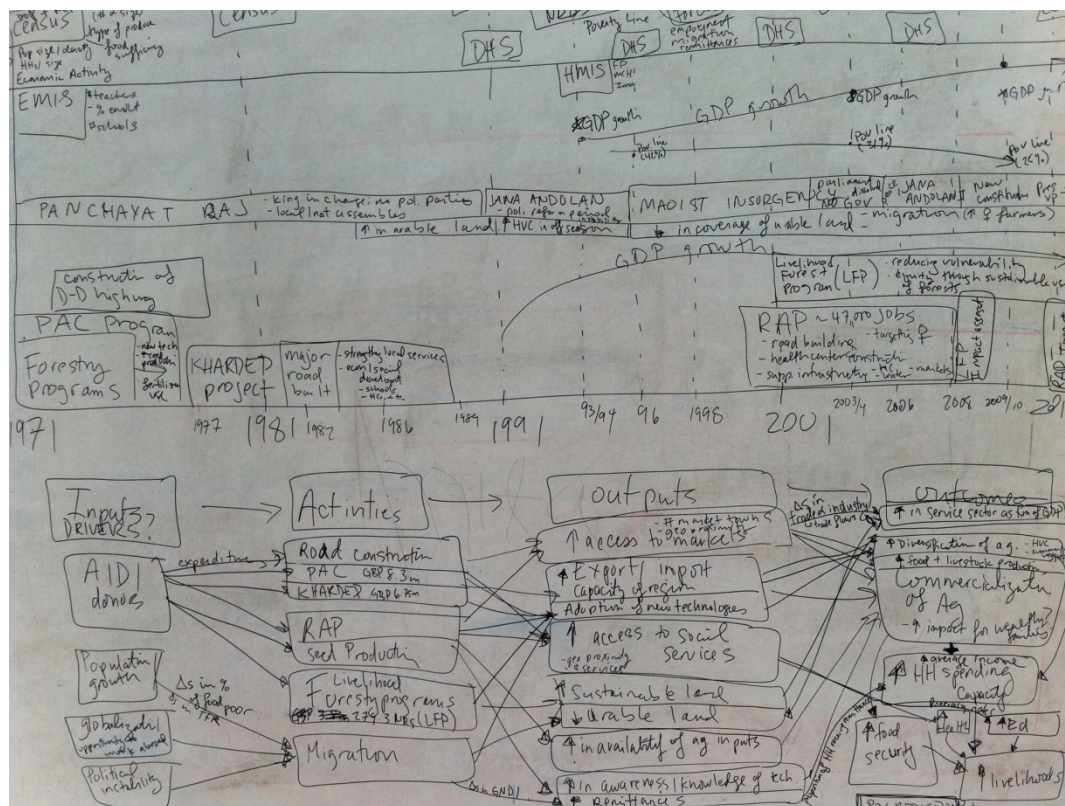
# Methodological Limitations

- Three methodological limitations:
  - data availability (disaggregated level)
  - data comparability and quality
  - strength of long term evidence
- Methodology paper on strengths and weaknesses to be developed





# MAIN FINDINGS

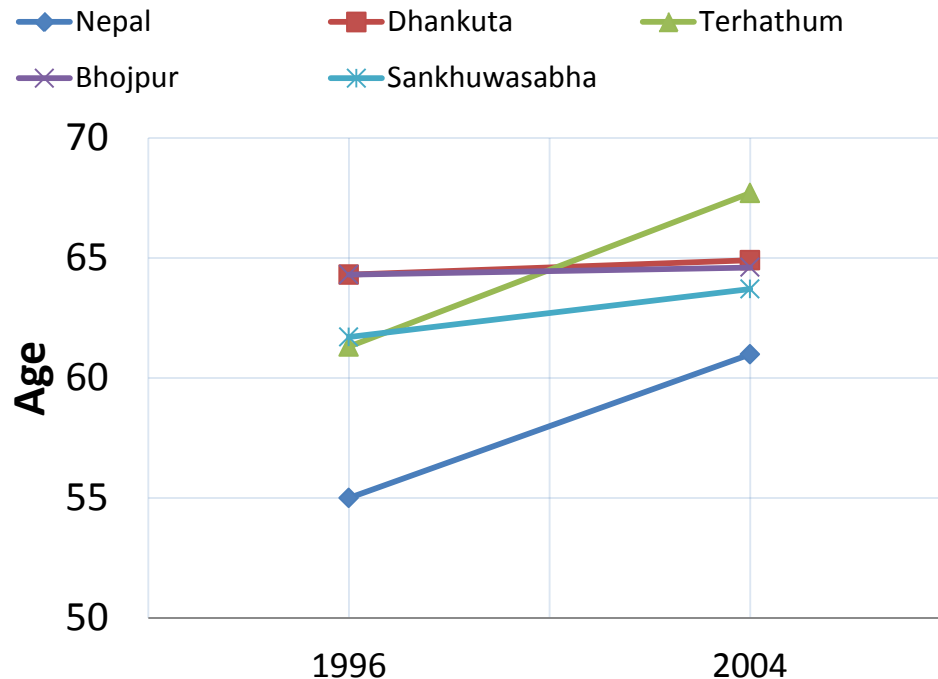


# Key message –

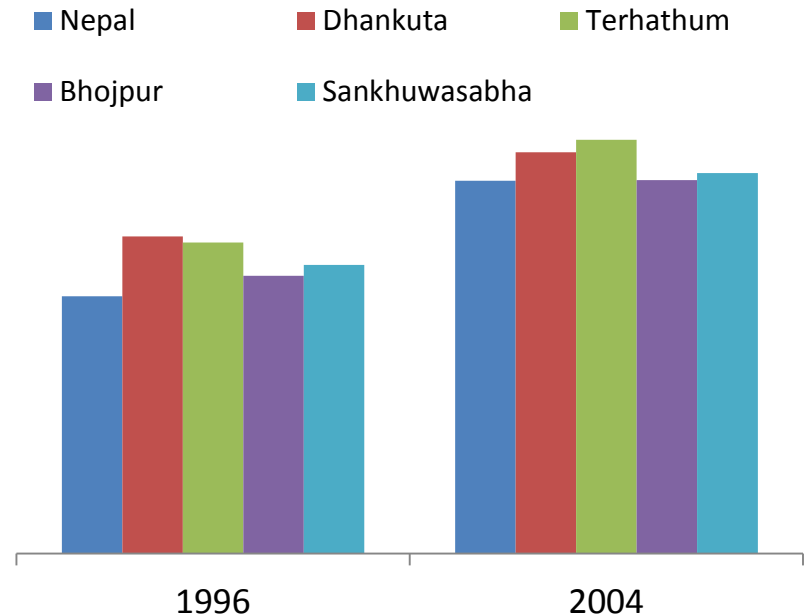
## Koshi hills is better now than in the 1970s

- Quality of life has improved

Life expectancy at birth (yrs)



Human Development Index (HDI)



## Key message –

## Koshi hills is better now than in the 1970s

- Living standards have increased

Table 1: Literacy rates in per cent, 2011 (Aged 5 +) (Source: Population Census, 2011)

Districts	Male	Female	Total	Total population
Bhojpur	79.32	61.38	69.34	203,018
Dhankuta	82.40	67.41	74.37	166,479
Sankhuwasabha	77.47	62.20	69.38	159,203
Terhathum	83.53	67.04	74.62	113,111
Koshi hills	80.36	64.20	71.60	641,811
Ilam	84.16	72.05	77.91	282,806
Khotang	77.67	61.10	68.83	231,385
All Nepal	75.14	57.39	65.94	26,494,504

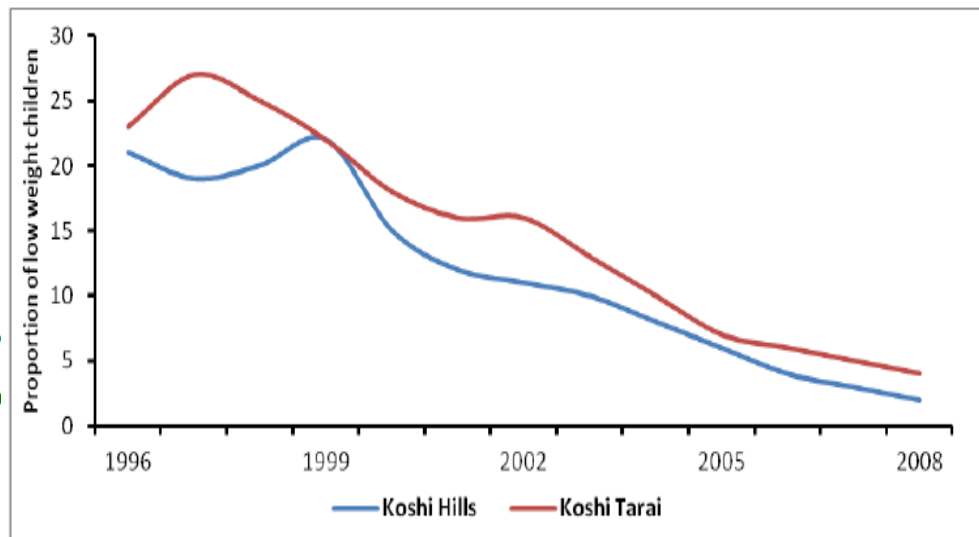


Figure 8: Proportion of malnourished children (low weight) of age below three years in Koshi hills and Koshi Tarai, 1996 to 2009 (documentary review)



## Key message –

## Koshi hills is better now than in the 1970s

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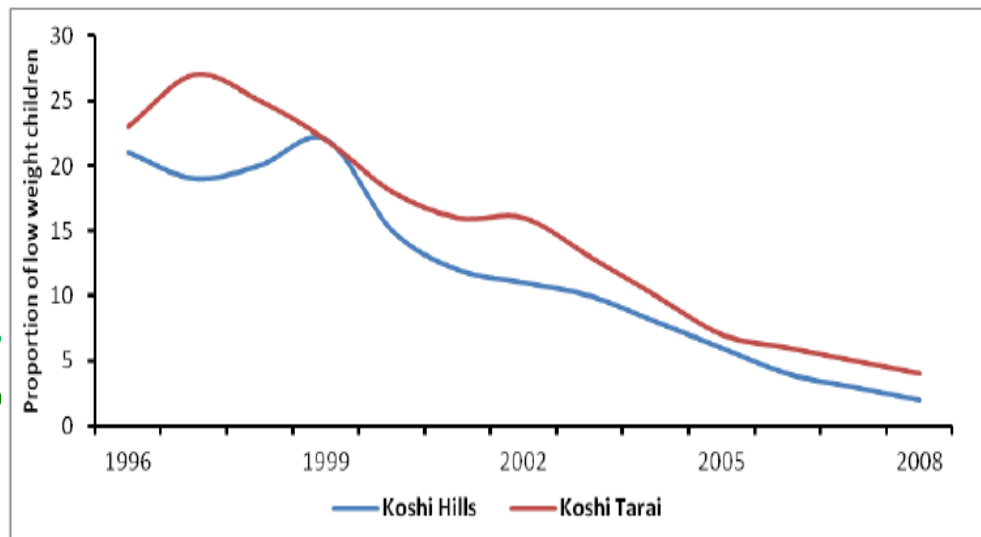


Figure 8: Proportion of malnourished children (low weight) of age below three years in Koshi hills and Koshi Tarai, 1996 to 2009 (documentary review)

# Key message – Koshi hills is better now than in the 1970s

- Poverty has reduced

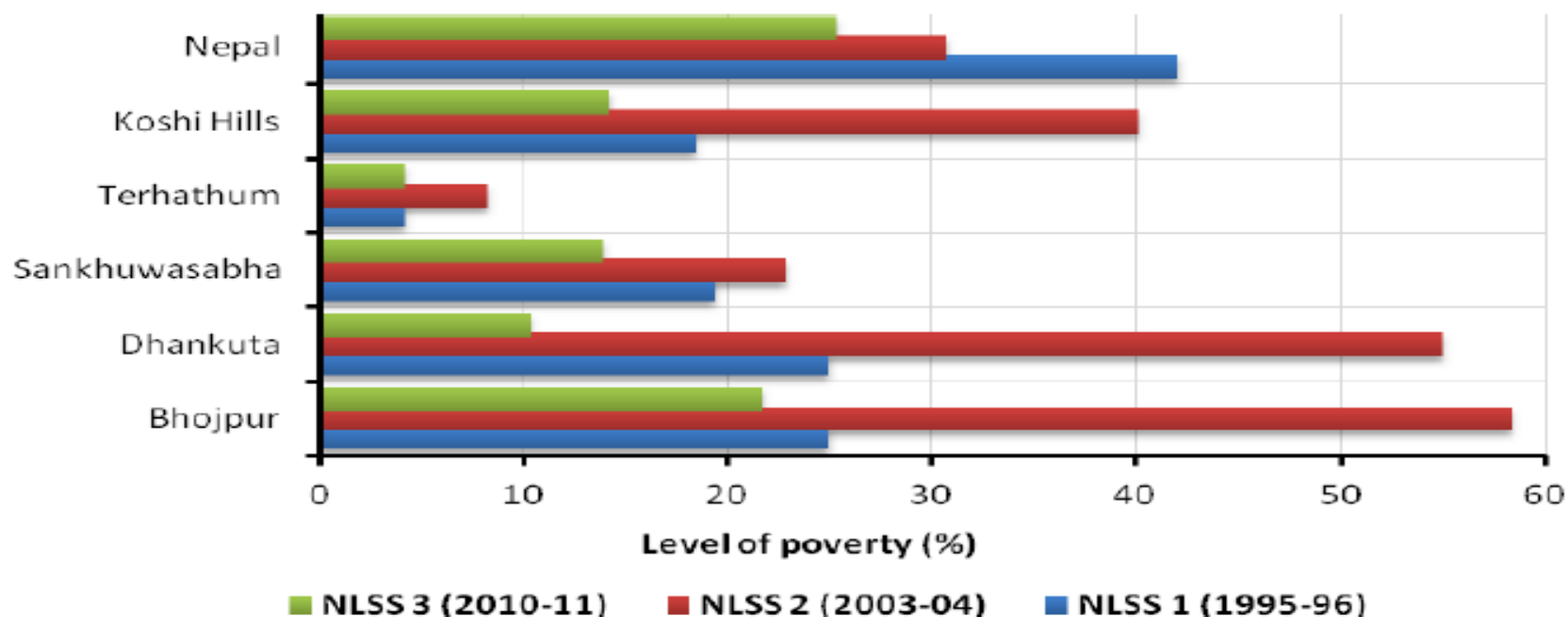


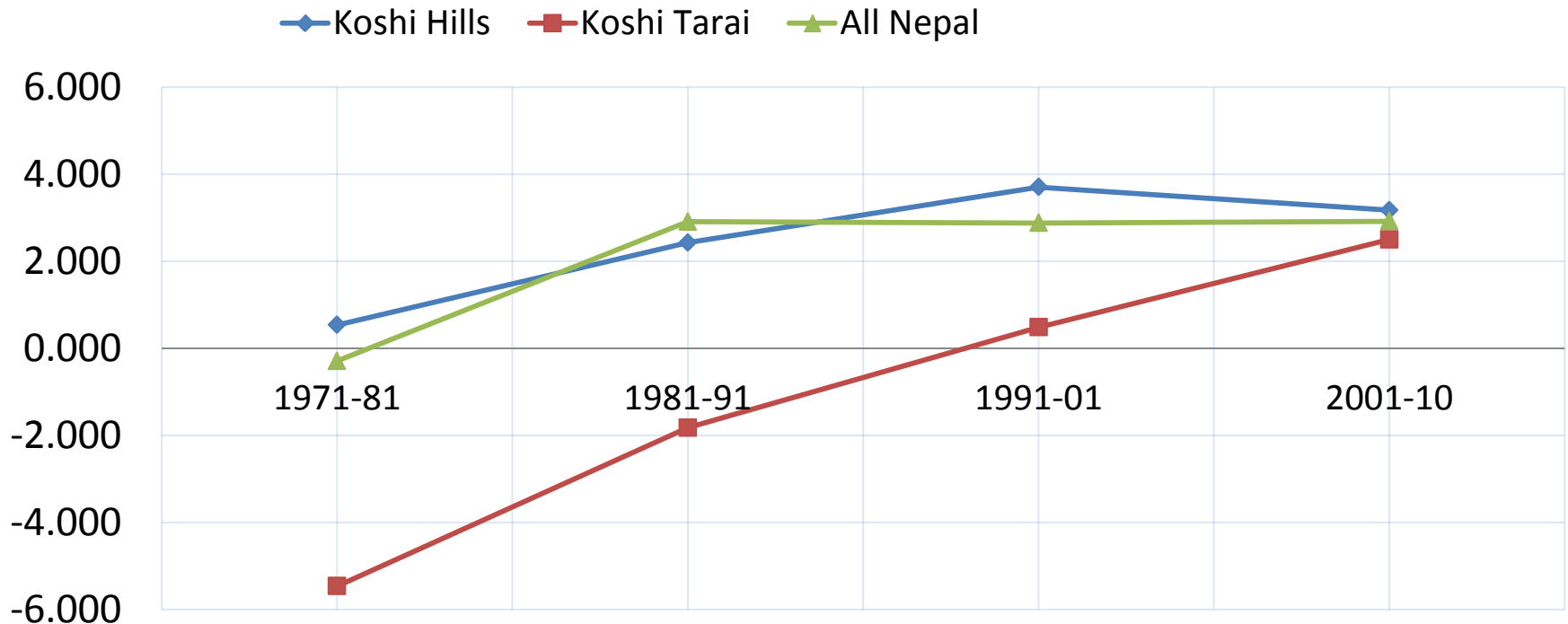
Figure 5: Levels of poverty in the Koshi hills, 1995-96 to 2010-11 (Poverty Analysis Report, 2012)

## Key message –

## Koshi hills is better now than in the 1970s

- Economy has grown

**Growth of Per Capita GDP**



# What contributed to improvements?

- Relationship between the level of poverty and economic growth & changes in resource levels in Koshi Hills

Significant contributors to poverty reduction (PR) and economic growth (EG)		
Sources of Investment and Resource flow to Koshi Hills	% impact on Poverty Reduction	% impact on Economic Growth
Aid/donors	-0.031**	0.030***
Private investment	0.180	0.398*
Government investment	-0.345*	0.045
Remittances	-0.328***	0.015
Population as Human Resources	3.599*	0.071***

Data source: economic analysis

\*Significant at 0.01 level

\*\* Significant at 0.05 level

\*\*\* Significant at 0.1 level

# What contributed to improvements?

Poverty Reduction	Economic Growth
<ul style="list-style-type: none"><li>• <b>Government investment</b></li><li>• <b>Remittances</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Private investment</b></li></ul>
<ul style="list-style-type: none"><li>• Aid and donor funding</li></ul>	<ul style="list-style-type: none"><li>• Aid and donor funding</li><li>• Government investment</li><li>• Remittances</li></ul>

- *Population growth had a negative contribution*

Data source: economic analysis

# Long term changes associated with impact

## New economic opportunities

- *within Koshi hills*
  - Commercial agriculture
  - Non-agriculture-based commerce and industry
- *outside of Koshi hills*
  - Permanent migration

## Better quality of life

- *at an individual level*
  - Health and education
- *at a household level*
  - Basic needs provision

# Opportunities within Koshi hills

## LEGEND:

**Key Change**

Socio-economic change

Strong evidence

- - - Weak evidence

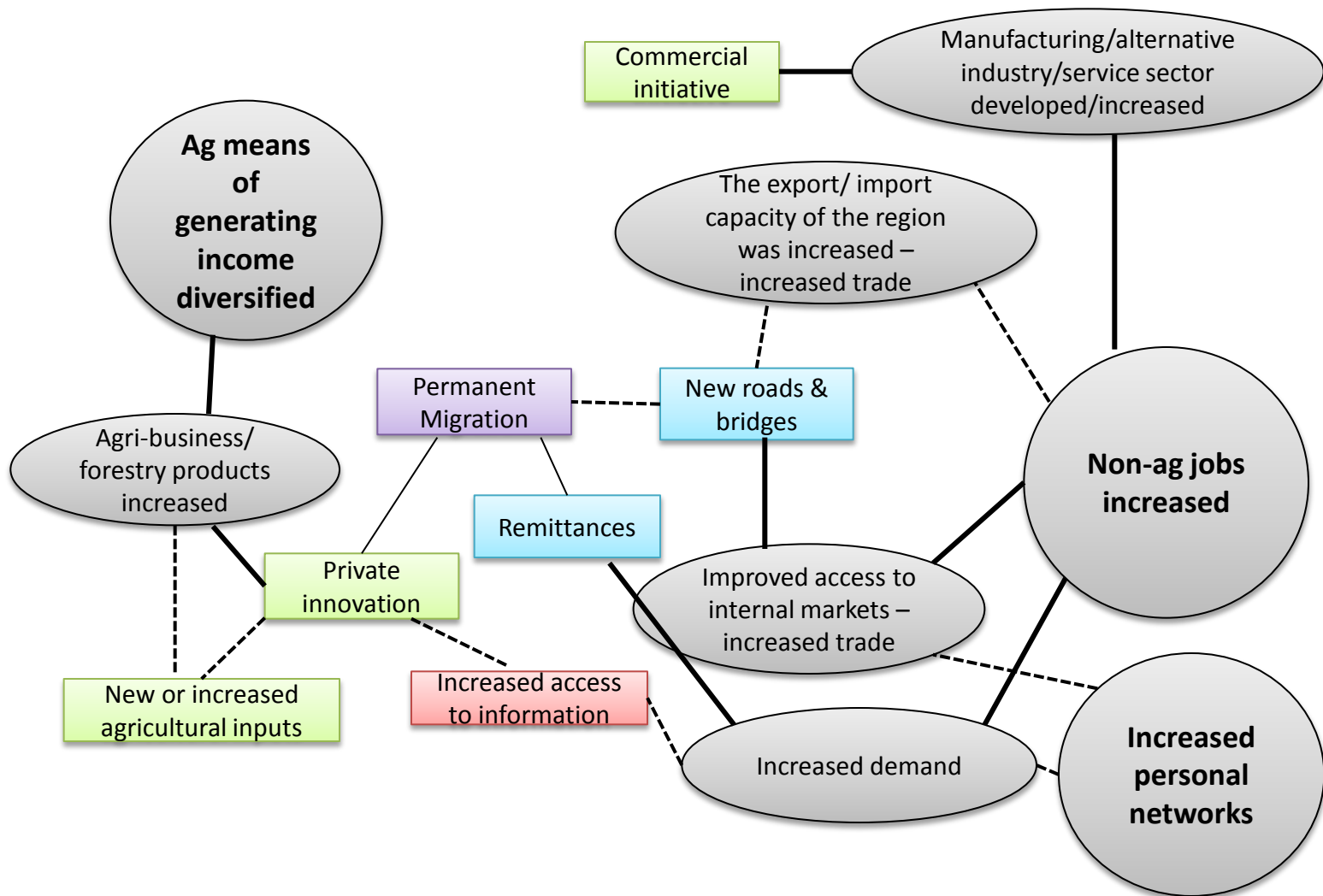
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**Agriculture, industry and resource management**

**Migration**

**Infrastructure**



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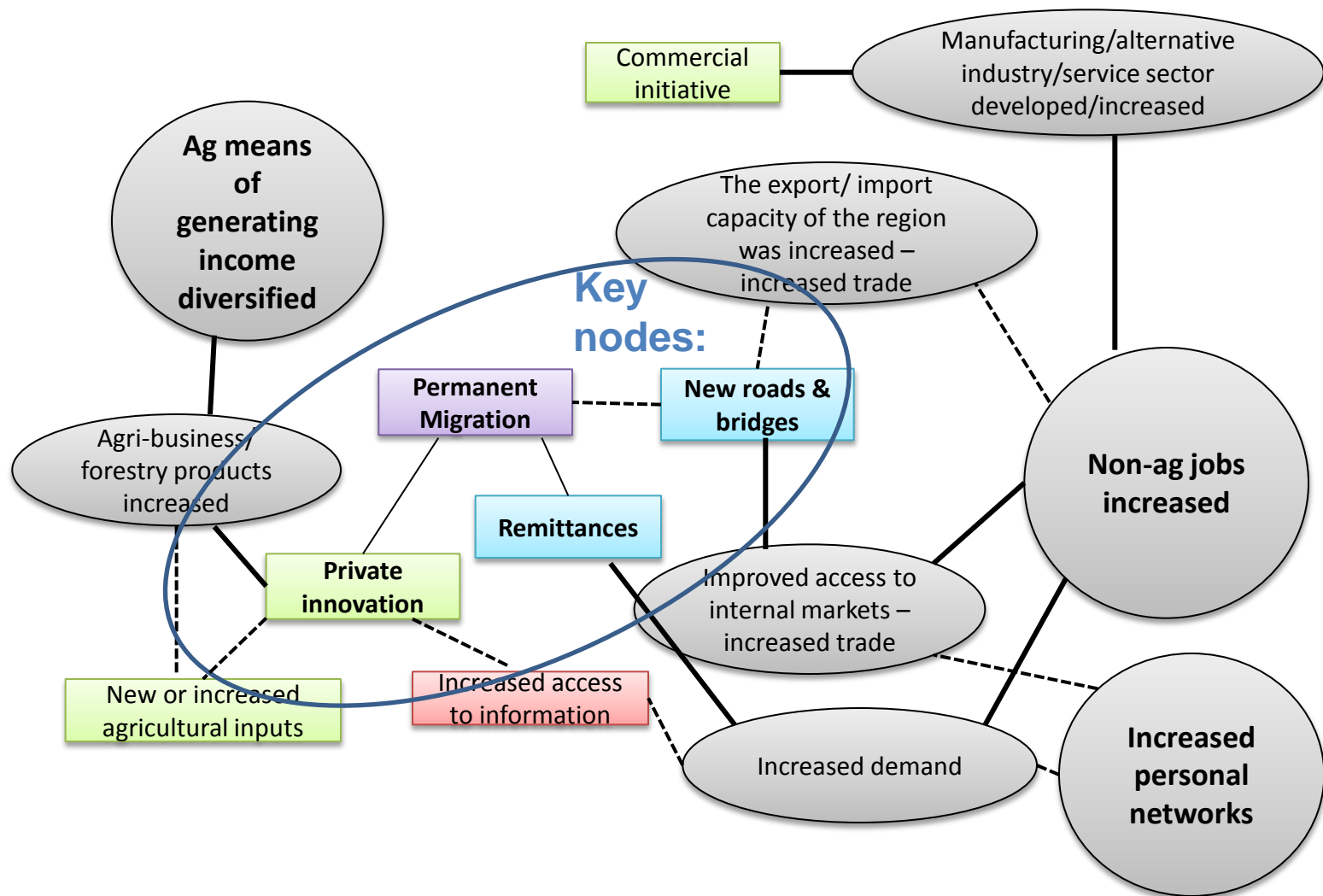
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## Opportunities outside of Koshi hills

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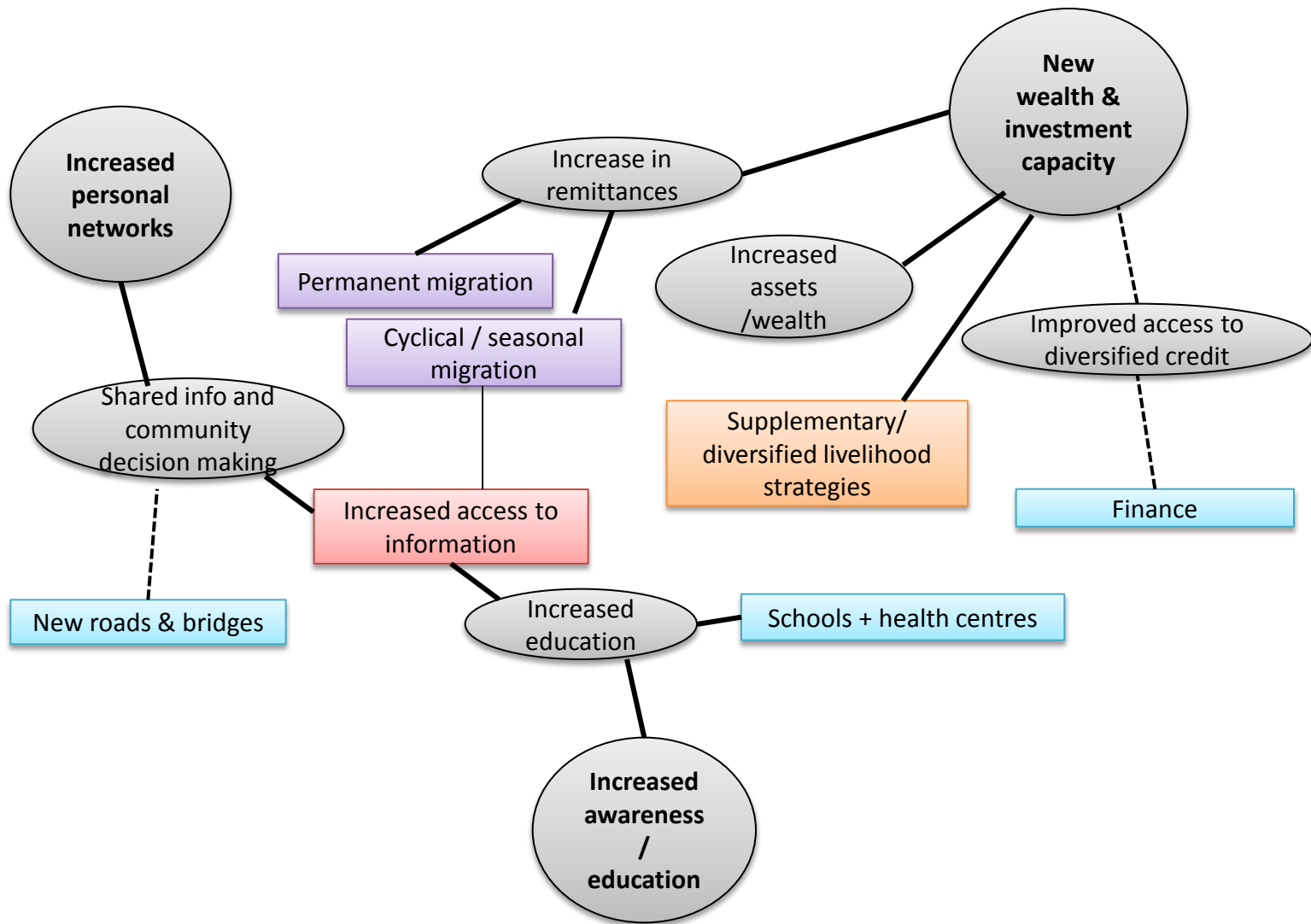
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# Opportunities outside of Koshi hills

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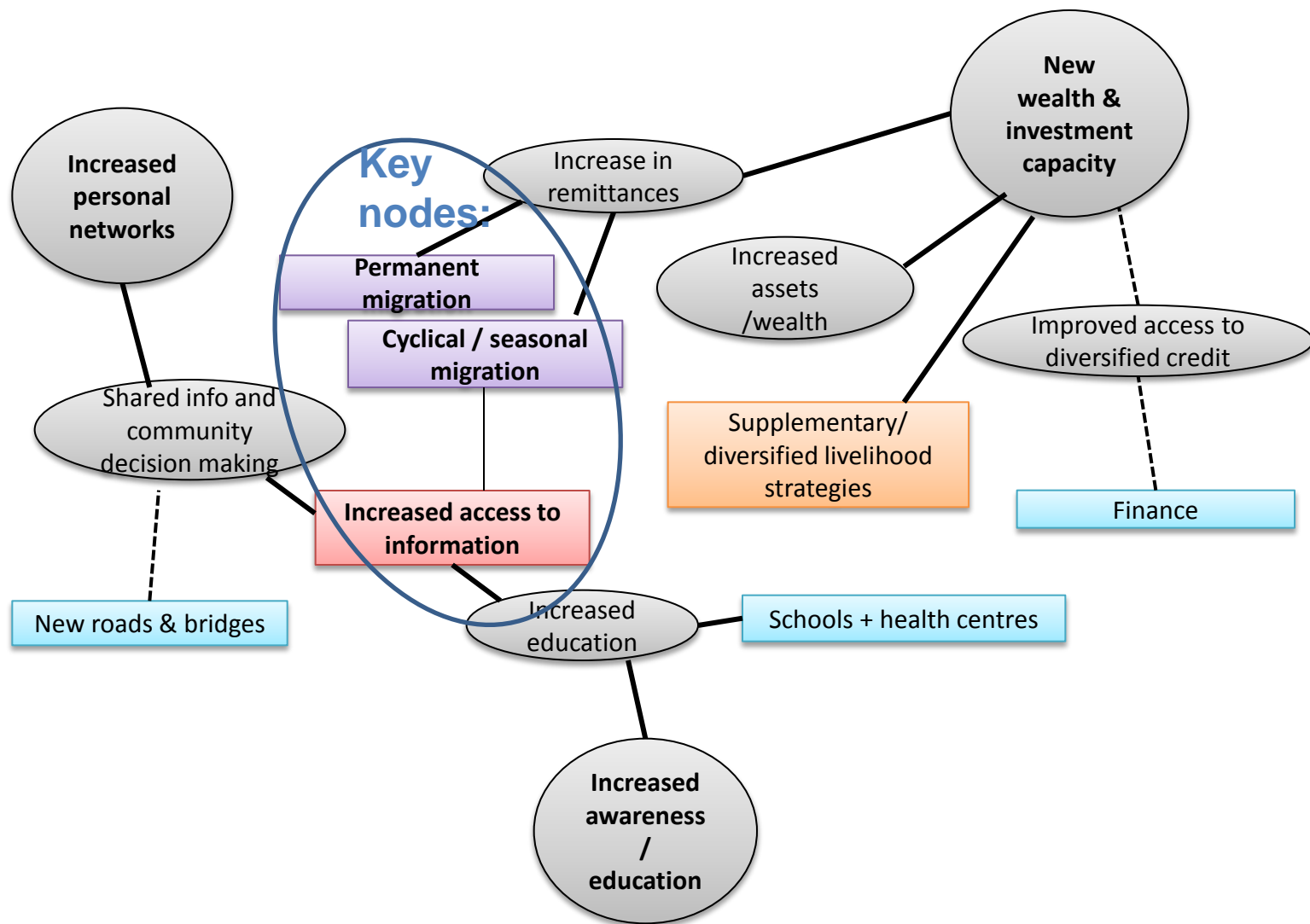
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# Better quality of life for individuals

## LEGEND:

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Socio-economic change

**Strong evidence**

**Weak evidence**

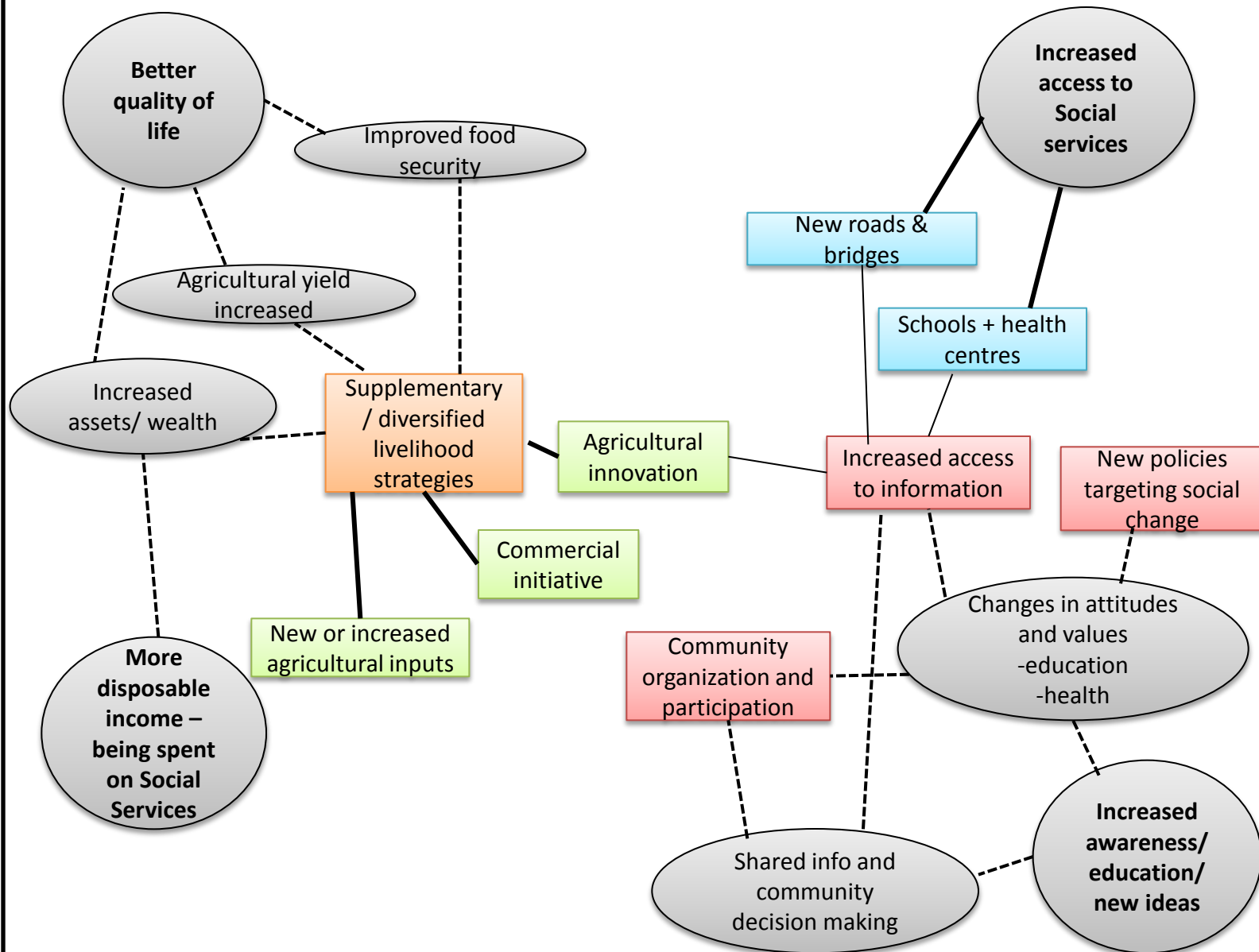
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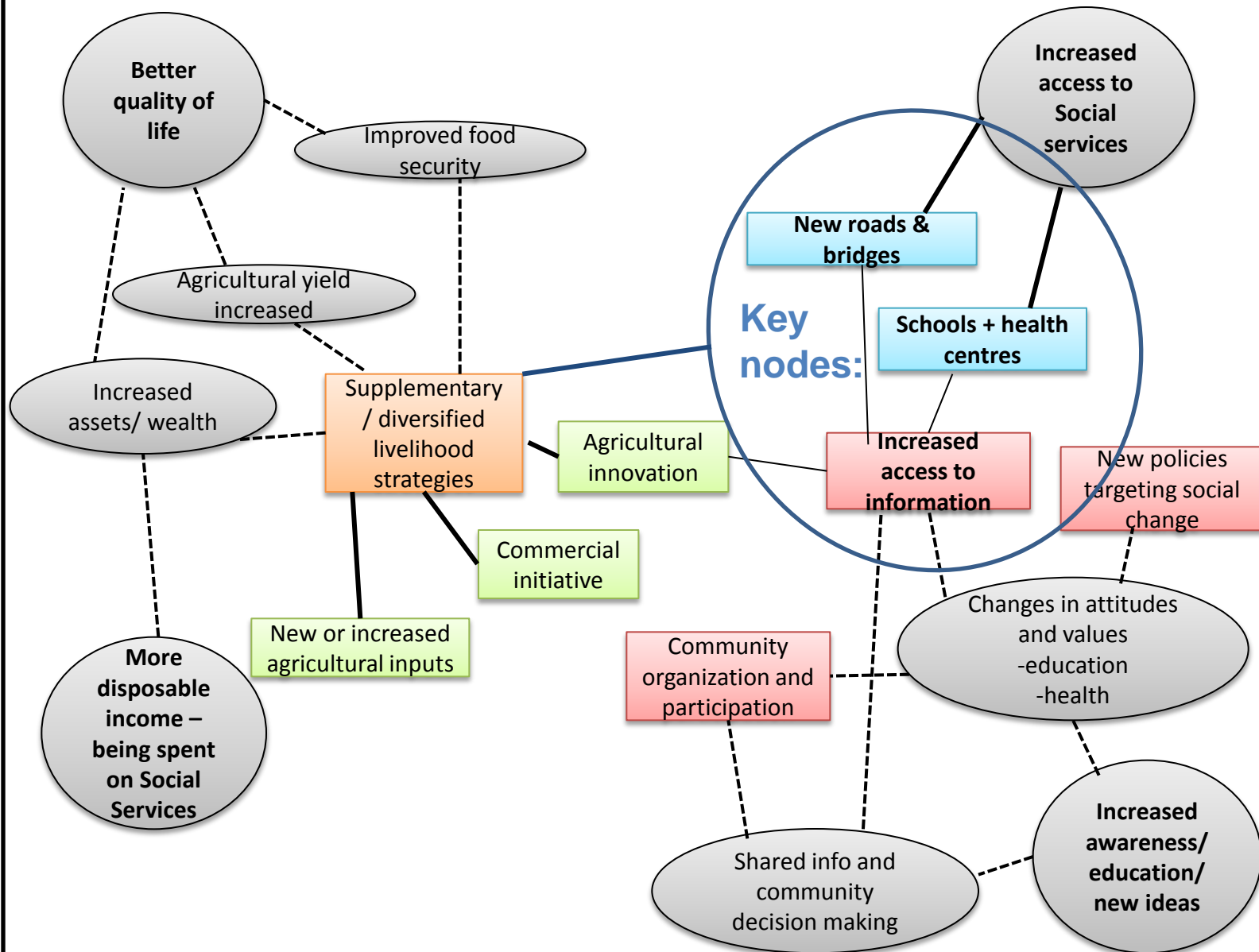
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## Infrastructure





# Better quality of life for households

## LEGEND:

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Socio-economic change

Strong evidence

- - - Weak evidence

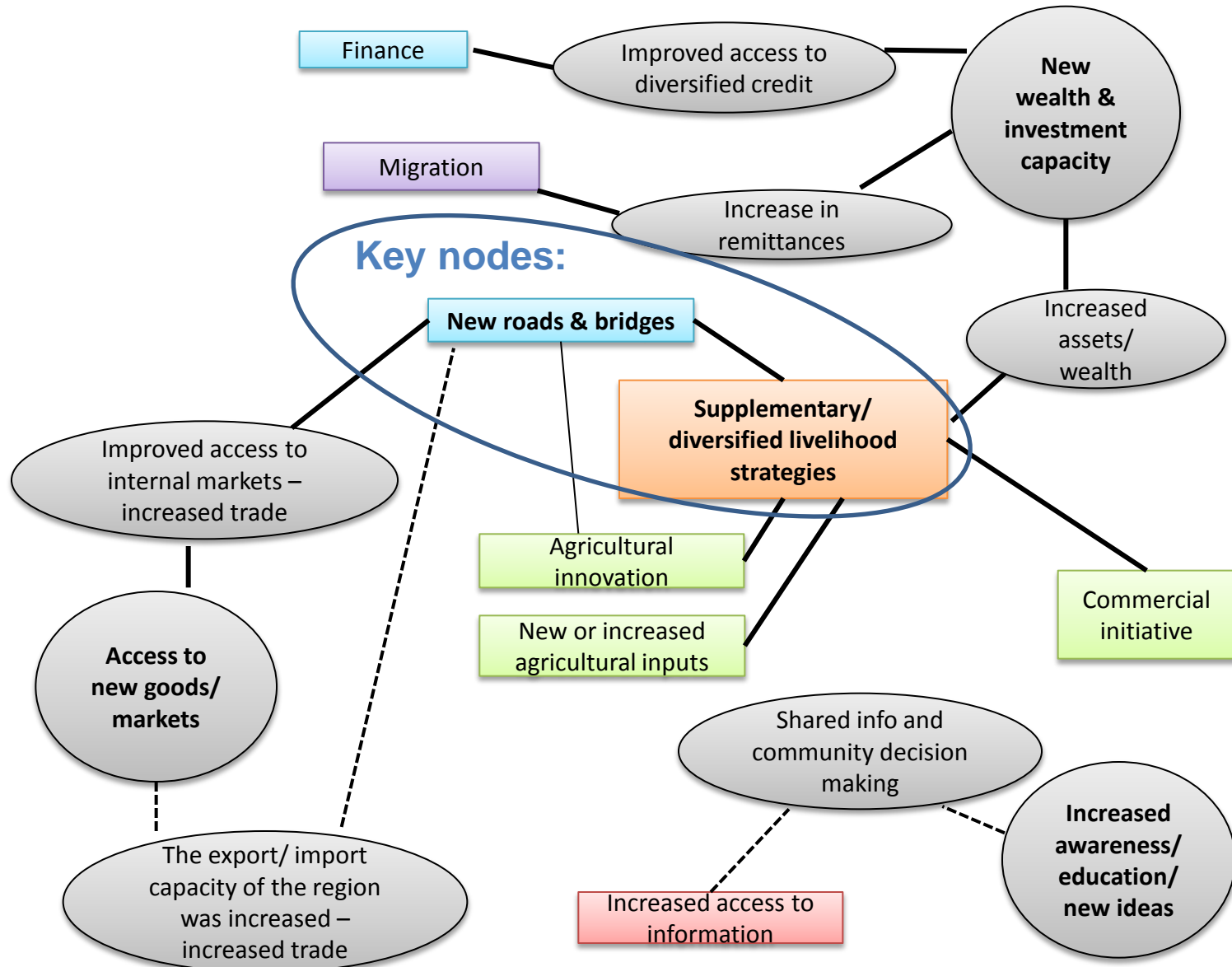
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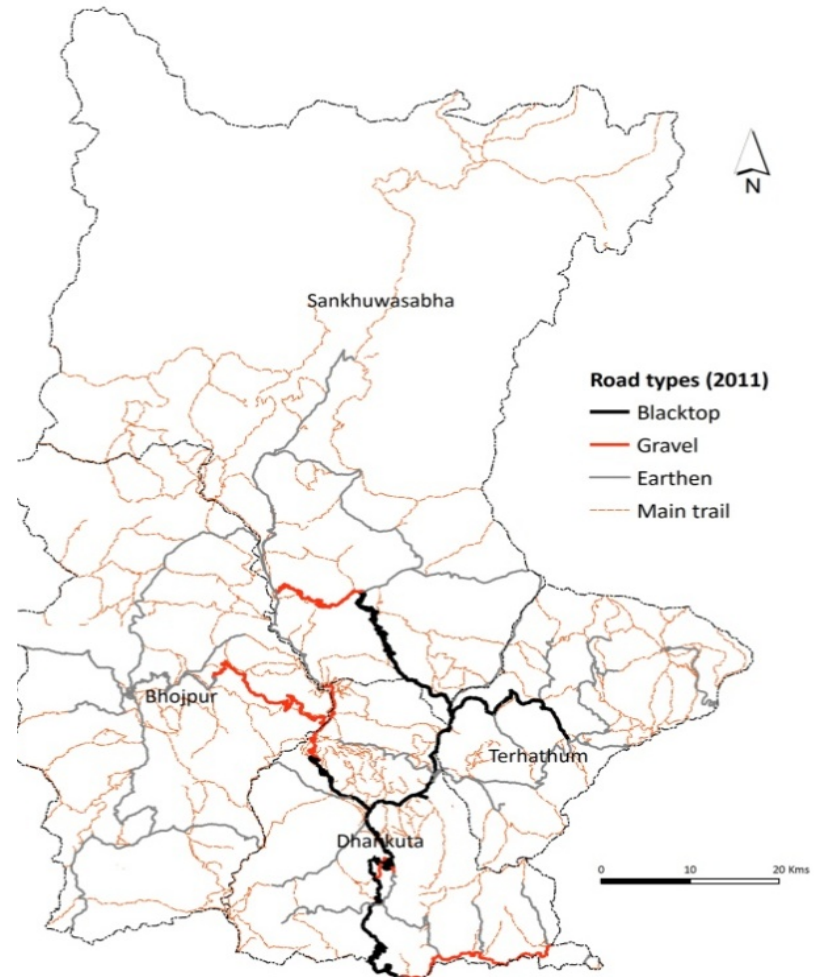
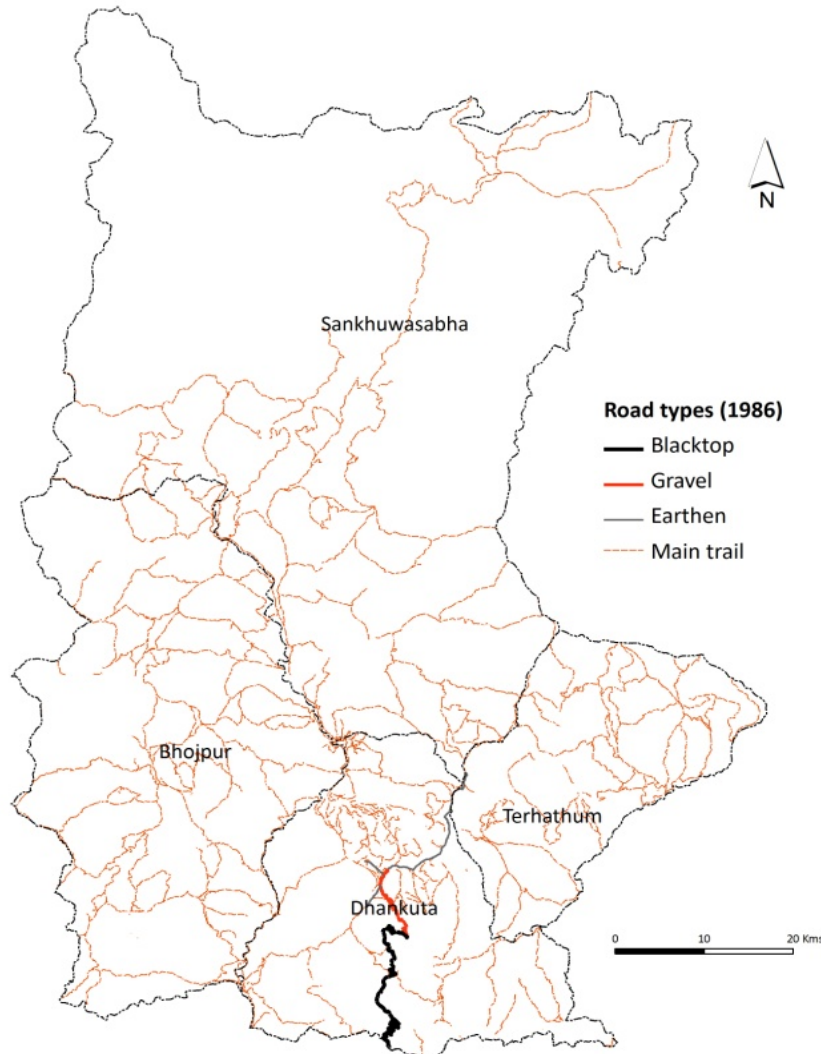


# Drivers of long term impact

- Infrastructure – transport, health, education
- New technology & information
- Migration and remittances
- Private innovation

# Impact of roads on economic opportunities

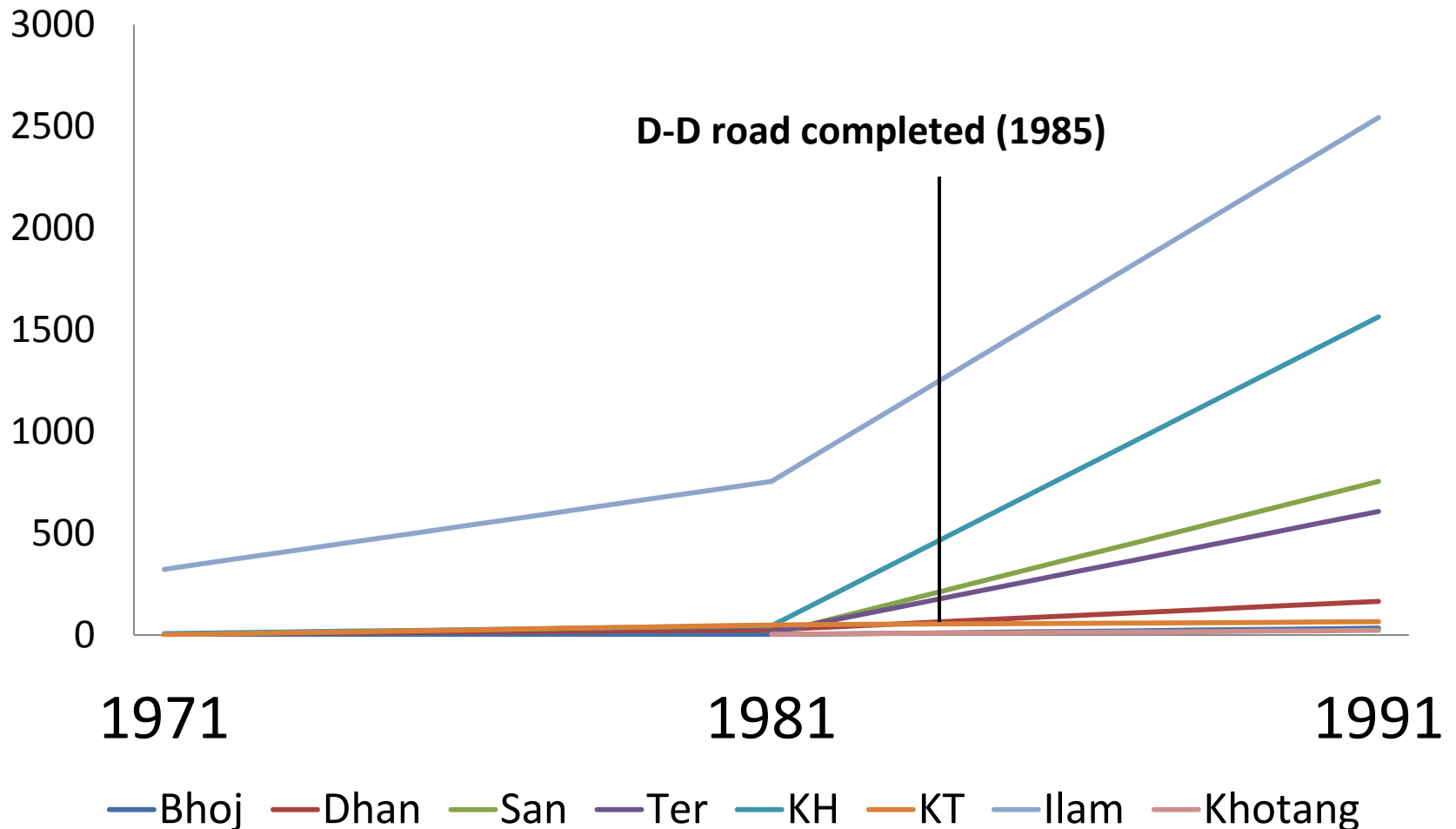
- New roads and bridges drove intended and unintended changes





# Impact of roads on economic opportunities

## Cardamom growth mapped to road construction



# Voices of the poor

*'I think the road is the most important development. Without a road, people have to carry their goods and this increases costs and reduces profits.'*



*'When there are vehicles running around, it is easier and more profitable.'*

(RCA man, 30s, Siddheshwor-Bhojpur)

# Improved access through infrastructure

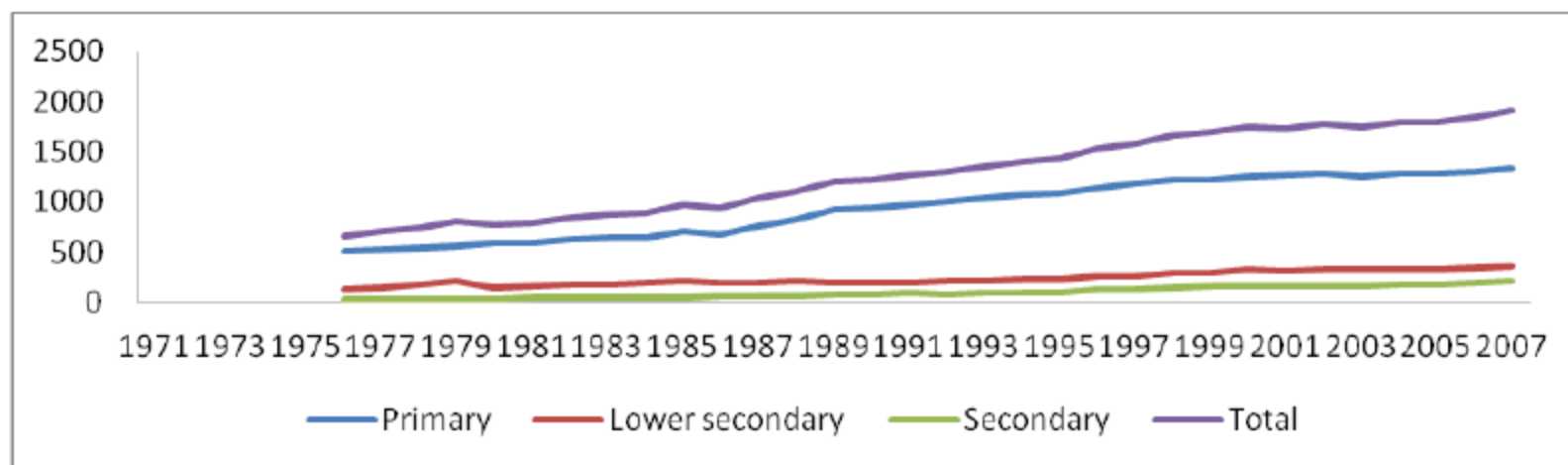


Figure 23: Number of schools in the Koshi hills

Table 2: Access of people (potential) to roads and health facility locations, KH

Buffer Class (km)	Roads		Health	
	1986	2010	1996	2010
Below 3	9.86	38.86	74.66	84.37
3 – 5	4.74	17.02	21.67	13.37
Above 5	85.40	44.11	3.67	2.26

# Improved access through infrastructure

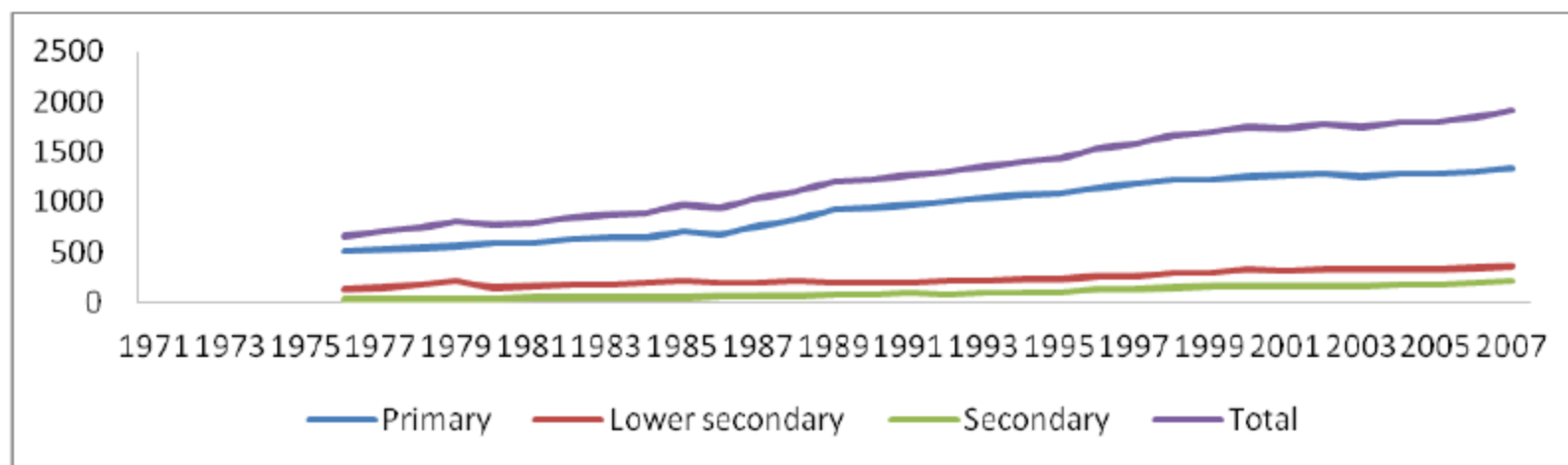


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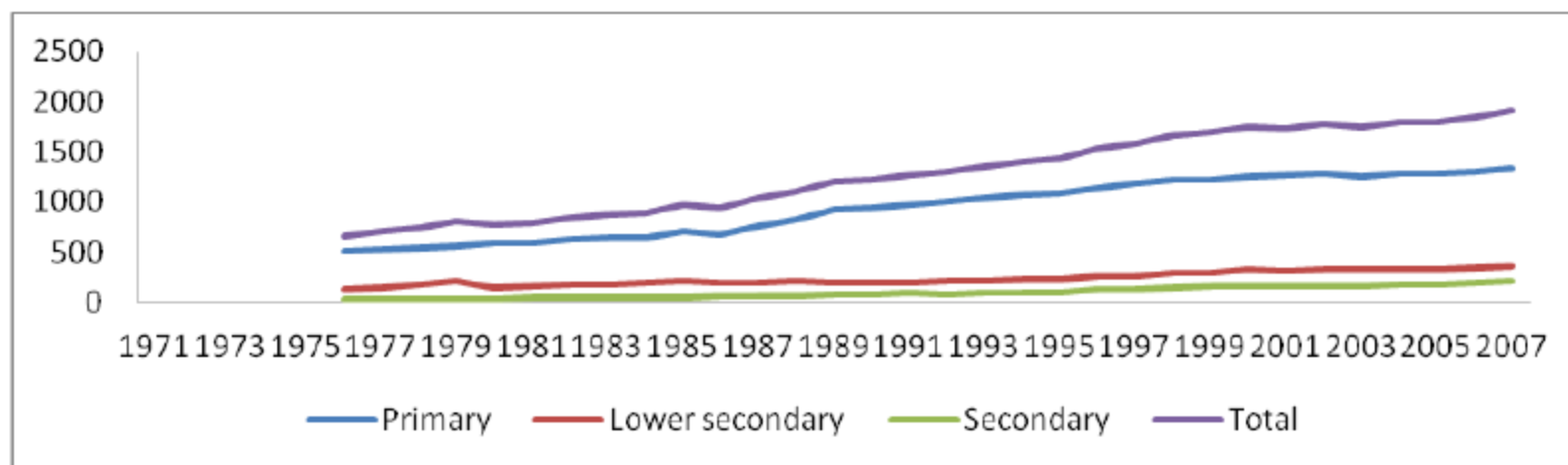


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# Voices of the poor

*'We grew up with the tools of agriculture, but our grandchildren grow up with pencil and book.'*

(RCA grandmother, Chainpur-Sankhuwasabha)



*'If farming was the form of employment before, education is the new form of employment now.'*

(RCA man, 60, Jorpati-Dhankuta)

# Impact of new technology & information

- Cash crops
- Animal breeding
- Extension services



Technology transfers most adopted had widespread applicability and high priority for food concerns



## Voices of the poor

*'We got mobile phones 5 to 6 years ago and with so many people working as migrant workers, these are very important.'*

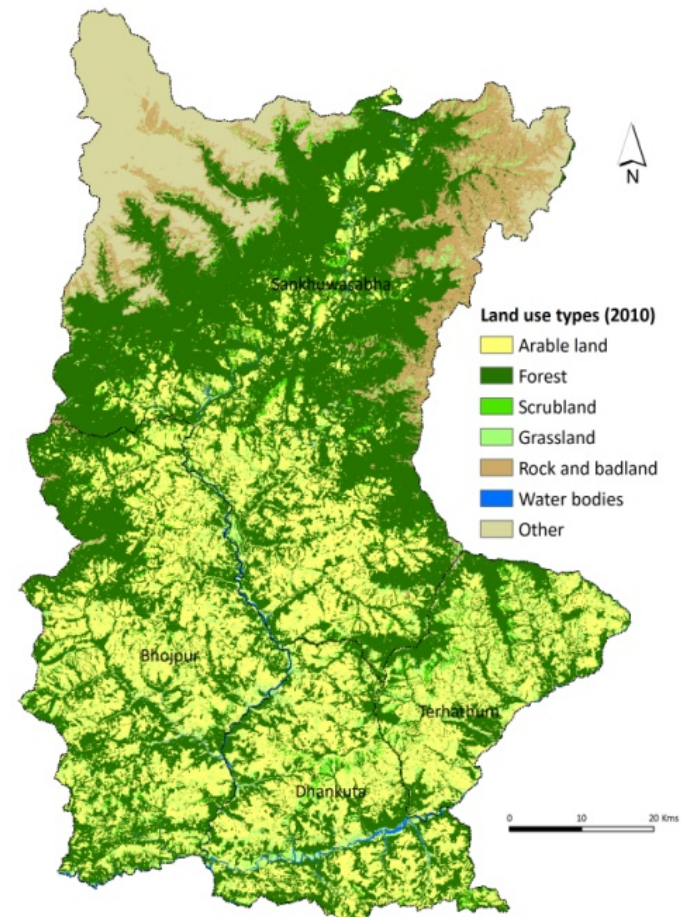
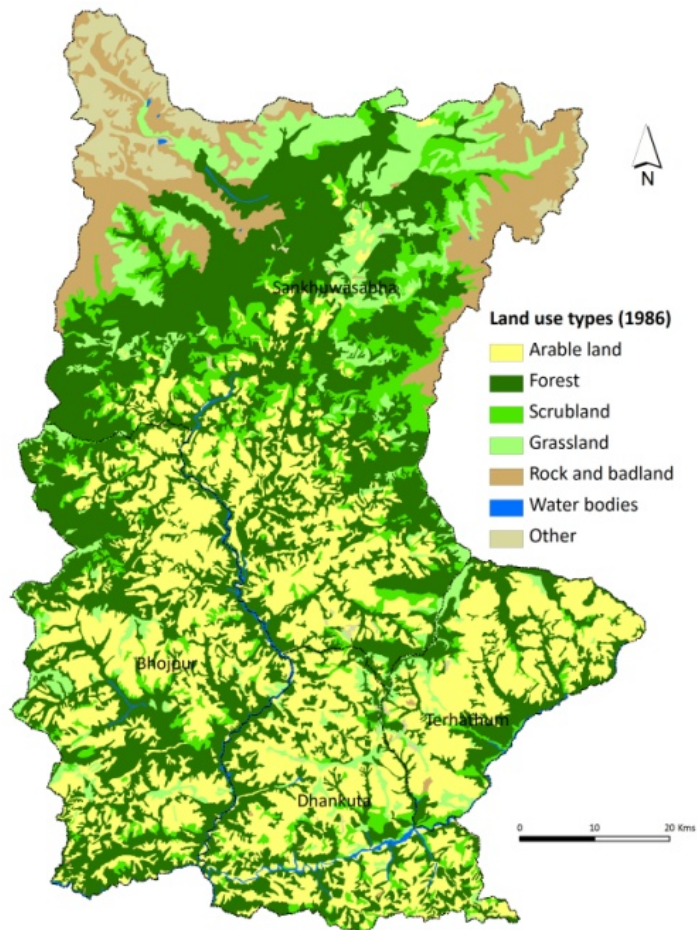
Yaku resident





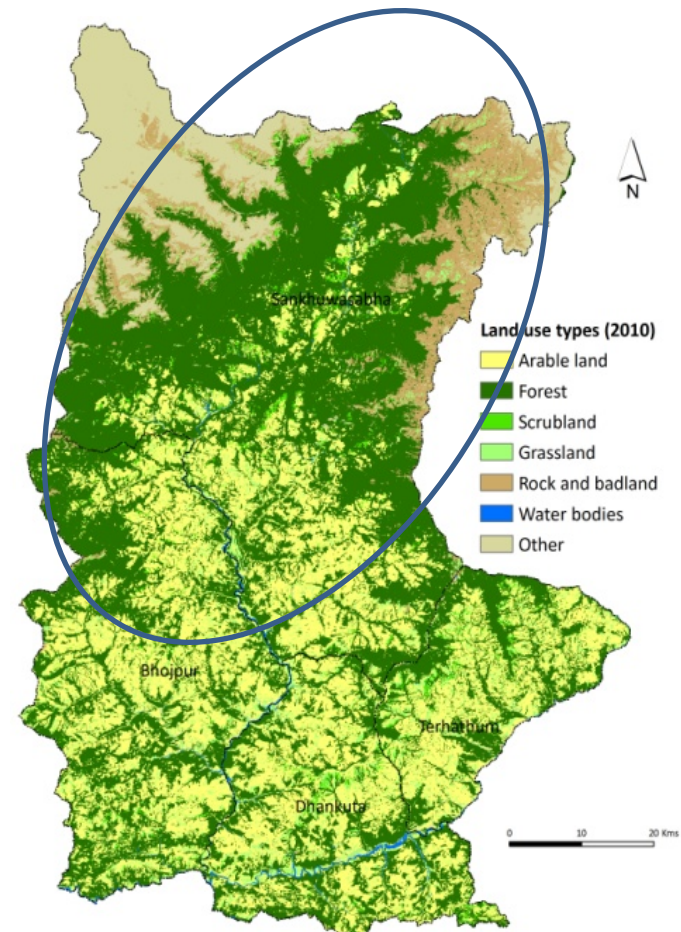
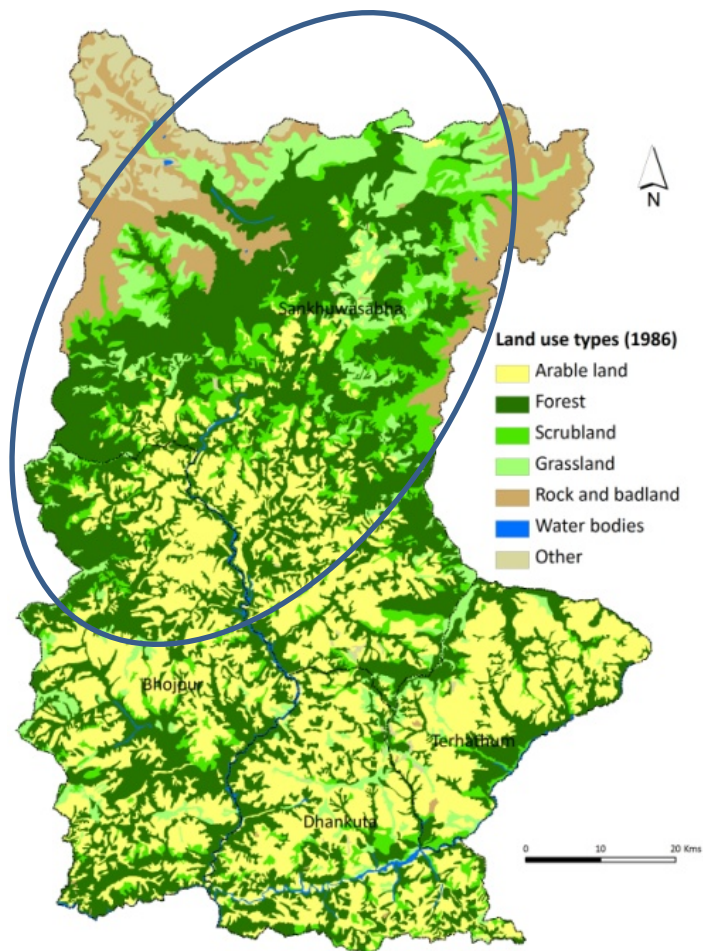
# Impact of community forestry

- Community ownership through collaboration of government, NGOs and local communities



# Impact of community forestry

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# Larger economic impact on households close to road

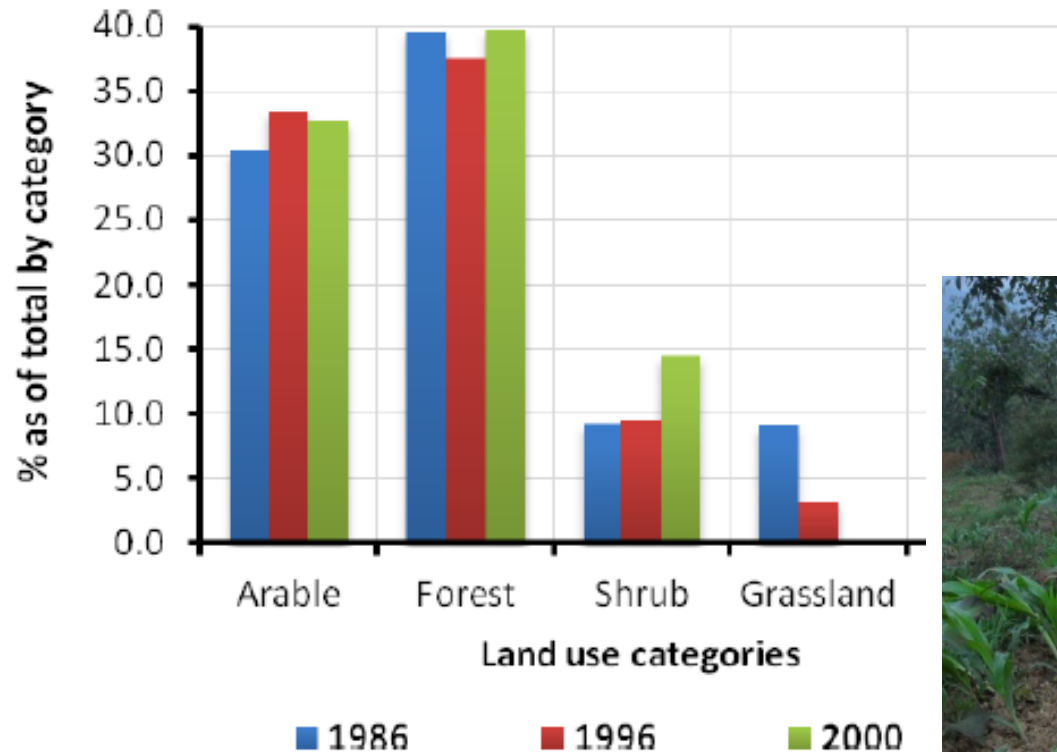


Figure 20: Land use change trend, Koshi Hills



# Cardamom – the right mix of interventions

## At the right time for individuals

### Development interventions

- Infrastructure - road networks
- New technology - agricultural supports

### Private innovation and initiatives

- Migration
- Dissemination
- Market structures in place

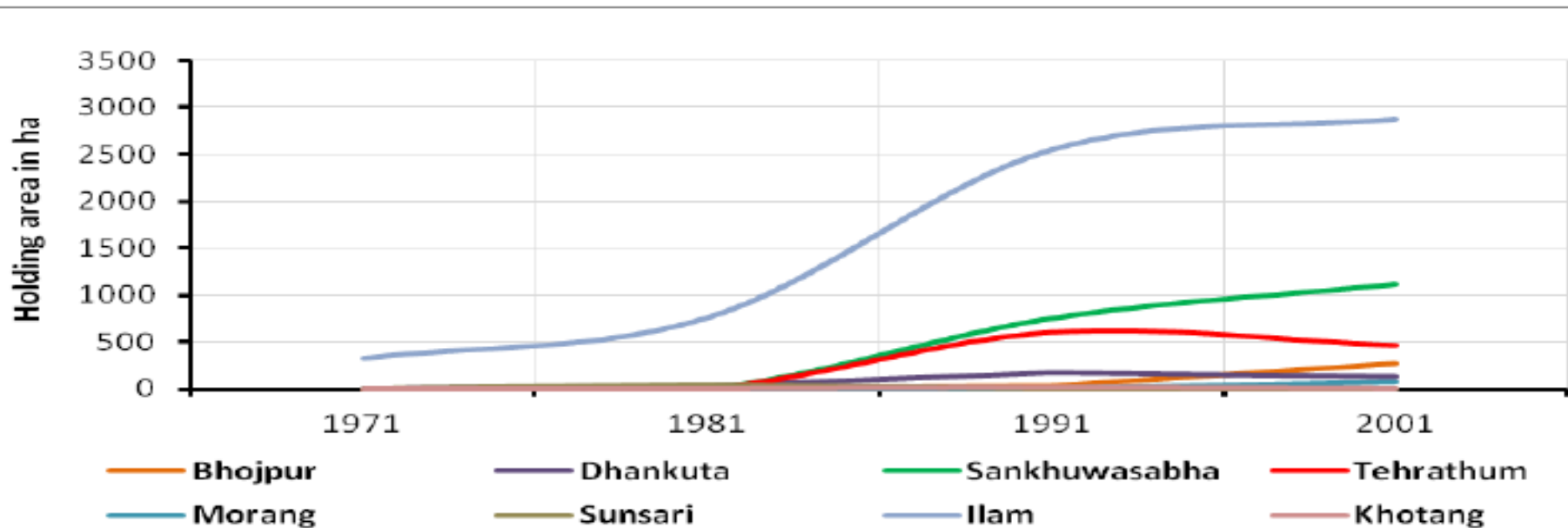


Figure 17: Cardamom holding areas (ha)

## Voices of the poor



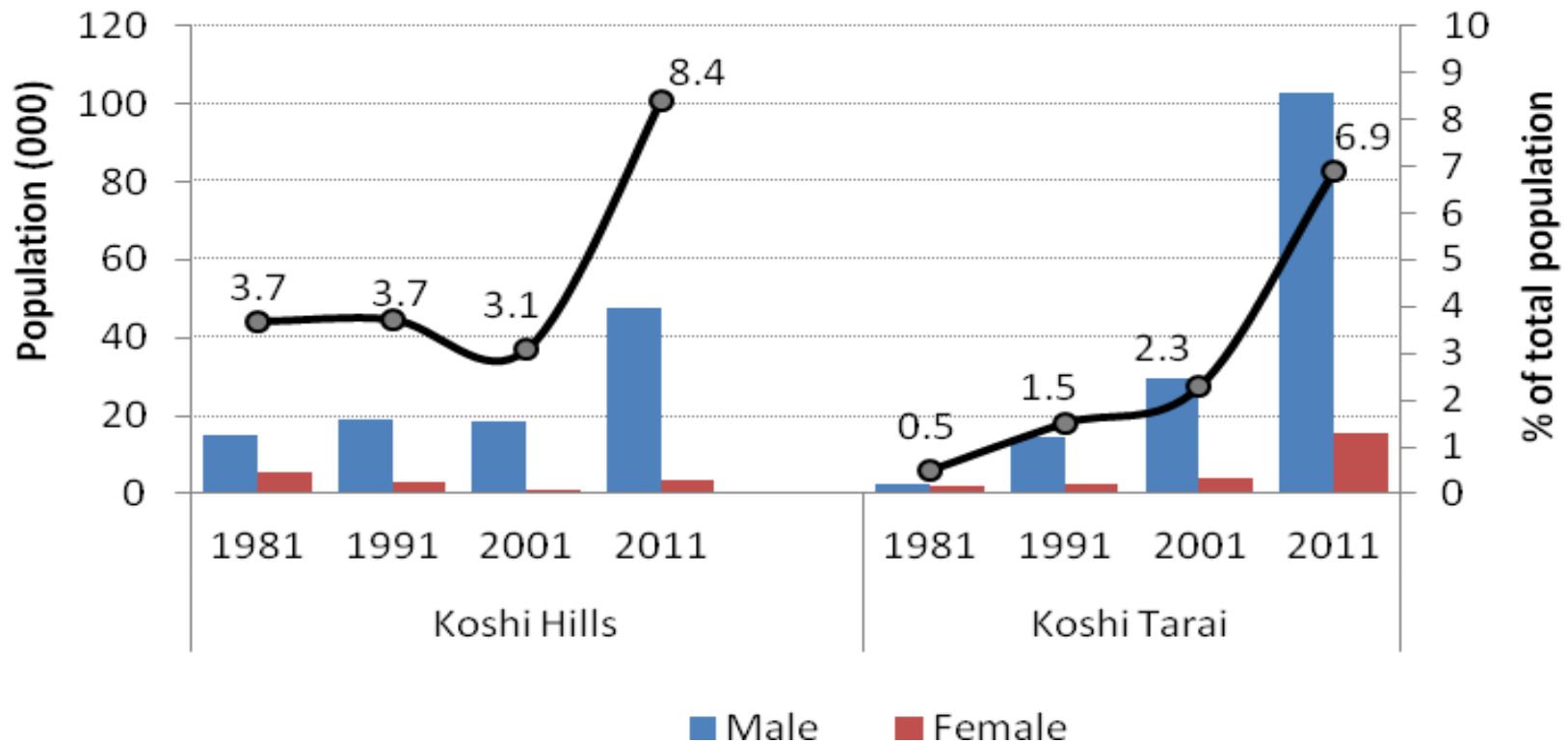
*'Cardamom is our  
identity;  
no cardamom, no life.'*

(RCA man, 20, Num-Sankhuwasabha)

Mon Singh Rai is credited with bringing cardamom from Ilam to Num in 1983. He grew it as an experiment on his own land and over the next 10 years the entire neighbourhood adopted the practices so that it is now the main income source.

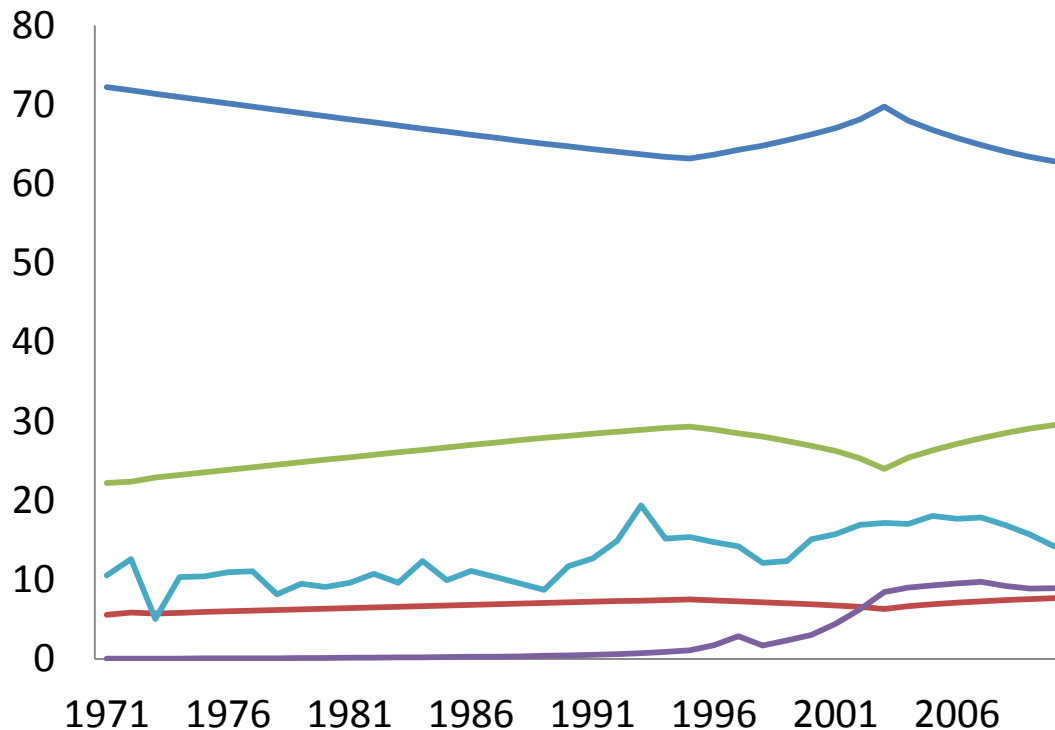
# Missed opportunities – Impact of remittances and migration

Number and percentage of out-migration in the  
Koshi hills and Koshi tarai, 1981-2011.



# Missed opportunities – Impact of remittances and migration

Sector-wise contribution to GDP in Koshi hills

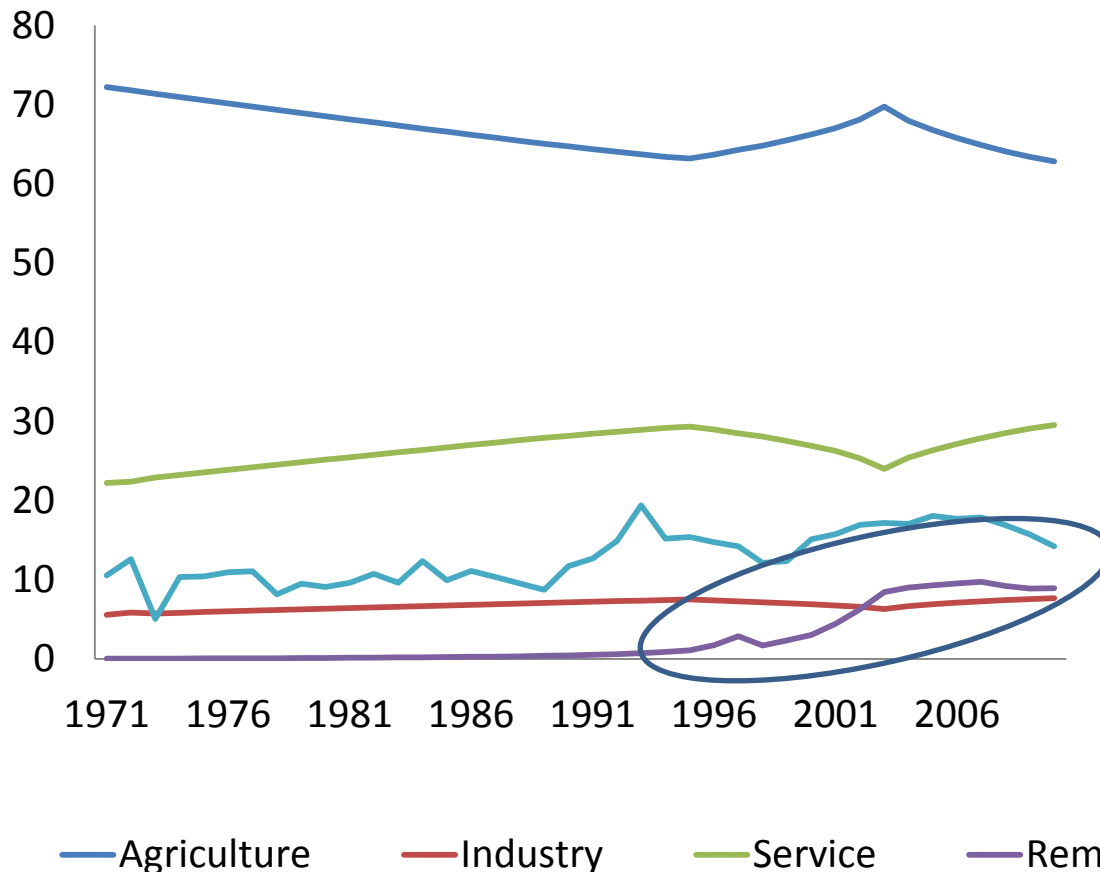


— Agriculture — Industry — Service — Remittance — Private Investment



# Missed opportunities – Impact of remittances and migration

Sector-wise contribution to GDP in Koshi hills





# Voices of the poor



*'The eldest son of a dalit family is 34 and first went to Qatar for construction work in 2005. He managed to pay off the 1.5 lakh loan in about six to seven months.'*

*'He sent money back for his father to buy bullocks. Later he spent a further five lakhs building a new two-storey house for his parents and his two children who live with them.'*

(RCA Field Notes, Morahang-Terhathum)

# Voices of the poor

*'We used to eat 'dhedo'... but this is poor people's food now'  
(woman, Morahang- Terhathum).*



The study participants further indicated an increasing trend to use alternative sources of income (primarily remittances) to buy food as a matter of *choice*, not necessity. Increased consumption of vegetables was also noted.

# Changing definition of poverty

- Dynamic aspects and determinants of poverty
  - Though class, caste and ethnicity continue to play the major part in defining poverty, they are not the only determinants
- Inadequate analysis of the multi-dimensionality and its changing causes and manifestations

# New social changes

- Abandoned elderly –children have migrated, left with land they cannot make productive
- Elderly left with grandchildren to bring up – intermittent & unreliable remittances
- Chronic sick- rise of incapacitating cancer, heart disease, respiratory ailments, liver disease ( can't work)
- Adult children left with burden of family land, elderly sick parents
- Feminisation of agriculture – increased burden of women

# Key Conclusion: The main driver of change

- Ordinary men and women struggling to protect, maintain and enhance their livelihoods and improve the quality of their lives
  - Local investment & expenditure
  - Sources of innovations & catalysts for change in agriculture
  - Employment and other income generating opportunities
  - Improvements in their living standards and education





## Key Conclusion: The main driver of change

**Most effective development interventions** were those that helped individuals to meet their desire for change, providing an **enabling and supportive environment**.



**The most sustained changes** were those that were **driven by individuals** according to their capabilities, resources and needs.

# Implication of study findings:

## Role of development in Koshi Hills?

- Prioritise key interventions to create an enabling environment for development led by private investment and innovation
  - Infrastructure
  - Representative local government
  - Responsive “funds” for local development, girls’ education (and education more generally)
  - Encouragement for private initiatives
- Requires provision of a basic framework
  - Democratic, transparent and responsive government
  - Effective legislative structures
  - Accessible financial services
  - Infrastructure support to improve roads, telecommunication and education



# Other implications of study findings for GoN and development partners

- Remittances will continue to play a role as a key driver of change
  - In 2009 Migrant Study, the largest type of expenditures were for food and clothing—consumption
- How can we get ahead of the curve?
  - Expanded technical skills training?
  - Support for local investment?

# Other implications of study findings for GoN and development partners

- More integrated manner among development strategies
  - Government and all development partners
  - Cross-sector initiatives
- How to provide coordinated and community responsive services?
  - How to learn from previous attempts at integrated rural development?
  - How to weigh community-perceived needs with larger development initiatives?
  - How to plan for the transition of development partners?

## Other implications of study findings for GoN and development partners

- A wider lens is needed that looks at the deeper, broader qualitative and quantitative changes
- Outcome level data must be more accessible on a 4-5 year horizon
  - Establishing better information systems
  - Better local research capacity
- Collaborative efforts for developing and implementing regular monitoring of implementation

# Acknowledgements:

- NPC & DFID
- Study team members
- Project Steering Committee members
- Peer review members
- Advisors
- Data providers: field survey assistants and agencies
- GRM International, EDG & FDM

*Thank You*