



RESEARCH INTO THE LONG TERM IMPACT OF DEVELOPMENT INTERVENTIONS IN THE KOSHI HILLS OF NEPAL

REALITY CHECK APPROACH STUDY REPORT

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GRM International Ltd, in association with the Effective Development Group and the Foundation for Development Management



GRM International Ltd
2nd Floor
Turnberry House
100 Bunhill Row
London, EC1Y 8ND
United Kingdom
Tel: +44(0) 20 7250 0556
Fax: +44(0) 20 7336 8742



**Effective
Group**
Level 6
444 Queen St
Brisbane
QLD 4000
Australia
Tel: +61 7 3025 8500
Fax: +61 7 3025 8555



**Foundation
Development Management**
JDA Complex Level II
Bagdarbar, Sundhara
Kathmandu
Nepal
Tel.: +977 1 4263944
Fax.: +977 1 4259104

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Acronyms and Abbreviations

ADB	Asian Development Bank	KII	Key Informant Interviews
APP	Agriculture Perspective Plan	KIS	KHARDEP Impact Studies
BNMT	Britain-Nepal Medical Trust	KOSEVEG	Koshi Seed and Vegetable
CBO	Community Based Organisation	LFP	Livelihoods & Forestry Project
CBS	Central Bureau of Statistics	MLD	Ministry of Local Development
CEDA	Centre for Economic Development and Administration	NDHS	Nepal Demographic and Health Survey
CEPREAD	Vegetable Production through Centre for Environment and Agricultural Policy Research Extension and Development (CEPREAD), Seed Sector Support Project (SSSP)	NGIIP	National Geographic Information Infrastructure Programme
CFUG	Community Forest User Groups	NGO	Non-Government Organisation
CPS	Community Support Programme	NLSS	Nepal Living Standard Survey
DANIDA	Danish International Development Agency	NPC	National Planning Commission
DFID	Department for International Development	NSCA	National Sample Census of Agriculture
DHO	District Health Office	NUKCFP	Nepal-UK Community Forestry Project
DHS	Nepal Demographic and Health Survey	PAC	Pakhribas Agriculture Centre
DNPWC	Department of National Park and Wildlife Conservation	PAF	Poverty Alleviation Fund
DoE	Department of Education	PCRW	Production Credit for Rural Women
DoHS	Department of Health Services	PHCC	Primary Health Care Centre
EDG	Effective Development Group	PGRS	Pakhribas Gurkha Reintegration Service
EDR	Eastern Development Region	PRA	Participatory Rural Appraisal
EMIS	Education Management Information System	PSC	Project Steering Committee
FCHV	Female Community Health Volunteer	RAP	Rural Access Programme
FGD	Focus Group Discussions	RCA	Reality Check Approach
FHH	Focal Households	SHP	Sub-Health Post
GIS	Geographic Information Systems	SMIP	Safe Motherhood Innovative Project
GIZ	German International Assistance	SNV	Netherlands Agency for Development
GoN	Government of Nepal	SSSP	Seed Sector Support Project
HHH	Host Households	TBAs	Traditional Birth Attendants
HMGN	His Majesty's Government of Nepal	TMI	The Mountain Institute
HMIS	Health Management Information System	TOR	Terms of Reference
HP	Health Post	UNDP	United Nations Development Programme
ICIMOD	International Centre for Integrated Mountain Development	UNICEF	United Nations International Children's Emergency Fund
IT	Information Technology	UNIFEM	United Nations Development Fund For Women
KHARDEP	Koshi Hill Area Development Project	VDC	Village Development Committee
KHDP	Koshi Hills Development Programme	WB	World Bank
KHST	Koshi Hills Study Team	WUG	Water User Groups

GLOSSARY OF TERMS

Bari	non irrigated agricultural land
Chiraita	a medicinal plant (<i>Swertai chirata</i>) found at high altitude and used for relief of fever
Khet	agricultural land which is irrigated and can support crops such as rice paddy
Khetala	local farm labourers
Man	a weight measurement equivalent to 40 kg (elsewhere called <i>maund</i>)
MBBS	fully qualified doctor
Muri	a weight measurement equivalent to about 80 kg (2 <i>maunds</i>)
Parma	system of reciprocal labour
PRA	participatory rural appraisal
Puja	religious ceremony
Raksi	distilled alcohol
Ropani	measure of land equivalent to nearly 32 square metres
Tole	A settlement locality within a ward, the lowest administrative unit. Each VDC is divided into nine wards
Uttis	alder tree

Exchange rates (July 2012)

100 Nepal Rupees (NPR) equivalent to 0.72 GBP (pounds sterling)

100 NPR equivalent to US \$ 1.13

1 GBP equivalent to 138 NPR

1 USD equivalent to 88.5 NPR

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The Reality Check Approach was originally an initiative of the Swedish Embassy in Bangladesh in 2007. The approach was developed and implemented by GRM International through a five year longitudinal study of primary health and primary education (2007-2012).

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Most importantly the Reality Check Approach Team thank the families in the nine study locations of Koshi Hills as well as the pilot study location of Kavre District for their valuable time and enthusiasm to welcome the team members into their homes. They made sure we understood their reality by involving us in their day to day lives including working in the fields, collecting water and carrying loads along trails. They treated us like family members and gave us unprecedented insights into their lived reality.

It is our sincere hope that this study contributes in some way to improving the understanding of policy makers so that policy and practice is better geared to the needs and aspirations of the people of Koshi Hills and the rest of Nepal.

EXECUTIVE SUMMARY

1. The Reality Check Approach (RCA) study is part of a larger study to assess the impact of development interventions in the Koshi Hills area of Nepal over the last 30+ years. The overall study is designed to assess the contribution of government, development partner and private sector interventions on the social and economic development. The RCA component is designed to provide complementary input from people living in poverty themselves and is intended to capture their opinions, perspectives and experience of change.
2. This study is the first time that the Reality Check Approach has been used in Nepal and the first time it has been used in a retrospective evaluation spanning several decades. It has been commissioned by DfID as a complement to the large scale documentary review which was carried out immediately prior to the Reality Check Approach study. DfID's investment in the Koshi Hills was estimated in 2010¹ to be around GBP 170 million (approximately 70% of the total investment by development partners).
3. The documentary study examined all available documents on the Koshi Hills area from the last thirty years including development project documentation, census and other Government of Nepal statistics as well as research studies in order to understand changing trends. A detailed review of land use patterns was also carried out using GIS data. From these reviews a series of hypotheses of change were developed and expanded and provided a basis from which to begin the Reality Check.
4. The Reality Check Approach seeks to understand the views, perspectives and opinions of people living in poverty by spending several nights living with poor families and engaging in informal conversations with them, their neighbours and local service providers. It may be viewed as a 'light touch' participant observation. The RCA is considered to be a useful contribution to the overall study in that it provides contextual and candid information directly from people regarding their particular experience of change.
5. Teams were selected and trained and the method, which has been previously applied in Bangladesh, Indonesia and Mozambique, was piloted in order both to provide the team with experience of the approach and to make any adjustments for the Nepali context. The main study was conducted in nine villages in four districts of the Koshi Hills during April- June, 2012.
6. The main focus of the study was to establish how people experienced change over the last 30+ years, what changes they considered were significant and what their ideas were regarding the drivers of these changes. To this end, the host households included in the study were purposely selected to comprise different generations so that discussions and debate could be facilitated across generations.
7. The RCA was a small scale study involving twenty seven host families, their neighbours and local service providers (in total about 600 people). Like RCAs conducted previously, it does not seek to draw generalisable findings but deliberately explores different family experiences. Thus host families and neighbourhood groupings were selected from a range of ethnic and caste groups but the small numbers and differences of opinion and experience within these groups precluded disaggregation along these lines. Furthermore, the study participants themselves did not couch their experiences in these terms.

¹Coffey and Metcon Consultants, 2010 research into the Long Term Impact of Development Interventions in the Koshi Hills: Data Collection Phase.

8. As the study was designed to explore multiple realities, the research team was cautious about any generalisations. However, careful triangulation of information suggests that there are some aspects of change which are commonly experienced across different contexts. In this case we use the phrase '*all study families*' and mean the host households as well as their neighbours (comprising in excess of 150 households).
9. All study families said that they were better off now than before even in the poorest households in the poorest village included in the study. They pointed specifically to their improved eating habits, that their life involved less hard work and increased disposable incomes which allow them to make household improvements, provide more clothes for the family, mobile phones and pay for education and healthcare. Study families universally indicated that the younger generation has more leisure time nowadays than before even though the team observed some still seem to be continually busy with chores and work.
10. The most significant developments for the study families are ranked as roads, increased remittances, production and marketing of high value crops and access to water for drinking and irrigation. Less mentioned but nevertheless significant developments are the mobile phone, education, livestock improvements, community forestry and a range of social changes improved women's development and inter-ethnic/caste relations). There was more ambiguity around developments in healthcare, the importance of electricity and improved stoves. Governance issues and indebtedness continue to be seen negatively.
11. The driving forces for change were not always clear cut. Major roads were attributed to the Government and British Aid but local roads were regarded largely as community efforts. Increasing migration is a result of new employment opportunities emerging (particularly in the Gulf and S.E Asia) and the (mostly) positive experiences reported by migrants. The growth of the cardamom industry, the major high value crop which has created considerable wealth in areas of the Koshi Hills in recent years, was attributed by study families to enterprising migrant workers who brought back cuttings from the cardamom gardens in Sikkim and buyers searching for new sources to meet growing demand. Water programmes (drinking and irrigation) comprise a mix of attribution by study families to development aid, to charities such as the Gurkha Welfare Trust and school alumni associations, to small grant provision through local government and self-help initiatives.
12. Education status was noted by study families to have changed significantly in the space of three generations and this is said to be initially due to the Government provision of primary schools at ward- level in the 60s (these schools were often referred to as community schools). Government schools now face mixed reaction from communities with some good ones but most were regarded as less good than private sector provision. Similarly, the RCA noted a growing trend over the last 5-7 years for people to '*vote with their feet*' by using private pharmacies rather than Government health posts for health problems which are not addressed through traditional means. Study families noted an increase in numbers of privately owned pharmacies catering to this demand. The private sector is also attributed with the significant penetration of mobile phones, solar panels and agricultural inputs. Despite Government subsidies, people said they prefer the efficiencies and better access provided by the private sector. Agricultural extension was regarded as useful during the 80s but people say it provides little help nowadays. Similarly early programmes of micro-credit were useful as an alternative to the traditional sources of loans but were more lauded for the accompanying education/information programmes (income generation, health, hygiene, immunization, family planning etc.) and opportunities for social capital accumulation than the loan *per se*. Now, these group-based arrangements are said to have been reduced to loan management only and people miss opportunities to access information and advice. Generally, people complain of a lack of

information and advisory services whereas there were a range of better sources before (10 +years ago).

13. It is significant that neither migration nor the production and marketing of high value crops received much attention from either development partners or Government until very recently. The fact that people in Koshi Hills have been highly mobile for generations is an important element noted by the study participants contributing to the diffusion of ideas and innovations and the development of aspirations beyond agriculture. Study families often attributed the innovations they had made to 'word of mouth' from experiences gathered from experience abroad or in market centres or from individual 'entrepreneurs' within their communities whose self- propelled experiments led to uptake by others.
14. Analysis of the findings by the RCA team and advisors suggests that RCA provides a 'light touch' means of getting closer to how people view change. Change was discussed in the wide context rather than with a project or sectoral lens and this has helped to understand the relative importance of different changes and the significance of change within complex and diverse lives. The information provided has special value since it is obtained through spontaneous conversation with individuals which avoids some of the biases associated with conventional evaluation and group processes.
15. The hypotheses developed by development practitioners and academics to explain change in the Koshi Hills tended to give special significance and attribution to development interventions but this study has shown that significance is also given by the people in Koshi Hills to the diffusion of ideas from exposure through migration (e.g. to grow and market cardamom) as well as the incomes provided through remittances and to self-help initiatives within communities. Whilst the strategies underpinning much of the development were premised on Koshi Hills gaining economic development through increasing agricultural production, people tell us that their aspirations lie more in the '*ideals of urban society*' and considerable family investments in education are geared to ensure better employment opportunities for the next generations largely outside of agriculture.
16. It is also noted by the research team that in much of the development planning, little attention has been given to systemic problems which study families noted as constraints to development such as legislation, corruption and bureaucratic inefficiencies Furthermore, other problems such as chronic indebtedness and alcohol abuse within families and communities which many study families indicated had hindered their development have not been adequately addressed

1. INTRODUCTION

1.1 This Report

This report presents the methodological approach and findings of the Reality Check Approach component of the larger study on the Long Term Impact of Development Interventions in the Koshi Hills of Nepal. It should be read in conjunction with the other outputs of the study and is intended to complement these. As far as possible the report presents the perceptions of people living in poverty with minimal authorial voice or interpretation. Quotes and photographs are used throughout to illustrate the points made by people themselves.

1.2 Background

The RCA study is part of a larger study to assess the impact of development interventions supported by a range of actors, including Government, donors, NGOs and the private sector, in the Koshi Hills area of Nepal over the last 30+ years. The research is designed to assess the contribution of these interventions on the social and economic development of the Koshi Hills area.

The specific objectives of the larger study are twofold:

- To quantify and characterize the economic and social changes in the Koshi Hills over the last 30 years and in so doing assess the impact and contribution of the different development interventions to these changes.
- To test and assess the validity and rigour of methods that can be applied to retrospective evaluations of long-term aid within wider contexts of development investments to help provide guidance on how to undertake such studies in other countries and sectors.

The results of the larger study are intended for use by the Government of Nepal and its development partners to better understand the longer term processes and factors that lead to sustainable development in the rural areas of Nepal, thereby improving the design, sequencing and overall impact of future development programmes.

The Inception Report noted that the research would focus on the following key research questions in order to measure the impact and the contributions of the external interventions in the Koshi Hills in bringing about social and economic changes in the area.

- What are the long-term economic and social impacts of the different development interventions in the Koshi Hills area at the district, community and household levels?
- What factors explain the differential impact of various interventions on district, community and household level outcomes?
- What are the key mechanisms that have influenced social and economic changes over the past 30 years in the study area?
- How successful have the development interventions that have taken place in the study area been in promoting equitable economic growth and inclusive social changes among the population of the study area?
- What are the perceptions of the residents of the study area in terms of changes in their social and economic life conditions and opportunities?

The overall study comprises a number of different elements including;

- Detailed review of changing land use patterns using GIS technology and, in particular comparing 1986 and 1996 data sets
- A detailed review of existing documents on the area, notably development project plans and evaluations, census data and other government information
- The RCA study
- Series of validation workshops and forums with development professionals, civil servants and other stakeholders.

The RCA has been carried out with the intention of directly interacting with people living in poverty in the Koshi Hills for whom the development programmes were designed. Through conversations with different generations it was anticipated that a beneficiary-view of the development process in Koshi Hills could be assembled. The RCA is best understood as a '*light touch*' participant observation where study team members live for several days and nights with families living in poverty and interact with them, their neighbours and the local service providers.

The study has been conducted in the four districts of Koshi Hills selected for the entire study, namely Sankhuwasabha in the mountain region, and Bhojpur, Dhankuta and Terhathum in the hills region. Each team member lived with three families in three different locations, staying with each family for between four and five nights. During this time the team members shared in the daily life of the family and engaged in informal conversations with all generations of the family as well as neighbours and relatives. The teams also engaged informally with service providers in the village and nearest market towns.

1.3 Methodology in brief

A more detailed methodology is provided in Annex 1.

The study was undertaken in four districts of the Koshi Hills and in nine villages/hamlets. Study team members stayed individually in the homes of 27 host households living in poverty for between four and five nights. This provided opportunities for many conversations with different family members, their neighbours and different local service providers (teachers, local businesses, health and agricultural extension workers etc.).

Site selection

Villages were purposely selected from all four districts of the Koshi Hills, based on the following criteria:

- Significantly changed land use patterns (from forest to agriculture or vice versa)
- Remoteness
- Whether it had been a Koshi Impact Study site in 1980-85
- Main livelihood

The villages identified based on these criteria were visited in advance of the study by some of the team members in order to gauge whether the selection was appropriate and would provide the ***diversity of experience*** of development the study required. During these visits, they talked with people in the village and walked round the village to get a sense of the socio-economic mix of households and livelihoods. Although some households were identified as potential host households, the final decisions were left to the teams themselves when they came to carry out the actual study.

Host Household selection

Team members intended to select 27 households which represented the poorer families in the village/hamlet but found that some of the criteria they applied were quite misleading (see Annex 1 methodological limitations) and in the end HHH represented a broader mix of socio-economic groups

than just the poorest. Where possible, host households were selected which had multiple generations living together. The study team was also cognisant of engaging a range of ethnic/caste groups and purposely stayed in HHH from different backgrounds. Each team member stayed with their own HHH for a period of four to five nights. Details of the HHH can be found in annex 4.

Other study participants

In addition to the HHH, the research teams interacted with the HHH neighbours, involving a further 4-5 families in their conversations. Opportunistic conversations were undertaken with local service providers including teachers, pharmacists, formal and informal health providers, shop keepers, bar proprietors, finance providers, transport providers etc. At least 600 people participated in the study.

Approaches to gathering information

The RCA relies mostly on **informal conversations** but is also benefited from observation, experiential immersion and use of visual techniques.

Conversations were conducted at different times of the day/evening and with different constellations of household members and their neighbours and relatives throughout the period of the study member's stay. Conversations have the advantage over interviews and some other participatory approaches of being two-way, relaxed and informal, and can be conducted as people continue with their chores and other activities (with the study member helping where appropriate) and so keeping disturbance to normal routine to a minimum. The study adopts the principle of sensitivity to people's routines and flexibility in relation to timing of conversations.

Visual tools. A range of visual approaches such as mapping, diagramming, dramatisation, and illustrations (drawings and photographs) were used to supplement and extend conversations. These approaches, many derived from the PRA family of tools are used to assist the conversations, rather than as a goal in themselves, often serving as an ice breaker as well as a useful means to provide easier and more comfortable ways for the families to share ideas.



A Farmer drawing a map to show change (Sudap)

Observation. As the team members spend several days with their host families, there is ample opportunity to observe and experience day to day life. Inter and intra household dynamics can be understood and provide important contextual information for interpreting conversations. Living with host families builds trust and informality is promoted providing the best possible conditions for open communication.

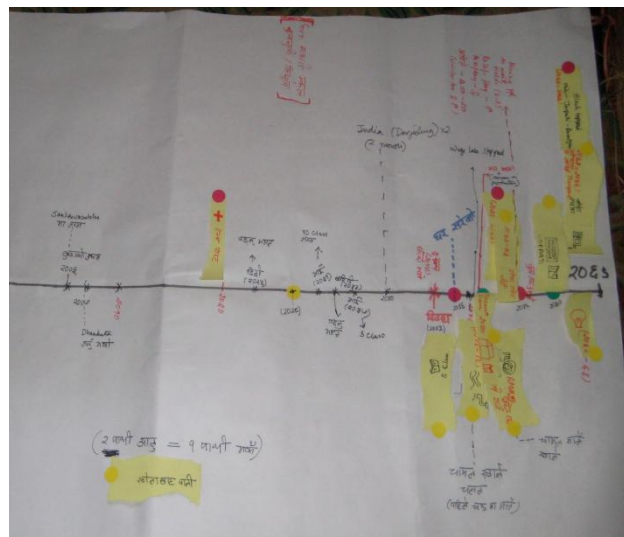
Immersion draws on recent ideas about experiencing reality' where 'outsiders' live with households living in poverty and, to some extent, experiences their day to day life. It provides the team with opportunities to understand the context, live (to some extent) other people's reality, experience the community dynamic both in the day and the night, observe coping strategies and witness unintended interpretations of programmes and the difference between knowing and doing.

2. MAIN FINDINGS

Engaging people on thinking about change.

'That is a stupid question, nothing changes' (woman Siddheshwor)

This study represented the first time that the RCA has been used to review change retrospectively over more than a one to five year span. During conversations we asked people what changes had happened in their lifetime and what significance these changes had for them and their community. Where possible, we purposely stayed in households where three generations lived in order to engage these different generations in reflection on change and to encourage them to debate positive and negative change amongst themselves. In order to get a sense of the time-span over which people were reflecting, we anchored discussions to dates they knew well such as their children's birth years, significant natural disasters, before/after the advent of major roads and the various political periods.



Timeline of change developed by the HHH (Parewadin)

Most change noted was recent change and initially we were concerned that people's recall beyond twenty years was limited. However, lengthy conversations with elderly persons suggested that they could recall very well and that what we were experiencing was the fact that the pace of change has quickened in the last two decades and these changes were the ones which were regarded as significant. Nevertheless as the opening quote suggests, for many change was not something they felt was happening to them in their community. As an example this particular lady was finally able to express less negativity when her husband prompted her that the road had made a big difference.

2.1 Poverty

Hypothesis: *development interventions improve the wellbeing of people, including alleviation of poverty².*

Various economic studies referenced in the Documentary Report indicate that the incomes have quadrupled between 1995 and 2010 in the Koshi Hills and *per capita* income growth at constant prices exhibits higher growth than the national average (2.5. cf 2.0 nationally)

² Research into the Long Term Impact of Development Interventions in the Koshi Hills of Nepal, Summary of the Documentary Report, April 2012

Table 2: Average HH income in the RCA study districts

District	Annual Household Income (NRP) 2010/11
Dhankuta	169418
Terhathum	171812
Sankhuwasabha	140804
Bhojpur	121177
All Nepal	202374

Source: NLSS 2010

Without doubt, all study families participating in the RCA felt that their economic position was better now that it had been before, even among the poorest households in the poorest village. They attribute this largely to cultivation and successful marketing of high value cash crops and the employment opportunities created through education. These opportunities include employment in town and city centres in non-agricultural jobs as well as international employment. This correlates with the NLSS survey data which indicated that the contribution of remittances to household incomes increased tenfold between 1995 and 2010. Economic improvements were demonstrated to the study team in terms of asset accumulation (new roofs, house improvements, electrical goods, more clothes) as well as better food consumption. They explained that they have largely moved from subsistence agriculture to a position of being able to purchase '*at least the rice*' needed for consumption. Whilst some economic change may be attributable to development interventions, as the report will reveal much has other drivers.

In addition to economic improvements, people told us that '*life is less hard now*' meaning in most part less physically demanding and pointed to the younger generation having more leisure time. Following field work, the team analysed the multi-dimensional nature of relative poverty of their different study locations based on the field conversations and own observations and noted the following attributes which characterise poorer/ better off communities;

Table 3: Characteristics of poorer/better-off communities noted in the RCA

Poorer communities	Better-off communities
Low food production	Own paddy production
Less good access to roads	Good access to roads and market hub
Little commercial /high value crops	High value crop production (e.g. cardamom)
Less education (primary level attainment)	High value put on continuing education to higher levels
Migrant workers in low income jobs	Migrant workers often with good wages (related to social networks and better education levels)
Basic household assets	Solar panels, TV, dish antennae , water tanks plastic, CI sheet roofs
Highly indebted	Disposable income for land purchase, assets, education, consumption, payment of loans etc.
High alcohol consumption & feelings of frustration/hopelessness	Mixed levels of alcohol consumption , optimism and entrepreneurship

Num provided exceptional insights into what propels a poor area into a better-off area as its profile described by study participants would have fitted elements of the left hand column of **Table 3** 10-15 years ago (and continues to have extremely poor roads) but since the success of cardamom farming

now manifests several of the criteria in the right hand column. In this case, cardamom is regarded by the families we interacted with as a single driver of change but in other villages the drivers are multiple.

Table 4 provides a relative ranking of the RCA sites developed by the team based on detailed post field -work analysis of the perspectives of the study participants and their own observations.

Table 4 Post field work ranking of RCA sites

Economic Ranking	Hamlet within VDC	Why?
Poorest	Budhabare	Poor road access, low wage foreign employment, poor nutrition, subsistence farming, less education (very poor Government primary school) high alcohol consumption
	Yaku	Limited commercial agriculture, relatively poor road access, poor access to water, poor access to irrigated land (limited possibilities for agriculture- maize and millet)
	Morahang	Remote, rain-fed land so only cash crop is potato, high indebtedness, high alcohol consumption
	Sudap	Remote, mostly traditional crops (little cardamom)
	Num	High value cash crop (cardamom), thriving market hub (resulting in in-migration)
	Siddheshwor	High level of commercial activities, good nutrition, high level of asset accumulation
	Jorpati	On main road, high vegetable production, in-migration starting
	Bokre	Good road access, high vegetable production and other high value crops (e.g. cardamom), diversified livelihoods,
Least poor	Chainpur	High level of remittances, many amenities (schools, health, government service centres, good road access, diversified livelihoods

The characteristics of well-being in the right column of Table 4 illustrate how development changes have multiple and inter-related causes and explanations and there is no single theory of change. The conversations with people living in poverty during the study attempted to unravel key elements of change and the causes to shed light on the different drivers of change. Having completed the RCA in each of the nine locations, a review of conversations with F/HHs led to a ranking of the most significant developments in each location. There was a high level of commonality across locations among the most significant developments Table 5 provides information on the most frequently ranked developments

Table 5: Most important changes according to people living in poverty

Development	Weighted score ³	Mentioned as first priority
Road	41	In 6 locations
Remittance from migration	30	In 4 locations (joint in one)
High value crops	21	In 2 locations (joint in both)
Water (both drinking and irrigation)	14	None

The findings are initially presented in the report in this priority ranking order. However, it was not as easy to rank other developments such as mobile phones, electricity and education and health as there were variations within locations whilst the top four were largely unequivocal. These other developments are discussed in presumed ranked order but this ranking is less certain than the first four.

2.2 Roads (Ranked first)

'Before when looking for a marriage prospect for our daughters we noted livestock ownership ... we used to say we wanted 'someone who could gargle with milk and wash their hands in lassi'. But now we check to see if the prospective household where our daughters will stay is connected to the road' (Father (Tankhuwa)).

Hypothesis: provision of roads is a catalyst for both social and economic change but also creates opportunities for exploitation of local resources and facilities in the Koshi Hills⁴.

In the RCA study, in all locations and among all adult generations the advent of roads is consistently noted as a hugely significant development over the last forty years and is often cited as the most important. Whilst the rationale for this choice is mostly linked to economic and time-saving reasons there is also the notion of being perceived as *'less backward'* when connected by roads.

'It was very good to be able to bring my new daughter-in-law to our village by car' (shopkeeper, Yaku).

Various Road Impact studies have noted:

- Increased HH income for road construction groups.
- Substitution of traditional portering and use of mules by motorised transport
- Substantial savings in transportation costs (motor transport 70% less)
- Replacement of subsistence crops with vegetables particularly along road corridor
- Commercial importance of some towns Increased while others decreased because they were by-passed.

Distinction needs to be made in terms of the types of roads people refer to but basically all levels of roads are highly valued. It is tempting to dismiss any advantages of some of the roads we experienced in the rains as journeys are extremely difficult and hazardous or roads become impassable but nevertheless the alternatives of *no road* were said by study participants to be far worse.

The map indicates the chronology of the road network and the types of road constructed to provide context for what people told us.

³ From each location the team deduced a priority ranking based on their conversations. The rankings were weighted so that an overall score could be obtained across the locations. This must be seen as indicative rather than absolute priority ranking.

⁴Research into the Long Term Impact of Development Interventions in the Koshi Hills of Nepal, Summary of the Documentary Report, April 2012

The Dharan-Dhankuta road is a 52 km highway constructed in between 1972-77 with British Aid and was the first access road in the Koshi Hills area. It is referred to by study participants as the '*Thapa road*' throughout Dhankuta and we heard the same (apocryphal?) story that the road had been intended for Dhangadhi near the Indian border in West Nepal but Mr Surya Bahadur Thapa (later to become Prime Minister), had intervened and changed the name to Dhankuta, his home district. Few we met attributed the road to British Aid although links were made with the fact that the British Army camp (Ghopa Camp) which was a centre for recruiting soldiers into their Gurkha Regiment was located in Dharan. The road took four years to build which was considered by the study participants to be a long time but we heard several people tell us that they were '*proud it was all built by our own labour*', (man, Jorpati).



The tractor is trying to move the landslide and make the road passable

Beyond Dhankuta District significance was given to the roads which linked them to the Dharan–Dhankuta road. The first was a continuation of the road north to Hile and then extending further north to Basantapur (in Terhathum) in the 90s. This was extended east to Tumlingtar and into Sankhuwasabha district and to our most northerly study location, Num. The most recent all-weather road connections have been made to Bhojpur, with the first access road constructed in 2005.



'We got stuck so many times trying to get to our study site' in a British Aid Landrover 110

Table 6: Study locations and road access

VDC	District	Road access	Date of access	Distance from District headquarters
Parewadin	Dhankuta	Near KH highway	Extension of Dharan-Dhankuta road in 2002	25km
Budhabare	Dhankuta	Very remote-earthen road only	1979 gravel	76 km
Tankhuwa	Dhankuta	On KH highway	Extension of Dharan-Dhankuta road in 2002	20 km
Sudap	Terhathum	12 km from KH highway	Sidhuwa-Sukrabare, 1998	50 km
Morahang	Terhathum	10km from KH highway	Feeder road (Jirikhimti to Mangalbare in Ilam) 2006	25 km
Num	Sankhuwasabha	Earth road Biratnagar-Kimathanka	GTZ 'food for work road 2003, upgraded by RAP in 2008	40 km
Chainpur	Sankhuwasabha	On KH highway	Extension of D-D road in 2005 (black top) but because of frequent landslides the road being repaired under ADB	35 km

Yaku	Bhojpur	6km from Hile-Bhojpur - Diktel road	2006	22 km
Siddheshwor	Bhojpur	Near Hile-Bhojpur-Diktel road		10km

Older people recalled what was like before the Dharan-Dhankuta highway when everything had to be portered along trails. Mostly men but some women as well walked between 1 and 5 days to reach Dharan, taking maize, butter, potatoes and some spices and collecting salt, rice, sugar, oil, nails and clothes for their families and others in the village. They said they carried loads of about 50kg and made between six and ten trips per year. The Documentary Report notes that before the road there were 6000 porters a day passing along the trails to Dharan⁵.

'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' (man 30s, Siddheshwor)

As a first response to the advantages of the roads, many told us that *'we eat rice all the time now'* rather than the occasional consumption at special occasions in the past. Indeed all our study families ate rice every day we stayed with them and insisted this was the norm only occasionally bulking it out with maize. Rice is easier to prepare than maize (the old traditional staple), people say they have to chew it less and suggest that there is also a status associated with eating rice. The statement that they *eat rice all the time* refers not only to the possibility to bring rice into the area in large quantities but the increased purchasing power of households at least in part resulting from increased market access for their products.



Indian vehicles on very bad road to Num.

The opportunity to sell agricultural produce in larger quantities and with less spoilage remains a major and significant impact of the roads and continues to be the prime rationale for extending the road networks further. This means that the following sections in this report on agricultural developments need to be understood from the perspective of the parallel or pre-cursive road development.

The documentary report notes that vegetable production doubled between 1975 and 1996 and the current ADB project (Commercial Agriculture Development Programme) continues to emphasise roads which enable access for the marketing of high value crops. In our study sites close to the KH highway in Dhankuta people told us that vegetable production is hugely successful. Milk production and transportation has also been an important development for some villages, particularly those within 30-60 minutes walk of motorable roads.

⁵ Documentary Report p137 citing survey data from 1975.

Box 1: Marketing and purchasing goods

'We used to walk to Hile at night with the potatoes to sell. It took 8 hours and we would have to get there in time to be selling at 10 am. Most important are the feeder roads built by us three years ago so tractors can carry the vegetables'
(man, Parewadin)

'Salesmen come to the house to buy cardamom and broom grass. We do not have to carry to them, everyone comes to us. We produce timber and traders come to the roadside. We are happy we do not have to carry any more. Life is easy now'.
(man, Budhabare)

'We make orders from the town shops and the tractors collect it for us and bring it to our houses'
(woman, Morahang)



A thriving Thursday market serving four VDC areas. Two to three years ago it became more lively largely because of the increase in remittances to this area. People from Jirikhimti now collect vegetables, fish and a wide range of other goods from the Terai on Wednesdays to sell on Thursdays. They then go on to other bazars in the area. Market sellers told us that they have responded to the demands of the people in the

road as well as to the district headquarters in Bhojpur. The main advantage we were told is that people can transport livestock and maize out and bring in other goods.

In Num, which is considered remote and where there is poor earthen road access (see photo), people still indicated that the road was a key development with the sentiment that 'something is better than nothing' often shared with us. Our team experienced the problems first hand as they had to walk for seven hours as no vehicles would ply the bad road beyond Gogane Chikuti in the rains (see photo). Nevertheless so important is some kind of access that the arrival of the excavators two years ago was greeted with a *puja* celebration. Here cardamom production and marketing has transformed the economy and provided households with disposable income.

People in Morahang spoke of their feeder road which connects them to Jirikhimti as 'our lifeline' and as a result 'everyone eats rice'. Only tractors can use the road in the rainy season but residents make orders for their needs from Jirikhimti (west of Morahang) and these get delivered to the village by tractor. This means they no longer have to walk 3-4 hours. In the dry season the road is opened up to landrovers but no other vehicles can manage the difficult terrain. The Sudap road is also only earth but links to Sukrabare 3km away where road improvements two years ago now support a twice daily bus route connecting to Dharan for a cost of 500 NRPs transforming a one way journey which used to take 2 days before the roads to one which takes 4-5 hours.

A RAP road still under construction provides access to people in Yaku to the Dharan-Dhankuta



Consumer goods such as cosmetics and underwear now readily available in the market (Morahang)

This new consumption lifestyle has led to Num developing as a thriving market place in what had been a sleepy village (see 4.3) to satisfy the growing local appetite for goods. Inhabitants expressed a hope that the road would be extended to the Tibet border to extend their business links and bring in cheaper goods. In the meantime households make regular trips to Khandbari (the district headquarters, 40km away)

Even in Chainpur where the impact of the road has been mixed as travellers are said to by-pass it in favour of bigger market centres such as Dharan resulting in a number of shops closing and an estimated drop in trade of 75%⁶, the road access is still considered to be the most important development. Access to health services and education opportunities (particularly tertiary level) in Dharan are particularly valued. When the first bus came to Chainpur in 2008, it was welcomed with crowds and garlanded. As in Num, Chainpur residents make orders for supply of goods by tractor.

Several of the villages near to the roads are expanding fast (see photos) and people specifically pointed out this change which has mostly accelerated in the last 5-8 years. In Jorpati there are about 25 shops whereas before the road (25 years ago) we were told there were only two. Another ten are currently under construction and some land has been sold recently for a pharmaceutical factory. The cement factory built three years ago in Sindhuwa employs some 60 people and tractors bring rocks from the river-bed up to the factory daily on local community roads.



Empty shops in Chainpur. They were busy 7 years ago but since the road people by-pass this bazar

'The road brought the Indian market to us' (father, Jorpati).

Goods and services which are now easily accessed and were emphasised by the people we engaged with are;

- LPG⁷ is supplied to many of the businesses and homes (notably Chainpur and Num). People say they cook with it as it is *'cleaner, quicker, more convenient and cooking pots are easier to clean'*
- Chicken manure from the Terai, especially in Dhankuta for vegetable production
- Construction materials -especially in Num, Jorpati and Chainpur where there is much house construction and in-migration but also for upgrading houses (e.g. CI sheet roofs)
- Consumer goods; e.g. plastic utensils, satellite dishes, solar panels, plastic water tanks, clothes, snack foods, batteries
- Easier access to collect remittances and to banks
- Transportation of firewood by tractors (people now keep stocks at home and hire a tractor once or twice per year)
- Hybrid livestock transported in to the area by truck from Ilam and other places.
- Access to schools and colleges

⁶ Our observations of transactions confirmed that Chainpur seems very quiet (e.g. in comparison with Num) and we were told that it is the presence of the district court which *'keeps Chainpur alive'*. Tourists used to come through but these no longer come this way even to buy the renowned brass work.

⁷ A cylinder costs 2000 NPR compared with the price in Kathmandu of around 1,500. Old traditional stoves are being used as tables now.

Whilst the rationale for building roads was originally linkage to district headquarters, these study participants did not indicate that the administrative services that can be availed at district headquarters were the main reasons for their visits but rather market linkages and social visits. Visits for arranging passports, citizenship papers, tax payments, land registration and other legal documents we were told are very infrequent needs and people suggested they would not mind (would accept) if these entailed long journeys. Similarly access to health facilities was not often noted as a primary advantage. This is partly because people continue to rely on local informal health provision and increasingly local private health care (e.g. through increasing presence of private pharmacies/medicine shops) and because transporting patients remains problematic. Rather it is the ease of movement of goods which is paramount to assessing the value of a road to inhabitants.



Tractor brought six months' supply of firewood to the house (Morahang)



Woman on stretcher taken to the Health Post and then on-referred to Jirikhimti; another four hours walk.

Box 2: Old man's reminiscences

The eldest member of my host household in Siddheshwor said he was 103 years old. Despite his poor hearing we were able to have several conversations about changes he had experienced in his life. He said that life in the past was very difficult. Before the roads it used to take them 10 days to walk to Dharan and back. They would trade farm produce for salt, kerosene and clothing. He had to take his livestock high into the mountains for grazing, living for long periods away from home. He said the road had made a huge difference as all the goods they used to have to collect be now readily available in the village. They have a water tap within the house compound, electric rice mills in the village and solar power in the house. He said life is *'much easier now.... I can even get my cigarettes any time from the shop just down the road'*

Field Notes, Bhojpur

Land price increases were noted in some areas as a result of road development. In Chainpur, the plots around the old town have been recently demarcated with a view to re-sale and land is said to have increased by 20% attributed locally to the 2005 road construction. In Num the land prices have reputedly tripled their value 8 years ago and land is in much demand as business booms as a result of the cardamom market rather than a direct result of the road access. In Parewadin people said they did not mind giving up their land for the roads because they expected land prices would increase and this speculation seems to be holding true.

Mules are still used in some areas and in some areas such as Num there is more demand than supply⁸. Porters are often



Mules still much in demand in Num particularly as there is much house construction.

⁸We noted that mules had to be pre-booked and were used extensively to carry cement, beer and rice) out of Num to villages accessed only by trails.

difficult to find⁹ In Parewadin mules are still used to transport milk. But otherwise the numbers of mule porters has declined considerably.

People sometimes also noted the benefits of waged labour on the roads although this did not come across strongly and there were stark differences in different locations depending on the availability of alternative income generating activities. For example in Num, people were not interested in employment on the roads as their incomes from cardamom preclude this necessity. As a result, the current road construction activities are employing workers from the lower Terai and, we heard, Bhutanese refugees.



Construction workers from India and the Terai living in temporary accommodation to work on the roads. Local people in Num do not want to work on the roads.

participants and 'with earning less than 60NRP per day 'how could they possibly make any savings?' (man, Jorpati) we were told that workers on the RAP feeder road to Bhojpur were paid 400-500 NRP per day¹⁰, were provided with one year long contracts and were able to 'buy land and build houses with their savings'. Others talked about Food for Work programmes in the 80s where they would be 'compulsorily' contracted to work for 5 days each and 'earn' 4kg rice per day.'

Even the contractors are not local. The feeder road in Morahang had employed only a handful of local people as unskilled labour (all the skilled labour was from outside) and we did not meet any. We were told that the work was divided into lengths and contractors from outside organised labour by *tole* but as one of the HHH told us, 'there were no others but me in the ward interested so I did not get the work and forgot about it'.

The current road employment arrangements (e.g. by RAP) seem to be regarded by people who knew about it as much improved over earlier ones. Whereas the wages and conditions for workers on the Dharan-Dhankuta highway were described as 'pitiful' by several study



Landrovers provided by British Aid in the 80s are valued as important taxi

In Siddheshwor we were told of an NGO which currently organises ward-based labour groups and facilitates payment of 500NRP per worker per day on behalf of RAP. In Chainpur a contractor told us that unskilled workers were being paid between 300-500 NRP and a skilled dalit worker confirmed he was being paid 700NRP per day but said the work was seasonal and felt the wage is low considering the cost of living. We often heard people scoff at the road workers who are said to 'work six days and spend their entire earnings on alcohol on the seventh day'. The time taken for 'green road' construction was a cause for concern in many areas and in some (e.g. Siddheshwor), this impatience has led to the introduction of excavators, which people say are a mixed blessing as they increase erosion.

A major benefit accruing from the British Aid projects noted by study participants and our own observations was the auctioning of the Landrovers after the closure of the projects. We were told that about 70¹¹ Landrovers are still plying the Koshi Hill routes as taxis and the vehicles'

⁹ e.g. Our team in Chainpur had convince a porter to assist them and had to pay 1000NPR for 5 hours work

¹⁰ By contrast average daily wages for unskilled agricultural labour in the area are around 150 NBR

¹¹ 25 older Series 3 versions and 45 110 versions (first manufactured in 1983)

value remains extremely high¹² (an indicator, we were told, of their earning potential). These are mostly owned by business people who consider themselves 'very lucky' (e.g. Morahang).

We were told that community road construction always require the cash and labour contribution of households and the VDC or DDC may provide support for provision of excavators if needed. Box 3 notes some different ways in which community financial contribution is raised in many villages we were told of the system of categorising households based on wealth and charging these different categories different rates. A preferred system was based on road usage (e.g.in Sudap those with tractors or wood to transport contributed more) particularly because heavily loaded tractors destroy the road but this was less common than the wealth ranking system (e.g. In Morahang the ward leader categorised households based on wealth and made differential charges).



A man from each household provides voluntary labour to maintain the road (Chainpur)

A third system involves charging those with more of the road to use (i.e. at the far end of the road) more (e.g. Budhabare). The organisation needed for local construction was described as efficient and people did not grumble about their contributions. However, the systems for maintenance seemed often less well organised. In parts of Jorpati, for example, the road had been destroyed by rains more than a year ago making it impassable even by motorbike.

Nobody we spoke with offered any suggestion about how they might be repaired or who was responsible for maintenance.



Milk is transported by head to Sukrabare. Five people carry it every day and get paid 180 NRPs for the return 2 hour trip.

Milk is still often carried by head as the roads in many areas are not passable all year round. We were told in Jorpati, *'This way is cheaper and not weather dependent. It is an important way to make an income for these people'*.

There are also some negatives associated with the roads but one person echoed the sentiment of many when asked if there were any negative aspects of the road saying , *'No, No ,No and many times No'* (woman, Budhabare).

The following issues were, however raised:

- Maize is now given to pigs as there is no market (Budhabare, Siddheshwor)
- No compensation for giving up land although most HH were philosophical about this and indicated that the overall benefits outweighed the dis-benefits (noted in Budhabare, Num)
- Motorcycle accidents increasing (Jorpati, Parewadin)¹³ as well as other road accidents¹⁴
- In-movement of diseases (crops, livestock and human)¹⁵, Problem of dust from the road in the dry season (Jorpati, Parewadin, Num)

¹² We were told that one 30 year old landrover had recently sold for 15 lakh NRP (equivalent to just over £10,500)

¹³ Some people also told us that they avoid taking buses as they are scared of road accidents and continue to prefer to walk

¹⁴ *'I won't risk my life riding the bus'* , one HHH mother tells us so prefers to walk 3hours to get to Hile.

¹⁵ Health workers we spoke with in the course of the RCA indicated that STDs, Filariasis, acute respiratory infections had increased as a result of increased mobility. Many farmers told us that the diseases affecting the cardamom, broom and ginger crops had come from the Terai or Sikkim and were facilitated by road access,.

- Concerns about increasing crime and tricksters *'from outside'* (Jorpati and Parewadin)
- Road excavation destroyed water lines (and no compensation paid) (Num)
- The high wage rates paid to labourers on the roads has made it difficult for ordinary households to get day labourers for agriculture (Siddheshwor)
- Increasing consumption of snacks, sweet aerated drinks and alcohol- considered by several in the study as a *'bad thing'*.



Some people are not willing to give up their land for the road

As noted in the 2011 Rural Access Programme report, this study also heard many complaints about the slow progress in the construction of roads. With increasing consumerism and recognition of the potentials of selling, in particular, high value crops many people in the RCA study were anxiously anticipating expansion of the road networks and impatient for further improvements.

2.3 Migration and remittance (Ranked Second)

'Why do hard work? I'll send you money so you can just buy the things you need ', reported comment of son working abroad to his farming parents, Chainpur

'We even have to hire people to carry corpses these days as there are no family members left here to do this' (young man, Chainpur)

'People who work abroad can buy what they like' (woman, Siddheshwor)

'Before we used to be hungry and wore patched clothes. Now this has changed, why? Because of foreign employment' (man Siddheshwor)

Hypothesis: Migration has increased household incomes but has also resulted in a shortage of labour to farm and an increase in burden¹⁶ for those left behind and/or increased migration to urban areas (for education, lifestyle reasons) and increased return of agricultural land to fallow land.¹⁷

Box 3: Community-financed roads

In Jorpati, we heard of a road which was constructed by the community in 2007. There was no Government grant and so the houses in the area were categorised according to 'ability to pay'. A category paid 10,000, B paid 5,000 and C paid 2,500. The road took a year to complete and maintenance is arranged by each household providing one day labour per month or they are liable to pay a 200 NRP fine.

In Budhabare, the road was constructed through community effort with those at the top end of the road contributing 10,000 NRP and those at the near end 2,000 NRP.

In Parewadin, the community road was constructed in 2009 and is regarded as *'the most important road for us'*. Each household contributed 8000NRPs and labour. They continue to maintain this road as getting *'tractors in and out to the main road has made so much difference'*

¹⁶ Though may also increase women's empowerment as they are left to manage farms and families.

¹⁷ Hypothesis developed in Long Term Impact in Koshi Hills workshop held in April 2012

It has been reported by the World Bank (2005) that remittances accounted for only 3% of Nepal's GDP in 1995 but 12% in 2004¹⁸. The same report concludes that *'almost 20% of the decline in poverty in Nepal between 1995 and 2004 can be attributed to increased work-related migration and remittance inflows'*. The Nepal Living Standards Survey notes that the proportion of households receiving remittances nationwide *increased from 23% to 32% over the same period.'* Recent official figures put the contribution of remittance to the economy as between 18 and 20% of GDP (see Virgo, 2011). The most recent Nepal Living Standard Survey (III) indicates that remittances now account for 19.3 % of GDP and that over 55.8% of households depend on remittance (compared to 23.4 % in 1993/4).

The World Bank Report (2009) cited in the Documentary Report (p 200) discusses the *'culture of remittance'* which refers to the familiarisation over generations with migration as an economic option. Nepalis were recruited into the Gurkha Army of the East India Company nearly 200 years ago and even larger numbers were regularly migrating to northern India throughout the nineteenth century.¹⁹ The RCA confirms this notion as many of our study households described successive generations migrating long term or seasonally in search of work.

We were told that the nature of the migration has changed with much of the earlier migration being to Sikkim and northern Indian states for work in the tea, cardamom and ginger plantations, as porters or in coal mines. There were also those who migrated to market centres in Nepal to work as porters as well as an established route into the British and Indian Army. After eradication of malaria from the Terai in the '50s, the expansion of agriculture there, we were told, provided increased opportunities for seasonal work.



Many money transfer agents in Sukrabare

We were told that three changes have taken place since the 90s. The first is the age demographic of those going abroad. It is now mostly the younger men (in their 20s and 30s, unmarried or newly married) who go abroad whereas previously men would continue in the Army until reaching pension age or work well into their 40s and 50s in Sikkim. The second change is the work destination as most now are employed in the Gulf States and South East Asia. The third change is the huge cost associated with going abroad whereas it was relatively cheap to go to Sikkim in the past.



Many manpower agencies and remittance services in Chainpur.

Migration, we were told, increased significantly from the late 90s when regulations became easier but also as a reaction to the Maoist insurgency when young men fled to avoid being forced into the rebel forces. While numbers of women migrants are still low (we came across about six from our HHH²⁰), the trend seems to be increasing and many of the girls we met indicated that they would consider going abroad to work.

Contrary to other studies the RCA findings do not support the idea that the current reason people migrate is mainly because of the paucity of land and declining productivity. With the exception of our villages in Budhabare where the soil fertility is regarded as poor, reasons shared with us relate to new aspirations and a rejection of

¹⁸ World Bank , 2005

¹⁹ Fitzpatrick, Ian Carlos , 2011 'Cardamom and Class' p207

²⁰ Often our HHH and FHH did not know what exactly the female family members did abroad. Those who did, said vaguely it was some form of health or care service. This was in contrast to the knowledge about what the male members were doing which was usually rather clear.

working in agriculture. In less than 1 in 10 of our host household families did either the parents want for their children or the children themselves want to remain in agriculture. Work abroad is widely considered as easier and incomes are better. There is also a perceived status associated with working abroad and a prevalent perception that households with migrant workers are more likely to own assets such as solar panels, improved CI sheet roofs, plastic water tanks, TVs, dish antennae and other electrical goods²¹ and send their children to 'boarding schools'²². When chatting about migration with study families houses with such assets would be pointed out to emphasise the benefits of overseas work. So strong is the attachment to the idea that foreign employment is a good thing that we heard people talk about those who do not provide their families with regular remittances or gifts dismissed as having a new family / dependants abroad or squandering money on themselves rather than the possibility that their employment conditions were poor. Young men told us that they knew about the problems some faced abroad but they would rather try this than work on the farm, their body language indicating that the latter was very low status. Consistent with other studies²³, we were told that the big boom in employment in these new destinations started about 10-12 years ago. *'We heard in the bazaar in 2002 that there were foreign employment opportunities. Every family here has a son in the Middle East mostly working in construction or as painters '* (man, Morahang)

These new destinations have created a strong pull factor. In Yaku village's informal mapping with households indicated that as much as 80% of households currently had members earning abroad, mostly in the Middle East in construction. In Jorpati villages there was much talk of overseas migration and currently about 25% households have workers abroad but more than 50% have worked abroad at some point recently. In Budhabare nearly every household had a member currently abroad, mostly in Malaysia. The numbers were only less in Num, where cardamom production has taken off and the numbers of overseas-employed persons have dropped dramatically from 7 in 10 households to 1 in 10 in the last ten years.

'I started to eat rice as soon as my son started sending me money from abroad in 2002' (HHH grandfather, Morahang)

Households told us they exploit different networks to arrange jobs and it was clear that some villages were better connected than others. There is a big difference between those who secure better paid jobs which often require some level of education and those which are unskilled. Thieme (2006) suggested that the rich go to the Gulf or South East Asia and the poor to India but we found the type of work rather than the destination to be the determinant. This is starkly revealed when comparing some of the study villages. In the Budhabare villages nearly every household had at least one current migrant worker, mostly in Malaysia in construction work. The broker costs were said to be around 110,000 NRP. Boys were leaving school after Class 5²⁴ to bide their time until they could get citizenship papers and a



'When there is a tin roof, it means that at least one member of the house is in the Indian Army or working abroad' (Yaku)

²¹ A dish antennae dealer in the main street of Jorpati told us that he sells most of the satellite dishes around Dashain (in September/October) when migrants return to be with their families during this festival and purchase dishes as gifts.

²² The English term 'boarding school' is used ubiquitously to mean private school which might be offering education at any level from kindergarten to class 10, most of which are not residential.

²³ Seddon et al, 2002

²⁴ Often 'old for grade' as they started school late, so may be 15 years old in Class 5.

passport²⁵. These boys speak poor Nepali and no English. The primary school is the worst we visited. This village comprises only Magar and the networks for linking to job opportunities seem to be very limited. The jobs availed by these young men are primarily unskilled construction work which is poorly paid. By contrast in Sudap villages the population is ethnically heterogeneous and there are more schools. Their connections have enabled them to get work in a variety of countries and in more diverse occupations including skilled work in factories and as mechanics. One of our household heads in Sudap had worked in construction in Malaysia for nine years and had managed to purchase 60 ropanis of land with his savings and his son is working in Saudi Arabia. Another son of one of our study families in Parewadin has worked in Qatar, Kuwait and Malaysia and talked about the importance of having learned some English from attending a boarding school. His father had studied to class 8 but his mother had never been to school. Nevertheless they sent all their children to boarding school in order to raise their chances of employment. Others in the area also prefer the boarding school as preparation for a range of employment opportunities including work abroad.

Despite hearing a few negative experiences, the vast majority of migrant workers experiences were shared with us as positive and, as mentioned above, people readily pointed out the assets accumulated by migrant workers.

Box 4: Even bad experiences do not dampen the enthusiasm to go abroad

In my household the 24 year old son had been in Malaysia for two years. He came back early and has not managed to pay the debt incurred to send him there. Nevertheless, his father is anxious that he goes back. The father himself had had a bad experience before in Saudi Arabia where he worked in a factory. The workers went on strike and were not paid. He recalls *'living on Pepsi for days'*. But he went back another time and wants to return again. Field notes, Budhabare

The older brother in my household had spent 6 months in Qatar working in a supermarket. He deliberately missed work to get sacked and came back home. He spent 80,000 NRP to get to Qatar. But his younger brother talks glowingly about working abroad. Field Notes, Parewadin

One brother had spent some time working in a shoe shop in Dubai. He had sold 13 ropani of land to finance this and told me he made very little profit. ...just enough to plant some Utis trees on his remaining land. His younger brother went to Saudi Arabia for nine years. He had been a cabbage producer but when the market dipped because of over-production, he left. He told me, *'I earned a lot. I spent it improving my house and on my sister's marriage'*. He rolled his eyes as he looked at his older brother, determined to convince him that working abroad was a good thing. Field Notes, Jorpati

Box 5: Good experiences of working abroad

My household head had been a cook in a factory in the Maldives for three years. He saved enough to pay off the loan and purchase two ropanis of land. He also paid for his daughter's marriage and bought a pressure cooker and repaired his house. He was proud of this achievement and is considering going again. He has already sent his elder son (23) to Malaysia to work in a factory making utensils and will send the younger one (18) as soon as he can secure the finance to go. Field Notes, Budhabare

The eldest son of my dalit HHH 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 6-7 months. He sent money back for his father to buy bullocks. Later he spent a further 5 lakh building a new two-storey house for his parents and his two children (12 and 10) who live with them. Field Notes, Morahang

²⁵ The only ones in the village who had passed SLC were eight girls. AS an example one of our HHH sons had just left after class 9 even though his parents wanted him to stay at school and they said ' he was a good student'. He explained to us he wanted his citizenship and passport to go away.

In addition to increased incomes, migration brings other benefits as noted by our RCA participants. Migration to Sikkim to work on the cardamom plantations was given as the source of knowledge about cardamom production which seems to be traced back to the 50s. Workers went there for harvesting in September-November and again in spring when weeding and clearing was required. Those in the east, particularly Terhathum continued this into the 80s and 90s and brought back know-how. The introduction of toilets is attributed to men returning from the British and Indian Army. They not only had the experience but also the money to invest in construction.

There is no doubt that the cost of securing a job abroad is high (generally more than 1 lakh) but we were told there is no shortage of credit available for this either through relatives or moneylenders. In Chainpur, people spoke of 'investment' rather than loans and described how investors provide the money needed to arrange overseas employment but expect a cut of the earnings in return. It is considered less risky than provision of loans for land purchase or education costs.

Some of the older generation we met are less positive. For example, one of our HHH mothers in Yaku said, *'There will be nobody to carry my dead body- everyone is going away. Before we used to have fun here but now people have migrated to the Terai. Before it was easy to arrange Khetala but now it is really hard to get any help with the land'*. Her lament is born out in another hamlet in Yaku where eight out of fifty houses are now completely abandoned. Others spoke about the difficulties of managing the agricultural land with the few hands left.

Many pointed to increasing fallow land which is now common in many of the villages we stayed in. The number of people left behind to look after farm lands are not enough to keep the land productive and the scarcity of labour makes *khetala* arrangements costly and difficult. Natural secession has resulted in the appearance of fast growing trees such as *uttis*. People told us that they realise that they can make money out of these trees which are much in demand for the construction industry and are now deliberately planting them on their fallow lands.

The lack of 'hands' to help at home has a number of consequences in addition to more land being left fallow. Older people explained they have to manage on their own or with help from grandchildren or daughters-in-law. We met many elderly people living on their own dependent on pensions and remittances. They had not expected to live out their old age alone. In other families the 'missing middle' had returned (e.g. a son in his 40s had quit the Indian army after 20 years of service because, *'I did not want to be there anymore and there was nobody at home looking after the land and my mother, so I came back. At least I am getting a pension so it is not too bad'* (Morahang). Another Morahang family used to rent *khet* land but since their sons have gone to Dubai and Saudi Arabia they have realised that they no longer can manage to grow paddy themselves and have discontinued this arrangement last year. The father says that with no hands to help him he cannot grow cardamom so hires himself out as a day labourer or with his bullocks for ploughing at 100 and 500 NRP per day respectively. Another HHH, a couple in their 60s just sold their seven buffalo as they did not have enough people at home to take them up to pasture lands. Their youngest daughter (20) told us, *'I studied to class 5 when I was 15 but then had to give up because my parents needed me to help with farming as my brothers were not here'* and her mother (58) says that when requests for *parma* come, she has to go herself *'there is no one else to send'*. Another HHH family told us how cross they were when their youngest son, the last to stay at home as the other four have migrated to Itahari *'ran off with a girl'* recently. They eventually brought them back and told us, *'This daughter-in-law will be of great help to the family'*.

Box 6: Increasing workload for those left behind

With two sons away in Gulf countries, the remaining family members of a Dalit household in Morahang are working harder to make ends meet. The remittances sent back are intermittent and insufficient. The father and mother, both in their 60s, continue to work on their own Bari lands cultivating maize and millet as well as participating in *parma* (unpaid reciprocated labour) and taking on paid Khetala work. All this work was previously shared with their two sons. The youngest daughter (20 years) helps too in addition to doing most of the household chores. While I was staying with them all three family members were required to participate in *parma* as it was time to re-plant the rice. On one occasion, the youngest granddaughter (13 years) was sent to participate in the *parma* in place of her grandmother, who had to spend the day making *Chhyang* to provide for the workers when their time came for 'hosting' the *parma*. The obligations have to be met and this falls on those left behind.

Field Notes, Morahang

In Morahang, the teachers we spoke with complained that students were often late for school (as much as two hours late) because they have to help with the farm as so many of their fathers and uncles are abroad. We observed a woman being carried by women to the Chainpur health centre because, we were told, there were no men to carry her.

While we were told and observed that some wives left behind opt to live with their in-laws, others choose to live on their own. These told us that the decisions around their livestock and land as well as the upbringing of their children were largely left to them. Our observations and discussions noted their independence and mobility as well as their ability and confidence to interact with service providers in lieu of their husbands. We also heard a number of stories of women '*running off*' while their husbands worked abroad. For example, a daughter-in-law of one of our HHH left home with her six year old son after her husband went to Malaysia and '*even her own family are not happy about her behaviour*'. A daughter-in-law in another HHH had '*run away*' leaving her two children with their grandparents while her husband was in Saudi Arabia. Another HHH daughter-in-law left home while her husband was away taking their young son with them. The son has since been brought back to live with his grandparents. While in Jorpati, visiting a neighbour's family we heard that a woman had just left home two days before our arrival leaving her two toddlers behind with grandparents. Considering we did not interact with a huge number of households, the team felt that the incidence seems quite high and in each case the woman made the decision to leave.

These incidences as well as daughters-in-law or daughters sharing the upbringing of their children with their in-laws/parents (e.g. moving to the town with older children but leaving younger ones behind with grandparents) and more women working in salaried jobs have led to what people described to us as an increase in grandparents looking after their grandchildren in the last ten years. For example the eldest daughter of one of our HHH left the raising of one of her children (a daughter who is now 13years) entirely to her parents (See **Box 6**)

2.4 Cardamom (Ranked third)

Hypothesis: Cropped area and production has very limited effected on enabling farmers to bring themselves out of poverty²⁶

Contrary to the hypothesis given above, cardamom production has had a huge impact in parts of the Koshi Hills particularly where water is plentiful. We were told in different places that the idea to grow cardamom came from seasonal migrant workers to Sikkim. Early attempts (in 50s/60s) to bring tubers back failed as they shrivelled en route but as travel times decreased with improved roads eventually successful transplantations took place. Grown commercially (as opposed to for local markets and own

²⁶ Hypothesis developed in the Long Term Impact in Koshi Hills workshop April 2012

consumption) first in the 80s, its huge success, we were told, came later in the 00s 'because of the disease hitting the cardamom crop in Sikkim' and the demand and price increasing phenomenally²⁷

Farmers said 'at first (90s) we got about 1000-1500 per man' (40 kg)... but now we get this per kg'. The price this year (2012) is between 1000-1500 NRP per kg and farmers told us they can expect to harvest 60-40kg per ropani. Even a small plot provides a good income. Our poorer study villages did not grow cardamom or, indeed other high value crops. However Num which was anticipated by the study team to be a poor area based on secondary data is in fact thriving as a result of the cardamom production (see Box 7). One of our Num HHH explained that they used to rear livestock (the grandfather owned 22 buffalo) and cultivate paddy but now they have only one buffalo and a few other livestock and buy rice as the profits from their 20 ropani of cardamom are so great.



Impact of the economic boom cardamom has brought to Num- young boys gambling on carom at 6am, gambling on Ludo and Imported beer consumed in large quantities seen everywhere.

Wages for cardamom casual workers are higher than for other agricultural workers²⁸ and as noted by Fitzpatrick (2011) this study confirms that the wages paid to women are generally in parity with those paid to men. This is partly because they are said to be very good at harvesting. Wages are often twice local agricultural wages and people told us this was because it is well known that the profits are high and workers negotiate high wages. In Budhabare, children missed school to be involved in the cardamom harvest and used their earnings for their own needs rather than contributing to HH expenses which might have been expected if absenteeism was attributed to poverty. Whereas school terms often fit around other harvest/planting times the cardamom harvest period was not accommodated in any of our study areas.

High production cardamom land prices have escalated. For example, in Sudap land prices have quadrupled since 2002. It needs to be pointed out that as cardamom production has expanded so has the purposeful planting of uttis trees to provide shade for the cardamom but also as a lucrative crop in its own right. Growing to harvestable size within 4 years, it has become an important additional income source.

Some areas, we were told, simply cannot support cardamom production because of the lack of irrigation or flowing rivers. For example in Chainpur, very small amounts are grown and only a few households are involved.

²⁷ Despite the prices rocketing in the early 00s, it was not until 2004 that the first donor supported cardamom project started (SNV, 2004) which sought to assist the value chain. The current ADB -funded project (Commercial Agriculture Development Programme) started only in 2007 and focuses on providing farmers with information and lobbying for enabling conditions for sale of cardamom and other high value crops.

²⁸ 200-300 NRP per day compared to 100-150 NRP for other agricultural labour

Box 7: How cardamom has transformed Num

'Cardamom is our identity, no cardamom no life' (man (20), Num)

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. We are told that nowadays, every household grows a minimum of 200kg and many grow ten times this amount. Initially they had to transport it out by mule and made barter arrangements in advance which involved exchanging one sack of cardamom for three sacks of rice. They gradually started to get cash instead and this fuelled the thriving retail market which Num market has become. It is said that 130,000 NRP transactions are made per day in Num now *'even in the monsoon'*. The houses all have zinc roofs and many have small retail outlets. There are many cardamom brokers. In the last two years there are more Chinese brokers. The poor Indian harvests are said to have doubled the selling price for the cardamom from here

Households make huge profits (the minimum of 200kg will bring in an income of 4 lakh NRP) and have reduced their livestock and paddy land as they can now afford to buy these commodities. We are told that one of our HHH, a primary school teacher who cultivates some 15 ropani of cardamom makes more than 1 crore profit each year. They send their four children away to college and have been able to purchase a tractor and retail shop which further contribute to their income. Another HHH produces 400kg of cardamom per year equivalent to an income of 8 lakh from a plot of about 4 ropanis. Like others he has reduced his livestock to just two goats. So wealthy are these farmers that they employ seasonal workers through outside contractors to harvest for 15-30 days in September through to November and pay daily wages of 500NRPs.

There are other high value crops being sold to the many brokers who now come purposely to Num including the yarshagumba (said to be an aphrodisiac), chiraito (medicinal herb) which while wild in the past is now being cultivated. While other study villages mostly indicated a net out-migration, Num is experiencing the opposite. 10-13 houses are being built each year. The latest building under construction is a new police station paid for by community contribution because, *'we need a bank here in Num rather than have to travel to Khandbari'*. Although in the 90s many families had sons working abroad (said to be 70%), now only an estimated 10% of households do. Nobody said they are dependent on remittances now. With high incomes, it was hard for the study team to find someone willing to porter (and finally negotiated a rate of 1000NRP for just five hours work). Previous interest in servicing the tourist trade has waned and trekking companies arranging visits to the Makalu Barun national park bring in their own porters and guides and arrange camping rather than using the lodges and guesthouses which Num people used to provide. The road construction is being carried out by workers from outside as nobody needs the road work locally.

Households tell us that they prefer to buy food rather than grow it. They say, *'We like meat a lot and since we drink a lot of alcohol it is good to eat meat'*. They buy factory reared chickens rather than raise them themselves even though the prices are three times Kathmandu prices. They are investing in land in Kathmandu and Biratnagar and sending their children away to school and college. Children go to the local school with 1000NRP notes in their pockets. Boys are seen drinking imported alcohol and gambling from early morning. -Field Notes, Num

There are fears expressed among our cardamom growing study participants that productivity of cardamom is going down partly because of decreasing soil fertility but also because of a variety of diseases. For example, one of our HHH in a Siddheshwor village grows cardamom on 15 ropani and has noticed production has gone down dramatically mostly because '*it is drying out*'. At the moment he still can earn the same as before because the price has increased but he wonders how long this will last. Another HHH in Morahang told us that two years ago he could harvest 25 *maunds* (1000kg) from his 25 ropani of land but in November 2011 he harvested only one *man* (40kg). He is now relying on the uttis he has planted among the cardamom to meet the deficit. In all our study areas where cardamom is grown we saw the same disease, sometimes mild and sometimes acute. People told us the disease comes from India and wondered what they should do to combat it. They asked us for advice and seemed at a loss to know what to do.



Cardamom is being attacked by a disease which causes the leaves to dry out. Cardamom farmers are very concerned and worry about the production decreasing but they cannot get any advice about it.

2.5 Agriculture- cash crops

Hypothesis: Cropped area and production has very limited effected on enabling farmers to bring themselves out of poverty and has been limited only to road corridors.²⁹

Before the 1970s most of the study areas were said to be dependent on subsistence agriculture, growing maize, millet and potatoes. We were told that as roads came to Dhankuta in the 80s maize production was increased and people began to sell their surplus or barter for rice and vegetables. This coincides with the purpose of Khardep 1 which focused on increasing productivity of the staple foods (wheat, maize and animal fodder). The use of chemical fertiliser at this time was noted by many we talked to as key. And this could be brought in easily by the new road and was distributed through the Agricultural Service Centres. For example, in the Yaku villages, the introduction of chemical fertilisers in the late 80s were regarded as significant as it meant families could be self-sufficient and no longer needed to rely on portering to supplement their food deficit. Asked how this started the following is a typical response, '*we just saw others in other places growing more than we did and found out how*' although some said that government agricultural workers provided advice.



Before in the '80s houses would only have about three 'thakras' to store maize (just enough for their own needs) but now on the same land they can produce 3- 4 times this amount.

In Siddheshwor, people recalled how in the 80s '*government people came and set up model farmers groups. took them to Ilam to see other plots... gave them training on how to harvest, take out roots, inter-crop..... they told us not to leave paddy land fallow in the winter... as a result we became self-sufficient... we eat rice now and give the millet and maize to our animals*' (Man, Siddheshwor).

However, the key decade for significant change in agricultural production was generally noted by people in this study to be the 90s. In Dhankuta, this was the period when vegetable farming took off³⁰.

²⁹ Hypothesis developed during Long Term Impact in the Koshi Hills workshop, April, 2012

In Parewadin, several households claimed they introduced vegetables first³¹ but a teashop owner who used to work for CEAPRED³² described how there were twelve model farms set up in the area in 1990. Some farmers told us they were initially sceptical but watched others making a good profit and soon adopted the practice. For example in Jorpati, people told us that around 1994 a NGO³³ leased some land and set up a demonstration plot 'we all thought they were crazy but next year we all followed.... they helped us with the marketing of the cauliflowers, cabbage and spinach'. New slopes were cleared for vegetable production and marketing channels established. People told us that vegetable farming was only successful for villages which were close to all weather road networks and where sufficient water was available (e.g. Parewadin but not Budhabare). But the bonanza did not last long and people remember well that by 2000 there was over-production and their vegetables had to be taken to India for sale. About this time people looked to alternative income sources such as migration.



This farmer completed JTA training and decided to grow cabbages. He has 360 growing here but no market in Morahang- he has no idea what to do with his produce.

We were told that during the 00s, the selling prices of vegetables dipped and the number of hands in the household decreased, leading to a decline in many households' vegetable production as they could not afford to employ people to work the land which they used to manage themselves. They continue now to grow for home consumption and local sale but many are not producing at the rate they did ten years ago. Furthermore, many shared with us that as years go by they find they have to apply more and more chemical fertiliser which cuts into their profits. Because many have reduced the number of livestock as they have less family members to collect fodder they no longer have adequate supplies of manure. Some indicated that application of manure alone was not enough to get a good crop anyway.

'In 1994 we needed one tablespoon of urea and a fistful of chicken manure, now we need twice as much' (farmer, Parewadin)

The vegetable boom did not take off in other of our study sites mostly because they lacked sufficient water, could not establish markets or soil fertility was poor (e.g. Sudap, Budhabare, Morahang). *'The only thing we can grow here is maize and potatoes because the fertility of the soil is poor- we grow tomatoes, cabbage, coriander, onions only for our own consumption (farmer, Budhabare).* In Sudap farmers told us that before the road was built they had to pay 2NRP per gram for transport of cabbages and could not sell them for more than 2 NRP making this a pointless exercise.



Fertiliser has been used here in Chainpur since the road was constructed more than ten years ago. It is bought at subsidised rates from the Government but when this is not available it is bought privately at twice the cost.

³⁰Ministry of Agriculture and Co-operatives (MoAC) data indicates a doubling of vegetable production between 1994 and 2004 consistent with this study's recall data.

³¹ In 1993

³² CEAPRED (an NGO) promoted off season vegetable production from 1990 and this signalled a shift in focus from subsistence crops to vegetable (cash) crops. KOSEVEG which started in 1993 continued this emphasis, particularly emphasising the production of vegetable seeds

³³ From descriptions and cross checking almost certainly CEAPRED

They found middlemen by-passed them and bought vegetables from Jorpati (as this was on the main road). They had tried to set up a collective for joint marketing but this too had failed. They concurred that this had been a 'bad experience' so they only grow for their own consumption now. . In Morahang where the agricultural land is mostly rain-fed terraces, farmers told us there was not enough water for winter vegetables and anyway *'there was no point in growing when everyone else was growing'* but they said that the potato varieties trialled by Pakhribas in the 80s are still being used today and that the red potato they grow has a particularly good reputation. The programme involved five different households each year in the village and farmers were helped with understanding better irrigation, harvesting and management techniques. Two farmers, we were told, went away for 7 days training at Pakhribas. *'Before I got about 7 muri³⁴ from my land but after this programme I got 30. People come to me to buy potatoes – I do not have to go to them any more'* (farmer Morahang). Others explained that because of the high altitude their potatoes are ready for harvest two months later than others and so they get a good market.

Vegetable farming led to a number of significant socio-economic changes. For example in Parewad in farmers with bari lands (mostly Sherpas) used to work the paddy lands in order to be able to acquire rice but with incomes from vegetable growing they now purchase rice. This has led to some previously relatively well-off paddy land owners seeing a drop in their living standards as they face increasing competition from rice transported into the community. Some of these farmers, especially in the valley, cannot substitute by growing vegetables. Nobody wants to continue farming this land, hands are short and labour costs quite high so much of it has been left fallow.

We did not hear of any seed production groups or meet farmers making a living from seed production which had been a key focus of KOSEVEG. Only one family in Sudap mentioned that he had been involved in seed trials many years ago but other families here knew nothing about it. Rather, farmers told us they exchange seeds between themselves or buy from the market. Many emphasised the importance of buying good seed varieties and hybrid seed in particular.

Ginger was regarded by some study participants as a potential high value crop but in some of our study areas



This farmer has been growing beans with his maize for more than 15 years. He saw other farmers doing this and finds he needs to apply much less urea than others. (Siddheshower)



Akabare peppers grown by our HHH in Sudap make between 350-400NRPs per kg. Over one year this farmer produces one man making about 16,000 NRPs. He says it is quite labour intensive but good because there is no rush to get it to market.



The price of ginger has plummeted to 10 NRPs/kg so it is left abandoned (Yaku),

³⁴

One *muri* equals about 2 *man* which is equivalent to 80 kg

people are disillusioned about this. In Morahang, the price to porter the ginger cuts too much into the profit³⁵. In Chainpur they used to grow large quantities of ginger and the price as recently as two years ago was very high (2010). The price has since plummeted and the farmers have abandoned the ginger (**see photo**). Instead they have planted *amriso* but the price of this, they told us, is also going down.

In Yaku, an enterprising farmer shared his success of his *Akabare khursani* pepper (*capsicum frutescens*) cultivation. He tried growing it commercially about 5 years ago and made about 65,000 NRP in 2011 from about 3 ropani of land. This was not part of any extension programme- he merely decided to experiment himself. Also in Yaku, farmers shared the success in selling rare shaped *rudrakshya* and farmers have purposely planted trees in the hope of being able to get a few of the rare high value fruits. (**See photo**) Rumour has it that in 1965 a farmer here sold one rare *rudrakshya* for 650,000 NRP. More common ones will make 400 NPR and there is always at least one produced per tree per year, we were told. Farmers told us that it was possible to earn 30-40,000 per year with a few *rudrakshya* trees and one in four farmers here now grows it. (Field Notes Yaku)



This dalit is making mats out of old plastic bags. She used to make them out of the rice hay but since production has ceased she and her daughter came up with this idea.

Bhojpur is well known for quality oranges and one of our HHH has been able to make a good living from his orange trees, selling the produce in advance to middlemen who come to him.

People complained often to us about the lack of agricultural advice available nowadays. In Sudap farmers talked positively about the agricultural service centre in Sukrabare which provided free chemical fertiliser and seeds to selected households on rotation basis some twenty years ago (early 90s) but this does not happen now. One farmer told us he had asked help from the Agricultural Service Centre in Morahang which has sent samples of his diseased cardamom to Pakhribas more than two years ago, but, despite following up, they have had no response to date. Concerns about the drying out of the leaves of the cardamom permeate all the cardamom growing areas in the study and nobody



This Agriculture service Centre was built by Khardep. The livestock office was open but nobody there. The other doors were all locked. The accommodation above is rarely used. Nepal Telecom now occupies the end of the building. Farmers told us they never go there.

knew where to go to for advice. In Num and Sudap families were contemplating bringing new plants from Ilam and learning directly from farmers there but rued the lack of advisory services locally. In Morahang even the government agricultural officer we spoke with had '*no idea what to do about the disease of cardamom*'. The current ADB project supporting value chain development for high value crops includes a major element of farmer information provision (e.g. on radio) but not a single cardamom farmer we spoke to was aware of this.

Similarly in the areas of intensive vegetable production in Dhankuta, people told us they were worried about the high frequency of pesticide application required nowadays as well as the decline in soil fertility but, again, did not know where to get advice. The Government Agricultural Service Centres were scorned as an option, '

³⁵

In Jirikhimti 1 kg ginger only fetches 4NRP

they are never open'. Even farmers in the study location closest to Pakhribas (Sudap) talked about it in the past tense. They appreciated the work that had been done in the past but the following comments were typical: '*nobody goes there now*', '*I do not know anyone who has been there for advice for years now*', '*Even if we are nearby, and we do not bother to go there for advice*'. As one farmer in Jorpati said, '*Pakhribas used to be very good. They introduced hybrid varieties because foreigners brought them in. We used to collect these varieties from them. But it is not so good any more*'.

In some places, people mentioned that NGOs used to provide agricultural advice and establish demonstration plots (around 15 years ago) the comment '*but only get involved in giving loans these days*' (farmer, Jorpati) was typical of others heard in all locations.

Some indicated that they were dissatisfied with agriculture policy. For example as a young man in his 30s said, '*The government policy is only concerned with production and not markets. Why would any young people want to stay here?*' (Siddheshwor)

Box 8: No advice

Farmers in Parewadin complained that they have to use twice as much chemical fertiliser as they used twenty years ago. They shared that they are aware that they should not apply pesticides more than two months before harvesting their vegetables and are concerned that there are checks on produce entering India. But they would like advice on the right amounts of fertiliser and pesticide to apply. They say the Government Agricultural Service centre has been locked for more than one month and that only junior people are ever in the veterinary service office. 'We rely only on a private agri-vet shop for information these days'.

Field Notes, Parewadin

2.6 Water (ranked fourth)

No hypothesis put forward

All of our study households (HHH and neighbours) had water available at their homes or a relatively short walk away³⁶. Most of these were hosepipe connections to water sources, sometimes some distance away. The most difficulties still experienced are in the Yaku and Sudap villages. In Yaku some householders have to collect water from a well some 15 minutes' walk for washing and further still for drinking. These villagers have been promised Government help if they find a source but they have yet to locate a reliable source. They say the alternative of rain water harvesting is too expensive and in other parts of the VDC the water harvested was only suitable for cattle to drink. In Sudap, even though it was rainy season when we stayed there piped water was only available for two hours in the morning and two hours in the evening. The villagers talked of the problems they experience in the dry season and their attempts to build storage tanks. Their location means they have to bring water from 1700 feet above them (Sukrabare) and so severe is the water shortage that some households have moved permanently to the Terai. In Num villages the water source had been a day walk away but over the years, and especially since their success with cardamom, households have paid for their own hosepipe connections which trail across the land. Similarly in Chainpur, people have bought their own pipes and made their own connections directly to the source.



Individual hosepipe connections to the source

³⁶ The furthest any HHH had to walk for water was 20 minutes.

Women in particular noted water improvements as significant probably because the burden of collecting water often fell to them in the past. The time and effort savings were noted as typified by these comments: *'sometimes we had to collect water four times a day', 'the water jugs are heavy and the hillsides are steep'*. They particularly noted the advantage of having water to wash their hands, children and for cooking and cleaning pots and dishes but acknowledged that they used much more water these days than before. *'The biggest difference for me (having piped water to the house) is that it is so much easier for cooking... look I can easily wash the vegetables, boil and clean the pots – before I had to do these next morning'* (woman, 22, Jorpati)

Provision of water for irrigation has made a big difference to some of the study households. In Morahang, an irrigation project was established in KHARDEP but it reputedly ran out of money and was suspended. In the meantime a number of farmer managed irrigation canals were built and continue to operate well. The community water users group which they established themselves without outside assistance continues to avail support from the DDC for maintenance and repair.

Other key developments (ranking less certain)

2.7 Mobile phones

Every HHH had at least one mobile phone and informal mapping exercises undertaken by study participants of surrounding households indicated this to hold for neighbouring households too. The mobile phone was regarded as a significant development³⁷ often mentioned before some of those listed above! Wherever there are small shops however remote, they sell charge cards and some of the busiest shops in the study area VDCs were mobile phone shops.

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



Taking the opportunity of some private time to call the boyfriend (Yaku)

The main reason people valued them was *'to keep in touch with relatives abroad'* or *'children away in school and college'*. Some young wives with husbands working abroad told us that they simply *'miss call'* daily just to assure their husbands they were thinking about them. Some send photos of themselves and their children. Social calls seemed to be more important than those related to business



Schoolgirls outside the mobile phone shop at 5 am (Chainpur)

but these were important too, particularly to order goods to be transported into the village, to arrange employment abroad, to check market prices, to arrange *khetala* or *parma* or to check whether the rice mill was operating before setting off to get the rice ground. The fact that people could order medicines from shops in town, get advice from private medicine shop owners and, where working, phone government health posts 24/7 were noted as important advantages of the phone. A few kept up with the national news on their mobiles. Youth, in particular, told us they like to listen to music on the phone and for many we observed this was their main function along with using the phones as torches to do homework with. Some

³⁷ Num was the only area where *'sky phones'* (i.e. Satellite phones rather than cell network mobile phones) were introduced in 2010. Every household had one and many of the older school children also had them.

in Sudap were anxiously awaiting their SLC results on the mobile phone. Films were also downloaded onto mobiles from internet shops in towns.

'I walked all the way to tell a neighbour to prepare food for parma and my daughter-in-law scolded me and said if I bothered to find out how to use the mobile I could have saved my time' (mother Budhabare)

However, we heard in almost all our study locations that the mobile phone had contributed to 'love affairs' and the frequency of 'eloping'.³⁸ Some talked about the 'social evils of mobile phones'. *'In our time it was difficult for us to meet boys and girls ... perhaps only at weddings... but now it is very easy'* (parents, Yaku).

Most of the stories told us were of family members or close neighbours which suggests it happens relatively frequently. Most ended well but there was one story of a girl who had got the phone number of a man, arranged to meet him and remembers *'drinking tea and then ended up in Biratnagar'*. A few indicated that they are bothered by unwanted calls sometimes. Teachers complained about the over-use of mobile phones in schools. Older people complained that the younger generation were on the phone *'all day long'*.

The costs of running a mobile phone are complained about but nevertheless it is considered 'essential'. A basic phone costs 3000 NRP but second hand ones are available. A woman at a pharmacy in Jorpati buying a recharge card for 200NRPs said. *'This will not last two days'*

2.8 .Livestock

The changes in livestock ownership and animal husbandry were less talked about than agriculture. Nevertheless people did note the importance of new varieties of cows and buffaloes which some attributed to the work of Pakhribas. Cross bred cows they said produce 7-12 times as much milk as local cows and we were told that nearly all cows kept these days are these cross breeds. A number of our study locations had milk collection centres and an active dairy industry (Jorpati, Sudap, Parewadin). In Sudap this started relatively recently (about 3 years ago probably coincident with improvements to the road to Dharan where the milk is sold to a private dairy). Most of the local roads in both places are not adequate for vehicular transportation and the milk is portered from collecting points to cooling centres.



Crossbred goats introduced by Pakhribas

Box 9: Dairy in Jorpati

This dairy was established a few years ago through local initiatives and based on the successful 12 year old dairy in Sunsari with which it maintains a connection for technical advice. The Jorpati dairy cooperative now has 170 members/shareholders and a further 600 farmers connected to it. Suppliers get 24NRPs per litre which represents the same rate as Government dairies but farmers do not pay for transport costs on top as they have to when delivering to the government dairy (reducing profits by 2-3 NRPs per litre). Every day the dairy cools 4000 litres of milk prior to transporting out. The co-operative also runs loan schemes (it has 20 crore NRPs in savings) to purchase cows and charges only the interest (rather than repayments against the principle) when the cow is not producing milk.

Field Notes, Jorpati

We came across a number of asset transfer programme where cows, pigs or goats had been provided to households considered to be 'ultra-poor' (often dalits or women -headed households). These

³⁸ Some 'love marriages' are arranged only over the mobile phone

emanated from the Government Agriculture Service Centres but were facilitated by local leaders who identified recipients. Where households lack 'hands' because of migration, these livestock were often regarded as a burden rather than an asset since they required fodder collection and cleaning.

Box 10: Visit to Government District Animal Service Office

This office has been operating since the 80s and currently has two staff. One tells us that although he has been posted there for more than nine years he has never received any training. Only basic services are available and the staff say there are never enough medicines in stock. They say that they refer people to the Agriculture Development Bank for loans to purchase livestock with an offer of two years free service from this office. They are currently promoting a fodder programme which recommends using amriso for fodder (since plastic brooms are replacing the market for natural brooms).

Nobody we met among our H/FHH mentioned this centre in all our livestock related conversations. In fact people had very little interest in building their livestock since they were now reliant on remittances.

Field Notes Sankhuwasabha

2.9 Education

'If farming was the form of employment before, education is the new form of employment now' (Man 60 Jorpati)

'We grew up with the tools of agriculture but our grandchildren grow up with pencil and book' (Grandmother Chainpur)

'In the past people used to say what is the use of education for ploughing? Now they think education is even needed for a farmer. Girls need to be educated to bring up their children properly'. (Man 80+ Jorpati)

The education status and perception of education has changed enormously in the last twenty years in particular. Examining the education levels of our HHH and FHH we see grandparents (60+) often with little or no education, parents (40-60yrs) with some education (often only to primary level and men more than women) but their children (20-40) with secondary education and the current school-going numbers very high with parity between boys and girls. In fact in many of the schools we visited there were often more girls than boys.³⁹ The change in education status was attributed by our study participants to the Government provision of primary schools (often called community schools) at ward level in the 50s/60s. Despite the name , many of the children in our H/FHH still walk over an hour to primary school. The change for girls education has accelerated over the last twenty years and the current parity is ,according to our study participants, because ' *we now do not make any distinction*', ' *everything is now the same for boys and girls*', ' *an educated girl looks after her family better*', ' *she will marry into a better family if she is educated*' . ' *it is important in case she has to manage on her own in the future- if her husband is away or she divorces*'. Boys told us they wanted to marry educated girls⁴⁰, even with better education they had.

'40 years ago in 'C', there were 40 boys and 12 girls in school, now this is reversed and there are three girls for every one boy' (Man, Jorpati)

³⁹ This was explained to us by teachers and parents alike that more girls than boys are born. But the numbers are more likely due to higher numbers of boys being sent away to school rather than going to school locally as the girls are. Through our discussions with boys we picked up another possible reason; a sense that by about 14-15years, if not doing well, they drop school and hang around hoping to get unskilled work abroad.

⁴⁰ Meaning Class 10 graduates and above

Older women (50+) often shared with us how they regretted not being educated. *'My parents said there was no use in study if all we were going to do was plough the fields... so we were not allowed to go'* (mother 53, Yaku) is a typical comment. There had been schools in this community since 1948.

The community school is often the only public building in the ward. Parents were unequivocal about the importance of schooling and often spoke with pride about the school which they had helped to build. Boys and girls we chatted to generally talk of school as something they have to do- there is no option. But most were actually highly motivated as illustrated by a HHH girl in Parewadin whose parents sent her away to school and paid for tuition because she had failed science. She failed this year too despite the costly tuition and her father was furious. Her mother who had never gone to school herself suggested *'she should just get married'* but the girl is resisting this and says she will pay her own way. A dalit girl in Siddheshwor feels judged by her peers that she was unable to pass grade 10 even though she has a thriving tailoring business. Two sisters in Yaku explained that they had to stop school at grade 8 because *'we had to help our mother look after our younger brothers'*. They felt regretful that they had stopped and see their peers doing well.



These two girls (5 and 7) went to school to register their names only then came home to gather firewood. Their mother is separated from her husband and was working away from home.

Although parents were always clear that education is important for their girls there are two differences in the way decisions about girls education seem to be made. The girls were less likely to go away to school (although plenty did) and we observed they were often expected to do more household chores than their brothers. *'They cleaned dishes, and collected fodder for animals while the boys were playing carom in the morning. In the evening when the boys were doing homework, the girls were helping in the kitchen'* (Field notes Chainpur). *'I have to do homework by torchlight and am also expected to do chores. I thought my parents would be more considerate'* (girl awaiting her SLC results, Jorpati).

The extension of schools to '10+2'⁴¹ has made a big difference to continuing education. Since the start of this programme in Yaku in 2008 many children have stayed on to take technical courses.

Because there is so much expectation about school going we found youth were shy to discuss dropping out. Those living furthest away from school delay starting school until they are 9-10 years so they do not finish until they are 14-15 years or older. The embarrassment of learning alongside much younger children was given as one of the reasons by boys in particular for why they drop out. Secondary school children seemed not to mind the very long walks to school (more than two hours in some cases), saying *'it is time we get to be with our friends, we can have fun and do not have to do chores at home'*. We were told that boys of 14-16 were the most likely to drop out particularly if they were not doing well in school and there were role models who were earning relatively good money (in transportation, abroad, cutting trees, stone breaking⁴² etc.) without SLC. In Hile secondary schools, said to be typical, girls outnumber boys by three to one. Teachers in several schools said that the curriculum was inappropriate and needed to be more geared to the boys' employment prospects. This was also expressed by parents for example, *'what is the point of learning poetry and not how to grow pumpkin?'* (man Siddheshwor).

⁴¹ Up to Class 12 and offering opportunities for technical and vocational education.

⁴² In Morahang, boys can earn 1000NRP per day to break stones for road and house construction, now that tractors can come to the area by the road constructed 2 years ago.

The quality of education was much discussed in our interactions with F/HHH. There were many complaints about Government primary schools (see boxes 11 and 12) and the perception that standards had slipped over the years. Government teacher absenteeism was one of the main problems noted by parents and students. As much of the RCA study was conducted at rice planting time, government schools were closing early. In one school, the teachers explained their absence to parents by saying that they were *called to training* but they were actually working on their own land. On the other hand, teachers told us that parents do not support their children's education and give it priority (e.g. making them do chores at home instead of homework) and complained of the days they were expected to do burdensome non – teaching duties e.g. village toilet surveys, decorating gates for VIP visitors on request of the VDC etc. Government teachers often shared with us that parents were less interested in school when it was free whereas they were more *'careful when they pay boarding school fees'*

Box 11 Comparison of two study area government primary schools

Government primary school A was established in 1956 and runs class 1- 5. It now caters to 54 students. All five teachers are from the same family. We heard endless complaints about the school as this family *'closes it whenever they like'*. While we were there it shut for a family marriage and then again on Wednesday for market day. The teacher family expects students to help with their planting and harvesting. Textbooks did not arrive on time at the beginning of term so the school was shut. One of the teachers runs a small grocery shop and a small kiosk. This means he is often away collecting goods for the shop. The teachers told us that the numbers in school are constant but the parents told us that numbers are decreasing because of the poor quality of teaching. We tried to meet the head teacher but he was drunk from early in the morning. Our H/FHH asked us repeatedly for advice on how they could get rid of these teachers. The SMC chair is also part of the family so decisions are *'made by the teachers and signed by the Chair'*. Some of the teachers acknowledged that the community was fed up with them but said, *'The problem will be solved because my son is in commerce and won't become a teacher'*. Meanwhile our study families said, *'Please tell the people in the (district headquarters) that this is our main problem'*. Those who could afford it were shifting their children to the boarding school.

Government School B was established in 1948. It now has 690 students and has been extended to 10+2. There is high motivation for schooling in the area. Teachers are regular and there is no drop out problem from this school. When the school suffered damage from a major fire, the community rallied to donate funds and seek support from organisations in Kathmandu.

About a third of our study HHH are currently sending their children to boarding school and yet were mostly relatively poor families. The main reason is the provision of English language classes (in Parewadin⁴³, Sudap and Morahang the government schools have started English classes to stem the tide of transfer to the boarding school). In the boarding school there the principal insists on all the teachers and students speaking in English all day. Many of our F/HHH parents were very proud to demonstrate the English skills of their children and see this as a key passport to good jobs particularly abroad. The parents of the last son (of nine children) of a HHH in Jorpati spend 7000NRP per month on their son's education. He failed grade 5 and 6 in the government school so they sent him away to a private school in Hile. They proudly told us, *'If he was here now, he would be able to talk with you in English'*.

⁴³Parents have to pay for these classes

Box 12: Government primary school parents meeting

The meeting was called by the teachers for 4pm on Thursday. When we arrived there were 13 men and 8 women, some with their children. The main agenda was the resignation of a teacher (just as term had started). Having decided they would advertise locally and had a preference for a female married teacher, the next meeting business comprised requests from the Principal for contributions to the school to buy whiteboards and books. He berated parents for not supporting more actively and for transferring their children to boarding schools. A parent got up and explained that parents felt that the standard at this Government school was going down. The Principal said it did not make sense that they had to buy books at the boarding school and the journey was longer. Again parents reiterated that the quality at this government school was going down and that was why they were removing their children. The Principal then implied the drop in quality was the parents fault and asked them why they send their children to cut grass when they should be doing homework and yet the parents who paid for boarding school did not do this.

The young mother we accompanied from our FHH said the meeting was *'a waste of time... I could have been doing chores'*. On the way home she said the quality of education was definitely going down. *'There are six teachers but there are only ever three there at any one time. They are all busy with their own businesses, riding around on their motorbikes the whole time'*. She wants to take her two children out of this government school as soon as they are big enough to walk to the boarding school by themselves.

Another morning we met one of the teachers on the road. It was 10.06 and he still had a walk of at least another 30 minutes to school so he would be quite late. We met him again at 3.15 in his own teashop so he must have left school before 2pm. He told us his child goes to the boarding school.

Field Notes Jorpati

Parents also said that the teachers in boarding schools were better (*'they (teachers) get sacked if they do not attend or behave badly with the children'*). The number of school contact days are greater, *'the boarding school has 15 days holiday at vacation time but the Government school has more than 45 days. Government teachers would never agree to this because they are all involved in business'* (man Parewadin).

Informal examination of household expenditures with our HHH indicated that for many large proportions of their incomes are being spent on education, this being the single largest expenditure. Parents working abroad are often encouraging their families to move into town so their children can avail better private education. *'But we should not need boarding schools if government schools worked properly'* (man, Siddheshwor)

Our conversations and observations indicated that the drive for education seems to cut across ethnic groups and class. The stipend programmes provided to dalit and other minorities (at some time, girls) were mostly derided as being too small⁴⁴ to be effective in encouraging children to school and made no difference anyway since parents seem strongly motivated towards educating their children. Teachers told us that these stipends were often used to buy alcohol.

2.10 Community Forestry

Community forests were evident in all our study areas but they were not often mentioned by study participants as significant development. We often had to initiate conversations about the forests in order for people to discuss the benefits and dis-benefits. The community forestry programmes were often viewed as *'the law'*, something they complied with rather than something which particularly interested our F/HHH although there were two places where the communities said they benefited from the community forest (see Box 13)

⁴⁴ We were told these were about 400 NPR per year

Box 13: Community Forestry

We were told ...about 25 years ago rangers came and provided training on the law. Later they taught us how to weed and protect the forest. They used to come frequently but now only come twice a year. More recently there were trainings on cardamom and broom grass. 68 households have shares in our forest and the nine member committee meets monthly. The committee is headed by a woman teacher. They collect monthly subscriptions (20-35 NRPs which are different depending on your capacity to pay). *'I think this covers the costs for the group facilitators and rangers'* (another woman HHH told us). The forest profits have reached 50,000 NRPs which may be used to provide small loans (3000 NRPs) to members or used for maintenance of the village water taps and roads. Once, two years ago each member was given as financial 'gift'.

Field notes Budhabare

There are eleven community forests in the VDC and two in the ward where I stayed. The proceeds from the forest have funded a number of community projects; electricity poles, primary school and an Emergency Fund. The proceeds from sale of pine tree sap pays for one of the temporary school teachers. The householders in the ward have their own trees so do not need to use the community forest.

Field Notes, Yaku

One of the rationales for the Community forestry programme was to restrict firewood collection. Many of our H/FHH say they have planted timber on their own land and this supplies their needs and are *'not interested in collecting from the community forest'* Others noted that since farming is less intensive and more land is fallow, that trees have seeded themselves and are used for firewood.. The regulations for community forests were often interpreted to us that the forest is *'open once per year'* for people to collect fodder and cut a restricted amount of timber. In Morahang people told us that there is an important advantage in that they are allowed to take one tree each year per family. This is chopped and provides firewood for six months and gets delivered to the house by tractor so they do not have to collect firewood daily. For the other six months they buy from neighbours or collect from their own trees. Some CFUGs are providing loans *'to very poor people'* at interest rates⁴⁵ below moneylenders and other group-based schemes but in some of our study areas people were not interested in these and only limited use was made of this facility.

The purposeful planting of uttis has taken off in the last 8-10 years and as it grows fast has spawned a profitable timber industry which services the growing construction trade. We heard that young men employed to cut uttis trees can earn 1500 -2000NRP per day.

People told us that the annual opening times of community forests were very restrictive although most had since planted their own trees so no longer needed to forage the forest. A major problem noted as a result of increased forest coverage was the increase in monkeys, deer and porcupine which cause considerable damage to crops. In two of our HHH they had caught deer and caged them to prevent them damaging their crops. In one case, knowing that it was illegal to kill the deer, it seemed that they were letting it starve to death.



People complain of problems with more deer since the community forestry programme. They catch them when they are a nuisance. (Yaku)

⁴⁵ Between 10-15% whereas most other interest rates are at least 18% and may be as high as 30%

The social capital accumulation outcome projected by CF programmes as a result of group formation was not mentioned despite efforts to explore this possibility with our study participants. There was a sense that some local political leadership had been nurtured within the CFUGs. But overall, our study families seemed a little bemused by our attempts to talk about the community forests in the context of important development changes as they gave them little significance.

2.11 Social changes

Hypothesis: development interventions have reduced social discrimination (caste and gender)⁴⁶

'My mother-in-law was very dominating and demanding but now we have friendly relationships with our daughters-in-law' (mother, Siddheshwor)

Engaging different generations in conversations about the differences between the workload for and attitudes towards women, both old and young agreed that women's lives have improved. Although older generations did not necessarily endorse the idea that women were not involved in decision making before. *'When the men went off portering (40-50 years ago), we ran the household. Of course we made the decisions then (old woman, Jorpati). 'Our women were always very strong and looked after everything when we were away' (old man, Jorpati)* older generation women noted that their daughters and daughters-in-law have more free time than they did. This, they attribute to less time spent collecting water, collecting fodder and grinding maize.

Through conversations and observations it was clear that women in our HHH (irrespective of caste/ethnicity) are on the whole active in family decision-making (including financial ones), active contributors to household incomes (cultivation, raksi making or waged employment) and are highly mobile (walking/taking transport unaccompanied to markets, rice mills, money transfer offices and to visit relatives). Women did not particularly note that this had changed over the generations but what is significant for them is that increased girls education had led to more young women seeking paid employment.

Women's savings and credit groups in the 80s were noted as being useful means for women to access information (e.g. about health, hygiene, family planning and nutrition) and the lack of this facet of current micro-credit programmes was rude. The high incidence of women left to run households and raise families alone while their husbands work abroad has led in many cases to development of strong bonds between these women and their in-laws as well as between young women who have developed a high level of resourcefulness. However, it is hard to judge whether this is really any different than their mother's generation who were left alone while their husbands worked away, practiced transhumance or were active in portering goods.



Young Girl Ploughing: This is not unusual but if you ask directly why people will say they are 'just playing' because of the shame associated with girls doing work of this kind

Inter-ethnic interaction has changed according to our study families. All but one of our study villages were ethnically mixed. Our dalit F/HHHs told us that they can eat and drink with others (*'even leave teacups in the teashop for washing'*). People explained that this was because it was *'illegal to discriminate'* but also because society views had changed. Children said this was because they mix at school and make friends irrespective of ethnicity *'When we bring them (friends) home to play, our parents do not know what ethnicity they are because we are all educated now'* (girls, Siddheshwor). We experienced this relaxation in old attitudes directly as two of our team members lived with dalit households and nobody

⁴⁶ Hypothesis developed in Long Term Impact in Koshi Hills workshop, April 2012

thought this was inappropriate. People in Jorpati told us there is very little discrimination with only a few practices such as not touching the same food remaining. There were many inter-ethnic marriages and in one area we were told we '*accept that a blacksmith is married to a Brahmin*'. People mostly indicated that they like to live in mixed communities, '*only political people want any difference*'

'I wish we were a mixed community... not just Magar... because we would develop more and learn from each other. We drink all the time and don't develop' (man, Budhabare).

Study participants rarely couched any comments along ethnic lines and the observed ethnic interaction and acceptance within mostly heterogeneous study hamlets led the team to abandon normative ideas of disaggregating the findings along these lines. Furthermore the diversity of experience within ethnic groups included in the study suggested that education; migration and employment opportunities contributed more to differences in experience of development than ethnicity. Both this diversity of experience within ethnic groups and the small scale nature of this study precluded sensible disaggregation.

It was very clear to the study team that in many of the villages/hamlets people were willing to come together to work on community programmes and for the benefit of the community. Even in the poorest village in the study (Budhabare) where there were high levels of frustration and apathy and very low incomes, families were actively donating money and contributing volunteer labour for community projects. Similar strong inter-community social capital was evident in other villages and appears to be stronger than in communities in Bangladesh, Indonesia and Mozambique where other RCAs have been carried out. This was attributed by study participants to their culture of mutual help honed through generations of experience as remote communities (*'we have always helped each other- we have to as nobody else was there to help'* (old man Jorpati)) rather than recent efforts to build community co-operation through users groups etc.

Less noted developments

2.12 Health

Although education was spontaneously mentioned as a major change, team members found that health service improvements were rarely noted. This may be because the majority of our F/HHH still rely on traditional *dhami* / *jhankri* (traditional faith healers) who, only in the last ten years or so, are supplemented by support from commercial medicine shops. Only 3 of our 27 HHH prefer to go to the government health post rather than a medicine shop and two of these were where there happens to be a model health post (**see photo**) Costs associated with serious illnesses are still felt to be very high and difficult and long journeys to avail secondary healthcare are as much a problem now as they were in the past.



Health Post Yaku-an official 'model health post'

The preference for medicine shops which has developed over the last ten years are many and include

- Opening hours -medicine shops are open longer hours (from early morning to evening and the pharmacist is generally available out of hours by mobile phone- the number being well publicised)
- Location – they are in market centres or easily accessible whereas many of the health posts in our study area were outside the main village⁴⁷

⁴⁷ e.g. In Morahang, the health post built by KHARDEP in 1981 is some 15 minutes' walk out of the main bazaar and people who complained of its inconvenient location could not explain why it was situated here except that it serves a number of VDCs. Most people attributed this health post to Government rather than Aid.

- Are better stocked with medicines ' *what is the point to go to the health post- they only have cetamol and we have to pay 50NPR registration fee?*' (woman, Chainpur)
- Claims that health posts often have out-of-date medicines or ones close to expiry date⁴⁸
- Medicine shop owners will make home visits, including assisting with home births. Several have their own motorbikes
- Some medicine shops do simple laboratory tests such as urine tests and blood tests which most of the health posts we visited were unable to do.
- Previous bad experience of health post e.g. going in the night for delivery and finding nobody there.

In all but Chainpur, the health posts were rather rudimentary with the most qualified staff being the Health Assistant. In Chainpur they had a 16 bedded health care centre and a MBBS qualified doctor. However, only 5 beds were occupied when we visited.

Box 14 Health Post or Medicine Shop?

The comparison between the government health post and the privately run medicine shop was stark in Morahang. We visited the health post (built by KHARDEP in 1981) and only a few out-patients were there. It has six staff. By contrast, in the main bazaar the medicine shop had a line of people waiting to see the pharmacist who was better equipped than the health post having both blood pressure machine and stethoscope. People said this was more accessible than the health post (another 15 minutes walk out of the bazaar) and was always well stocked whereas the health post '*only has a few anti-biotics and nothing else*'. We observed the hard -working pharmacist, full of drive and enthusiasm who told us he was trying to '*build a good reputation*'.

Field Notes, Morahang

Box 15: Well-functioning health post

We came across the only well-functioning Government Health Post in the entire RCA study and we discovered after the study that it is a model Health Post, supported by the Municipal Development project. The staff were all residential living with their families. It was well stocked with medicines. The Health Assistant said, '*Our services here are better than the District Hospital.... we get many visitors*' and claimed that their maternal services were widely praised. However, only four babies a month are born there.

Field Notes, Yaku

The community volunteer programme is hugely admired by participants in the study and health care providers. By chance mothers in three of our study household were Mother and Child Health Workers⁴⁹ and had done this work for more than 20 years (since their early 30s) providing a useful insight into this programme. These and more than a dozen other health volunteers we met during informal interactions during the study seemed highly motivated but one said, '*We don't get any incentives from the Government- they expect us to do something for nothing*'. Chatting with a group of health volunteers in Siddheshwor, they said they did this work for social rather than economic reasons⁵⁰. Nevertheless they are credited by the study participants with whom we had



Well stocked medicine shop run by a man who completed the Community Medical assistant training and came to set up a shop in Morahang three years ago because he sees it as a business opportunity.

⁴⁸ We actually confirmed this in one location in Terhathum

⁴⁹ One in Num, one in Siddheshwor and one in Parewadin

⁵⁰ They said they get a sari, bag and out-of-pocket expenses and reasonable per-diems when they attend trainings.

conversations with improving sanitation and hygiene behaviour, encouraging pregnant mothers to attend ante-natal check-ups and mobilising for immunization programmes (some of which is done house-to-house). For example, in one hamlet, all the young mothers told us they attend all ante-natal check-ups, 'We have to go...the health volunteer would chase us and chide us if we did not come' (Jorpati). In Siddheshwor, households confirmed the comment made by the Health Management Committee Chair that 'We have so much better health in the area nowadays.... child and mother mortality is down, less malaria, less diarrhoea ... all because of the health volunteer system'. Others added that 'they are very active in providing pills and condoms'.

'I would rather use a dhami and not waste my money in a clinic' (Parewadin).



This Health Post by contrast has no medicines

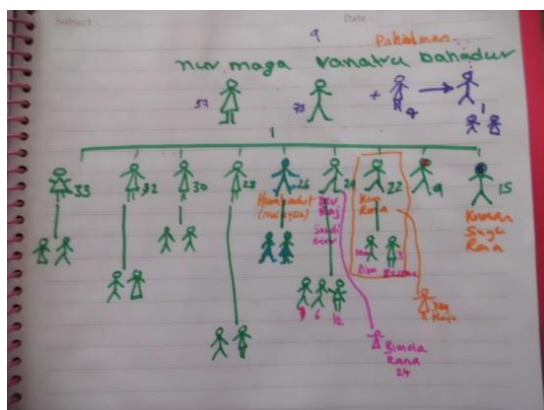
Dhamis are much revered although a little scepticism seems to be permeating the younger generation. One community health volunteer told us she had gone to the health post for a fever once but got no result and so visited the dhami and was cured. Since this experience, she always goes to the dhami first. We spoke to many dhamis during the course of the study and they told us that they are liked because they are 'known by the family', have 'cured generations of the same family' and deal with the 'mental side as well as physical side of illness'. Most dhamis we met seemed to be very prepared to refer cases to the medical profession if they felt the problem was 'not my kind of illness' (dhami, Budhabare) Government training programmes, we were told, are purposely including dhamis and, for example, encouraging them to be present when women give birth to provide relief to the mother.

Box 16: No help from Government health post

One family told us how last year (2011) they had gone to the Government health post to deliver a baby and there was nobody there. They phoned the mobile number of the Community Medical Assistant but she said she was not well. The person who lives at the Health Post tried to help by calling up people but nobody was able to come. The family ended up phoning for a jeep from Sindhuwa to take the mother to Dharan where she delivered safely.

Field notes, Sudap

The pattern of illnesses has changed, people told us, over the years. Twenty years ago the most prevalent problems were diarrhoea and 'fever', ten years ago colds were added to the list and now various acute respiratory infections, coughs and pneumonia top the list. Pharmacists and health workers we spoke with attribute this to the increase mobility and 'over-use' of antibiotics. 500mg capsules of anti-biotic were the usual strength available in the medicine shops we visited. Many families indicated that children get ill more easily these days and said their children and grandchildren had permanent colds.



Family Tree showing a dramatic difference in family size preferences in one generation

'I would have had fewer children if medicines had been available then to stop having children' (man 73, with nine children Jorpati)

Our conversations in all study areas suggest that young parents want fewer children than their parents. Most told us that they only wanted two and even when the two were of the same sex they would stop at two.

Although the quote from the old man in Jorpati is typical of many from this older generation the current preference for few children is not always understood by them, for example; *'I don't understand this. We always had as many as God intended. My son's daughter-in law has two daughters and says she does not want any sons. I always wanted sons but she says that sons and daughters are the same'*. (Grandma, Morahang)

Children are regarded as an expense now particularly since parents want the best education for them. In addition to education costs, there are other costs which are regarded as non-negotiable. For example one HHH grandma said *'We had only one set of clothes, now they have to have ten. When I was younger and we got wet in the rain we had to stay in our wet clothes'* (grandma, Jorpati). Another older man said, *'In my day I was very happy to have many children but they have all grown up and left and I have nobody.'* (Yaku)

From our conversations many women currently think about family planning only after having the children they want. Pharmacists and health workers indicated that injections are most popular as women think they are the *'least bother'*. People told us that with the high numbers of migrant workers this has created two to three year birth spacing and has acts as a form of family planning.

Preference for home births is still strong⁵¹. Staff in several Government health posts we visited explained their incentive system to encourage mothers to have institutional births but families say they would rather fetch a 'doctor' to the house if there were complications and worry about the long distances to carry women in labour to the health posts.

Older women were often quite dismissive of the services availed by their daughters and daughters-in-law nowadays, for example; *'I gave birth to six children in this house but now my daughter-in-law says she has to go to hospital'* (grandma 73, Chainpur) and *'home births are much safer because we know what we are doing.... what is the point of iron capsules and injections? My four children were all fine'*, (grandma, Morahang). In Parewadin, older women were concerned about the *large size of babies being born these days* who require Caesarian sections for delivery because mothers were *'told to rest'* (older women) *worked hard and had smaller babies and could then give birth naturally. This was better'*.

Nutrition has changed for all our study families over the last forty years. *'We used to eat soup of maize... but this is poor people's food now'* (woman, Morahang). As already noted above the staple is now rice rather than maize (and millet). *'Even when I am in debt, I still eat rice'* (mother, Yaku). The increased consumption of rice was traced by our study participants to the late 1990s when there was increased market access and rise in incomes (e.g. from farming and remittances).

Our study families told us they now eat at least twice per day and often have substantial snacks (e.g. of potatoes) between the two main meals. The families note that they eat more biscuits and packet snacks and our observations indicate that children ate a lot of such snacks throughout the day and school-going children have pocket money to buy chocolates and snacks. This prompted some grandparents to complain to us, for example, *'We used to enjoy healthy homemade food. Now children prefer unhealthy snack food which is not fresh'* (grandma, Siddheshwor). Families indicated that they eat meat or eggs as much as twice per week and eat much more vegetables than the past. In Morahang, an increased demand for fish and chicken (resulting from higher disposal incomes) has led market vendors to bring this in from the Terai in the last few years.

Alcohol consumption is quite high in many of our study areas, even among ethnic groups which do not condone alcohol (where the drinking is less conspicuous but nevertheless present). In some areas children complained to us about their father's drinking and people often noted that various development

⁵¹ All but three HHH families said that this would definitely be their preference.

incentive programmes were not used as intended and *'merely provide money for alcohol'*. In Morahang, the government health post staff indicated that 90% adults were heavy alcohol consumers. *'Many die suddenly of liver failure... most are women'*. People in the community pointed to recent deaths from jaundice and connected this to alcohol consumption but are not really concerned. Here children drink alcohol too.

Most of our study households and their neighbours had toilets of some kind, many of which have been installed in the last 10-15 years. Some development interventions insisted on beneficiaries installing toilets (e.g. the Gurkha Welfare Trust did not provide drinking water unless recipients provided evidence they had installed toilets). A number of our households do not use their toilets because they had become blocked or were leaking and so had resumed open defecation. In Yaku where there is a current drive to become a model VDC by meeting a number of targets including being declared 'open defecation free'. Here people made comments like, *'They are encouraging us to have toilets but how are we going to clean them without water?'*

2.13 Electricity

Electricity was not highlighted as a key development and conversations about its significance often had to be prompted. All but two of our study households have either mains electricity supply or solar power⁵². These were introduced from the early 90s and some have been very recent. Before people used kerosene lights, lit pine tree branches or used battery-powered torches for light and used battery-operated radios. The main advantage of electricity expressed by our families was the possibility to charge their mobile phones. It was clear that this was a priority as soon as electricity connections were restored after load shedding. Interruptions in electricity supply were very common during our visits (e.g. In Chainpur the current was on and off throughout the day) and the voltage in some areas was so low that light from bulbs had to be supplemented with torch light.

Even where electrical connection is irregular, people prefer not to use kerosene now saying it is *'smokey'* and *'old time'* and use torches, often held in their teeth to free up both hands, for example, for cooking.



The grandma of the HH resorted to hand grinding the maize as there was no current at the mill and she had run out of ground maize for the chickens and bullocks. The mill was not working for a further two days.

All the solar power units purchased by our families were obtained from private companies. Some companies had made house to house visits demonstrating the panels and making direct sales. In Yaku, we were told that there was a big promotion about ten years ago and people bought the panels for around 30-40,000 NRP. They are still working well and have not needed maintenance representing to date an annual cost of 3- 4000 NRP. The village has been promised mains electricity after they actively lobbied on the basis that other village had got connections already. Poles are currently being installed. The anticipated weekly usage costs are estimated to be a minimum of 80NRPs (estimated annual cost 4160 NRPs) Children talk excitedly about getting TV⁵³ but apart from this, there seems little additional benefit and the provision seems to fulfil a want rather than a need. In Budhabare, where poles have just been erected, families told us that they could not see the need for electricity. *'We are used to this*

⁵² Num, Budhabare, Siddheshwor and Yaku families only had solar power

⁵³ In our H/FHH where there was a TV, it was watched a lot. As soon as school children returned from school it was switched on and remained on until the household went to bed. Hindi movies were often watched.

life, why do we need electricity? It will only cost us more' though others complained that it was not coming fast enough.

The main benefits of electricity as noted by our study participants are:

- ⤴ charging mobile phones (and to charge torches)
- ⤴ light to cook by
- ⤴ light to do homework by (in the past (before electricity) students used to get up early or did their homework by torchlight⁵⁴)
- ⤴ watching TV



This HHH started a rice mill five years ago when mains electricity came to Chainpur but the current goes off 'a hundred times a day'. Since people have given up traditional farming the demand has dropped. He is now transporting rice from the Terai when the price is low and processes it for local

Electric powered rice mills were also mentioned as an important change in recent years in terms of the time-saving achieved by not milling at home. But there are problems associated with the interruptions in service and it is quite common⁵⁵ for people to have to make return trips to pick up their milled rice because of power outages and queues. Although diesel run mills charge more at least they function regularly and people told us that they feel they are more reliable.

In Siddheshwor, a man has established a computer and photocopying service powered only by solar power and is doing good business.

In Num, an NGO financed by DfID had constructed a dam in 2003 to generate power. It was designed to generate 22Kw but we were told never generated more than 14Kw. *'because of a design fault'*. It was

handed over to local management but was beset with problems including deaths during a thunderstorm. The resultant public concern led to closure of the station. We were told that the NGO had said it could be repaired but there is no local interest to do this. Poles and bundles of wire lie abandoned. People told us that they all have purchased solar panels and the *'only thing we cannot have is TV'* and so they are not bothered by the fact that this station is not working.

Improved stoves

One in four of our study HHH had improved stoves. These, we were told, were mainly promoted by NGOs. The stoves were promoted as being smokeless and using less firewood and people spoke about active promotion about 10 years ago. Many women told us that these improved stoves were better than traditional stoves as the kitchen was less smokey and the pots were easier to clean. In areas where firewood was scarce, it was noted that the fact these stoves use less is an advantage. But there were mixed views about their efficacy and some households retained traditional fire wood stoves as well or had abandoned the improved stove altogether⁵⁶. Some improved stoves were poorly constructed so that smoke still entered the kitchen, or chimneys conducted smoke into neighbours rooms or yards.

⁵⁴ With frequent power outages, we observed many students completing homework mostly with their mobile phone lights held in their mouths.

⁵⁵ We both observed first hand and heard regular complaints

⁵⁶ In a few F/HHH the improved stove had been converted into a shelf

We were told that the main problems encountered with the improved stoves are;

- cooking time is slow
- cannot gather round it to keep warm⁵⁷
- flame is too low to give off much heat
- cooking *chhang* and *raksi* requires a bigger source of heat.
- stove takes up too much space

'These stoves are ok for small quantities but not for large amounts. The kitchen is outside anyway and if we work out a system of ventilation then it is not a problem. I think it is better to have a separate kitchen and higher ceilings' (mother, Siddheshwor)

Bio-gas cookers seem to fare less well. Also introduced⁵⁸ about 10-12 years ago, most had been abandoned. Study participants told us that they had had some financial and technical assistance to install them but had to pay the bulk of the cost themselves⁵⁹. Many stoves seemed to have worked reasonably well for 5-6 years but then ran into problems (paddle breaking, blockages etc) and became *'too expensive to repair'*. Like the improved stoves people complained that the flame was very low and the family could not sit around the fire together to keep warm, so they maintained traditional stoves too.

No development

The following issues were found to generate mostly negative perceptions among the study participants.

2.14 Local Government

Hypothesis: *development interventions have created inclusiveness in the village level institutions*⁶⁰

Generally we found very little interest in local government among the people we interacted with unless they happened to be directly involved. Nearly all those directly involved were strongly political⁶¹. Our F/HHH said they were not involved in ward-level decision making but complied when they were told their contribution was needed for community schemes decided by the VDC.

Interestingly some of the arrangements to manage the community school, the health post and police post are seen as local initiatives and not something mandated or facilitated by government. More often people explained that they expected to be organised by 'officials'. One of our HHH was included in the VDC as a representative of the Nepali Congress. He explained that he is sometimes approached by government officers for suggestions about who should benefit from various schemes. Over the last three years he was asked to arrange the distribution of first, high yielding variety of maize, then piglets and, in the third year, orange saplings. He also organises the community labour contributions for road construction.

'The VDC office is 2 hours walk away and is never open – so what is the point of going there?' (man, Parewadin). We visited VDC offices which we had been told by our F/HHH were usually closed and found this to be the case (See Photo Morahang VDC)

⁵⁷ Even HHH with LPG for cooking still light firewood fires to huddle round as a family. (Parewadin)

⁵⁸ It was not entirely clear who introduced them but in most cases it sounded like private contractors

⁵⁹ 65,000 NRPs was noted

⁶⁰ Hypothesis developed in the Long Term Impact in Koshi Hills workshop April, 2012.

⁶¹ Only in Morahang did we meet a ward leader who was also active on the SMC and in getting water to the village from the Gurkha Welfare Trust but was not a politicised person but rather had earned a reputation in the village for trustworthiness.

Those who had an opinion about local government felt that there was insufficient monitoring and supervision of the grants provided by the Government. We heard first hand of occasions where government grants are siphoned off and people regard this as 'normal'. For example, we were told of farmer managed irrigation schemes which had requested support from the DDC but the schemes were never actually repaired. The farmer groups officially state that there *is no need for supervision* and apparently pocket the money. One agricultural officer told us, '*In the past before user groups were involved the government official only took 10% now everyone in the group⁶² wants a cut and only 10% reaches the community*'. Some of our HHH talked openly of the political connections they have which facilitated the provision, for example, of water pipes. Talking about the 'capture' of the best irrigation source for his cardamom production, one HHH told us, '*This water source is mine even if others complain. This whole village is mine as my grandfather distributed the land, so I have rights to the water. I have gone to the project office and the Water Board and used my political and family connections to secure the registration I need. They have given me all the pipes I need.*'



This VDC was locked on each occasion we visited. We were told it opens just once per month to pay old age pensions (Morahang)

Documentary evidence suggests that development programmes have made specific attempts to increase the participation of women and low caste groups in various local governance arrangements. We met several women who were active on committees but our conversations with others suggested that, on the whole, they are not interested in attending meetings. Several women told us that meetings '*are a waste of time*' and '*I have better things to do*'. Others indicated that the men attended meetings '*to drink alcohol*'.

The high levels of social capital and co-operation in hamlets was not regarded as a new phenomenon and therefore not attributable to development programme efforts at organisation building. The *khetala* and *parma* reciprocal labour arrangements go back many generations and the remoteness of many villages spawned numerous forms of mutual co-operation (portering groups, marketing arrangements, house building, water access etc). These arrangements were not politicised but were for mutual benefit, (the RCA team noted as a characteristic of remote communities worldwide). The emphasis on group formation e.g. CFUGs, loan groups, ward committees by development agencies was not seen as an innovation nor as a means to increase inclusivity. The regulations are simply followed because '*they are the rules*'. As noted in the section on social changes, inclusion is regarded as both a legal requirement and changing social norm required in all spheres of activity.

2.15 Loans and Indebtedness

Not unsurprisingly many of our F/HHH are highly indebted. Many shared with us a strong desire to become debt-free when conversing about future aspirations. In every location there were numerous different ways in which people could avail loans and we were told this had been the same many years ago. Most hamlets had women's savings groups some of which were self-initiated⁶³ and some had been facilitated by NGOs. There were fewer examples of men's savings groups (we were given reasons such as '*they tried it but the men were always spending the money on alcohol*'. '*It did not work; the men could not manage the money*). Community Forestry schemes also provide small loans from the accumulated profits from the sale of forest products. Although the small loans from all these village-based schemes which can be availed by members are ostensibly for income generating, our F/HHH mostly said that they were used to pay off other debts, for consumption purposes or to buy clothes for

⁶²By law the user groups must have a representative from all political parties, he explained, and so they all expect a cut.

⁶³ Generally, some form of rotating savings and credit scheme

children and ceremonies. They spoke of them easing cash-flow rather than being used for investment. The following was typical of many comments made to us ' *The Forest Users group provided me a loan of 6000 NRPs for goat rearing but I used it to repay another loan*' (woman Morahang)

Box 17 : Taking loan to pay off debts

A new savings and credit office opened in 'B' recently. The 'people' came and organised twenty member women's groups. The daughter-in-law of my HHH was made member secretary of one group. She took out a 20,000 NRPs loan and is paying 200 NRPs per month. The loan was given to her father-in-law to pay off another loan.

Field Notes, Siddheshwor

Moneylenders are still providing valued services and they were described as 'good' and 'nice' and preferred to banks and sometimes to group- based credit schemes. People explained that they were well-known to them and often more understanding in re-scheduling repayment if the loanee was in difficulty whereas the *'NGO loans are very strict- you cannot go to the meeting if you do not have the money to pay back'*. For example, one of our FHH women appeared one day wearing her wedding necklace which we had not seen previously. She explained she had just got it back from the moneylender as she had paid off her debt. The next day she was not wearing it and she had re-pawned it so they she could pay her dues to her credit and savings group⁶⁴. *'They would be very angry if I did not pay today'*, she said illustrating the premise of group savings and credit programmes which depend on group pressure to ensure repayment.

No matter what the source of the loan, people found it very difficult to work out which loans were better. All sorts of interest rates were quoted but some were annual, some were monthly, some included paying off the principle and some did not and some made service charges which were not computed in the overall cost (e.g. 2NRPs per week for *'stationery and administration costs'*). As mentioned above, several of our HHH had multiple loans and paid one off with another. In Yaku villages people told us they were leaving loan schemes because they did not understand the conditions and were frustrated with it. Two small shops were set up here with loans from the women's cooperative here but they were not profitable as there was too much competition. There is also another problem with small businesses like this in that local people expect to be able to buy on credit.

Several women in different study locations indicated that the group meetings which they had , particularly in the past when savings and credit groups were first initiated were more valuable than the provision of loans. *'We learnt a lot in those days- all about health and hygiene- washing hands, having a toilet, immunization. I can still remember the song we used to sing... now we just go along to repay our loans'* (woman, Jorpati) was typical of comments heard in other locations.

Four of our HHH were keen to point out that they had no loans. Two because they had paid them off and two because they had never taken loans. Those who had paid off loans felt very much relieved of this burden and other F/HHH spoke of the importance of the aspiration to be debt-free. One, in particular noted the importance of ensuring his children would not be burdened with his debt.

⁶⁴ She took a photo of herself on her mobile wearing the wedding necklace and sent it to her husband in Saudi Arabia before re-pawning it.

3. CONCLUSIONS AND LESSONS LEARNED

This section draws in the RCA team members own reflections of the study and the insights gained. The findings are interpreted in the light of the normative theories of change and hypotheses put forward through the documentary review. This section represents authorial voice rather than the voices of the families living in poverty included in the study as have been prioritised in the previous sections. This section presents an attempt to draw lessons from the conversations and observations through a development intervention lens. The RCA team also reflected on the value added of including RCA in the overall study and these observations are also included.

This study has shown that RCA provides a way of getting closer to how people view change. Change was discussed in the wide context rather than with a project or sectoral lens and this has helped to understand the relative importance of different changes and the significance of change within complex and diverse lives. The information provided has special value since it is obtained through spontaneous conversation with individuals which avoids some of the biases associated with conventional evaluation and group processes.

The overwhelming endorsement of the importance of roads over other development interventions is clear. The hypothesis which suggested that roads would lead to both economic and social development holds although not necessarily entirely through the theory of change envisaged. While road development has opened market access for agricultural produce and agricultural inputs, increased mobility has led to more children pursuing higher education and easier access to manpower agencies facilitating foreign employment. Higher disposable incomes generated as a result of remittances have in turn created consumer demands e.g. for food, household goods, construction materials etc often sourced and transported from outside the Koshi Hills area.

Also clear is the importance of understanding context, both macro and micro-environments, when planning development interventions. Early agricultural interventions focused on food security but it was the introduction of cash crops that transformed lives and enabled farmers to become consumers as well as producers. The significance of the developments which evolved with little or no conventional development assistance (e.g. migration, cardamom production) was not picked up for many years and point to insufficient connection to the ground realities when planning development assistance. There was much that could have been done to assist both overseas employment and cardamom industries in terms of creating an enabling environment, research and capacity building but a long lag time before this was even contemplated. Interventions in many cases seem to have been top-down and based on normative assumptions rather than appreciating the aspirations and changing context of the people of Koshi Hills. Little was understood about how ideas and innovations diffuse and the best ways to provide technical assistance. Many of the innovations of KHARDEP (e.g. livestock varieties, vegetable cultivation), for example, have had long lasting impact much of which may well be under-attributed as evaluations have restricted themselves to catchment or command areas and have not appreciated the importance of natural diffusion.

This leads to another observation arising from this study which questions the emphasis of past development intervention on structures- both physical and organisational – over processes and behaviour change. A number of health posts, for example were constructed which exist today but are poorly resourced and inefficiently run... and empty. People are '*voting with their feet*' and demonstrating a clear preference for private medicine shops where they can get the healthcare they need when they need it. The same goes for schools, agricultural service centres and VDC offices- most under-performing and under-utilised. The success story in health is the community healthcare volunteers for whom no physical structure was required- but was based on provision of training, organisation and strong motivation to serve their community. Their community-embeddedness and mobility remains their strength rather than attachment to a building.

Similarly, there has been a concentration on organisational structures; village committees, CFUGs and other user groups, savings and credit groups to mention just a few. Once these structures were defined as essential to the project then concerns have been constantly raised about who participates and who does not, on the rules of engagement and numerically-driven targets for organisational achievement. It is clear from the RCA that many people do not want to be bothered with going to meetings and participating to satisfy targets and their lack of participation is not because they are necessarily less empowered. Rather than concentrating on associational activity more attention should have been given to providing people with good information and education so that they would not be exploited, taken advantage of or marginalised from development activities.

The RCA team feels that too much attention has been given to agriculture without the foresight to appreciate that the Koshi Hills area is transforming into a consumer society. There seems to have been pervasive attempts to retain people in agriculture rather than nurturing new ambitions. People have absorbed the *'ideal of urban society'* (as Pettigrew notes) and want to be consumers and have leisure time. The need for a diversity of employment opportunities has been under-appreciated and education and technical training have not met these emerging needs.

Although it can be argued that the way projects have been evaluated within their sphere of influence may have under-attributed some impacts, the opposite also holds. In other words projects have tended to assume that all change is attributed to the project when there are clearly other processes happening. The fact that people in Koshi Hills have been highly mobile for generations has been a huge influence on the diffusion of ideas and innovations. The whole history of cardamom production is testament to this as development aid was not involved.

Another way in which benefits of programmes may have been under-valued includes the tendency to valorise direct participation over indirect effects. Cardamom production, for example, does not just benefit those who own the cardamom but has raised wages for day labourers; increased days of employment and the development of hubs like Num mean that other services are available to all.

During the course of the RCA we found a number of interventions not working. Some examples are listed below:

- water tank (1000l) installed by an NGO funded by DfID in Num
- goat project for women groups supported by NGO in Num
- private cooperative which provided loans for pig and goat rearing in Terhathum but this was not profitable *'feeding a pig is more expensive than buying rice so it is not worth it'*
- irrigation scheme under KHARDEP in Morahang *'ran out of money and was suspended'*
- some grants provided by DDC for FMIS are *'scams'* according to officials
- gabion baskets constructed to prevent landslides on roads have been damaged by flood. Interim repair work constantly being done (*'lots of money spent'*) but not a permanent solution.
- water tank constructed for households now commandeered by a hotel
- problems with toilets which fill up/need maintenance
- bio-gas and improved stoves which have been abandoned
- micro credit used for consumption and debt management

The short term project nature of much development assistance means that some of these problems were never picked up as they emerged after the project has closed. Furthermore the need to prove success in order to secure funding extensions tends to bias reporting and evaluation towards achievement and not towards learning from failure and mistakes. Projects have tended towards imposing structure, activities and delivery rather than facilitating processes of context specific change. For example, the RCA revealed that there are high levels of social capital in many communities which have served to support collective action over generations. Rather than introducing new structures, new

groups, new organisations (often times primarily for the convenience of the project), more could have been done to exploit existing forms of collaboration and volunteer action.

The RCA team feels that incentive programmes e.g. to encourage school children to attend school, mothers to have their babies in hospital need serious review. Our conversations did not suggest that these worked. Parents are already motivated to send their children to school and the meagre incentives make no difference. People queried the wisdom of transporting pregnant mothers' long and hazardous distances to health posts where, when they got there, there may not be any staff. The incentive may be better used to pay for the transport of health professionals to the home.

The RCA team felt that more care needs to be taken to understand the basis of targeting development assistance. Some communities are not as poor as the national statistics would imply sometimes because the data is not updated but also because the indicators of deprivation need to be reviewed. The '*food security as land ownership*' bases for determining poverty have no place in the way families manage their livelihoods now. Furthermore, socio-economic assumptions made based on caste or ethnicity need to be questioned as we found much diversity within ethnic groups. Since all children have access to education and more diverse employment opportunities including overseas employment, the old correlations of poverty with caste or ethnicity no longer seem to hold. As others (e.g. Fitzpatrick, 2011) argue **class** is becoming more important than caste or ethnicity as a determinant of economic well-being.

The RCA team felt that there continues to be 'blind eyes turned' to systemic problems. The logical frameworks of projects failed to recognise the importance of enabling and disabling factors such as unhelpful legislation, corruption, inefficiencies. The current uses of theories of change are supposed to address this better and will do so if they are not used mechanistically. There are other issues which concern families greatly but fail to be embraced in development planning such as the chronic indebtedness of households and the major issue of alcohol abuse.

Finally, the RCA does not look at development with a sectoral lens but in the context of people's everyday lives. To understand how people make decisions and prioritise aspects of their lives this is essential. It also provides insights into what works and what does not. For example, everywhere the health volunteer programme was lauded, even where health care generally was not regarded as having improved much. If this approach works in health; why not in agriculture? Why not in advisory services such as migration advice?

To summarise, the RCA team felt that development assistance has been important in many areas and possibly under-attributed in many cases if the diffusion of innovations introduced and indirect benefits through development projects is considered fully. However, the RCA team feels that it was persistently limited by insufficient surveillance of the natural processes of change and connectedness to people's realities. This was further compounded by insufficient review of alternative future scenarios. .

ANNEX 1: REALITY CHECK METHODOLOGY

Reality Check Approach (RCA) is a method of study developed by Dr Dee Jupp (consultant) and Helena Thorfinn (formerly with the Swedish Embassy in Bangladesh) in collaboration with Esse Nilsson from Sida's Policy and Methodology Department. The Reality Check Approach was first used in a five year longitudinal study (2007-2012) supported by the Embassy of Sweden in Bangladesh to gather insights into the way in which policy and practice in delivering primary healthcare and primary education (supported by sector-wide approaches) was experienced by people themselves. It was regarded as an important contribution to their Country Strategy for Cooperation with Bangladesh (2008-12) to further their global principles of taking a **rights perspective** and understanding **poor people's perspectives on development**. The Swedish Policy for Global Development (2003) notes, '*poor people should not be viewed as a homogenous group; that poor women, men and children must be seen as individuals*' and, in order to ensure that '*the problems, needs and interests of poor people are given a genuine and undistorted impact on development cooperation..... there must be more 'possibilities (for) poor people to express their needs and advance their interests*'.

In Nepal, the RCA was commissioned by DfID to complement the Documentary review of the Long Term Impacts of Development in the Koshi Hills and represents the first time the approach has been used to undertake a retrospective long term evaluation. It was piloted in March 2012 and the main study was completed in May-June 2012. During these periods, the RCA team stayed with families living in poverty and had conversations with different family members, their neighbours and different local service providers.

RCA is primarily a qualitative study with focus on 'how' and 'why' rather than 'what', 'when' and 'how many'. It is not intended to provide statistically representative or consensus views but deliberately seeks to explore the range of experiences concerning health and education of people living in poverty. It complements other forms of research by providing valid, up to date, people-centred information.

RCA draws on the tradition of '**listening studies**'. This is a term that covers a range of techniques that have been used by policy researchers, activists, and market researchers to engage in depth with the views of service users and clients. Listening studies have three main strengths: a) engaging in more depth than conventional consultation exercises normally allow; b) representing a wide range of diverse views on complex issues, and c) creating an arena in which frequently ignored voices can be better heard. The RCA also has much in common with '**participant observation**' and is sometimes referred to as a '*light touch*' participant observation. Participant observation involves entering the lives of the subjects of research and both participating and observing in their normal everyday activities. It usually entails extensive and detailed research into behaviour, understanding peoples' perceptions and their actions over long periods of time. The RCA is similar in that it requires participation in everyday life within people's own environment but differs by being comparatively quick and placing more emphasis on informal, relaxed and insightful conversations than observing behaviour and complexities of relationships. Key to all RCA approaches is the element of immersion.

The following characterises the RCA:

living with rather than visiting (thereby meeting the family in their own environment, understanding family dynamics, how days and nights are spent)

conversations rather than interviews (there is no note taking thereby putting people at ease and on an equal footing with the outsider)

learning rather than finding out (suspending judgment, letting people who experience poverty take the lead in defining the agenda and what is important)

household -centred, interacting with families rather than service users, communities, groups

experiential in that researchers themselves take part in daily activities (collecting water, cooking, cultivation), accompany household members (to school, to market)

inclusion of all members of households

private space rather than public space disclosure (an emphasis on normal, ordinary lives, confidentiality and openness)

multiple realities rather than public consensus (gathering diversity of opinion, including 'smaller voices')

ordinary interaction with front line service providers (accompanying host household members in their interactions with local service providers, meeting service providers as they go about their usual routines, meeting service providers outside of their workplace)

cross sectoral although each RCA may have a special focus, the enquiry is situated within the context of everyday life rather than simply (and arguably artificially) looking at one aspect of people's lives.

longitudinal change- understanding how change happens over time

The study team members in the Nepal study stayed with host households for four-five nights and in each location. The focal unit of the study is the **household**, rather than individuals or wider groups. A household focus provides insights into household dynamics including those constructed by gender and age. It enables a better understanding of how information is shared and how decisions are made and acted upon.

Methods

Conversations are conducted at different times of the day/evening and with different constellations of household members throughout the period of the study member's stay. Conversations have the advantage over interviews and some other participatory approaches of being two-way, relaxed and informal, and can be conducted as people continue with their chores and other activities (with the study member helping where appropriate) and so keeping disturbance to normal routine to a minimum. The study adopts the principle of sensitivity to people's routines and flexibility in relation to timing of conversations.

Visual approaches. In the field, as well as conversations, the teams may use a range of visual approaches such as diagrams, dramatisation, and illustrations (drawings and photographs). These tools, many derived from the PRA family of tools are used to assist the conversations, rather than as a goal in themselves, often serving as an ice breaker as well as a useful means to provide easier and more comfortable ways for the families to share ideas.

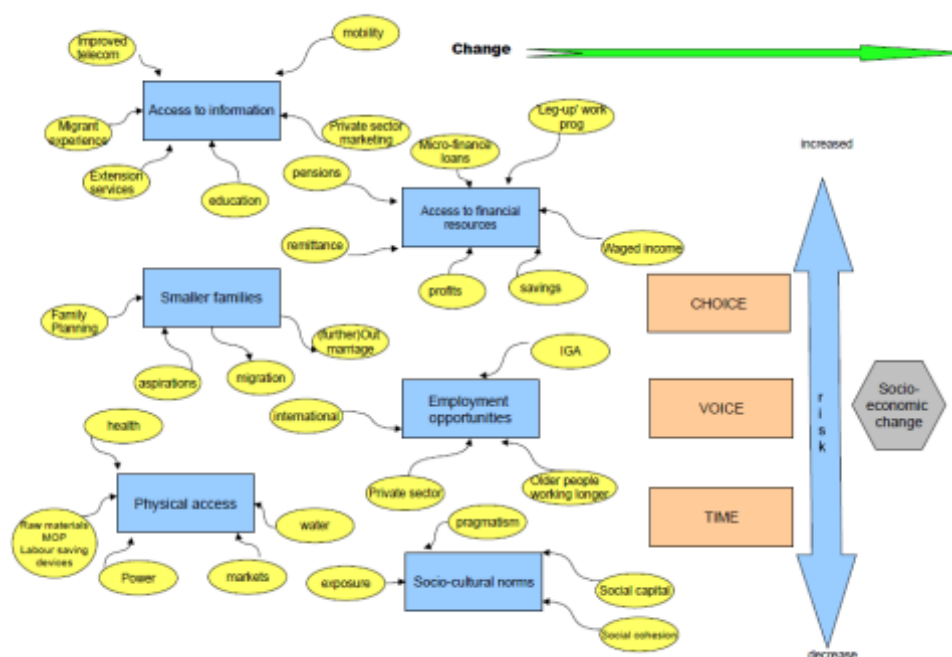
Observation. As the team members spend several days with their host families, there is ample opportunity to observe and experience day to day life. Inter and intra household dynamics can be understood and provide important contextual information for interpreting conversations. Living with host families builds trust and informality is promoted providing the best possible conditions for open communication.

Immersion draws on recent ideas about experiencing reality' where 'outsiders' live with households living in poverty and, to some extent, experience their day to day life. It provides the team with opportunities to understand the context, live (to some extent) other people's reality, experience the

community dynamic both in the day and the night, observe coping strategies and witness unintended interpretations of programmes and the difference between knowing and doing.

Conversations with a purpose

Although the RCA emphasises informal conversation, the study team spent some time during their briefing session before the study discussing the idea of change, what it might involve and the topics around which they should try to have conversations. This was further enhanced by participation in the workshop to discuss the findings of the xxx study and the development of change hypotheses. The following visual was developed by the RCA study team as a contribution to a Theory of Change model and was used by the team members as a prompt for areas of enquiry throughout the RCA.



The main emphasis in all conversations was the notion of **change**, both positive and negative. During conversations we asked people what changes had happened in their lifetime and what significance these changes had for them and their community. Where possible, we purposely stayed in households where three generations lived in order to engage these different generations in reflection on change and to encourage them to debate positive and negative change amongst themselves. In order to get a sense of the time span over which people were reflecting, we anchored discussions to dates they knew well such as their children's birth years, significant natural disasters, before/after the advent of major roads and the various political periods.

Units of study

The main units of study are:

- **Host households (HHH):** These constitute the primary unit of the study (total of 27 HHH) A household is defined as 'a family unit, which cohabits around a shared courtyard and often cooks together' (CBS 2006). A HH focus enables the following:
 - i. **Experiences of different generations within the same household** (elderly, adults, school going aged children). The focus was on collecting oral histories, the complex sequence of experiences and memories of personal events, of each group, to assess how changes have occurred in their lives and communities over the past 30+ years.

- ii. **Experiences of male and female family members.** RCA explores how development interventions have affected access and accessibility to services and resources for both men and women.
- **Focal Households (FHH):** These include neighbouring houses of the HHH, where the team members had in-depth conversations about their experiences and views. This allows for greater diversity of views and perceptions amongst different social and economic groups. In addition, it will also allow for triangulation. In total there will be 108 FHH.
- **Local service providers;** Government and private service providers operating in the study locations were specifically sought for their views on development. Opportunistic conversations with service providers met were also conducted. Importantly service providers were met outside of their places of work e.g. tea stalls, in their own homes

The selection of the locations for the RCA was based on the following steps:

Step 1: Identification of High, Medium and Low differential impact areas of land use within the Koshi Hills between 1986 and 1996. Here, the basis for the three levels was the changes in percentage between the two time periods.

Step 2: Once the areas of the three levels of change in land were identified, villages and VDC boundaries corresponding to each of them were obtained (refer to GIS analysis model).

Step 3: In each of the three regions, three communities/villages were selected based on a mix of: (i) Caste/ethnic diverse settlements; (ii) High and low population densities, and (iii) different levels and type of land uses with development infrastructure.

Step 4: Within each selected community/village, the final selection of the Host Households (HHH) was purposive. Here the HHH refers to 3 families within each of the communities/villages, which were requested to host 1 RCA team member for 4-5 days. These 3 HHHs were selected such that, even though they fall within the same community/village, the locations were far enough for the RCA team members to maintain separate interactions. The study HHH will be carefully chosen to represent a cross-section of (i) caste/ethnic diverse households, (ii) poor and non-poor households, and (iii) female headed households

In addition to the sampling of HHHs (27 in total for the 4 regions), 3-5 neighbouring Focal Households (FHH) will also be sampled near the location of each HH. Thus a total of 108- 162 HHs can potentially be covered by the study.

Validity of findings

The focus of the RCA is the household but study team members also interact with the neighbours and other people in the community. As each team member usually has conversations with at least 20 people in any given location (excluding the members of the host family), we estimate that the views of over 600 people have been gathered in the course of this study.

The Reality Check is not a conventional evaluation where achievements are assessed against a set of normative programme intentions. Rather it is an appreciation of the day to day reality as experienced by people living in poverty and the Reality Check Team is acutely aware that to be able to do this well, they must suspend judgement and reduce the influence of external bias on their conversations. There is thus a need to let the study participants take the lead in directing conversations while the team needs to maintain this ideal with a careful balance of external expectations.

A key contribution to confirming validity to the findings is the extraordinary opportunities provided for within the RCA for triangulation. The team members are vigilant in using multiple avenues for immediate triangulation as follows:

- ⤴ **People:** Gathering views from and cross checking information with different generations/gender/HH and neighbours/users & non users, local service **providers**
- ⤴ **Places:** visiting , observing and having conversations in homes, places of employment/livelihood, point of service (local school, health extension service, village development committee office)
- ⤴ **Time:** observing and having conversations at different times; day & night (also year to year in longitudinal studies), discussing or experiencing seasonality
- ⤴ **Approaches:** using a wide range of different study approaches to crosscheck findings e.g. conversations, observation, own experience (e.g. of collecting water, accompanying patient, attending community meeting etc)

Limitations

RCA never aims to cover a large sample size or to collect information against a pre-determined checklist as the approach is conversational, flexible, circumstantial and opportunistic. As a result, the information gathered may not lend itself to comparison across households and across locations. It may be more detailed in some areas and less so in others. Individual stories are anecdotal, yet put together they represent multiple realities rather than consensus based realities which result from most other forms of qualitative study. RCA never claims to be a substitute for other forms of study such as the quantitative or the conventional qualitative methods but is to be regarded as a complement and supplement , providing a more in depth insights into the findings from other approaches and 'flagging up' issues for further study.

The RCA team recognised that there is a danger of the distortion of information collected and jointly exercise caution not to overlay their own interpretation onto statements provided by people. The team spent much time reflecting on information gathered and exercise mutual self-criticism to ensure that their own normative values did not distort analysis. The team was circumspect about who provides what information (and where), realizing that people they talk to might have their own agenda and interest in sharing information.

Reality Check is not a conventional evaluation where achievements are assessed against a set of normative programme intentions. Rather it is an appreciation of the day to day reality as experienced by people living in poverty and the Reality Check Team is acutely aware that to be able to do this well, they must suspend judgment and reduce influence of external bias on their conversations. There is thus a need to let the study participants take the lead in directing conversations while the team needs to maintain this ideal with a careful balance of external expectations.

ANNEX 2: REFERENCES

Fitzpatrick, 2011 Cardamom and Class.

Seddon, D, Adhikari, J and Gurung, G, 2002 Foreign Labour Migration and the remittance economy of Nepal, Critical Asian Studies 34 (1) 19-40

World Bank, 2005 Nepal Development Policy Review; Restarting growth and poverty reduction

ANNEX 3: DEMOGRAPHY OF HOUSEHOLDS

HHH by ethnicity

Ethnic group	Number of HHH
Magar	5
Chhetri	4
Limbu	4
Newar	3
Dalit	2
Sherpa	2
Tamang	2
Rai	2
Gurung	1
Brahmin	2

People met in the course of the RCA

Occupation	Number met	men	women
Host households	167	83	84
Focal households	232	116	116
Community people	315		
Students (school and college)	254		
Teachers	94		
Teashop owners	35		
Chhang shop owners	8		
Private medicine shop owners/pharmacists	17		
shopkeepersShopkeepers	38		

dhamyDhami	13
Drivers/transport operators	4
Dairy service providers	14
policePolice	10
GON health post staff	23
Community Forest User Group committee	4
Other village committee members	18
vets	13
Community health worker	19
NGO worker	4
Agricultural service provider	14
TOTAL	1283

Host household characteristics; phase 1

HHH	Nos permanent inhabitants total (adult/children)	Brief description of house	toilet	water	TV	Mobile phone	livestock	occupation	Ethnic group	Distance from shops (time to walk there)
Dhankuta										
HHH A1	6 (4/2)	X2 two storey stone buildings, one tiled and one thatched. Separate one room kitchen	Not working-use bush	Gravity-fed hose pipe outside house	no	3	One cow and calf, one buffalo, one goat, one pig and piglet, chickens.	Elderly parents farmers (vegetables and cardamom). Son works in wood selling business.	Magar	One hour
HHH A2	5 (3/2)	Two storey stone building with tin roof, separate two storey building for kitchen combined with animal shed and another thatched roof shed as cowshed	Toilet with no running water, no bathroom-use tap water	Piped water outside house	yes	4	Two cow and two calf, two goat, few chickens	Parents (vegetable farmers), son and daughters are students but also involved in farming	Chhetri	15-25 minutes
HHH A 3	7(3/4)	One two storey stone building, tin roofed with kitchen room.	No toilet, using bush	Piped Water outside house	No	3	One buffalo, one pig and chickens	Elderly (2) & female (1) members work in vegetable, cardamom and forest, young son works in wood selling & land survey business. X3 are students	Limbu (Subba)	10 Minutes
HHH B1	3(2/1)	One storey house, with two rooms and a separate kitchen. Tin roof	One permanent toilet.	Gravity fed tap outside the house	1	2	None	Vegetable farming. Husband also is involved in trading seeds.	Sherpa	30 mins
HHH B2	5(3/2)	Two storey stone and mud plastered house with zinc roof includes four rooms in upper floor, Kitchen and store room in the ground floor, two storey tin roofed cow-shed (Goth) , upper floor for fodder and firewood	One temporary toilet	Gravity fed tap outside the house	1	4	Cow-6 (2 milking cows and 4 calves) Goat-6	Father works in cooperative daily, Also milks cow and sell it to collection centre mother and wife involved in fodder collection, feeding cattle Family produces subsistence crops, like maize in summer and mustard in autumn, winter potatoes, cauliflower, etc	Bahun	30 minutes

HHH	Nos permanent inhabitants total (adult/children)	Brief description of house	toilet	water	TV	Mobile phone	livestock	occupation	Ethnic group	Distance from shops (time to walk there)
HHH B3	7 (5/2)	Two storey mud and logs buildings x2, tin roofs	One toilet, one shower room	X2 taps in the shower room and outside (don't work as water source has dried up), one gravity fed hose pipe outside house	1	5 mobile phones, 1 cdma landline phone	Three cows, three calves, two bulls, four goats	Parents are farmers(vegetables)	Sherpa	45 minutes
HHH C1	5(5/0)	Two story house with four rooms (two rooms in each Flore with thatched roof. Separate one room kitchen.	One toilet	Gravity fed tap at the school compound near the house, brings the tap at the house compound connecting pipeline	no	3	Two male cow, one calf, 8 goats, one pig and chickens	All the family members are farmers, father also works as wood cutting and mother sells local wine	Magar	Two minutes
HHH C2	5 (2/3)	Two storey brick building with thatched roof	Separate clean toilet -1	Close to the house, but the supply was better only in the mornings	no	1	Two cows, two pigeons, one pig and chickens	Mother works as a farmer and also goes for waged work in the fields along with her daughters. Daughters are studying in 8th and 9th grades	Magar	One hour
HHH C3	4 (3/1)	X2 two storey mud and logs with thatched roof. Separate one room Kitchen	X1 made out of bamboo and stones	X1 Tap	none	2	Three cows, two oxen, two pigs, eight goats, three chickens.	Elderly parents: farmers, son: works abroad in a factory, daughter-in-law: farmer and sells chhang on weekends.	Magar	One hour

Host household characteristics Phase 2

HHH	Nos permanent inhabitants total (adult/children)	Brief description of house	toilet	water	TV	Mobile phone	livestock	occupation	Ethnic group	Distance from shops (time to walk there)
HHH A1	2 (1/1)	2 two storey house with Zinc sheet roof	Fully functional	Mostly rain water harvest, community tap 5 mins away from house	no	2	chickens	retail shop owner, cardamom business, operates lodge, school teacher, owns tractor,	Chhetri	Main market
HHH A2	4(2/2)	2 two storey house with Zinc sheet roof	Fully functional	No tap need to go 15 min down to collect water	No	2	Goats, chickens	Farmer	Gurung	25 Minutes
HHH A 3	32(16/16)	Roof of Zinc sheet , 2 storey	Functional	Tap water within the HH compound, rain water harvest	no	4	2 buffalos,4, cows, 6 Goats, 2 Oxen chickens	Farming, cardamom farming, job	Tamang	10 minutes away from the main market
HHH B1	6(3/3)	Two storey stone and wooden building. Tin roof. Separate kitchen	Working	Gravity-fed hose pipe outside house	1	1	One cow, One buffalo and calf, five goats, three chicken	Grandmother looks after the livestock, Son is a farmer who had gone to Malaysia to work, Wife is also a farmer	Chhetri	1 hr
HHH B2	6 (5/1)	2 two storey stone buildings (4 rooms) with tine roofed, Two storied separate kitchen (2 rooms) with thatched roof	One tin roofed toilet and bath room but use bush for cleaning & toilet	Private pipe water since 1998	No	3	One calf, seven goat, two pigs and six chickens.	Elderly parents are farmers (maize is a staple crop) Potato, large cardomom and broom are cash crops Son works in foreign employment Daughter works in local NGO	Tamang	One and half hour

HHH	Nos permanent inhabitants total (adult/children)	Brief description of house	toilet	water	TV	Mobile phone	livestock	occupation	Ethnic group	Distance from shops (time to walk there)
HHH B3	6 (5/1)	Two storey mud and log building, tin roof with a separate kitchen	One sanitary toilet (non-functioning) One pit latrine (non functioning) Use bush	Tap outside the house, shared by 3 HH. Water brought into the house through pipes, stored in tanks.	1	6	2 bulls, 2 buffaloes, 6 goats, chickens, 1 pig	Parents are farmers. Elder son in a migrant worker (garage) in Saudi Arabia	Magar	1 hour
HHH	Nos permanent inhabitants total adult/children	Brief description of house	toilet	water	TV	Mobile phone	livestock	occupation	Ethnic group	Distance from shops (time to walk there)
HHH C1	2(2/0)	Two storey house with two rooms one room in each with thatched roof. extra small house used for animals	One toilet	Gravity fed tap in the compound connected g. pipeline connecting pipeline	no	1	One milking buffalo, one calf, 1 goat, one pig and chickens	Family farms, father also works as school teacher	Rai	45 minutes
HHH C2	7(4/3)	Two storey brick building with tin roof	Separate Toilet, functioning	For drinking, they bring it from kuwa (less deeper well) and over the ground pipe water for other	no	3	One cow, one calf, one buffalo, 2 baby buffaloes, 15-	The elder son is a school teacher, the mother and daughter in law are involved in farming and rearing goats	Limbu	Small shops 25 to 45 minutes away, the bigger ones were about 2 hours

				purpose			18 goats			away
HHH C3	7 (6/1)	2 two storey mud building, one with the tin roof and the other one thatched.	Pit toilet functioning	2 Wells [1(15 minutes from the house) the other (20-25 mins. from the house)]	none	4	25 Goats, 6 Pigs, 3 Cows and 30 Chickens.	Father (Social Worker and a Farmer), Mother (House-Wife), Eldest Daughter (School Teacher), Son (Student), Daughter-in-law (Student) and Youngest Daughter (Village Volunteer and a Student)	Rai	30 Minutes

Host household characteristics Phase 3

HHH	Nos permanent inhabitants total (adult/children)	Brief description of house	toilet	water	TV	Mobile phone	livestock	occupation	Ethnic group	Distance from shops (time to walk there)
HHH A1	4(2/2)	2 two storey stone building with zinc sheet roof	Fully functional	hose pipe near house (2 mins away)	yes	4	3 goats	artisan	Newar	Main market
HHH A 2	3(3/0)	2 two storey stone building with zinc sheet roof	Fully functional	Need to go to pond to collect drinking water	yes	3	3 goats, 2 ox, chickens and hens	Farmer, retail shop owner, Mill owner	Newar	2 Min
HHH A 3	6(4/2)	2 two storey stone building with hay roof	Fully functional	Running water within the household compound	yes	3	3 goats, 2 cow, chicken	Farming, school teacher, government employee	Brahmin	25 min away from the main market
HHH B1	5 (3/2)	Two storey stone and wooden buildings, tinned roof. Separate kitchen	Working	Gravity-fed community tap near house	1	1	Two bullock, one calf, 5 chicken, 2 pigs	Elderly parents farmers and daily wage labourers. Two sons working abroad. Youngest daughter also a farmer.	Dalit	30 mins
HHH B2	7 (6/1)	2 two storey stone buildings (7 rooms) with tin roof, Two storied separate kitchen (2 rooms) with tinned roofed	One RCC toilet since 2000 Not working-use bush for cleaning toilet	Private pipe water since 1991, but water quality is very poor	No	5	One buffalo, one calf buffalo, a pair of oxen, eight goat, one pig and two piglets and ten chickens.	Elderly parents are farmers (Paddy, maize and millet are staple crops) Large cardomom and broom are cash crops Son works in foreign employment Daughter in-law works in local school (pre-primary teacher)	Limbu	One and half hour (Sukrabare) Three hours for Sindhuwa, Dhankuta

HHH	Nos permanent inhabitants total (adult/childr en)	Brief description of house	toilet	water	TV	Mobile phone	livestock	occupation	Ethnic group	Distance from shops (time to walk there)
HHH B3	4(3/1)	Two storey mud and logs buildings, tin roof with a separate kitchen	One toilet, one shower room	Tap outside the house, shared by 5-6 HH. Water brought into the house through pipes, stored in tanks.	1	2	2 bulls, 4 goats chickens 2 pigs	Parents are farmers. Father is an ex- Indian Army on pension.)	Limbu	45 mins
HHH C1	6(4/2)	Two storey house with four rooms (two rooms in each with Tin roof. and additional extra house with two rooms.	One toilet	Gravity fed tap in the compound connecting pipeline	one	Mobile 2 and CDMA 1	One milking buffalo and two calf, 7 goats, and chickens	Farmer	Chhetri	Two minutes
HHH C2	10 (5/5)	Two storey house with thatched roof and another two storey house with tin roof	T	They had to carry it from nearby tap	no	3	5 goats, two chickens, one pig and some chickens	Whole family is tailors. The elder son works with NGO	Dalit	20 minutes away
HHH C3	4 (2/2)	2 two storey mud houses, Both with tin roofs. Separate one room kitchen	One with Pit-Hole	Tap (10 meters away from the house)	None	5	4 Goats, 3 Buffaloes.	Parents [owned a grocery shop-cm-Tea Shop, farmers (vegetables, wheat, cardamom). Daughter-in-law (Farmer), Daughter (Student), Son (Student).	Newar	Own a shop themselves and other shops are nearby