Exploring the Link between ICT Intervention and Human Development through a Social Capital Lens: The Case Study of a Wireless Project in the Mountain Region of Nepal

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Motivation

From South Korea
to NWNP at Mountain Region
to University of Agder
Technology enabled socioeconomic growth

Korea before 1960

Digital Korea (now)
Interaction between technology, collectiveness, hard work, honesty, and passion
ICT

Social Capital

*Bonding-Bridging-Linking*

Human Development

(Capabilities)
Research Site – Myagdi district

Altitude – over 2,000 m
Mahabir Pun

It’s better to be crazy than to die
Built Computers in Wooden Boxes in 1998
Pilot test
Implementation Phases

Phase I (Year 2003)
Khopra Relay at 3,650m
Relay Towers at Dip (1,025m), Mohare (3,320m), Lumpek
Relay Towers Provided by Nepal Telecom
Larke (2,890m) and Dhakarjung (3,560m)
Wireless Network Usage: Village Communication Centers
Wireless Network Usage: Local Homepage, News and Bulletin
Built Village Computer Labs
Wireless Network Usage: VoIP phone
Tele – Health Training
Local Health Worker
Search for
Data 10 - 18 of 19 [Total 3 Pages]

Rato Bhale

ID: 542
Rs. 1350
Status: Available
Location: Tikot
Seller: Durga Bahadur Purja, Histan Tikot 5 Ghairatol Myagdi
tel no... 019546004

Bhale puja ko lagi ramro chha, moto pni chha, masu ko lagi
pani dherai ramro chha

ID: 514
RS. 7600
Status: Requested
Location: Tikot
Seller: ठकराज पुन, हिस्तान मथेनीटोल-३ सम्मर्क
फोन-०१९५५५५०२
गोरु रामो छ, जोलुको लागी ठिक
छ, हल्पु नआउने,काटलाडिल
काटलाजाणा रामोर्ग जोलु सवेन

ID: 513
Rs. 18500
Status: Requested
Location: Tikot
Seller: डुम बहादुर पुन, हिस्तान टिकोट-३ म्याग्दी सम्मर्क फोन-
०१९५५५५०२
रामो छ, भारखर व्याधको छ, दुर्घ
माना दिनु, पाल्चु को लागी
Welcome To Nepal Wireless Project

HOTEL BOOKING

Easy and Secure way for Hotel booking in Mustang Region of Nepal

Mustang District Hotels

Hotel Yeti
Hotel Blue Star
Hotel Mustang Gateway
Hotel Xanadu

Nepal Community Eco - Lodge Treks

Khopra Community Lodge
Dandakharka Community Lodge
Chhistibung Community Lodge

Our Promise to You

Price Match Guarantee
Price Match Guarantee If you find a cheaper rate,

Secure Booking Online
We use SSL encryption technology to ensure your bookings are safe

Destination Nepal
NWNP – inception to expansion
## Summary

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Findings</th>
<th>Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ. 1(a) What is the process to create, maintain, and extend bonding, bridging,</td>
<td>The formation and extension of social capital goes through different phases of identification of relevant actors, roles, negotiations, and their interest alignment.</td>
<td>Enhanced the theoretical and practical understanding by thoroughly examining the roles of various actors in creation, maintenance, and extension of social capital in the context of developing countries.</td>
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<tr>
<td>and linking social capital through ICT intervention in the mountain regions of</td>
<td></td>
<td></td>
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<tr>
<td>developing countries?</td>
<td></td>
<td></td>
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<tr>
<td>**RQ.1(b) How does extended social capital foster development in the mountain</td>
<td>NWNP provided a platform to make interaction and information exchange between and within different communities. Regular interaction created, reinforced and extended the bonding, bridging, and linking social capital. It opened up prospects in education, healthcare, communication, and ecommerce.</td>
<td>Enhance understanding of possible link between ICT and development through social capital perspective.</td>
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<td>regions of developing countries?</td>
<td></td>
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</tbody>
</table>
ICT

Social Capital
[Bonding-Bridging-Linking]

Human Development
(Capabilities)
ICT

Social Capital
Bonding-Bridging-Linking

Collective Action

Human Development
(Capabilities)
### Research Questions

<table>
<thead>
<tr>
<th>RQ.2(a)</th>
<th>How does social capital promote collective action in the mountain regions of developing countries?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Findings</td>
<td>The social capital fosters a trust between and within the members of the communities, which in turns encouraged the community people take collective action through formal and informal groups.</td>
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<tr>
<td>Contributions</td>
<td>Elaborates the role of characteristics as well as various forms of social capital in fostering collective action.</td>
</tr>
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<tr>
<th>RQ.2(b)</th>
<th>How does collective action enhance collective and individual capabilities of the mountain communities of developing countries?</th>
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<td>Findings</td>
<td>Extended social capital promotes collective action which in turn builds individual and collective capabilities.</td>
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<tr>
<td>Contributions</td>
<td>Enhances the theoretical understanding of link between ICT and human development, moreover, compatibility between social capital and capabilities approach in defining the human development process.</td>
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</tbody>
</table>
Collective Action

Bonding

Bridging

Linking

ICT

Actor-Network Theory
(Translation Process)

Social Capital

Promotes

Reinforces

Collective Action

Fosters

Reinforces

Human Development

Capabilities
Collective & Individual
NWNP

Actor-Network Theory
Activist, NGOs, Hospitals, OLE, thematic com, community people, etc.

Bonding
Family ties, eg. Email, VOIP

Bridging
Horizontal ties, eg. OLE, Telemedicine

Linking
Vertical ties, eg. Local govt., hospitals, eBusiness

Social Capital
Promotes Reinforces

Collective Action
e.g. community group activities, networks of health workers, network of income generation activities, etc.
Fosters Reinforces

Human Development
Capabilities
- Healthcare opportunities
- Community business platform
- Enhanced employment opportunities
Figure 4-1. Contribution of the five papers
An Enthusiastic Quote

“The Internet cannot help *US* with plowing, sowing, and harvesting. But by using the Internet, we can engage in a lot of other educational and financial development, I believe.”- Villager
# Publication lists

<table>
<thead>
<tr>
<th>No</th>
<th>Title</th>
<th>Publication Outlet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Devinder Thapa and Øystein Sæbø (2011). Exploring a Link between ICT and Development: A Literature Review</td>
<td>IFIP WG 9.4, Social Implications of Computers in Developing Countries, Kathmandu, Nepal</td>
</tr>
<tr>
<td>3</td>
<td>Devinder Thapa (2011). The role of ICT Actors and Networks in Development: The case study of a mountain region in Nepal</td>
<td>Electronic Journal of Information Systems in Developing Countries (EJISDC), 49(1), 1-16</td>
</tr>
<tr>
<td>8</td>
<td>D Thapa, Ø Saebø (2010). A Framework to Analyze the Interaction Process between ICT and Social Capital</td>
<td>Norsk konferanse for organisasjoner bruk av informasjonsteknologi (NOKOBIT)</td>
</tr>
</tbody>
</table>
Current state

- **In-Progress**
  - Submitted two papers to IFIP WG 9.4 conference at Jamaica.
  - Writing for DESRIST conference, A framework to classify DSR methods (with Dan and Tero)
  - A paper on Security Lab development (ADR approach) with Sarfaraz and Tero (NOKOBIT or DESRIST or HICCS)

- **Planning**
  - Writing two papers with Maung and Fathul for MISQ Special Issue on ICT4D
  - Writing a paper with Dan on Information Security (threat-consequences matrix for risk assessment and resource allocation)

- **Teaching & Supervision**
  - Internet Security (A7011N)
  - Master thesis supervision (Information Security)
  - PhD co-supervision (Sarfaraz)

- **Project**
  - DURA ARK (30%) – Long term digital preservation (3D architectural data)
  - Korea-Sweden Research co-operation (applied)
Thank You
Tack så mycket
Tusen takk
धन्यवाद
감사합니다
شكرا جزيلا