NAMASTE

E-Science Activities in Nepal

Deep Prakash Ayadi

Founder and CEO

The Thin Page

Kathmandu, Nepal

Economy

Society

Environment

THE THIN PAGE®

www.thethinpage.com

Content

- Development of Information, Communication and Technology (ICT) in Nepal

- Current Status of ICT in Nepal

- Case Studies and Examples

- Challenges and Opportunities

- Way Forward

1. Development of ICT in Nepal

1976   National Council for Science and Technology (Only objective to formulate a national Science   and Technology policy).

1977   Formulation of the first Science and Technology policy

1980   S&T for the first time in the sixth development Plan (1980-1985)

1981   Nepal Academy of Science and Technology

1984   National Forensic Laboratory

1985   Nepal Agriculture Research Council

1991   National Health Research Council

1996   Ministry of Science and Technology

2000   Information Technology Policy

2002   National Information Technology Centre

2005   Science and Technology Policy

2015   National Information and Communication Technology Policy

2.1 Current Status of ICT in Nepal

Institutional arrangements
- Ministry of Information and Communications
- High Level Commission for Information Technology
- National Information Technology Center
- Controller of Certification Authority
- Nepal Telecom authority

Education and Training Centre
- >10 Universities
- >4 Training Centre (Vocational and Informal)

Mobile and Internet
- > 10 ISP
- > 5 Mobile Companies
- CDMA coverage >> all 75 districts, GSM mobile >>72 districts

2.2 Current Status of ICT in Nepal

Infrastructure
- National data centers -2

Last year budget allocation
- 283 million for National Information for Technology Centre (NITC)

Current 13th Three Year Plan (2013-2016)
- Cloud infrastructure development

3.1 Case Studies and Examples

Forest Assessment 2015

- Land cover maps were prepared by using satellite imagery, secondary images (Google Earth images, Landsat, etc.), ancillary maps (LRMP and topographical maps) and the field inventory data.

STATE of NEPAL'S FORESTS

Government of Nepal
Ministry of Forests and Soil Conservation
Department of Forest Research and Survey
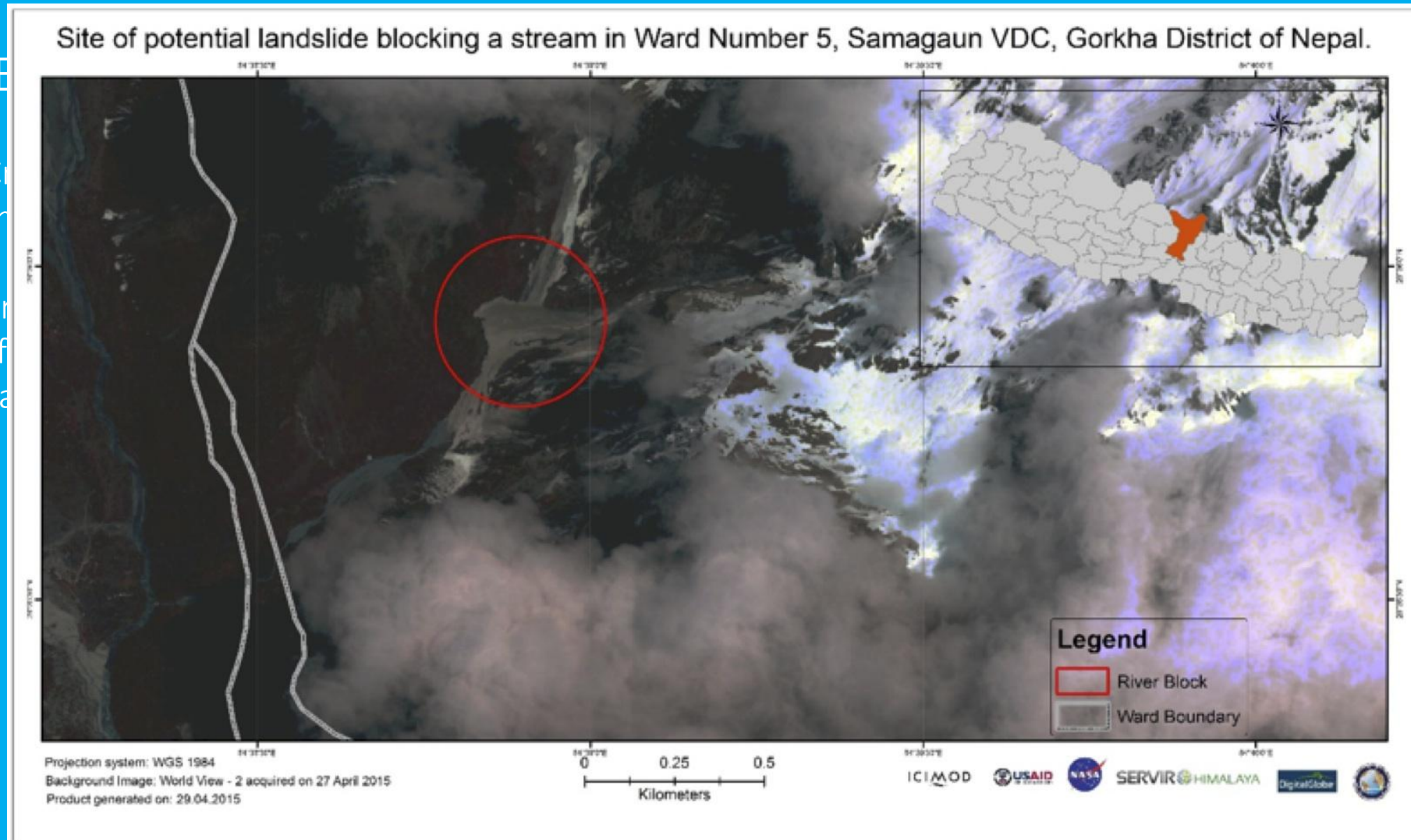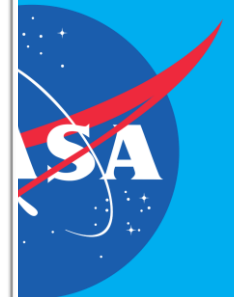Forest Resource Assessment Nepal

December 2015

SE

•Cr   ch as
lan

•Pr
inf
ma

Site of potential landslide blocking a stream in Ward Number 5, Samagaun VDC, Gorkha District of Nepal.

Legend

River Block

Ward Boundary

Projection system: WGS 1984
Background Image: World View - 2 acquired on 27 April 2015
Product generated on: 29.04.2015

0   0.25   0.5
Kilometers

3.4 Case Studies and Examples

ICT in Election Management, CA Election 2008

Electoral Roll Preparation

- Door to door collection and updating
- Data processing at district level
- Centralized Voters Database
- Political parties and other stakeholders were provided with electronic form of the voter list
- Voter list published in ECN Website with facility to search for names

Election Result Processing and Dissemination

Voter list with photo program- **data collection commenced in August 2010**

EVM was firstly used in one of the constituency in Constituent Assembly election 2008

3.5 Case Studies and Examples

River W

RIVER WATCH

S.N	Station Index	Station Name	Water Level (m)	Flow (m³/sec)	Warning Level (m)	Danger Level (m)	Trend	Status
1	240	Karnali at Asaraghat 2016-03-16 14:30:00	4.07	-	-	-	Steady	-
2	265	Rimna 2016-03-16 02:35:00	0.93	-	-	-	Steady	-
3	280	Karnali at Chisapani 2016-03-16 16:45:00	2.94	305.40	10.00	10.80	Steady	Below Warning Level
4	289.95	Babai at Chepang 2016-03-16 16:55:00	2.54	-	5.50	6.10	Steady	Below Warning Level
5	339.3	Jhimruk at Cherneta 2016-03-16 16:45:00	1.89	-	-	-	Steady	-
6	404.7	Myagdi Khola @ Mangalghat 2016-03-16 16:45:00	0.46	-	-	-	Steady	-
7	415.1	Borlangpul 2016-03-16 16:15:00	1.35	-	-	-	Steady	-
8	417	Rudrabeni 2016-03-16 16:49:00	1.01	-	-	-	Steady	-
9	419.1	Kaligandaki at Kumalgaon 2016-03-15 15:50:00	3.09	-	-	-	Steady	-
10	425	Seti at Jyamirebari 2016-03-16 17:00:00	0.10	-	-	-	Steady	-
11	430.5	Seti at Damauli 2016-03-16 16:55:00	0.63	-	-	-	Steady	-
12	445	Budhigandaki at Arughat	2.67				Steady	

Flood Alerts

Water Level of Karnali at Chisapani at 2016-03-16 16:45:00 is steady [2.94 m] and Below Warning Level

Water Level of Babai River at Chepang at 2016-03-16 16:55:00 is steady [2.54 m] and Below Warning Level

Water Level of Rapti River at Kusum at 2035-06-05 21:45:00 is N/A [N/A m] and N/A

Above Danger Level and Steady
Above Danger Level and Rising
Above Danger Level and Falling
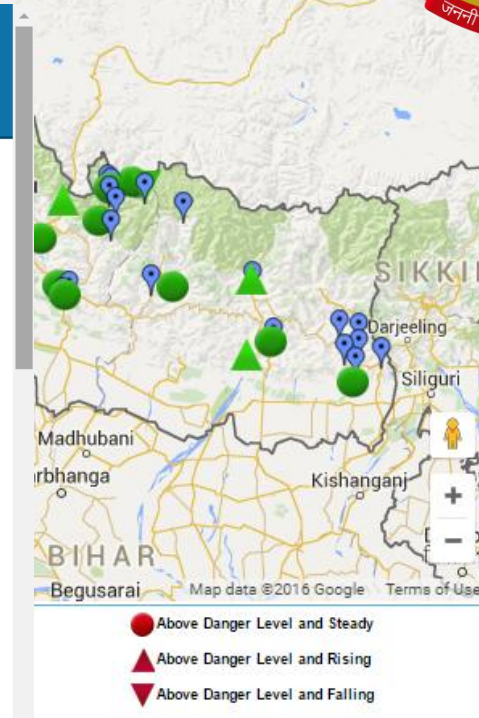
3.6 Case Studies and Examples

Rhino Count and Monitoring

•Individual rhino information together with GPS locations on data-sheets [
characteristics of each rhino such as shape and horn size, folds present or
body markings.

•Mobile-based platform to complement the paper-based one whereby rh
captured using cell phones on-site and stored in real-time.

•A total of four one-horned rhinos have been successfully collared with a
the data on habitat use and movement patterns of rhinos. Similarly, data
also enable community based anti-poaching units to focus patrolling effo
poaching and wildlife crimes in the protected areas.

WWF

3.7 Case Studies and Examples

Drone in Earthquake 2015

Drones were used in the form of,

4.1 Challenges and Opportunities

Challenges

• Information, Communication and Technology is not the prime development sector for Government of Nepal and budget allocation is very less as compared to other sectors.

• The infrastructure required for Information, Communication and Technology is still primitive and needs lots of efforts to put into shape.

• There are some decentralized efforts from different sectors but consolidation of it is still lacking.

• There is clear gap in practice and taking that practice into policy. That's way current policies are missing the current and fast growing dynamism of ICT.

•The biggest challenges is power cut and probably will remain same for next five years.

•Though the IT education has grown up in terms of quality and quantity, but its it's very hard to retain qualified and expert people in country.

4.2 Challenges and Opportunities

Opportunities

- Government of Nepal has not pushed ICT only but also put a high importance of positioning it as a development drivers and tools.

- There is a growing understanding between private and public sectors, which can allows the private sector to bring the foreign investment in IT sector.

- Better ICT can have a impact on governance, security, transparency and effectiveness of government activities.

- ICT can help to address the problem in education and health reaching out to remote places. It can help to on disaster risk reduction through early warning system and simulating modeling.

- It has a tremendous potential to create employment opportunities and economic growth.

- It can be the triggering factor for different sectors including business and commerce, education, tourism and agriculture.

5. Way Forward

The prospects of ICT can be seen bright in Nepal and the change is inevitable. Seeing the ICT development in India and China, two high economic growth zones in neighbors, there are lots of opportunities in place. Though there is a long way to go in ICT but the far sight can be seen bright.

- There is a big opportunity for private sector investment in ICT in Nepal and Public and Private sectors partnership can be leveraging factor in Nepal.

- IT is a ever evolving and dynamic subject, so global development needs to integrated into current plan and policies.

- Coordination and collaboration among different ministries and departments.

Thank You