


# **Strengthening Internet Trust and Inclusion**

## **DNSSEC, IDNs and Universal Acceptance**

A Case Study – Nepal

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# whoami

- Undergraduate Student, Institute of Engineering, Thapathali Campus (Computer Engineering)
- Lead AI/ML Engineer, acAlberry Technologies
-  Systems, Network, Robotics, AI and Astronomy
- RIPE Atlas Ambassador, Probe—ID (65903 & 1012989). Please feel free to host your measurement.
- Setting up Remote Digital Learning Lab in Saptari, Nepal
- Ham Radio Operator (9N2OM) & Former radio jock at WONC 89.1 FM (North Central College, Naperville, IL)

# .np Usage - Current Scenario



Internet Assigned Numbers Authority

## Delegation Record for .NP

(Country-code top-level domain)

### ccTLD Manager

**Mercantile Communications Pvt. Ltd.**

Hitti Pokhari, DurbarMarg, Kathmandu

P.O.Box 876

Kathmandu Bagmati

Nepal

- Managed by a **Private Company**
- [.com.np](#) - Commercial (open ccTLD) - main
- [.org.np](#) - Organization (Non - Profit)
- [.edu.np](#) - Educational
- [.gov.np](#) - Governmental
- [.net.np](#) - Network
- [.info.np](#) - Information (open ccTLD)
- [.mil.np](#) - Nepal Military
- [.name.np](#) - Individuals, by name (open ccTLD)
- [.coop.np](#) - Cooperatives

# gTLDs Usage - Current Scenario in Nepal

- Mostly using the .np ccTLD (Businesses, Education, Government)
- Few Uses common gTLDs like .com and .org

 **com**



- Recent use of gTLDs like .asia

 **asia**

# Looking Forward - .np ccTLD

- New Funding Model?
- Who should manage it?



- Collaboration with?



- Support from?



## The Domain Name System Security

**Extensions (DNSSEC)** is a suite of extension specifications by the Internet Engineering Task Force (IETF) for securing data exchanged in the Domain Name System (DNS) in Internet Protocol (IP) networks. The protocol provides cryptographic authenti



<a href="#">Registry</a> <sup>[3]</sup> <i>[needs update?]</i>	◊	<a href="#">IDN</a>	◊	<a href="#">DNSSEC</a>	◊	<a href="#">SLD</a>	◊	<a href="#">IPv6</a>	◊	<a href="#">Introduction</a> <a href="#">[hide]</a> Date
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<a href="#">.np</a>	 <a href="#">Nepal</a>	<i>Nepal</i>	All <a href="#">.np</a> domains are free to register for individuals and registered businesses but documents are necessary for verification. Foreign businesses must provide proof of local presence in Nepal. <sup>[46]</sup>	Mercantile Communications	No	No	25 January 1995
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# DNSSEC Implementation

- Protects against DNS Attacks
  - Safe Guards Users
- Ensures Data Integrity
  - Government Services will be trusted. Efficient & Transparent Governance
- Defense in Depth
- Enhances User Trust
- Protect Brand Reputation
- Attracts Security - Focused Customers
  - Banks, Businesses .etc.
- Attracts more Customer Base - Go International!!!

**Next Platform  
New Possibilities  
Net Profit  
Networking Professionals  
New Perspective  
Now Playing  
Naturally Personal  
No Problem**

# Languages in Nepal



उराँव भाषा पृष्ठ

क्कुन गहि अवस्  
पाटी ती हूँ कुड़खर और र  
बछाबअना जडुरी रई । कुड़  
नेतार पाटीन बग्गे प्राथमिक  
चलते समुदाय नू बग्गे हार्न  
लगी । इदिही बारे नू सोच  
बअना कत्था हूँ असन चोर

नयाल नाया

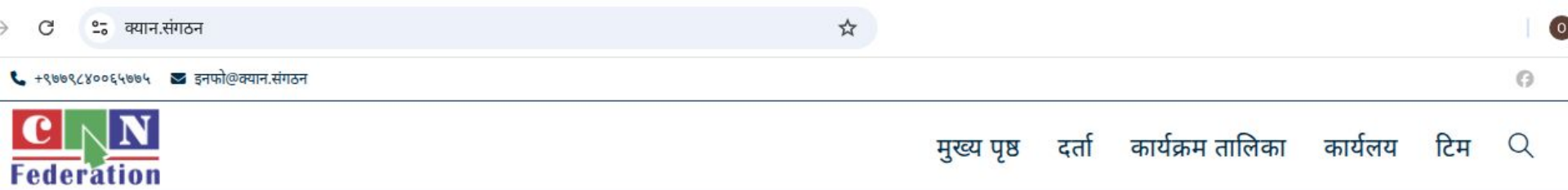
क k क	ख kh ख	ग g ग	घ g
च ङ च	छ ङ छ	ज ङ ज	झ ङ
ट ङ ट	ठ ङ ठ	ड ङ ड	ढ ङ
त ङ त	थ ङ थ	द ङ द	ध ङ
प ङ प	फ ङ फ	ब ङ ब	भ ङ
य ङ य	र ङ र	ल ङ ल	व ङ
श ङ श	ष ङ ष	स ङ स	ह ङ

اُردُو

تمام انسان آزادی اور حقوق و  
عزت کے اعتبار سے برابر پیدا  
ہوئے ہیں۔ انہیں ضمیر اور عقل  
و دیعت ہوئی ہے۔ اس لئے  
انہیں ایک دوسرے کے ساتھ  
بھائی چارے کا سلوک کرنا  
چاہیے۔

- 124 languages, 17 different scripts including Devanagari

# Internationalised Domain Names (IDNs)



सूचना प्रविधिको अभियान: डिजिटल नेपालको निर्माण  
On the occasion of National ICT Day 2025

Nepal's First IDN

UA Day 2025 <https://क्यान.संगठन>

**UA Hackathon Nepal 2025:**  
**Pioneering UA-Ready Platforms**

Universal Acceptance  
UA Day  
#Internet4All

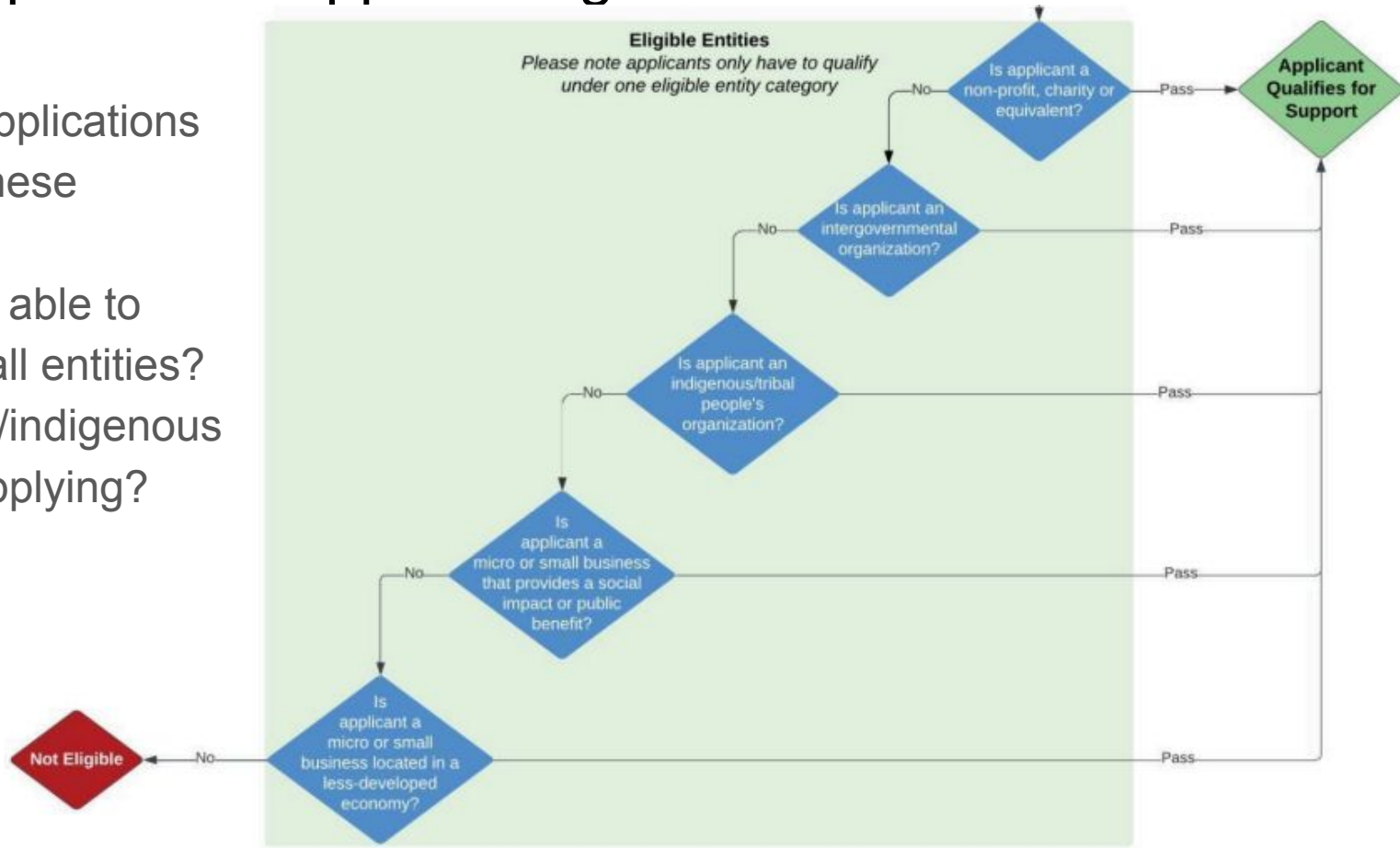
# Internationalised Domain Names (IDNs)

- Issuing the .नेपाल IDNs
- Promoting Languages and Cultures of Nepal



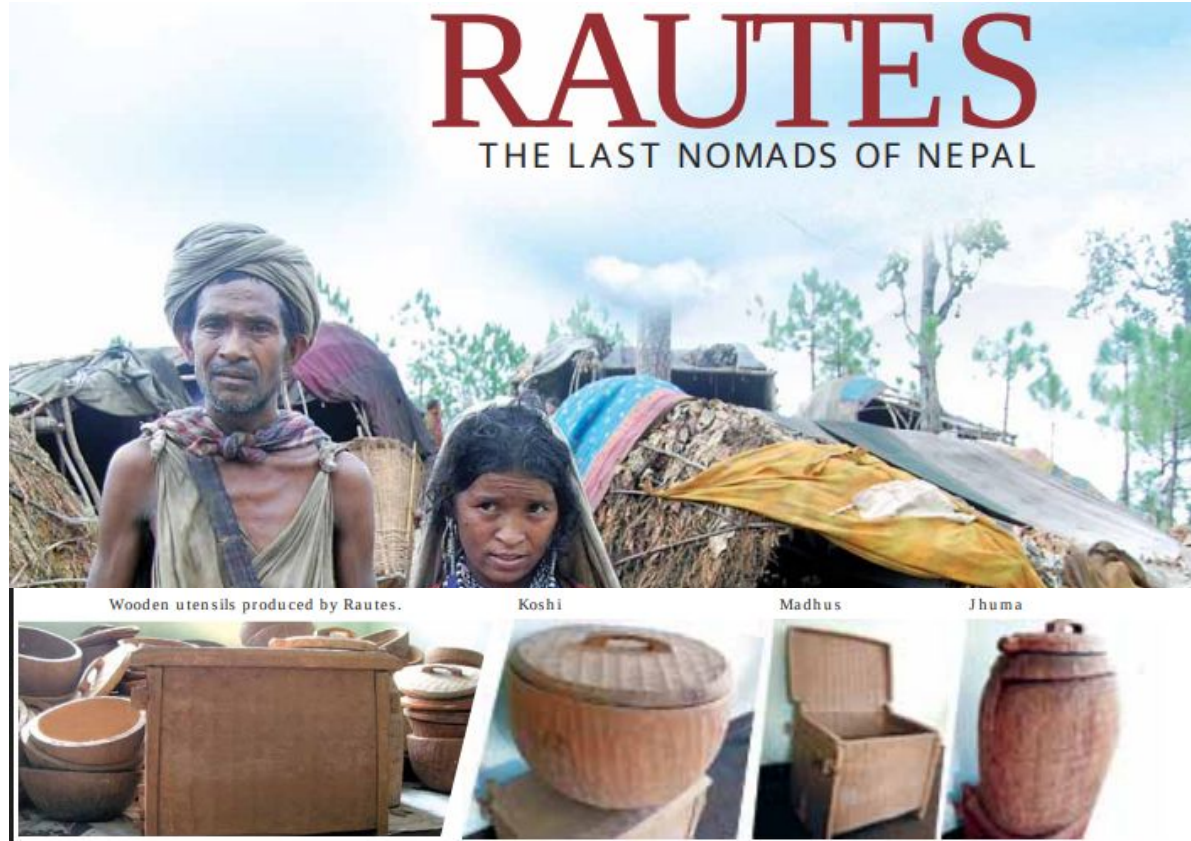
# ICANN Application Support Program

- Are the applications from all these entities?
- Is ICANN able to reach to all entities?
- Any tribal/indigenous groups applying?



# ICANN Application Support Program - A case in Nepal

- Nomadic Travelling Ethnic Groups
- 650 population
- Evaluation Fee?
- Will help introduce the unique culture and way of living to the world
  - Nomadic Journey
  - Dance
  - Monkey Hunting
  - Festivals and Celebrations
  - Barter
  - Works/Business



# Any Questions?

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Kathmandu Nepal

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<https://omprakashsharma.com.np>

