

**LOCAL LANGUAGE  
COMPUTING POLICY INITIATIVES  
of LAO PDR.**

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## GENERAL BACKGROUND

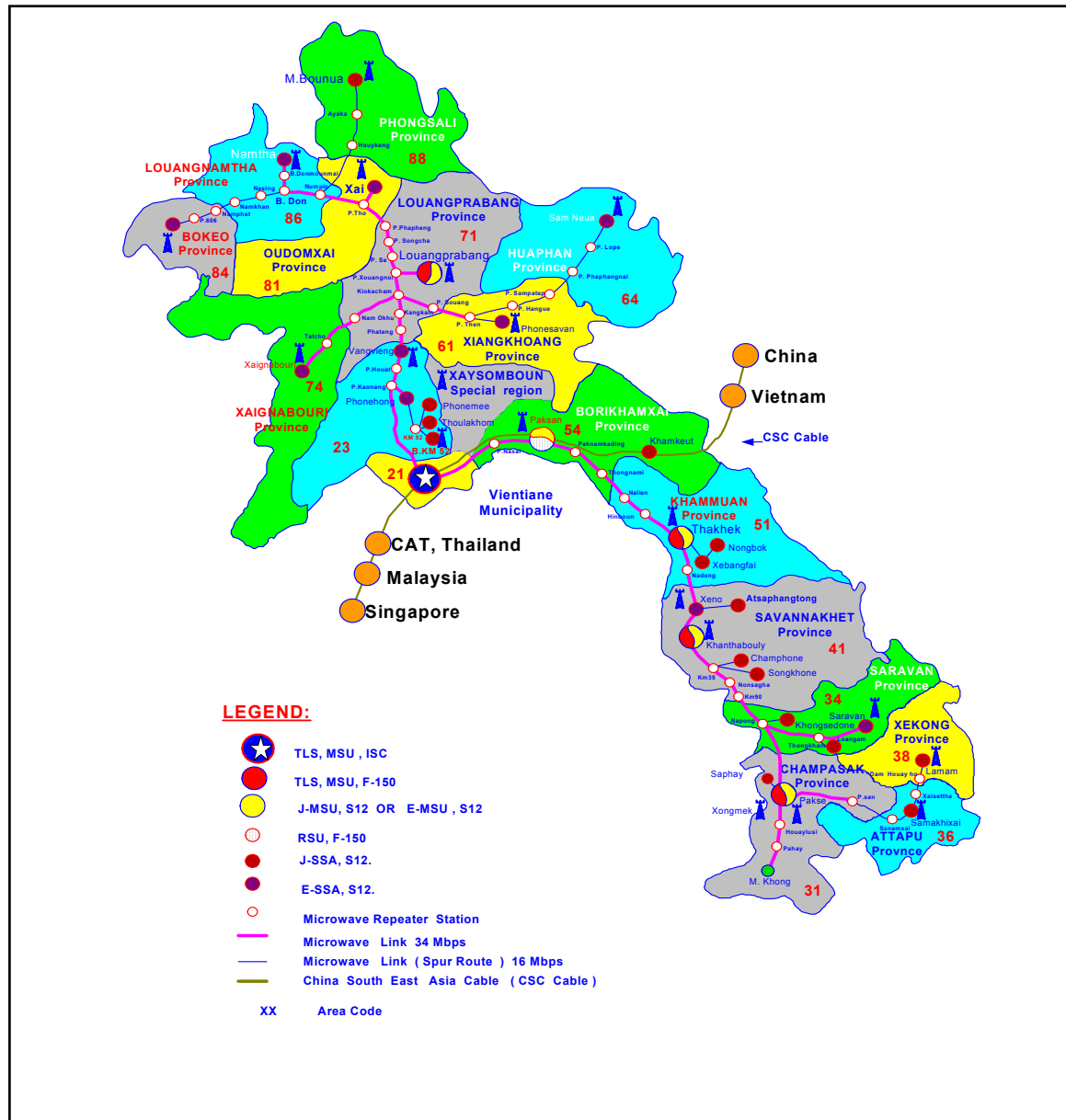
- **Country name :** **LAO PDR**  
( Mountainous, Small, Land locked and Least Developed Country )
- **Capital City:** **Vientiane**
- **Population :** **5.62 Million**
- **Total Area:** **236,800 Km<sup>2</sup>**
- **Religions :** **Buddhism**
- **Languages :** **Lao**
- **Literacy:** **73%**
- **Rural population:** **73 %**
- **GDP per capital:** **490 USD**
- **North to South 1,898 km.**
- **Please visit:**
  - **Statistic:** [www.nsc.gov.la](http://www.nsc.gov.la)
  - **Economy:** [www.moc.gov.la](http://www.moc.gov.la)
  - **Tourism:** [www.laotourism.org](http://www.laotourism.org)



# ICT BACKGROUND

- **TV. Density:** 13.7%
- **Computer ownership per 100 inhabitants:** 0.88
- **Telephone lines per 100 inhabitants:** 1.62
- **Cell phone subscribers per 100 inhabitants:** 12.8
- **Internet users per 100 inhabitants:** 0.35
- **Internet hosts per 10,000 inhabitants:** 0.021
- **Internet cafes per 10,000 inhabitants:** 0.53
- **Number of website in Lao Languages:** 30
- **Number of Website in English:** 250
- **National transmission backbone:**
  - **Via Optic Fiber :** 2.5 Gbps
  - **Via Microvave :** 34. Mbps
- **International bandwidth:** 310. Mbps

# Existing Telecom Network in Lao PDR



# **National ICT Policy**

## **Lao Language Computing Policy**

# National ICT Policy

## Visions 2020

- Advance beyond the status of Least Developed Country ( LDC )
- Bring the country into the information age
- Increased general access to ICT.
- Modern telecommunications infrastructure.
- Fostering Enterprises and Industries.
- Developing necessary Human resources & Institutional capacities.

# National ICT Policy (Cont')

## Nine ( 9 ) priority areas:

1. Infrastructure and Access
2. Enterprise and Industry
3. Research and Development
4. Applications
5. Human Resource Development
6. Legal Framework
7. Awareness
8. Poverty Alleviation
9. **Standardization and Localization**

**In our National IT policy on Standardization and Localization ( section 3 ) , it is clearly mentioned that :**

- **The adoption of national and international standards is necessarily required.**
- **The GOL shall promote software, hardware, and protocol standards, including telecommunications equipment and services,**
- **The GOL shall adopt the Unicode standard for the Lao script.**
- **The GOL shall establish a network encouraging the participation of national and international experts, academia and the private sector.**
- **The GOL shall establish a set of standards for data and information storage, exchange, and facilitate the access for all government bodies , agencies and individual in line with international data standards.**



**RELEVANT GOVERNMENT  
MINISTRIES , INSTITUTIONS and  
PRIVATE SECTORS**

**Involving in the Lao Language computing  
Development**

# **Science Technology & Environment Agency ( STEA )**

**The STEA are responsible for the national information technology policy, regulation, research, development, training and services.**

## **STEA's activities related to the lao language computing :**

- STEA is implementing Localization Project under PAN Localization Project ( IDRC ).**
- The ICT4D project supported by UNDP to develop the tools for use Lao language computing such Fonts, Keyboard and also localized the open source software ( **Tender bird and open office** ) into Lao language.**
- Microsoft has authorized STEA to translate the Windows Vista and Office 2007 into Lao language.**

# **Ministry of Communications, Transports, Posts and Construction ( MCTPC )**

**The MCTPC is responsible for national tele-communication Policy and Regulations.**

**The Ministry is also cooperating with the telecom companies to conduct the research to localize the mobile software into Lao language.**

# **Lao National Internet Committee ( LANIC )**

**LANIC is responsible for National Internet Policy and Regulations.**

**LANIC is also wish to localize the Country Code Top Level domain name into Lao language and development the e-mail and SMS system in Lao language.**

# **National University of Lao PDR ( NUOL )**

**The NUOL is conducting 2 main research activities related to the Lao language computing such as:**

- Development of IT glossary supported by JICA.**
- Localize the open source software ( LINUX ) supported by JHAI Foundation.**

# **Ministry of Information and Culture ( MIC )**

**The MIC is responsible for the development of Lao language and content .**

**The MIC encourages the local newspaper to provide the e-newspaper in Lao language.**

# LaoNet

- LaoNet is a group of Lao expatriates based in Australia who defined themselves as a Lao global network of human resources, using information technology to harness the potential goodwill and the synergy of their resources to contribute to the betterment of all aspects of Lao communities.
- They are also working on a Lao system text-voice synthesis and trying to resolve the Lao code-page issues that will work both LSWIN and LaoWord.

# **TAVULTESOFT Co.**

**Dr. John DURDIN of TAVULTESOFT Co. based in Australia, One of the Author of Lao script for Windows has just released Version 6.0 of LSWIN. It provides one of the Lao Unicode fonts and keyboard mapping for all Unicode-aware applications used with word 97 and with Windows 95/98/Me and then with Windows NT4/2000/XP.**



# Other local individual activities

**The local font developers such as :**

- Dr. Hongkard (author of Hongkard fonts),**
- Mr. Chaleunxay (author of Lao font for Macintosh),**
- Dr. Boungnong (author of Alice font) also has created many Fonts and keyboards of Lao language.**

# The results

- There are a diversity of Lao Fonts computing and using with more or less acceptable.
- On 26 September 2006, the GOL has accepted the Lao Unicode PHETSARATH as Official and common Lao Font.
- Languages and platforms for local customers, users interfaces are being developed using the Lao character UNICODE FONTS
  - New Lao Keyboard is ready.
  - Tender bird Lao e-mail is tested
  - Lao Open office is promoted and
  - Lao Unicode will probably appear in Windows Vista and Office 2007

It will take some time for the operating systems and applications give full support to Lao Unicode.

# Our main problems

Various independent activities were taken by responsible Agencies, Particular Developers and Group of users, but there is a lack of coordination in these activities. The process of development has been slowed down because of:

- *The low competence and awareness in most government organization and local developers.*
- *The poor communications with international standard bodies and global IT companies.*
- *The low interest of local developers to adopt the International standards.*

# Future Plans

- *Setting up policies and strategies, which all sectors must coordinate and work jointly to solve the problem.*
- *Create the Institutional capacity ( establish the laboratory ) to sustainable the research activity regarding to the Lao language Information processing. Also encourage the University to include the subject of Localization Technology into the curriculum.*
- *Improving the competence of national body to formulate, implement and maintain the standards.*
- *Linking national bodies to International standard organizations, Unicode and other major global IT companies.*
- *Creating a new national standard that will enhance the Internal standard*

# Future Plans

- *Carrying out a research to enhance Lao Information processing and to incorporate the international standard code set into keyboard mapping, Input and output method, internal processing, sorting system, Lao dictionary, machine translation and Lao language information interchange.*
- *Encouraging the public to adapt to the new standard by promoting utilization: such as conducting national seminars, training courses, free distribution of standard package, and enforcing all government systems to be used, including the Internet.*
- *Encouraging Global IT companies, especially Microsoft, to support and include the new standard into their new release applications.*

# CONCLUSION

- **Our major challenges :**
  - **Lack of local ICT Experts manpower,**
  - **Small size of IT market and**
  - **Lack of ICT infrastructure.**
  - **Lack of Fund.**
- **Lao PDR is aware of the importance of localization development and wish for any new release operation systems can support Lao language information processing.**
- **It rest many things to develop in the future especially the R&D of application software for better computing and using Lao Language.**
- **To complete our mission, the sine qua non Conditions shall be:**
  - **IT High level of our Resource Persons,**
  - **Technical and Financial assistance and**
  - **Regional and International cooperation.**

- **Advices, Commends and Suggestions are welcome.**

**THANK YOU**

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