The Development of Vietnamese Codes and Standards in Construction

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Introduction

- **Total Area:** 329,562 sq. km
- **Population:** 84.4 million
- **GDP:** $43.75 billion (2005)
- **GDP grow rate:** ~8%
- **Infrastructure:** underdeveloped
Overview of Vietnamese Construction Standards System

- **National Standards**: ~7500
- **Construction Standards**: ~1300
History of Construction Standards System

- USSR based standards
- Mandatory basis

- Towards ISO, BS, UBC, ASTM, etc.
- Voluntary basis

1961 1990 present

Subsidized economy  Market economy
## Structure of Vietnamese Construction Standards System

<table>
<thead>
<tr>
<th>Level</th>
<th>Code</th>
<th>Field</th>
<th>Issue</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>TCVN</td>
<td>General specifications, Production standards</td>
<td>MOST</td>
<td>TCVN 3992:1985</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(cements, tiles, reinforcement, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TCVN</td>
<td>Other fields (design, construction, planning,</td>
<td>MoC</td>
<td>TCXD 238:1999</td>
</tr>
<tr>
<td></td>
<td></td>
<td>etc.)</td>
<td></td>
<td>TCXDVN 375:2006</td>
</tr>
<tr>
<td>Branch</td>
<td>22 TCN</td>
<td>Transportation construction</td>
<td>MT</td>
<td>22 TCN 45:79</td>
</tr>
<tr>
<td></td>
<td>14 TCN</td>
<td>Agriculture construction</td>
<td>MARD</td>
<td>14 TCN 63:2002</td>
</tr>
</tbody>
</table>

Company standards: Used within company only
Building codes (regulations)

- Vietnamese Building code - Volume I (1996), Volumes II, III (1997);
- Building code of construction accessibility for people with disabilities (2002);
- Energy Efficiency Building code (2005);
Standards development of MoC

- Management of Standards Development: Department of Science and Technology (DST)
- Standards Preparation: Any organizations.

Mainly:
- Vietnam Institute for Building Science and Technology (IBST),
- Institute of Architectural Research, and
- Institute for Science and Technology of Building Materials.
ACECC workshop on Harmonization of Design Codes in the Asian Region, Nov. 4, 2006, Taipei

Planning

Proposal preparation

Development of 1st draft

Making the 2nd draft

Review of the 2nd draft

Making the 3rd draft

Review of the 3rd draft

Making the final draft

Approval and publication

Public comments

Organizational Experts + 1

Inter-organization Experts

Work Group
IBST's current standards development procedure

- Add an additional step to the current procedure: Invitation for public comments on 2nd draft (http://www.ibst.vn)
Law on Standards and Technical Regulations

Standards System

Standards (Voluntary)
- National Standards (TCVN)
- Company Standards (TCCS)

Technical Regulations (codes) (Mandatory)
- National codes (QPVN)
- Provincial codes (QPDP)
Law on Standards and Technical Regulations

- Standards:
  - Prepared by National Standards Technical Committees - TCVN/TC
  - Approved and issued by Ministry of Science and Technology (MOST)

- Technical regulations:
  - Prepared and issued by relevant ministries
Law on Standards and Technical Regulations

1. Planning
2. Draft Preparation
3. Amendment/correction of draft
4. Approval and publication

NSTC

Public comments
Regulation on application of foreign construction standards to construction activities in Vietnam

Foreign construction standards can be applied to projects in Vietnam provided that they:

- are effective national standards, regional standards, or international standards;
- comply with VBC and other mandatory codes;
- comply with principles set out in this Regulation;
- are approved by the Investor / Owner.
Principles for application of foreign construction standards

- To ensure that construction works and products be made and they:
  a) are safe for human use, for the works and adjacent works;
  b) meet Vietnam’s regulations on ecological safety and environmental protection;
  c) yield econo-technical efficiency.

- To ensure synchronism and feasibility in construction process, from designing, construction to acceptance of works, and in the work entirely.

- To compulsorily use input data related to Vietnam’s particular conditions stipulated in mandatory construction standards in the following domains:
  a) Natural and climatic conditions;
  b) Geological and hydrological conditions;
  c) Classification of seismic zones and seismic degrees.
Regulation on application of foreign construction standards to construction activities in Vietnam

■ Projects funded by the State Budget

- Vietnamese standards must be applied if available;
- Foreign standards can be applied in special circumstances, they must be approved by Ministry of Construction or relevant ministries for projects under their respective authorities.
Harmonization of design codes in the Asian region

- Current situation in application of design codes in Vietnam
  - Local design codes: Still based on Russian system.
  - Overseas design codes: BS system (change to Eurocodes), US system (UBC, IBC, ACI, AASHTO), Japanese system, Chinese system.

- Consequence: Waste of time, lack of in-depth knowledge and skill, communication problems.
Harmonization of design codes in the Asian region

- Orientation of Vietnamese design codes: Adoption of Eurocodes
- Initial steps:
  - The first code based on Eurocode 8: TCXDVN 375:2006 "Design code for earthquake resistant of structures" was approved and issued in October 2006
  - Design codes based on Eurocode 2 and Eurocode 3 are being developed.
Harmonization of design codes in the Asian region

Proposed approaches:

1. Develop a new Asian design codes system
2. Develop ISO design codes system
3. Adopt Eurocodes system
4. Adopt advance design codes systems: Eurocodes, Japanese codes, Chinese codes, etc.
Thank you!