

# Concrete Codes and and Standards for Housing

NIST Standards in Trade Workshop

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# Basic Information About Your Nation

- **ECUADOR**
- Population: 12 million people
- Gross domestic product (\$US): 20,000 millions of dollars

# Federal Housing

- Does your national government fund and construct public housing? **ONLY FUND**
- Which ministry or federal department is responsible for oversight of such projects?: **THE MINISTRY OF HOUSING**
- What is the annual or most recent budget for such housing (dollar amount)?: **\$ 100 million**
- What percentage of total federal budget does this represent?: **2%**

# Federal Housing

- How does this percentage compare to the federal monies committed to other infrastructure projects such as roads? (% larger or smaller) **much smaller**
- Do other state/local governments fund and construct public housing? **Some municipal governments do**
- If so, is there coordination between the various ministries? **Not usually**

# Locations for Federal Housing

- In what cities or regions of your nation is federal housing being planned? **Only in Guayaquil**
- In what cities or regions of your nation is federal housing being built? **Only in Guayaquil**
- What quantity of units is anticipated or under construction? **About 15,000 units**

# About the Housing

- What materials are most frequently used to construct public housing? **Reinforced concrete, precast concrete and masonry**
- Are the housing units multi-storied or single level? **Single level**
- Are seismic issues a concern in your nation?
  - Do the codes and standards applied recognize this concern? **YES**

# More About Housing

- Are drawings required for single family dwellings built by an individual homeowners (as opposed to multi-track housing)? **YES**
- If so, must the drawing be performed by a licensed engineer or architect? **YES**
- **But there is large market for informal construction**

# Licensing

- Does your country have separate licensing requirements for general contractors, architects and engineers? **YES**
- If so, what agency is responsible for the licensing? **PROFESSIONAL ASSOCIATIONS**

# Codes for Housing

- What codes are applied to housing? (Please list them by name below)
  - National? **CODIGO ECUATORIANO DE LA CONSTRUCCION**
  - International? **NONE**
  - Foreign? **UBC, ACI, AISC**

# Standards for Housing

- What standards are applied to housing?  
(Please list them by name below)
  - National? **NONE**
  - International? **NONE**
  - Foreign? **NONE**

# National Implementation Strengths and Drawbacks

- Describe some of the strengths of the implementation of your nation's housing program. **There is a very large demand for housing because of a housing deficit of 1 million units and the presence of the DOLLAR in Ecuadorian economy**
- What components of the housing program could be improved? **To have a long-term financial program and a fast paperwork for permits**

# How to Assist

- In your opinion, can U.S. codes and standards bodies assist in the implementation of your national housing program? **DO NOT KNOW**
- What action should taken...
  - Over the next 2 years?
  - Over the next 5 year?