Using
International Plumbing Standards
as Tools to Promote
Local Industry & Economic Growth

Dain Hansen
Senior Vice President
Government Relations
The IAPMO Group
Agenda

- Brief introduction to IAPMO
- Setting the state – achieving water efficiency & public health goals
- Our theory of change
- International examples

United States

Jordan

Indonesia

India
IAPMO Group – About Us

Complete International Service Organization

– Code Development
– Standards Development
– Industry-Leading Training and Education
  • From Market Access to Capacity Building
– Accredited Industry-Leading Compliance Programs
  • Test Labs, 3rd Party Certification Program, Continuous Compliance Inspection Program
– We Focus On Where People Come in Contact with Water
IAPMO Baseline Codes

- Installation code of practices
- References hundreds of product standards
- ANSI accredited consensus process – fair, balanced, transparent, all stakeholders have a vote throughout the entire development process
- Addresses both energy and water efficiency
- 2012 UPC – 1st model code in the USA with provisions for rainwater catchment, gray water and reclaimed water in the body of the code
Fills a need for an American National Standard that focuses solely on water efficiency

Publication as a standard allows for multiple means of adoption by states and municipalities

Allows for bringing together the best minds in the water efficiency industries to develop a robust and comprehensive standard
Confluence of Public Health and Safety
EVERY 15 SECONDS A CHILD DIES FROM A PREVENTABLE WATER BORNE DISEASE

200 MILLION HOURS = THE TIME WOMEN & GIRLS SPEND FETCHING WATER EVERY DAY

MORE THAN 1 IN 3 PEOPLE HAVE NO ACCESS TO IMPROVED SANITATION. 1 IN 7 STILL PRACTICE OPEN DEFECATION

SOME COUNTRIES LOSE AS MUCH AS 7% OF GDP BECAUSE OF INADEQUATE SANITATION
Good Policies Can Make a Big Difference in Water Efficiency
Where is IAPMO Actively Engaged?
Big Question: How to grow local industry?

- Lessons learned from Vietnam, Jordan and other countries
- Adoption of voluntary standards into technical regulations is not enough
- Need help with implementation
Big Question: How to grow local industry?

Regulatory Framework is intended to protect health and safety, national plan
Trained Personnel needed to fulfill plan, create demand for products
Conformity Assessment ensures the free flow of quality products into the market

- Each plays a vital role
- Effective framework
- Level playing field
- Substantial government and industry involvement
## Standards Are the Foundation

### How is the system organized?
- Gov’t/Industry decides on best practices for installation
- Standards become technical framework or blueprint
- Often adopted into technical regulations or law
- Dept. of Construction/Housing, national standards body

### Who performs the work?
- Gov’t/Industry decides the technical knowledge required
- Becomes basis for personnel certification criteria
- Foundation for curriculum used by universities, schools
- Ministry of manpower/labor, academic & vocational institutions

### What products or materials are used?
- Gov’t/Industry agree on product standards
- Protect market from unsafe/inferior goods.
- Trade implications – TBT, market can respond to national plan
- Dept. of Commerce/Trade, customs, national standards body
Example: United States

Components must work together to protect water quality

Products impact public health
U.S. – Products Impact Efficiency

- Voluntary partnership and labeling program launched by U.S. EPA in 2006 designed to reduce municipal water use across the country

- Simple way for consumers to identify products that use 20% less water and perform well

- A label with integrity – third-party certified
  - Saves water, reduces energy consumption, saves consumers money

- Adoption of efficient products take time to saturate market
  - 5.5% of California’s 33.5 million installed residential and commercial toilets meet the WaterSense standard (1.28 gallons per flush/4.28 liters)
  - 21.1% of bathroom faucets (1.5 gmp/5.68 lpm)
  - 23.9% of showerheads (2.0 gpm/7.57 lpm)
U.S. – Importance of 3rd Party Testing and Certification

USA Facility

China Facility

New Facility in Indonesia
Example: Indonesia

Necessary Steps to Achieve Goal

- Product Testing and Certification
- Personnel Training and Certification
- Enforcement
- Public Outreach

STANDARD DEVELOPMENT

HEALTH AND SAFETY OF INDONESIAN CITIZENS

GOAL
Standards developed specific to the needs of Indonesia through open consensus process

Appropriate Ministries & Regional Government Authorities implement and adopt the Standard through Regulations

Personnel Certification Program trains designer, installer and enforcement officials

Independent testing laboratory and certification ensuring plumbing products meet the standards

Total Annualized Exports increased by 84.9% compared to pre-project years

Indonesia: Circle of Standardization
Example: Jordan

• Water Scarcity
  – Considered one of the most water-scarce countries in the world.
  – Population depends on groundwater for 80 percent of their freshwater, levels are dropping 3 feet each year and will likely be depleted by 30 to 40 percent within the next 15 years.

• Effective Implementation is Key
  – Jordanian plumbing code, incomplete references product standards
  – Personnel certification criteria and training programs
  – Challenges with enforcement during construction phases
  – Current Market = Plumbing product market is saturated with unsafe and unreliable products
Growing the Industry in Jordan
- Partnership between JSMO, MPWH, RSS, WAJ, and IAPMO

Moving Forward – Fixing Processes
- Adoption of plumbing product technical regulations and their enforcement
- Local enforcement: process for approving the occupancy of buildings
- Update to the Unified Code to Provide Buildings with Water and Sanitation (UCBWS)
- Potentially developing and updating personnel certification requirements
Example: India

**Water Scarcity: NITI Aayog June 2018 Report**
- 40% of the population will have no access to clean drinking water by 2030.
- Pressure on urban water systems is expected to increase. More than 20 cities, including New Delhi, Bengaluru and Chennai, will run out of groundwater by 2020, affecting 100 million people.

**Partnership to Bring Change**
- Since 2009, BIS, CII and ANSI have worked together on many critical sectors within India and the US, including water/sanitation.
- The US-India SCCP (and SCCP II) have provide an important foundation and portal for US and Indian organizations to meet, identify, discuss and collaborate on the challenges facing both of our nations.
- Successful collaboration that IAPMO has had for over a decade with the Indian Plumbing Association, the Indian Green Building Council and the Indian Plumbing Skills Council.
India: WEP-I 2017

Water Efficient Product Certification

• WEP-I is a rating system for sustainable plumbing in India
• Set of recommendations to all those who are involved in the design, engineering, manufacturing, selection, installation and maintenance of water efficient plumbing products in India.
• Intended to encourage use of water efficient products, to incorporate and implement the latest technologies and systems and provide uniformity in the performance of products.
• Prior to 2011 (WEP-I first published), no rating system for water efficient products existed.
• WEP-I prepared jointly by IAPMO-India and IPA.
• Others involved in process Confederation of Indian Industry-Indian Green Building Council (IGBC), ADaRSH (Association for Development and Research of Sustainable Habitats).
India…

Building a Skilled Workforce
International Team
Teams from India, United States, Australia, and Spain two parts of program to focus on the design and construction of the project.

Before
• The school is home to 400 students, between 7–15 years old, and 12 staff
• Only 4 water taps available with limited water supply, poor pressure
• Urinals that did not flush
• Toilet stalls with doors that did not allow light or airflow

After
• New water tank added to the roof, in order to improve water supply & pressure
• New hand washing troughs and 25 hand washing taps added (push taps used in order to reduce water wastage)
• Urinals flushed by re-used hand wash water drained into the urinal trough
• Toilet stall doors replaced with permanently fixed louvres giving light and constant air flow through the areas
• Water meters were installed on the various branch lines of piping to assess water use, tap performance, design performance and maintenance needs
Thank You!

Dain.Hansen@IAPMO.ORG

+1 (202) 445-7514