

FRESHWATER HEALTH INDEX



**CONSERVATION
INTERNATIONAL**





Ecosystem Vitality

4 indicators

7 sub-indicators



Ecosystem Services

3 indicators

8 sub-indicators



Governance & Stakeholders

4 indicators

12 sub-indicators

Rating scale

Very critical

0 - 30

Critical

30 - 60

Regular

60 - 75

Good

75 - 90

Very good

90 - 100

INDICATORS OF FRESHWATER HEALTH

ECOSYSTEM VITALITY

ECOSYSTEM SERVICES

GOVERNANCE & STAKEHOLDERS

- Combination of remotely sensed, monitored, modeled and survey data
- Each indicator scaled from 0-100 for ease of interpretation
- Ecosystem Vitality and Ecosystem Services indicators can be modeled to assess scenarios

Water Quantity

- Deviation from natural flow
- Groundwater storage depletion

Water Quality

- Suspended solids
- Total nitrogen
- Total phosphorus
- Other quality parameters of concern

Basin Condition

- Bank modification
- Flow connectivity
- Land cover naturalness

Biodiversity

- Species of concern
- Invasive & nuisance species

Provisioning

- Water supply reliability
- Biomass for consumption

Regulation & Support

- Sediment regulation
- Water quality regulation
- Flood regulation
- Disease regulation

Cultural

- Conservation areas
- Recreation

Enabling Environment

- Water resources management
- Right to resource use
- Incentives & regulations
- Financial capacity
- Technical capacity

Stakeholder Engagement

- Information access
- Engagement in decision-making processes

Vision & Adaptive Governance

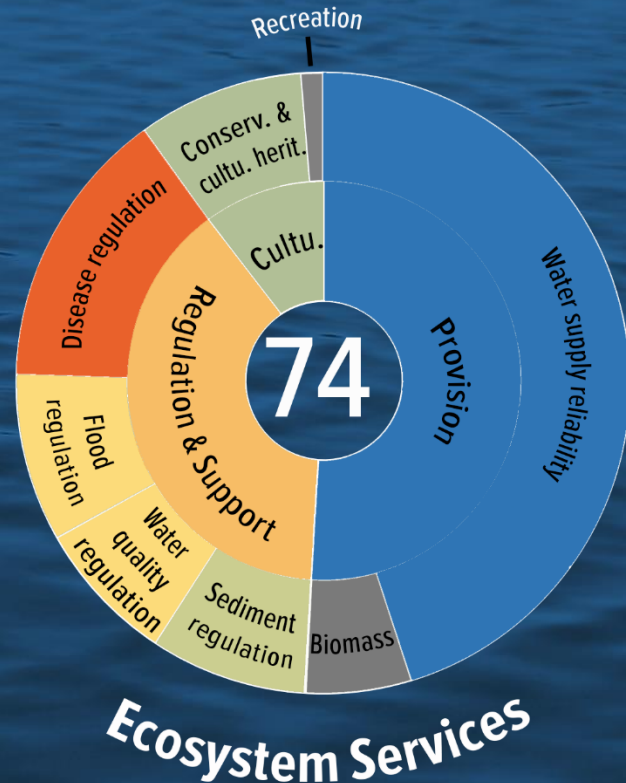
- Strategic planning & adaptive management
- Monitoring & learning mechanisms

Effectiveness

- Enforcement & compliance
- Distribution of benefits
- Water-related conflict



INDICATORS



WHAT MAKES THE FRESHWATER HEALTH INDEX USEFUL?

- **Focus on ecosystems** – identifies opportunities for conservation
- **Scenario analysis** – compares current baseline to future changes
- **Stakeholder engagement** – involves decision-makers from all sectors
- **Assesses governance** – addresses underlying root causes

WHY DO WE NEED ANOTHER MONITORING TOOL?

- ✓ Thousands of unique indicators and hundreds of unique indices for assessing freshwater systems already exist.
- ✓ Applications range from ecological assessments of streams, to water “vulnerability” at national scale, to global corporate water risk assessments.
- ✓ But no approaches linked ecological integrity (health) to ecosystem service delivery, or adequately combined social with ecological indicators.

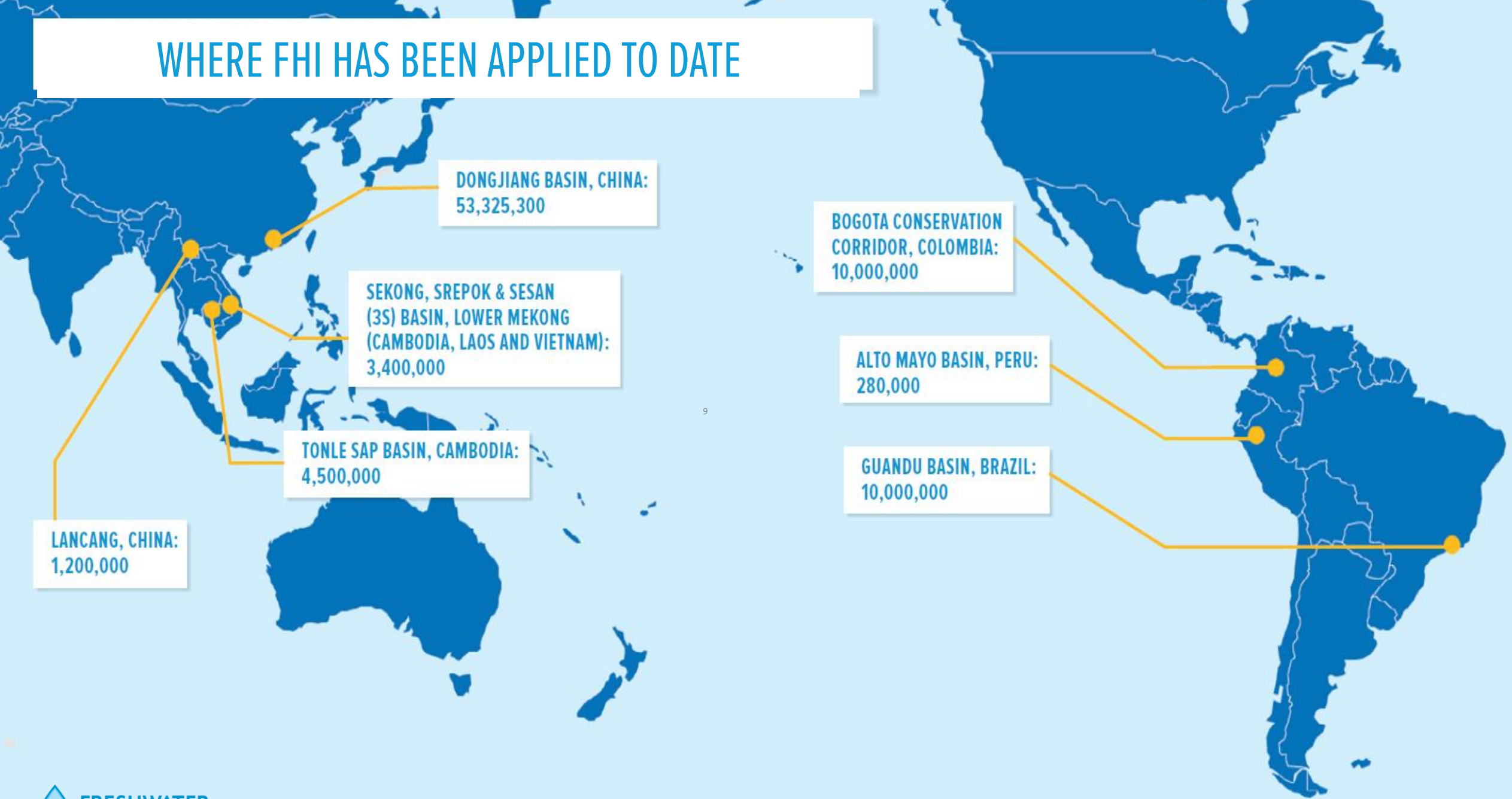
WHO ARE THE AUDIENCE AND TARGET USERS?

- ✓ Not intended for use by a single person or organization
- ✓ Designed to engage multiple stakeholders – from river basin organizations and water utilities, to regional and national ministries, corporations and NGOs – in a particular basin or region
- ✓ Working together, users can evaluate scenarios, understand the trade-offs of certain decisions, prioritize actions and communicate about basin health with a broad audience.

The Freshwater Health Index is not just a desktop tool. It is not just a series of reports and numbers.

It is a standardized way to get multiple stakeholders on the same page with regards to water resource management.

WHERE FHI HAS BEEN APPLIED TO DATE





7
COUNTRIES
UTILIZING FHI



7
ASSESSMENTS
CONDUCTED



62
PEOPLE TRAINED ON
FHI



290
STAKEHOLDERS
ENGAGED



160
INSTITUTIONS
REPRESENTED



7
LANGUAGES
TRANSLATED

HOW IS THE FHI BEING USED ELSEWHERE?

- Identified data/monitoring gaps, encouraged more information transparency and data sharing
- Requests for scenarios around water allocation, rights trading, and eco-compensation in China; climate change and land use change in Lower Mekong
- Trainings for key academic faculty and government staff to replicate process

WHAT IS THE PROCESS AND TIMELINE?

The average time needed to complete a basin assessment is 9-12 months, depending on capacity, participation, data availability and other factors.

Months 1-3: Assessment team reviews existing datasets, establishes contact with any technical collaborators (universities, regional government agencies, etc.), and conducts a preliminary review of stakeholders within the basin.

Months 4-6: Assessment team and technical collaborators perform initial calculations of indicators based on existing data. Assessment team holds a stakeholder consultation forum to introduce the FHI and administer surveys. Assessment team may organize 1-2 technical meetings with collaborators to review initial results.

WHAT IS THE PROCESS AND TIMELINE?

Months 7-9: Assessment team drafts technical report and holds second stakeholder consultation forum to discuss draft report and develop future scenarios for the basin. Assessment team and technical collaborators model scenarios and calculate indicators to compare against the baseline assessment.

Months 10-12: Assessment team finalizes technical report and policy summary and holds a final stakeholder forum to discuss results and prioritize next steps for policy actions or further analysis.

THANK YOU!



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