

# Addressing the intertwined issues that affect global water resource sustainability

## *Lessons from South America and East Africa*

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Global Water for Sustainability  
PROGRAM

# Principal factors that affect freshwater resources worldwide?

## **AQUATIC ECOLOGIST:**

- Disruption of natural flow regimes
- Water withdrawals
- Non-native species introductions
- Water pollution

## **UNITED NATIONS:**

- Widespread poverty
- Malnutrition
- Growing urbanization
- Human population growth
- Globalization
- Climate change

Source: United Nations World Water Development Report, 2006

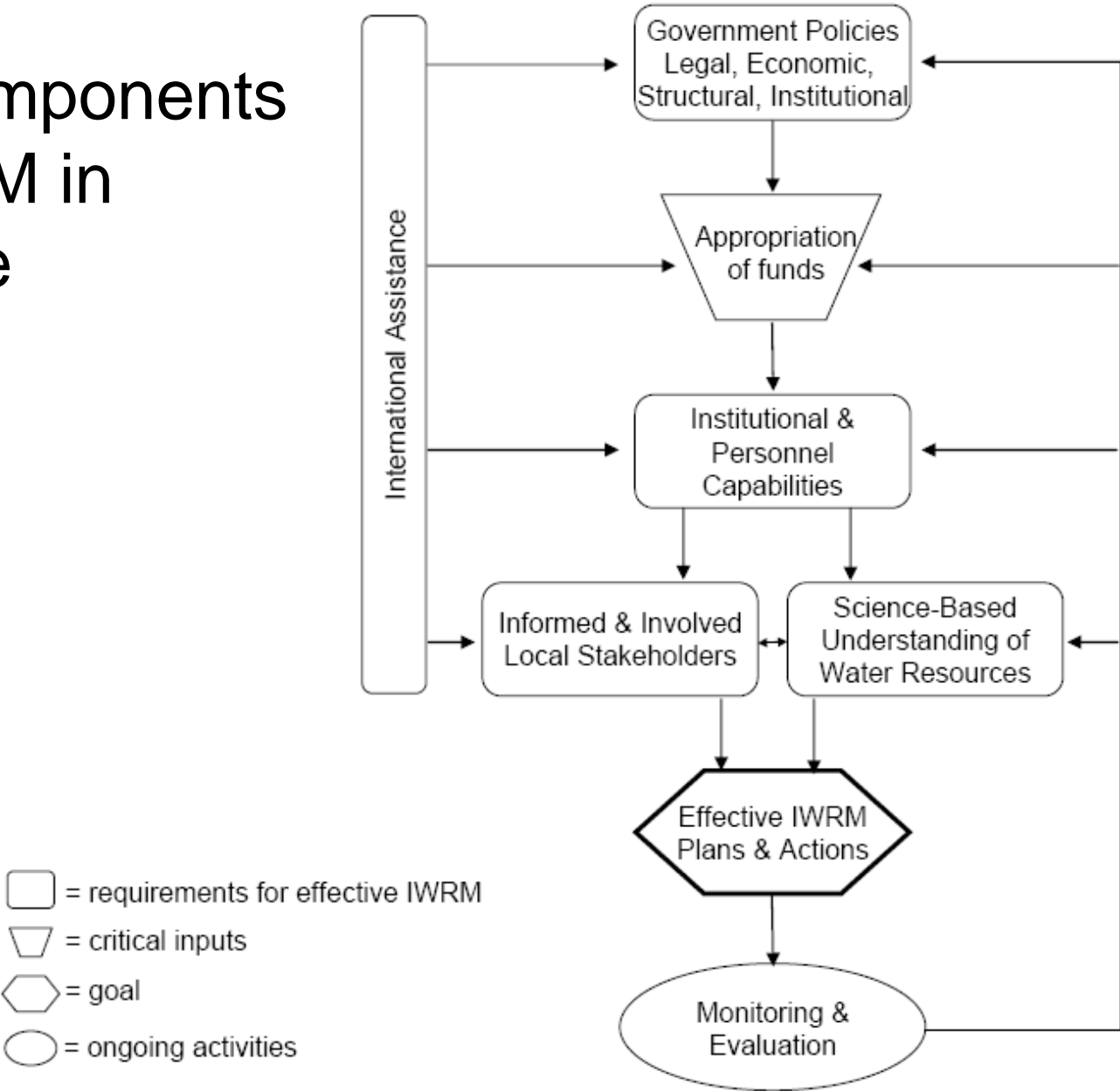
# Integrated Water Resources Management (IWRM)



A **process** that promotes the **coordinated** development and management of water, land and related resources in order to **maximize the socioeconomic benefits** derived from water resources in an **equitable manner** without compromising the sustainability of **freshwater ecosystems**.

*(Adapted from Integrated Water Resources Management, Global Water Partnership Technical Advisory Committee Background Papers, No. 4, 2000.)*

# Key components of IWRM in practice



# PASTAZA RIVER BASIN

South America



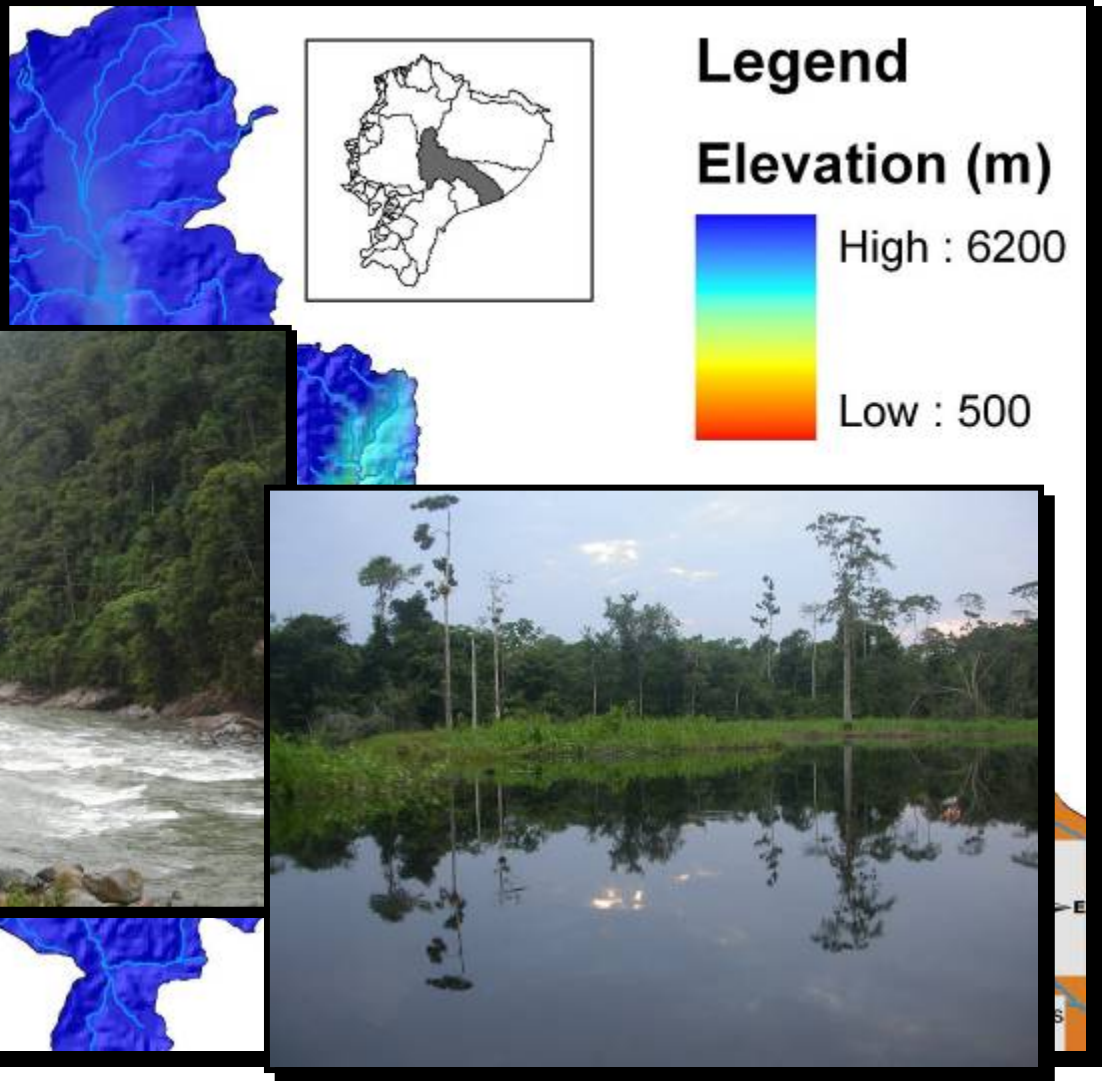
# WAMI RIVER BASIN

East Africa

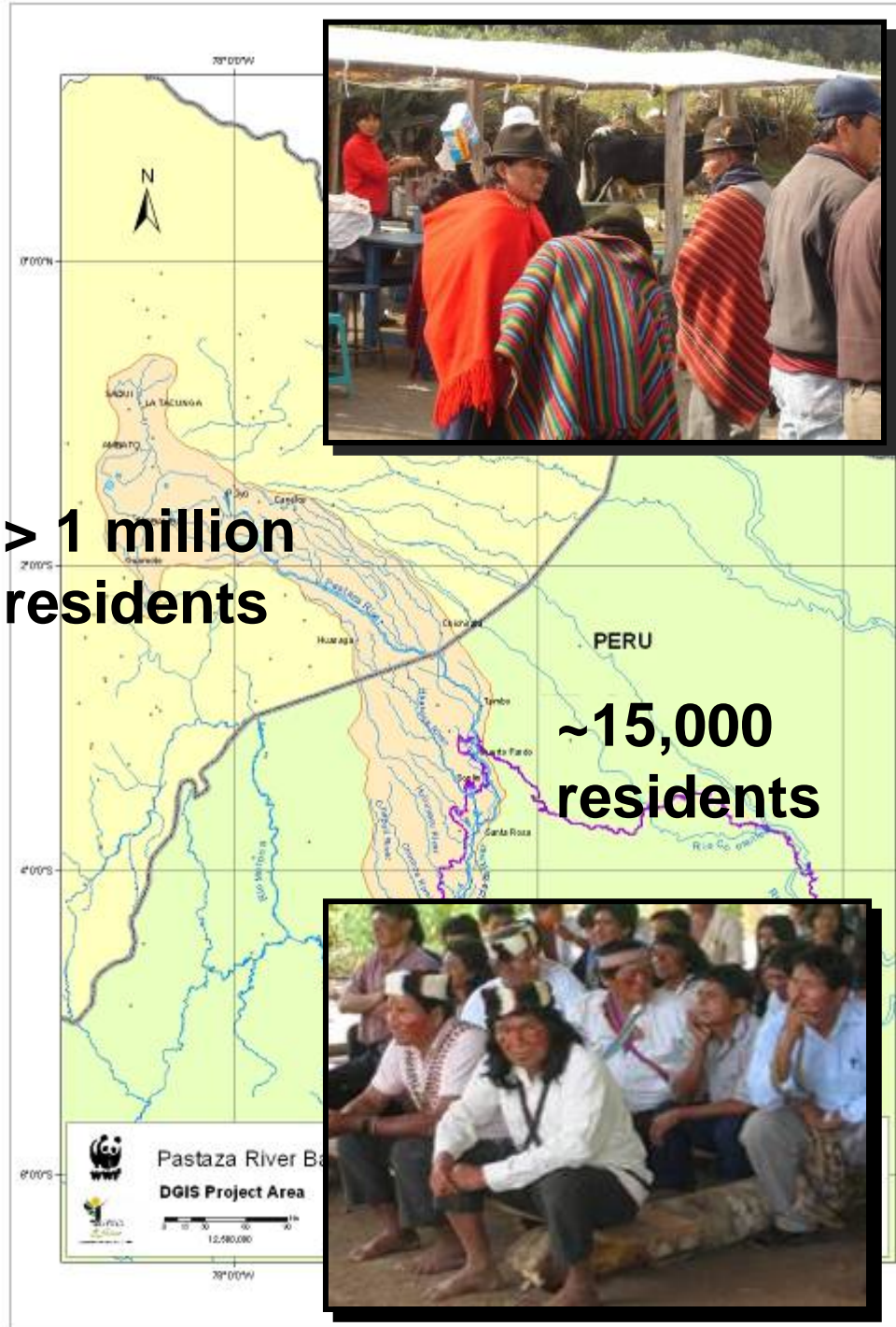


# PASTAZA RIVER BASIN

## Ecuador / Peru



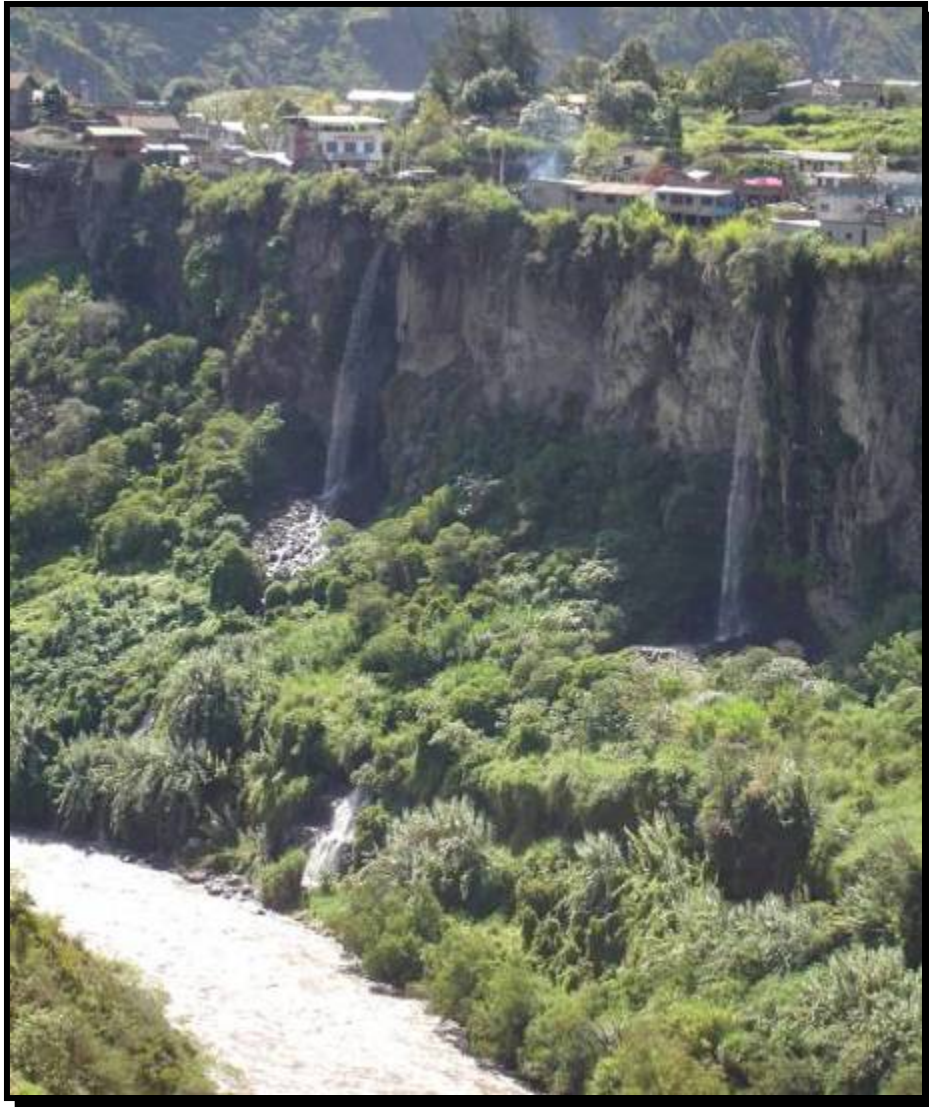






# Pastaza River: water pollution

UNTREATED WASTEWATER

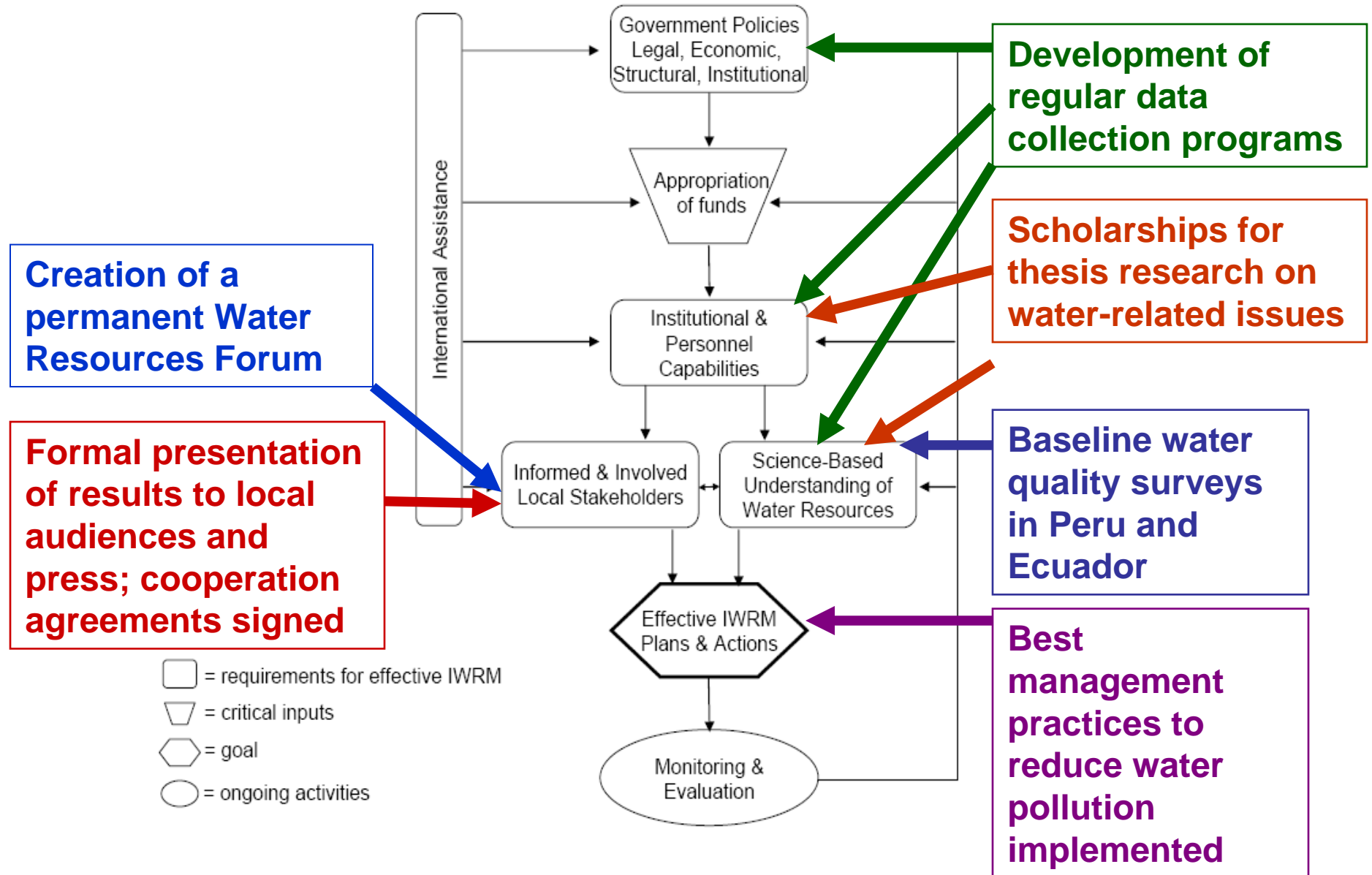


OIL EXPLOITATION

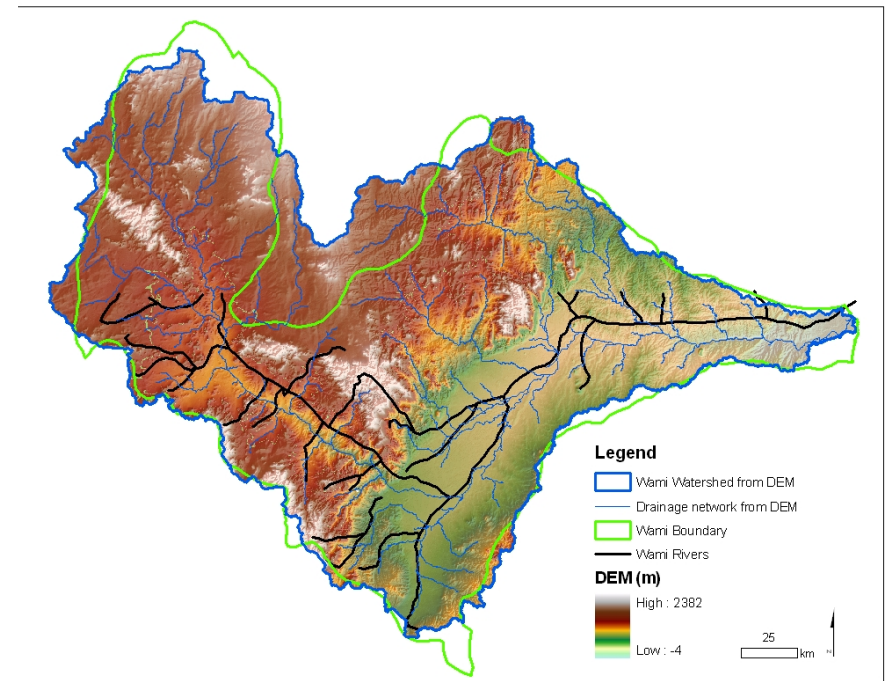


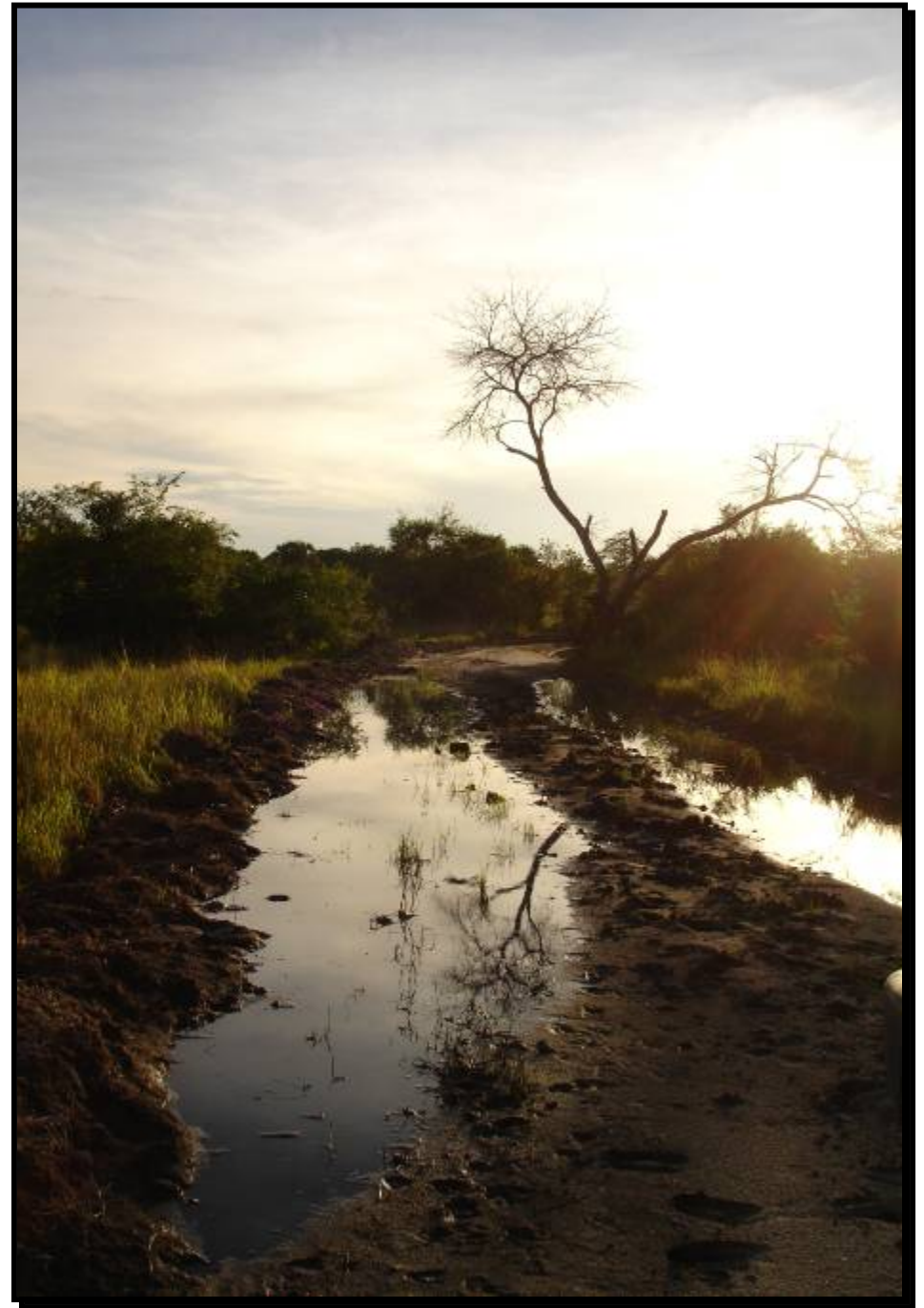


# The Pastaza Basin Project: An IWRM approach to water pollution issues



# WAMI RIVER BASIN Tanzania







# Wami Basin: water withdrawals



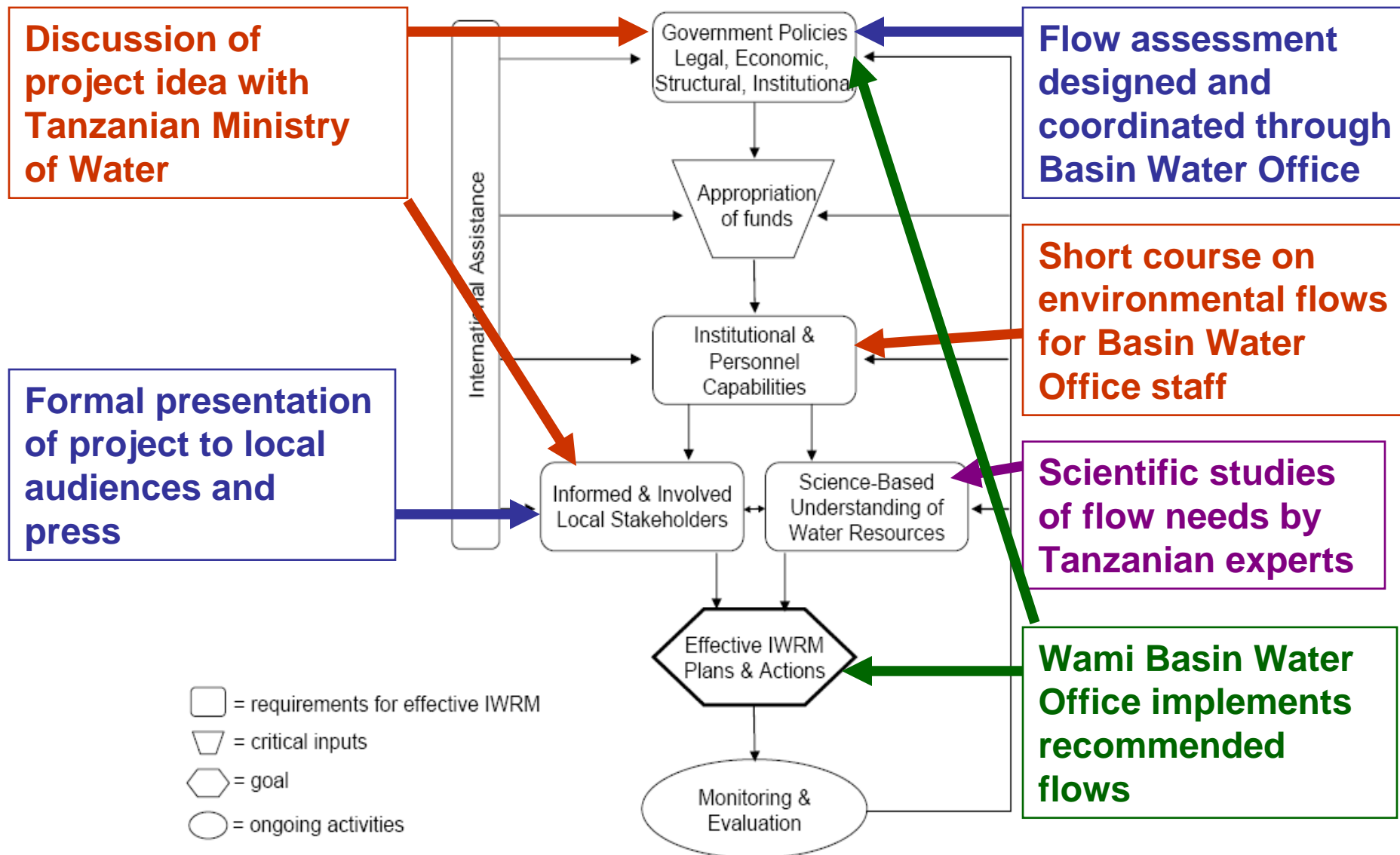
sugarcane



rice

FUTURE AGRICULTURAL EXPANSION AND  
EXTENSIVE IRRIGATION

# The Wami Water and Development Alliance: An IWRM approach to environmental flows



# Lessons learned

- A major challenge for achieving global freshwater sustainability today is addressing environmental, social, and economic factors simultaneously
- Freshwater conservation and management efforts need to be aligned with national and local priorities to be sustainable
- Active participation of stakeholders, as well as interaction between scientists, government agencies and local communities, is essential



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