

# Regional Water Experts Consultation Meeting

9<sup>th</sup> Nov 2015

UNESCAP, Bangkok

## Economic of Water Security in Myanmar & Possible Actions



AG of NWRC

*by Prof. Dr. Khin Ni Ni Thein, Secretary of the Advisory Group (AG) of NWRC,  
Member of the National Water Resources Committee (NWRC), and  
Member of the National Disaster Management Advisory Group*

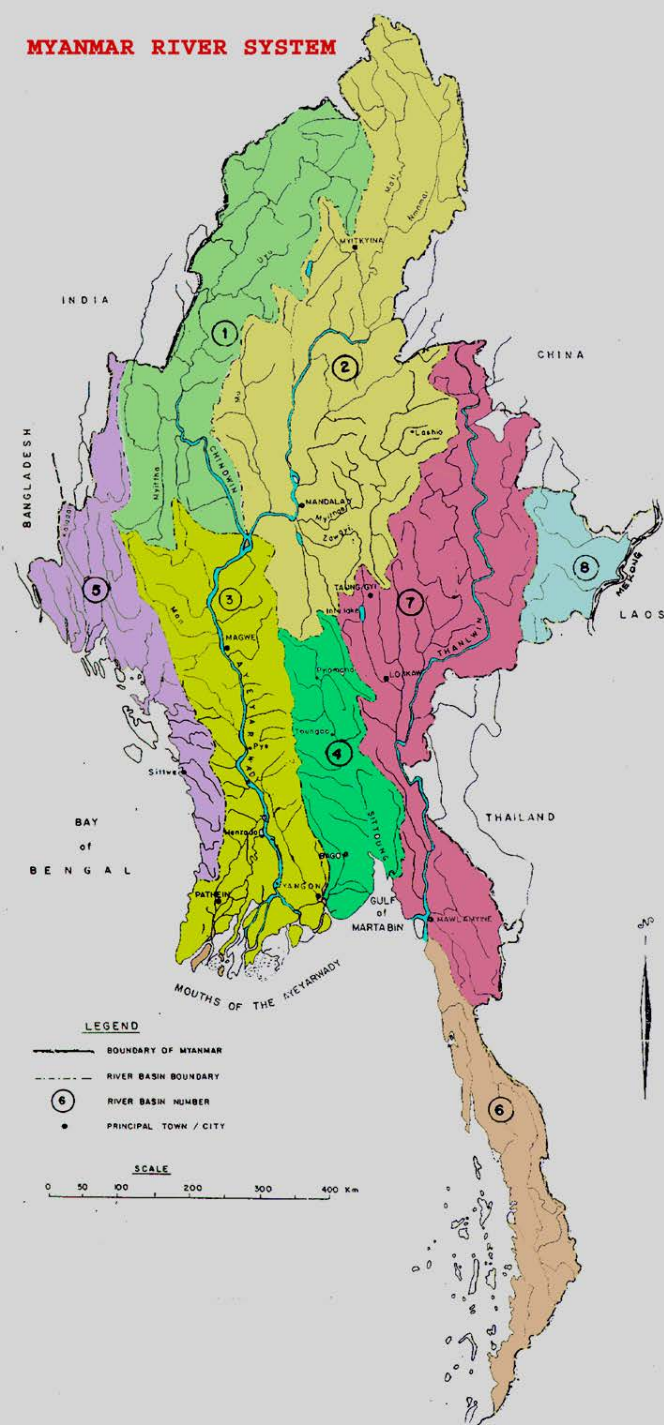
# Water Potential in Myanmar

## Major River System

1. Ayeyarwaddy River
2. Chindwin River
3. Sittaung River
4. Thanlwin (Salween) River – major transboundary river

## Water Resources Potential

River Basin No.	Name of the River Basin	Drainage Area (10 <sup>3</sup> km <sup>2</sup> )	Avg. Annual Surface Water (km <sup>3</sup> )	Ground Water (km <sup>3</sup> )
I	Chindwin	115.30	141.293	57.578
II	Upper Ayeyarwady	193.30	227.920	92.599
III	Lower Ayeyarwady	95.60	85.800	153.249
IV	Sittaung	48.10	81.148	28.402
V	Rakhine State	58.30	139.245	41.774
VI	Taninthari Region	40.60	130.927	39.278
VII	Thanlwin	158.00	257.918	74.779
VIII	Mekong	28.60	17.634	7.054
	<b>Total</b>	<b>737.80</b>	<b>1081.885</b>	<b>494.713</b>



# Current situation: Advantages

- Large youthful population - providing an attractive labor force for foreign investment
- Rich supply of natural resources and inputs for agricultural development
- Potential of renewable energy, notably hydro power
- Investment opportunities in a range of sectors, including tourism and telecommunications
- Strategic geographic location between the region's emerging giants and able to benefit from Asia's integration

# Floods 2015 July and August



# Floods 2015 July and August



# Floods 2015 July and August

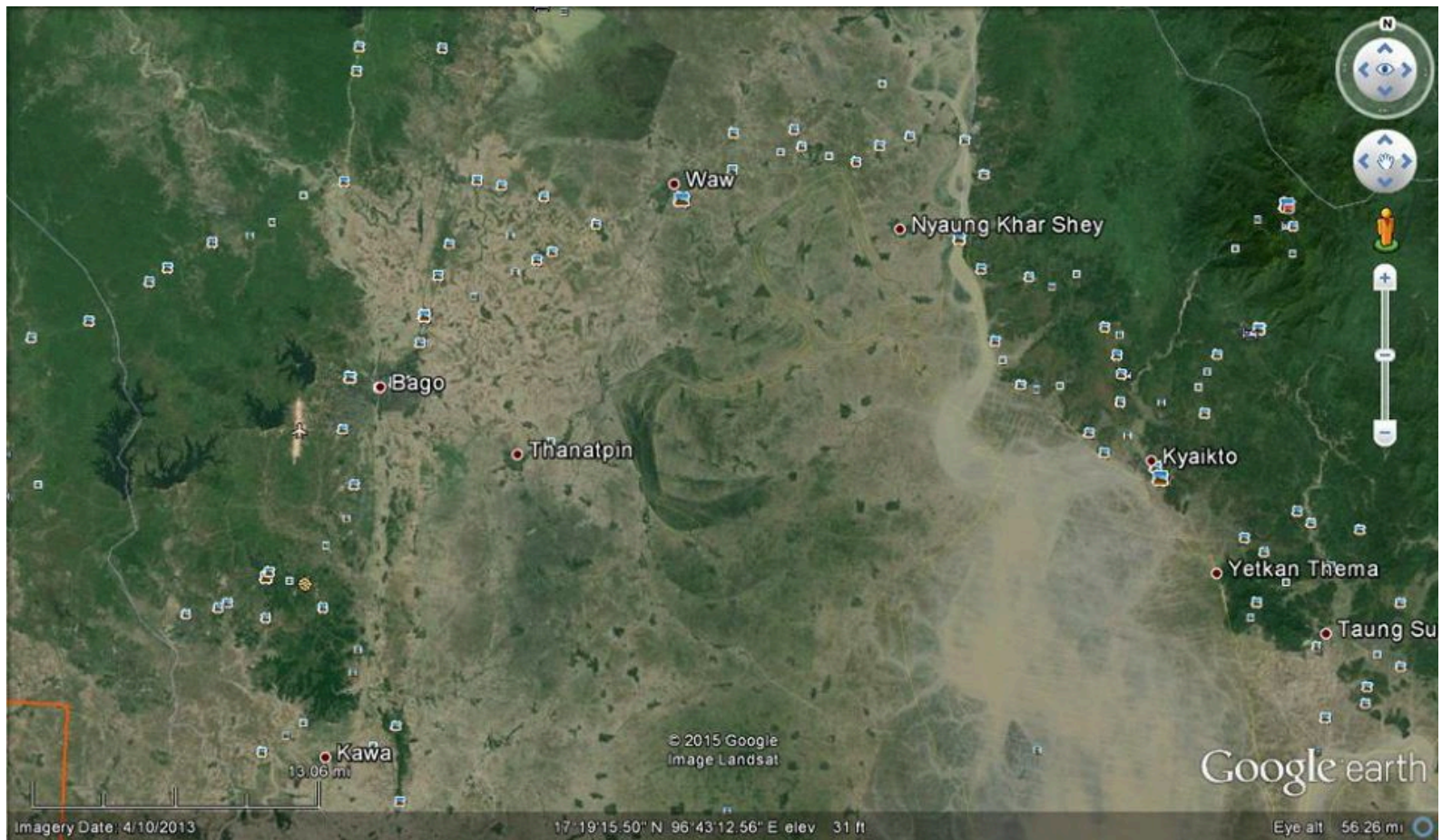




# Floods 2015 July and August



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# Floods 2015 July and August

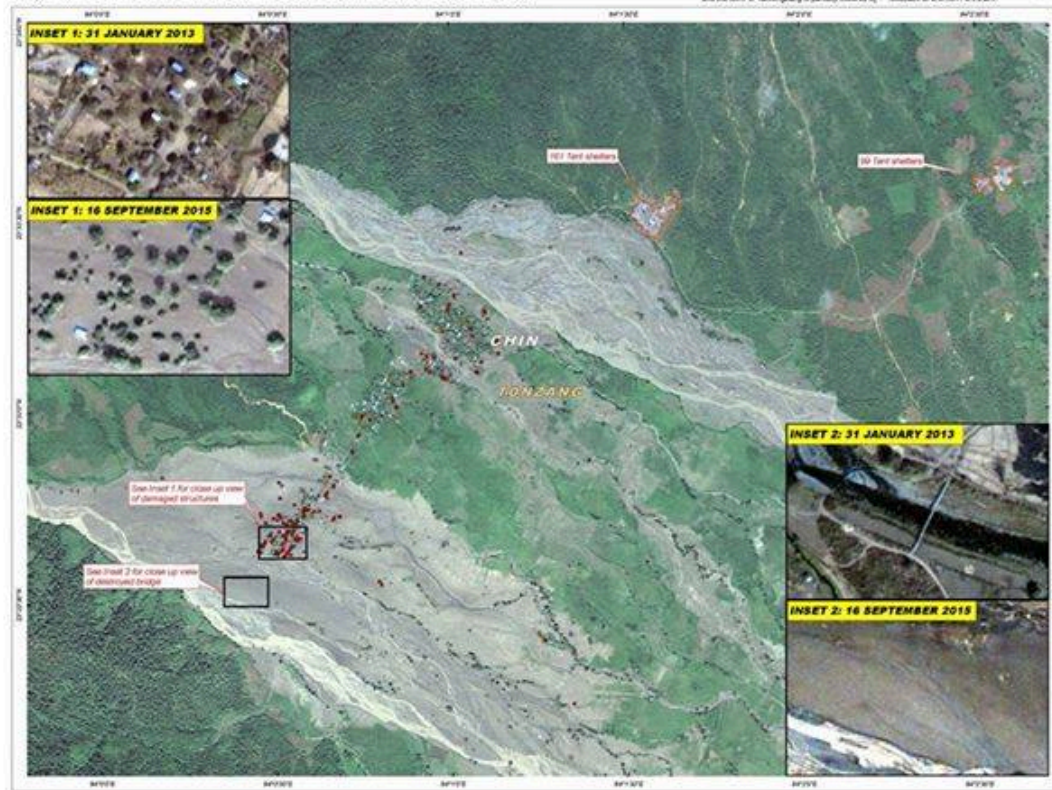
## DAMAGE ASSESSMENT OVER TUIKHINGZANG, TONZANG TOWNSHIP, CHIN DIVISION, MYANMAR

Analysis with Pleiades and WorldView-2 Data Acquired 16 September 2015 and 31 January 2013

The map displays satellite-detected damaged structures over Tuihkingzang town, Tonzang Township, Chin Division, Myanmar, after a reported landslide about 10 km that happened on 16 August 2015. UNOSAT/UNOSAT - produced imagery collected by the Pleiades satellite on 16 September 2015 and identified an area severely affected by a multiple wide agricultural areas across affected and the town of Tuihkingzang is partially covered by

most UNOSAT identified a total of 141 destroyed structures and 48 severely damaged structures in the area. Total losses are also affected and a bridge has been completely destroyed. In addition two GP settlements are visible 7 and 3 km northeast of the town and a total of 262 possible land shelters were identified. This is a preliminary analysis. It may not get more detailed in the field. Please send ground feedback to UNOSAT/UNOSAT.

**Flooding**  
 Production Date: 17/09/2015  
 Mission ID:  
 Activation Number: FL-2015-00069-4691



- Legend**
- Destroyed structure
  - Severely damaged structure
  - GP Settlement

Map Scale for A3: 1:15,000  
 0 1000 2000 Meters

Special message for the International Disaster Space and High Resolution For more information on the Charter visit [www.unosat.org](http://www.unosat.org) or contact us via email [info@unosat.org](mailto:info@unosat.org) or via our website [www.unosat.org](http://www.unosat.org)

Satellite Data (1): Pleiades  
 Imagery Dates: 16 September 2015  
 Resolution: 50 cm  
 Copyright © CAS 3 (2015)  
 Source: Air Force Defense and Space all rights reserved

Satellite Data (2): WorldView-2  
 Imagery Date: 31 January 2013  
 Copyright: DigitalGlobe Inc.  
 Source: UNOSAT/UNOSAT  
 Road Data: Google Map Maker / OSM / ESRI  
 Other Data: USGS, UNOSAT, NASA, NGA  
 Analysis: UNITAR / UNOSAT  
 Production: UNOSAT/UNOSAT  
 Analysis conducted with ArcGIS v10.3

Coordinate System: WGS 1984 UTM zone 48N  
 Projection: Transverse Mercator  
 Datum: WGS 1984  
 Units: Meter

The depiction and use of boundaries, geographic names and related data shown here are not warranted to be error-free nor do they imply official endorsement or acceptance by the United Nations. UNOSAT is a program of the United Nations Institute for Training and Research (UNITAR) providing satellite imagery and related geographic information, research and analysis to UN humanitarian and development agencies and their implementing partners.

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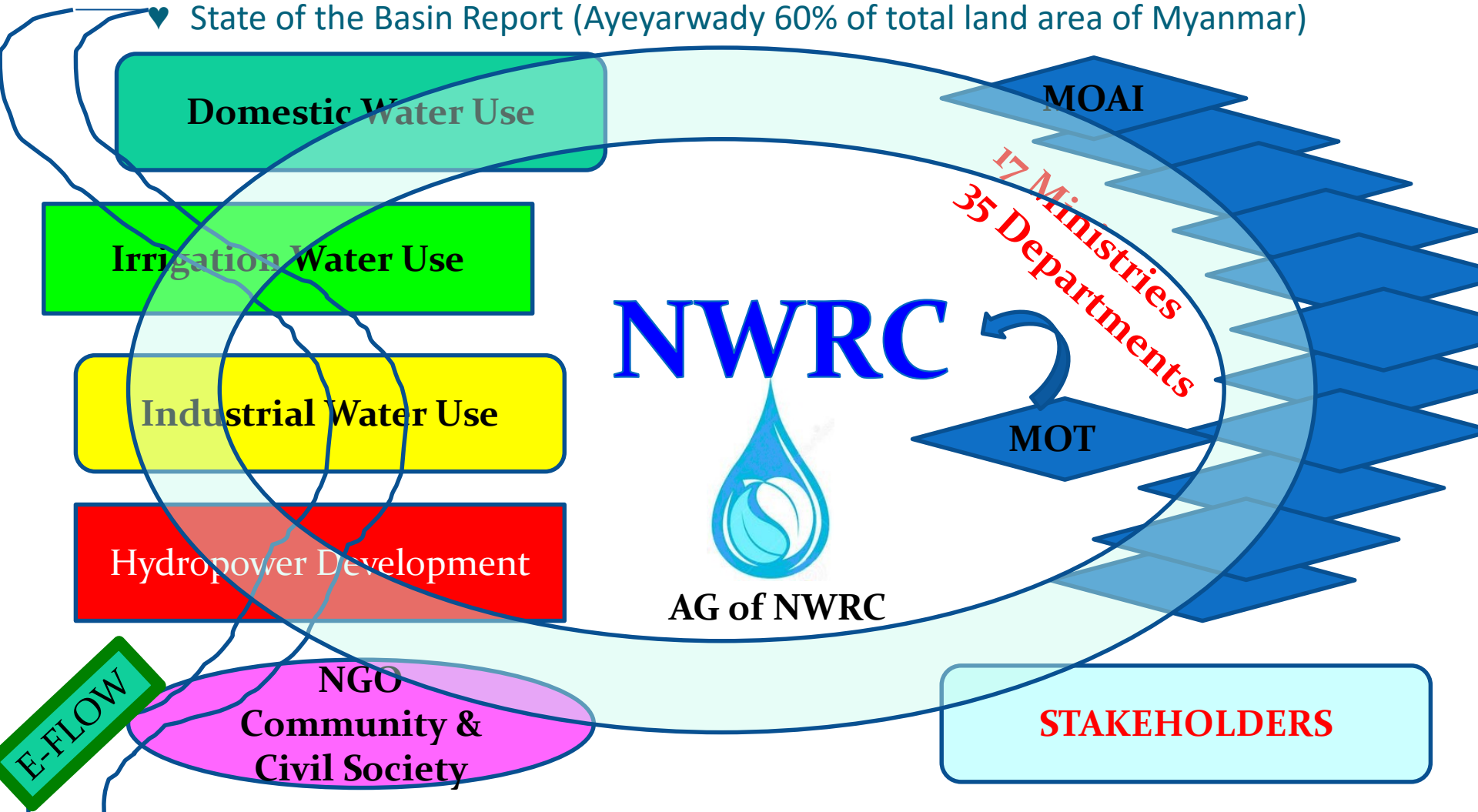
Central Information: [unosat@unosat.org](mailto:unosat@unosat.org)  
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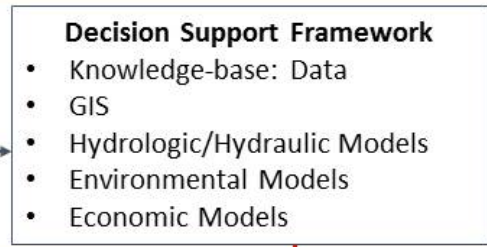
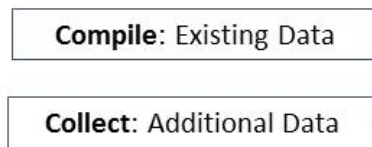
# Legal Framework of NWRC (current formulation)

- ♥ Myanmar National Water Framework Directive (done)
- ♥ Myanmar National Water Policy (done)
- ♥ National Water Vision 2040 (done)
- ♥ National Water Law (first draft)
- ♥ State of the Basin Report (Ayeyarwady 60% of total land area of Myanmar)

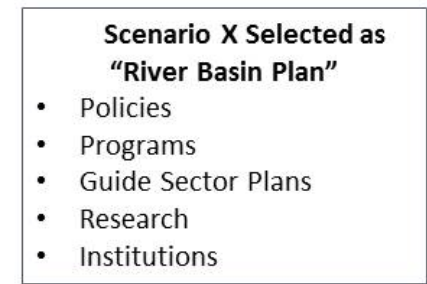
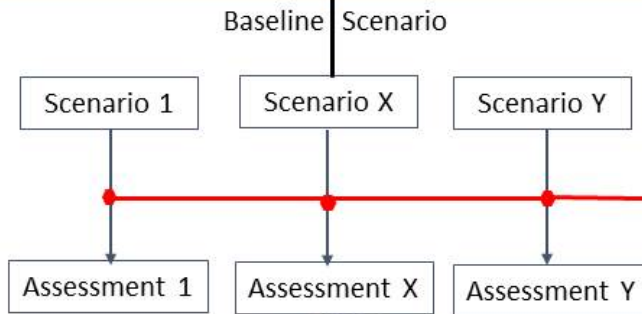
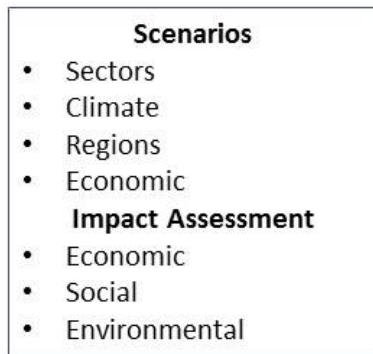


# State of the Basin Report Concept

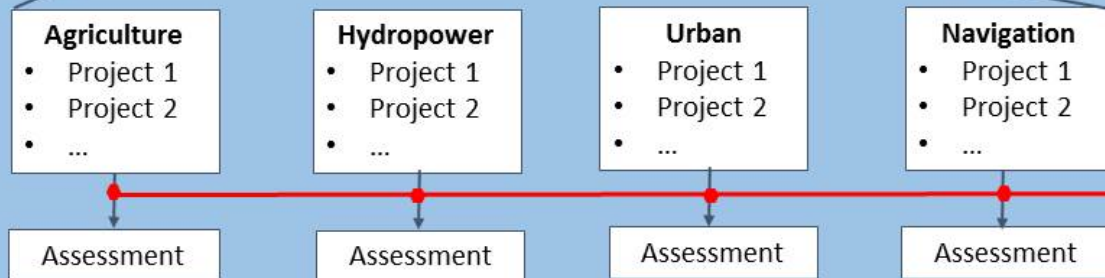
## A. Foundation



## B. Basin Plan



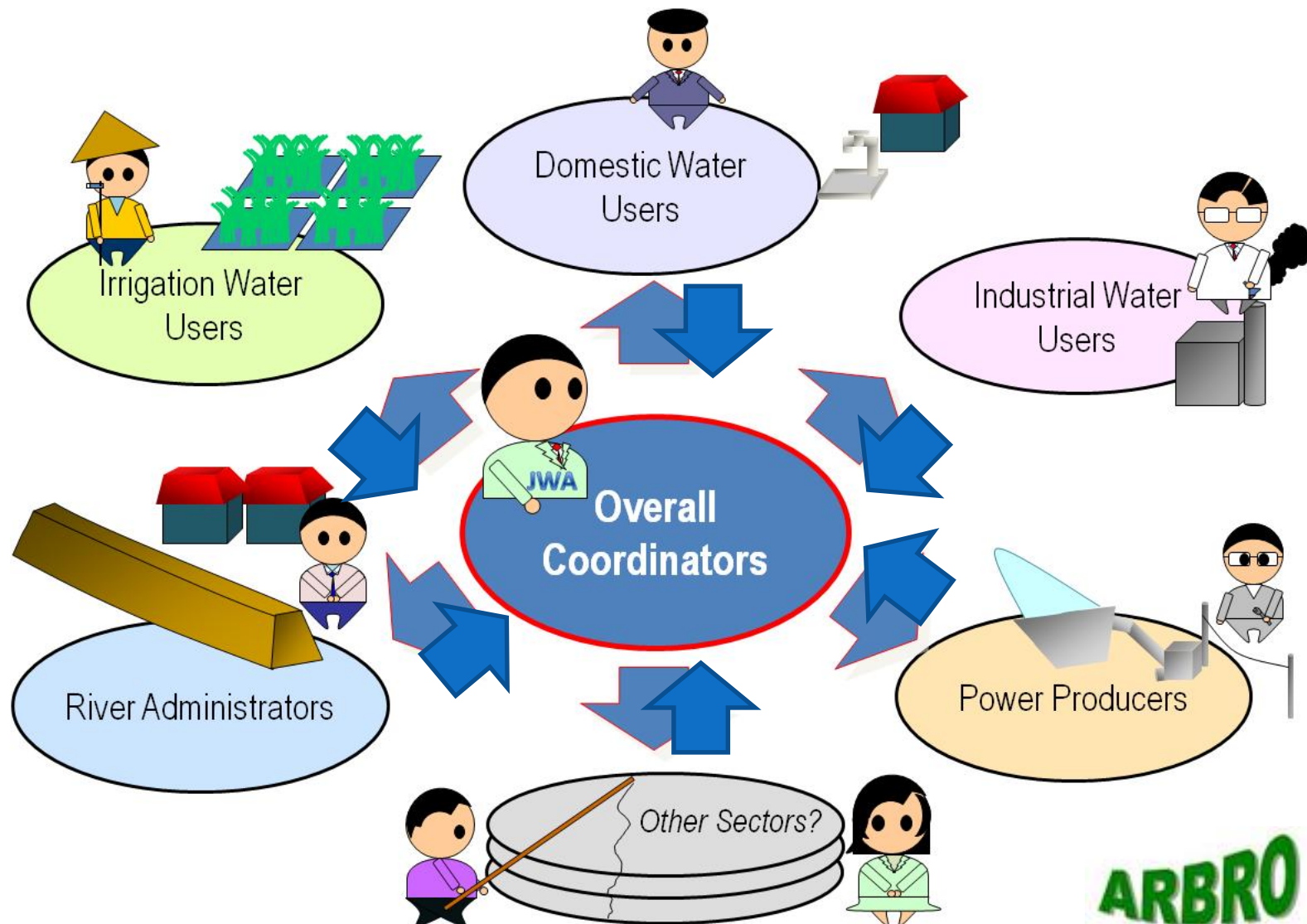
## C. Sector/Project Planning



# NWRC is an APEX Body in Myanmar's Water Sector

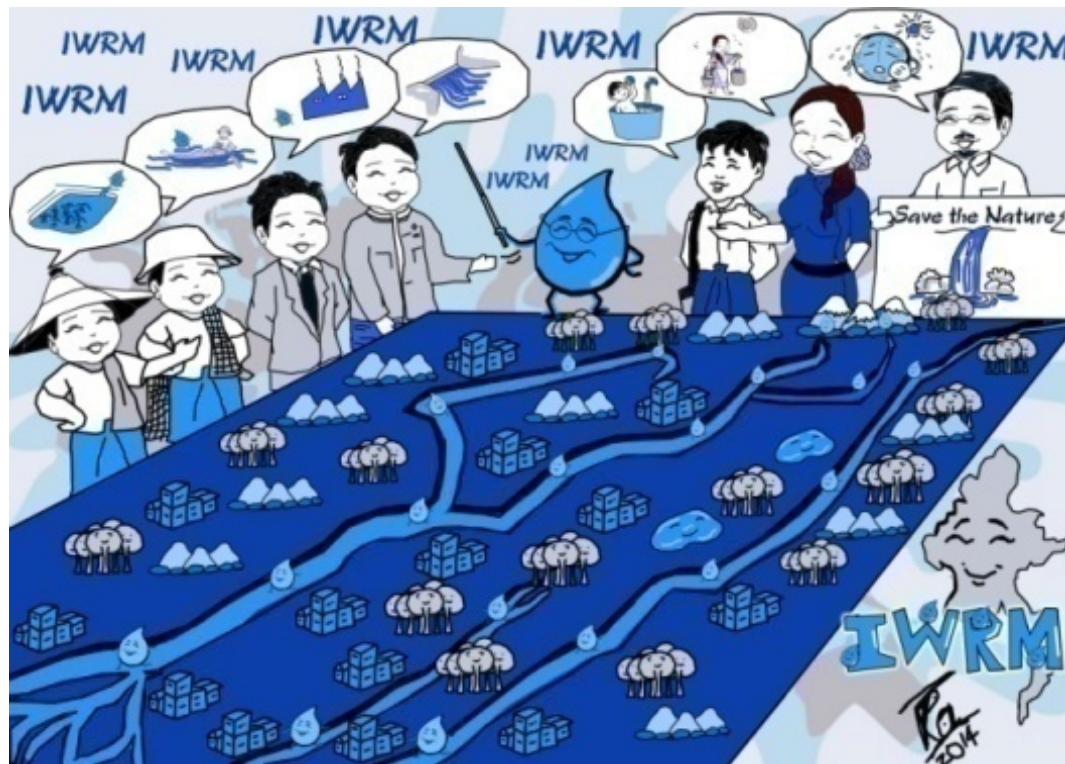
## NWRC is a committee of collective leaders

Supported by the Advisory Group (National Think Tank on Water Affairs)





**New National Water Policy (2014)  
stated that River Basin is a basis unit  
for IWRM and its Implementation!**



# Three Components in Disaster Management



**2015 Floods and landslides affected 12 Regions seriously and all 15 were being affected!**

# Water Law Drafting Process

**Water Policy**  
2014

→ 14 Chapters

**MNWFD**  
2014

→ 7 Principles

**Myanmar  
Water Law**  
2015

→ On going

# UN Water Convention

- Myanmar is in the process of joining the UNWC
- IUCN, WB and IFC support the process
- A number of workshops being held and capacity building is in progress
- Jan 2016 – another workshop in Myanmar will be held
- IUCN Books are translated
  - FLOW (env. Flow) Myanmar version (2003)
  - NEGOTIATE is currently in translation

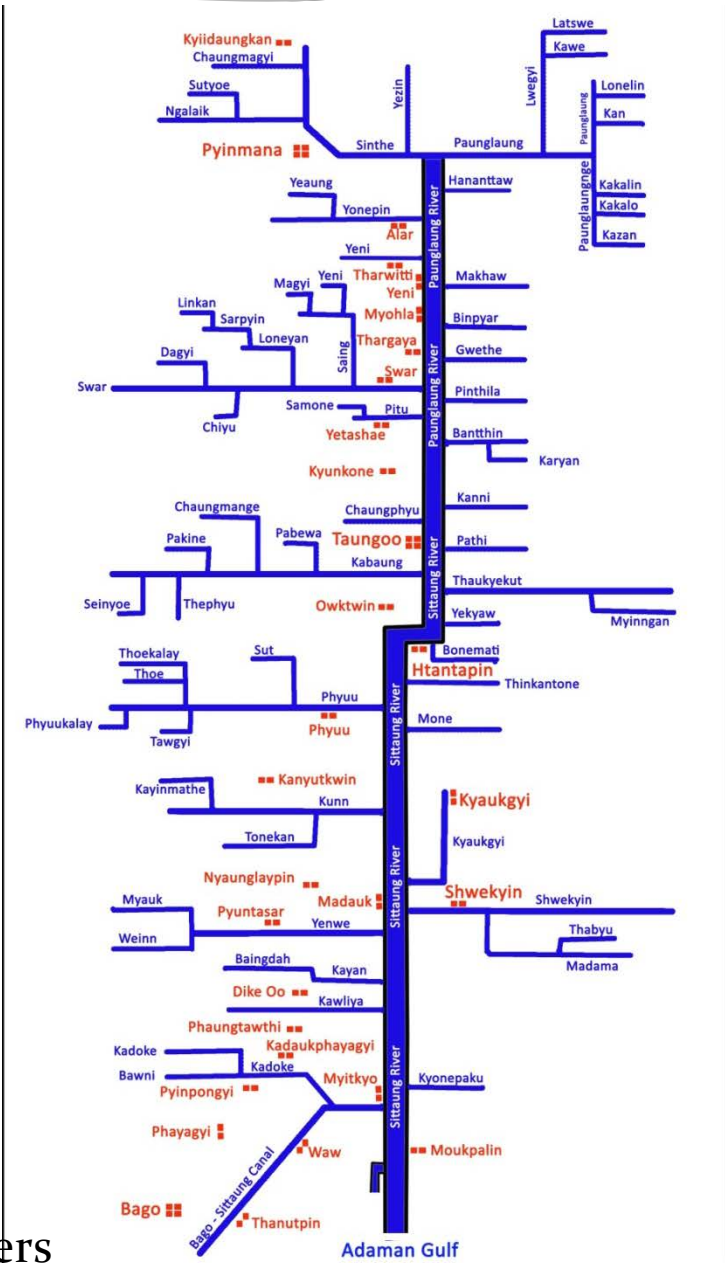
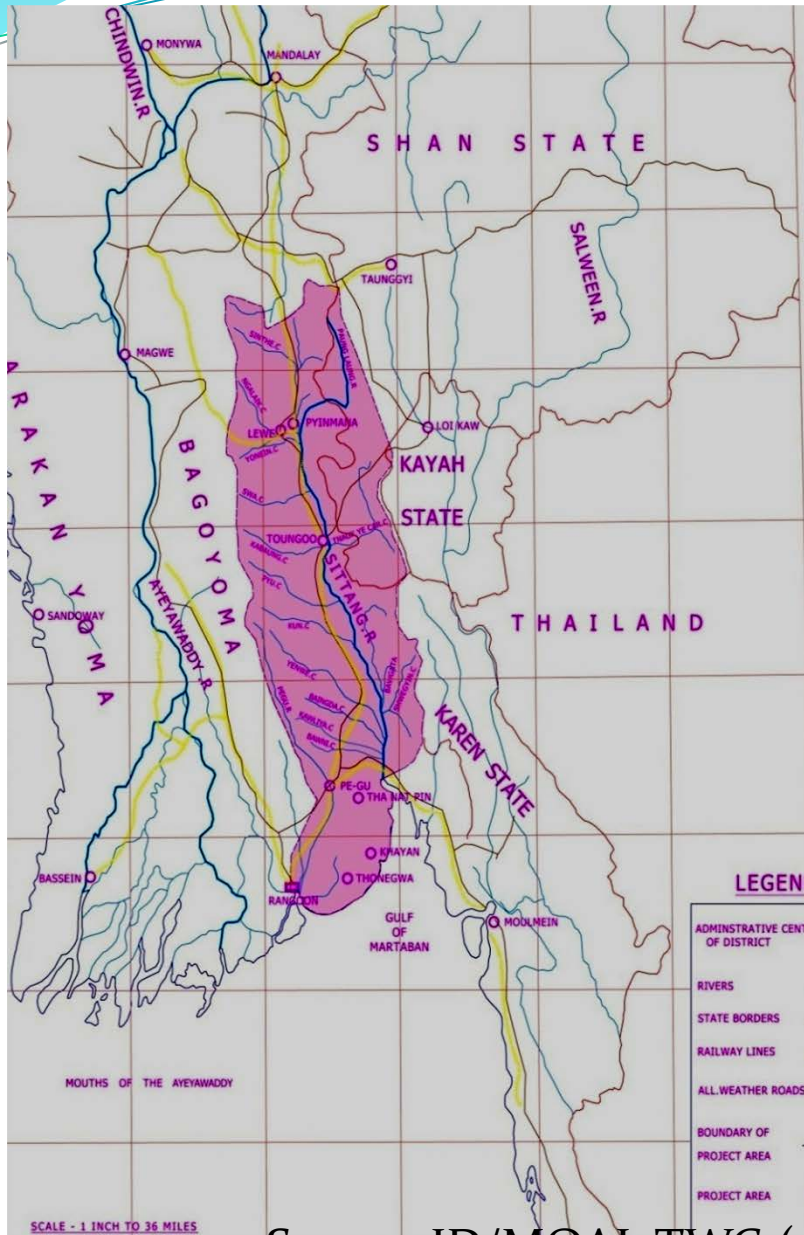


# Climate Change and Water Security

- Advisory Group of NWRC has Six Thematic Working Groups (TWGs)
- 37 Experienced water professional (25 to 45 years service)
- **TWG (1) Water for Energy**
- **TWG (2) Water for Food**
- **TWG (3) Water and Climate Change (found trends in Hydrological data) – has advised the Government already – i.e. Economic of Water Security in the light of Climate Change)**
- **TWG (4) Water Quality and Pollution Control**
- **TWG (5) Water for People and Environment**
- **TWG (6) Water Law, Legislations, and Governance (Enabling Environment)**
- I am the Secretary of the Advisory Group


# Sittaung River Basin

# Line Diagram for Creeks Flowing into the Sittaung River



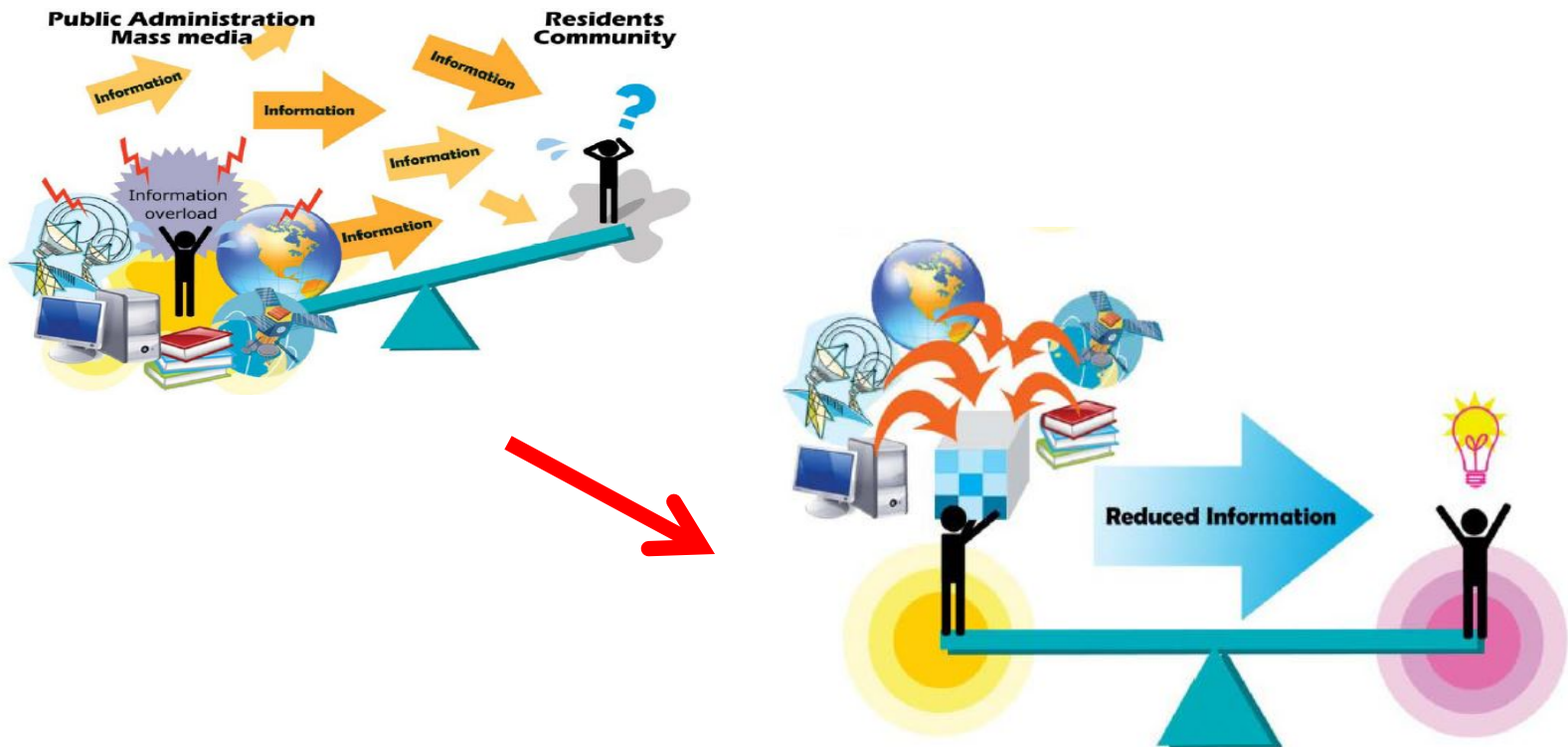
Source: ID/MOAI, TWG (2) Mmembers

# Water Security Campaigns

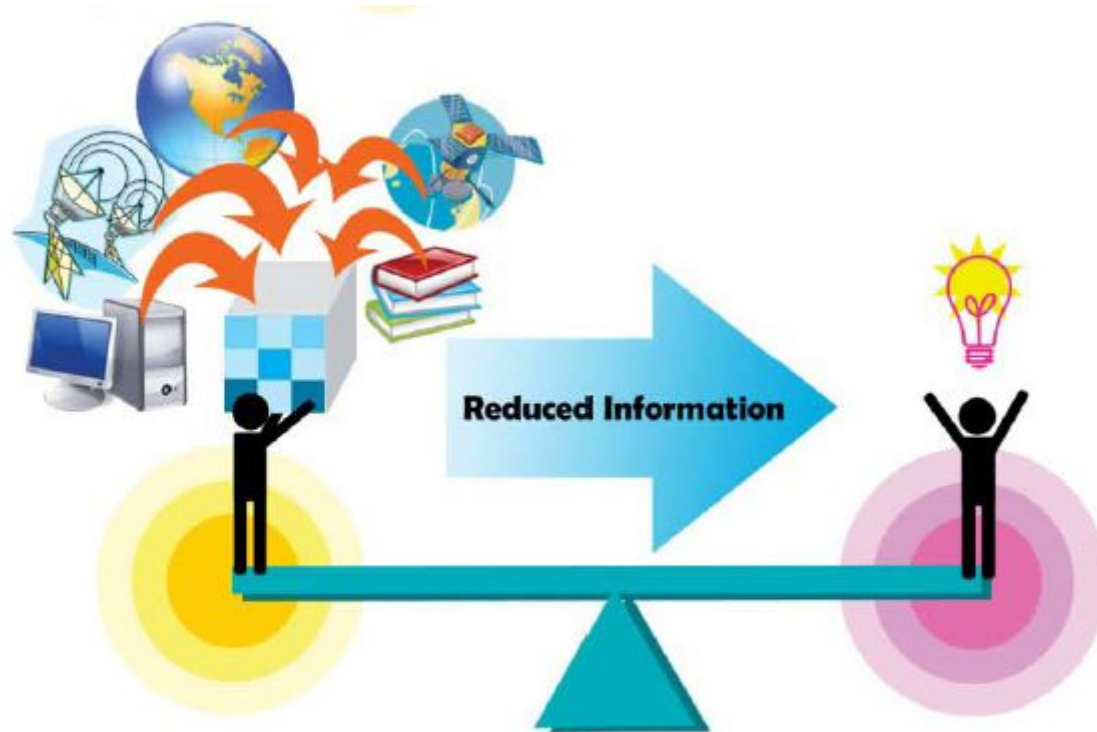
- **National Water Harvesting Campaign** ✓
- Flood Mapping Campaign 
- The Flood Mapping Campaign has been absorbed in larger scope and it won't be a campaign form but as part of a long-term recovery framework – Build Back Better approach and Building Resilience

# National Flood Hazard Mapping Campaign

## LOCAL DISASTER MANAGEMENT AND HAZARD MAPPING



# Role of Women in Plan of Action



**New National Water Policy (2014)**



# National Rain Water Harvesting Campaign

**A far-sighted and much needed initiative to secure nation's water wealth directed by the Chairperson of the National Water Resources Committee (NWRC)**

## SCOPE

From a single rain drop

- to the forests
- to the Rivers – all water bodies
- to Villages and Cities - Urban Built Environment
- to Engineering Practices
- to Agricultural Practices
- to Industrial Practices
- to New Consumer Behavior
- to individual water ethics
- to national spirit in water saving!

Single Drops of Water  
Make the Mighty  
Economy!

မိုးရေစက္ကလမ်းက

အာဇာနည်မင်းသား  
စီးပြားရေး

ကို  
ပျံ့နှံ့စေရမည်

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# Time Line (5 years from 2015)

- Nov 2015 – Nov 2016 Immediate activities
- Nov 2016 – Nov 2017 Planning for medium and long-term activities
- Nov 2017-Nov 2020 Implementation of the medium and long-term plans

Note: “National Water Vision aims to achieve by 2040”, which also in line with the Myanmar National Water Policy.

# Myanmar's contribution to the Regional Water Experts Consultation Meeting

- Implementation of SDGs in AP region needs to do the following . . . . .
- Filling the knowledge gaps
- Basin Level Data Sharing will help us implement IWRM with River Basin as basis for IWRM
- Develop Water = Grow Trees and Create Watersheds
- Using existing organization and network like “Global Water partnership”
- ASEAN Free Trade is coming – that will further increase the inequality in water security – accounting for water footprint should play a role?
- To Increase efficiency and capacity of trade on the one hand and ensuring water security on the other – we need to check our water legislations and try to make more compatible
- Mobilize peoples with the help of women Organizations

# **WATER** is everybody's business



*Picture Source: Scientific American*

**Thank You Very Much for Your Time and Attention**