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# Council Study

## Progress Update: Formulation of Development Scenarios - Irrigation



5<sup>th</sup> RTWG Meeting  
Siem Reap, Cambodia  
13-14 August 2015

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## OVERALL PROGRESS

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### Overall Progress as of 31 Jul 2015



- All required experts on board
- Work plan for the formulation of sub-scenarios developed
- Technical working session conducted , 3 sub-scenarios discussed and agreed
- Guidance and template for data collection developed
- Data collection in progress

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# SCENARIO FORMULATION AND DEVELOPMENT

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## Technical Working Session on 25 June 2015



Discussed and agreed on:

- (1) Overall context and guidance for formulation of sub-scenario development
- (2) Approach, methodology and proposed for sub-scenarios development
- (3) Data requirements and handling data gaps
- (4) Detailed schedule

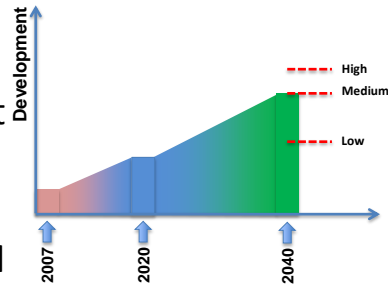
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## Sub-Scenarios Formulation



- ▶ **3 Sub-Scenarios need to be formulated based on 2040 PDS:**
  1. A Low expected development (Low )
  2. A 'Medium' expected development (Medium) and
  3. A High expected development (High )

**The 3 Sub-scenarios will provide variations that bound the Planned Development Scenarios 2040**



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## The 3 sub-scenarios



### Sub-Scenarios 1: Low level of PDS implementation

**achievement: only all "specific" plans are implemented.**

They include (i) plan is under-implementation, (ii) plan has got commitment to implement, (iii) plan has specific proposal and (iv) plan is considered as a high priority to implement.

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## The 3 sub-scenarios(cont.)



### Sub-scenarios 2: Medium level of PDS implementation

achievement: all specific plans + other plans (all vision/development directions) are implemented

### Sub-scenarios 3: High level of PDS implementation

achievement: all specific plans + other plans (all visions/development directions) + continued trend to develop are implemented.

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## Methods to formulate sub-scenarios



- Apply concept of PDS and sub-scenarios
- Participatory approach with an approval from MCs for formulated scenarios
- Data collection: available secondary data

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## Irrigation Development: Which drivers should be considered for Sub Scenarios?



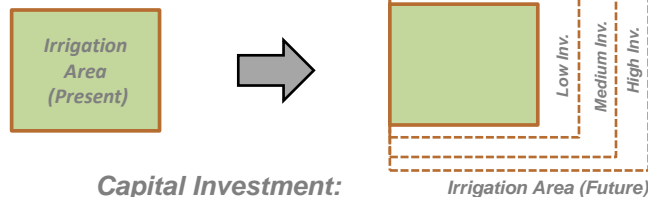
- ▶ The Irrigation process involves a multiplicity of factors that influence the potential development the sector may have
- ▶ To evidence different sub-scenarios, some specific drivers will be focussed to allow to differentiate the development
- ▶ The delineation of the sub-scenarios is guided by the following drivers that will influence the development:
  - ▶ The **Investment Plan and Policy on Irrigation Infrastructure**
  - ▶ The **Improvement on Water Use Efficiency**

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## Irrigation Development: Which drivers should be considered for Sub-Scenarios?



### 1- INFRASTRUCTURE



#### Capital Investment:

- Storage & Control Structure
- Conveyance Structure
- Land & Rural Infrastructure

- The level of Investment in the Infrastructure development will differentiate the path of the irrigated areas increment
- Investment can focus on canals, reservoirs, headworks, etc..
- With a low, medium or High level of investment, the Area Increment will vary

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# Irrigation Development: Which drivers should be considered for Sub-Scenarios?



## 2- WATER USE Efficiency



### Investment:

- *Water management (Control)*
  - *Conveyance Infrastructure*
  - *On Farm Irrigation technology*
- The level of Investment in the Water use Efficiency will differentiate the path of the irrigated areas increment
  - The direct effects of the investment can be measured on the Supply / Demand pattern and on the return flow
  - Investment can focus on the Water Management infrastructures, on water Policies, on farm Irrigation, etc

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## Sub-Scenario Development - Example



High

Medium

Low

1. On the basis of the data collected for each country, three scenarios have been drafted that are differentiated by an increment of the irrigation area
2. At the basin level, the total irrigated area for each scenario is a sum of new irrigation projects and rehabilitation projects.
3. In addition, the application of the plans and policies on the efficient use of water will vary in each scenario
4. Finally, the Outputs of each scenario will differ and will be studied through indicators that shall reflect the differences in terms of:
  - a) Irrigated Area
  - b) Cropped Area
  - c) Production
  - d) Water Productivity
  - e) Water Demand / Supply / Return flow

The shares are only indicative and will be adjusted by country based on the indications of the NC

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# REQUIRED DATA AND DATA COLLECTION

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## What datasets are Required ?



1. **Early development 2007;** - Area for irrigation, cropping calendars, irrigation method and on-farm efficiency in 2007
2. **Definite development 2020;** - Area for irrigation, cropping calendars, irrigation method and on-farm efficiency in 2020
3. **Current situation;** - Socio-economic condition and national development policies, Data on irrigated area, crop production, irrigation method and on-farm efficiency, investment and O&M cost for irrigation infrastructure.
4. **Plans 2040** (including specific plans and other such as visions and development directions)- Sector development plans on agriculture, expansion of irrigated area, improvement of water use efficiency, investment, technology, spatial allocation...

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## DATA COLLECTION

- ▶ Existing data at the MRC
  - AIP 2004 database (Old)
  - BDP2 database (Old)
  - Relevant literature and documents
- ▶ Irrigation Database (AIP Activity #1.4.1) – *Ongoing*
  - Laos, Thailand and Vietnam: submitted draft of irrigation database
  - Cambodia did not implement (Cambodian national consultants are working under CS)
  - Database has been checked in their consistency with their reports and need to be finalized
- ▶ Data Collection Forms to be compiled
  - Feedback from the NC
- ▶ External data
  - Internet
  - Scientific Literature
  - Other sources: AFD – ADB – WB – FAO – JICA - CGIAR

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## SCHEDULE

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# Work Plan for Scenario Development:



TASK	Start	End
<b>SCENARIO DEVELOPMENT</b>	<b>25/06/15</b>	<b>23/09/15</b>
Data Collection	25/06/15	22/07/15
Forms Compilation	25/06/15	22/07/15
Irrigation Database Finalization	25/06/15	22/07/15
Literature Review	25/06/15	22/07/15
Literature Compilation	25/06/15	22/07/15
Review and transmission	16/07/15	22/07/15
<i>Draft Delivery of Forms and DB</i>	22/07/15	22/07/15
Data and Literature Analysis	23/07/15	12/08/15
First Gap Analysis from Forms	23/07/15	29/07/15
Literature review	23/07/15	12/08/15
National Consultations	Sep-Oct 2015	Sep-Oct 2015
Scenario Finalization	27/08/15	23/09/15
Data Gaps Handling	27/08/15	02/09/15
Preparation of Scenario Dataset	03/09/15	09/09/15
Scenario Approval prior to assessment	6th RTWG	6th RTWG

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## CHALLENGES



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# Challenges



- Required data collected in time; availability, accessibility,
- Time constraint
- Limited human resources at AIP

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# In Summary



- Implementation Progress : Steady
- Implementation: Data collection in progress

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## The RTWG is specifically requested to:



- Take note of the progress
- Provide feedback and agree if possible with the proposed development scenarios
- Provide feedback and guidance on the approach for determining the level of development and management for each of the proposed thematic sub-scenarios

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Thank you



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