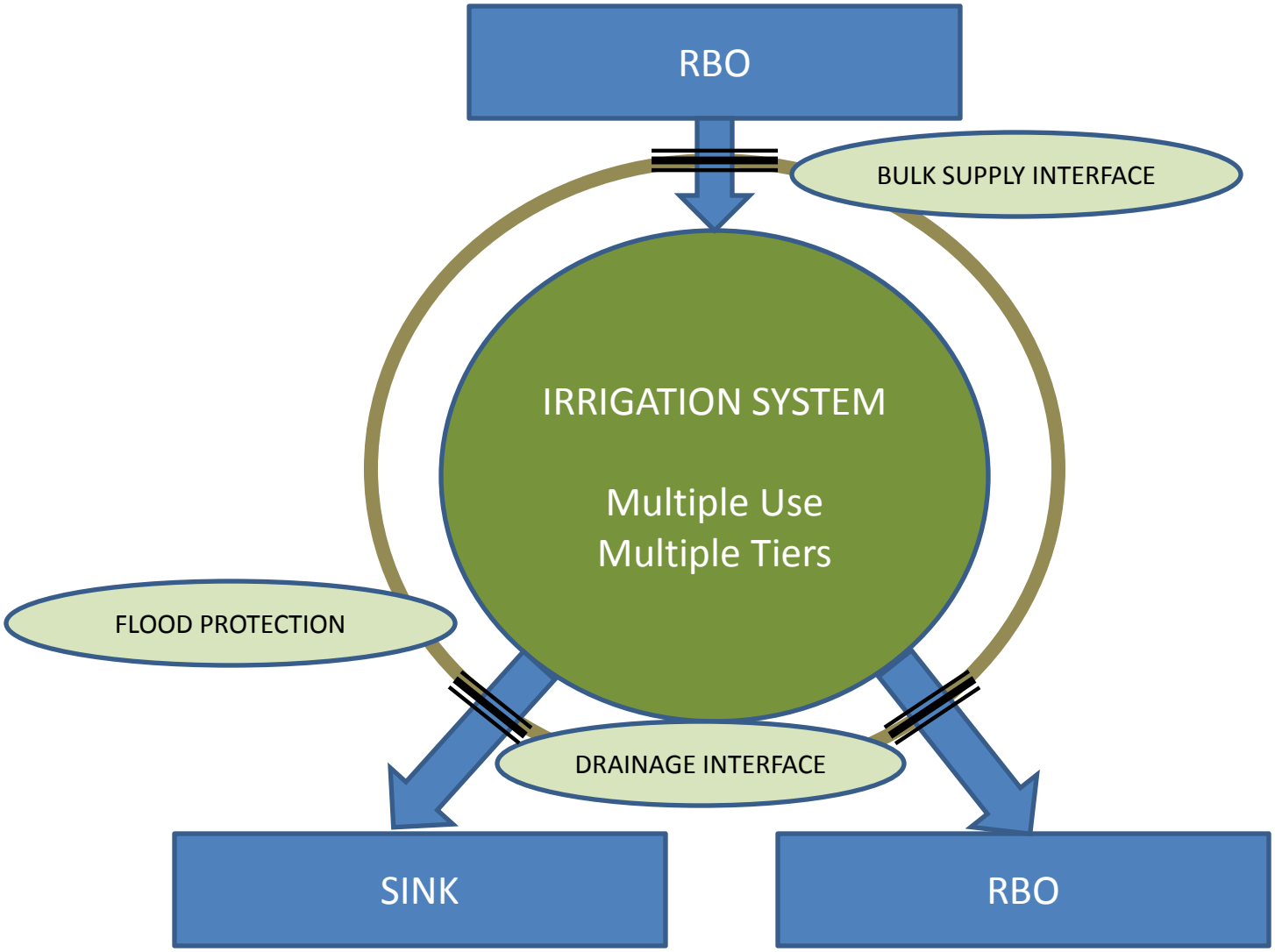
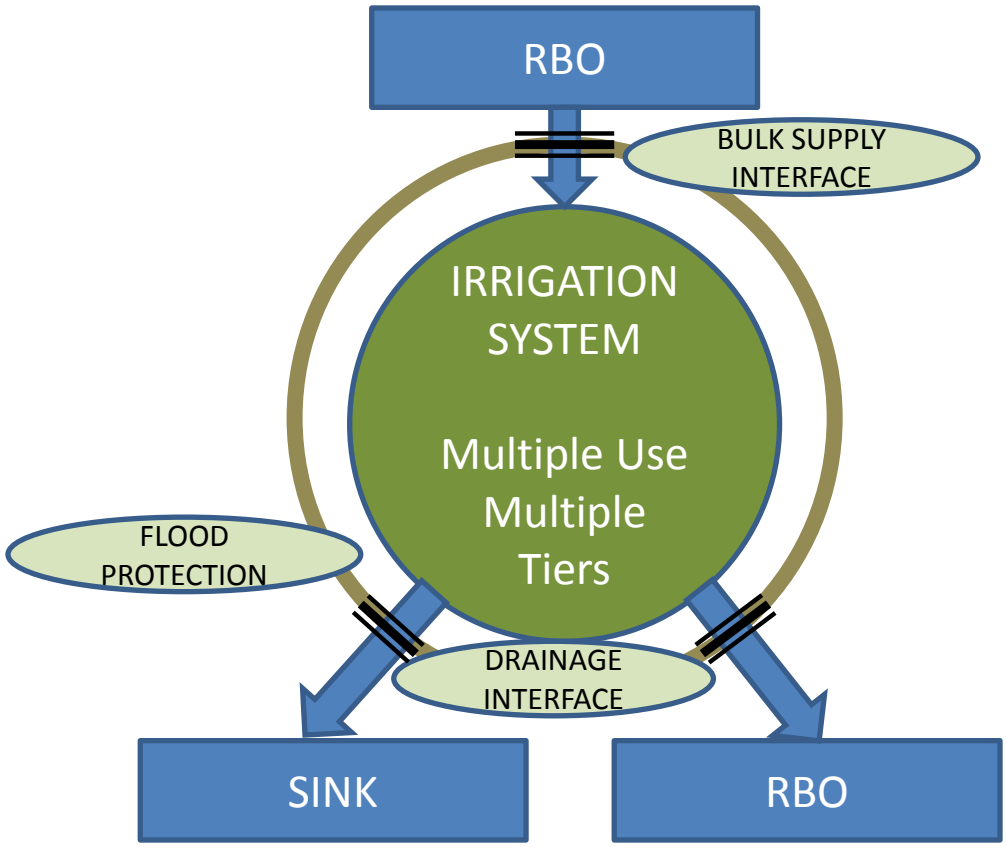
# ……. and now from bottom up…

Use of ABCDEF to define Irrigation Management Modernization


RBO
BULK SUPPLY INTERFACE
IRRIGATION SYSTEM
Multiple Use
Multiple Tiers
FLOOD PROTECTION
DRAINAGE INTERFACE
SINK
RBO

# Policy Questions

RBO-Irrigation Agency Relation




1. **Interfaces**
   a. Where is the interface?
   b. Who are the parties at either side of the interface?
   c. What is the forum for decision making?

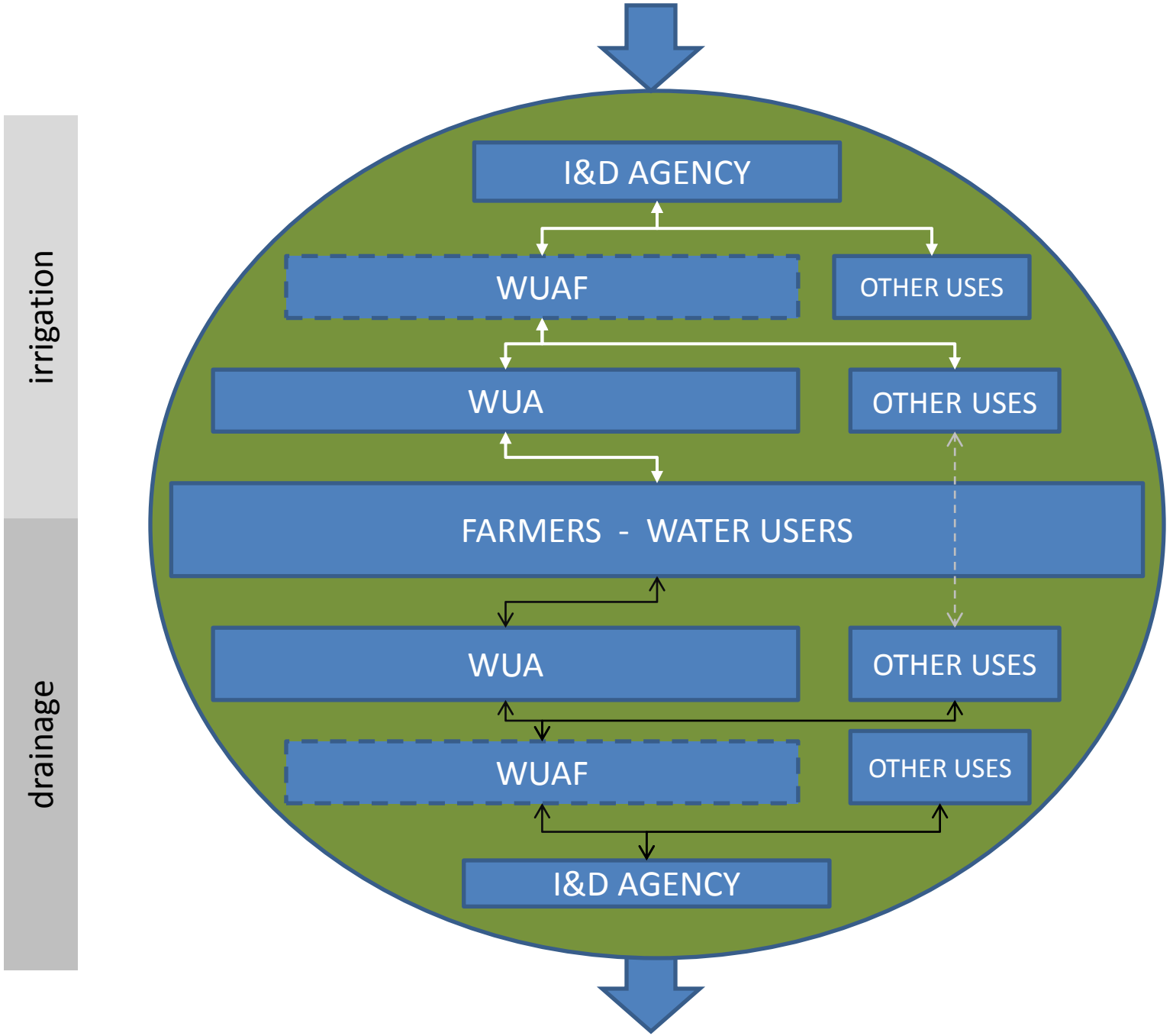
2. **Service Standard**
   a. Delivery rules
      i. Water Use Rights
      ii. Water Ordering Procedures
      iii. Water quantity-quality
      iv. Shortage
      v. Emergency
   b. Drainage rules
      i. Effluent quality
      ii. Evacuation capacity
   c. Flood Protection
      i. Security levels
      ii. Emergency options

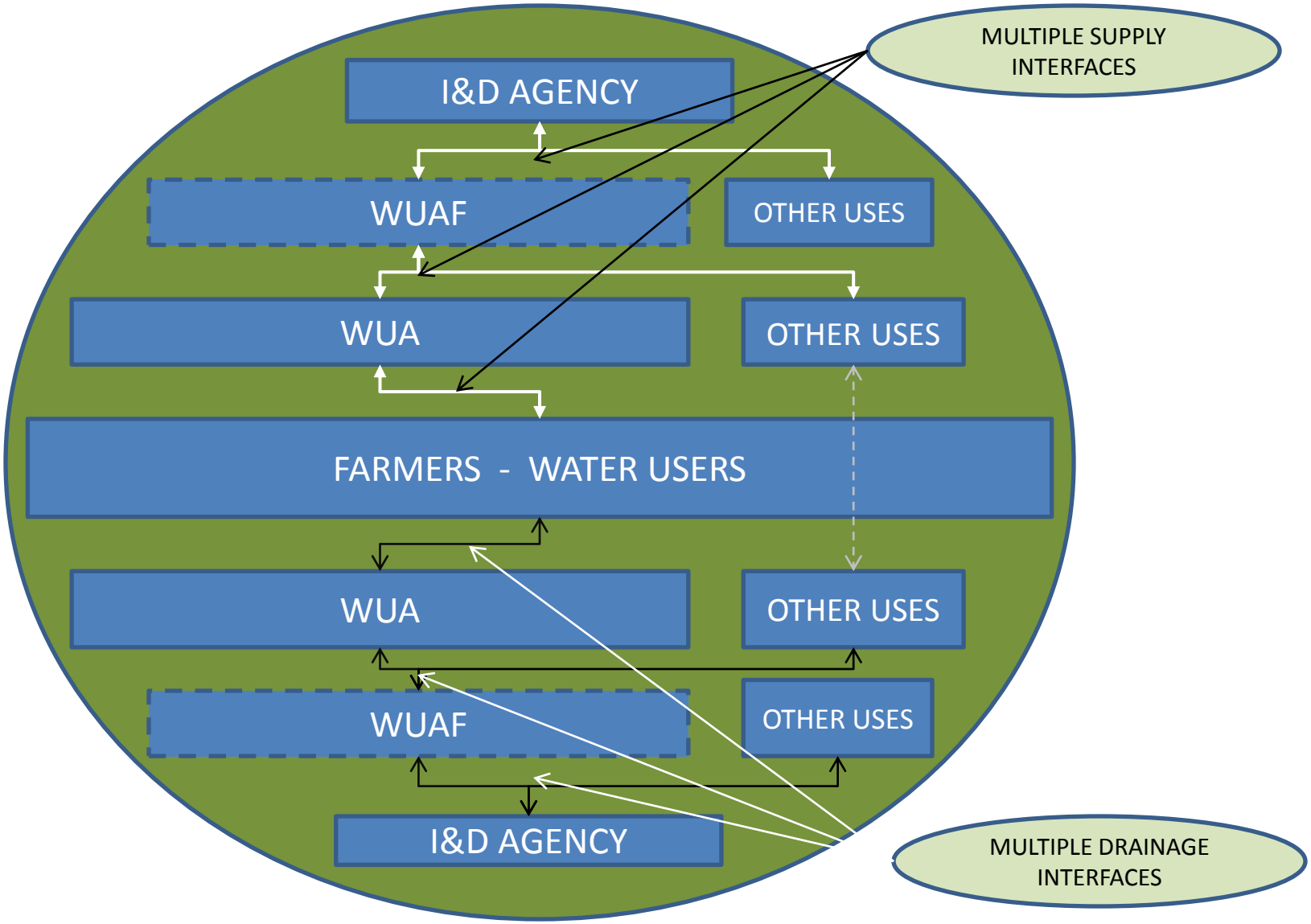
3. **Monitoring and water accounting**


Service Oriented Management
uncovers
Multiple Uses of Water Services

# The ABCDEF Framework:
# Service Interfaces

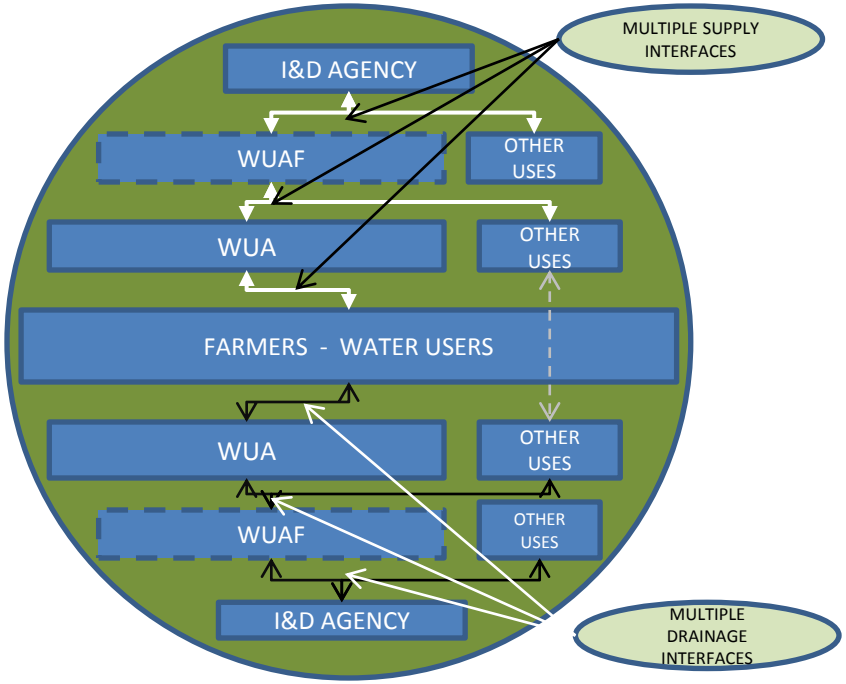
| *Level and Typology* | A<br>Accounting | B<br>Bargaining | C<br>Codification | D<br>Delegation | E<br>Engineering | F<br>Feedback |
|---|---|---|---|---|---|---|
| **Country** | | | | | | |
| **Basin** | | | | | | |
| **Service Interface 1**<br>**Basin – Main Irrigation System** | | | | | | |
| **Main Irrigation System** | | | | | | |
| **Service Interface 2**<br>**Irrigation Agency → WUAF** | | | | | | |
| **Sub irrigation systems** | | | | | | |
| **Service interface 3**<br>**WUAF - WUA** | | | | | | |
| **WUA-sub system**<br>(tertiary units) | | | | | | |
| **Service interface 4**<br>**WUA – Farmer.** | | | | | | |


irrigation
drainage
I&D AGENCY
WUAF
OTHER USES
WUA
OTHER USES
FARMERS - WATER USERS
WUA
OTHER USES
WUAF
OTHER USES
I&D AGENCY


MULTIPLE SUPPLY INTERFACES
I&D AGENCY
WUAF
OTHER USES
WUA
OTHER USES
FARMERS - WATER USERS
WUA
OTHER USES
WUAF
OTHER USES
I&D AGENCY
MULTIPLE DRAINAGE INTERFACES

# Policy Questions

Irrigation Agency - WUA(F) – Farmer/water user Relation




## 1. Interfaces (IA-WUAF-WUA-Farmer)

a. Where is the interface?
b. Who are the parties at either side of the interface?
c. What is the forum for decision making?
d. Where does government involvement stop?
e. Where does informal water economy take over from formal?

## 2. Level of Service at each interface

a. <u>Delivery rules</u>
   i. Water Use Rights
   ii. Water ordering procedures
   iii. Water delivery : quantity-quality
   iv. Shortage
   v. Emergency

b. <u>Drainage rules</u>
   i. Effluent quality
   ii. Evacuation capacity/water levels

c. <u>Flood Protection</u>
   i. Security levels
   ii. Emergency options

## 3. Monitoring and water accounting

| *Level and Typology* | Accounting<br><br>Knowing, either precisely or in statistical terms, the quantity and quality of water available and used. | Bargaining<br><br>Having a process to decide on priorities for allocation of the available water in specific hydrological conditions | Codification<br><br>Translating the priorities into rules, regulations and procedures for water allocation | Delegation<br><br>Having the institutions in place to implement the agreed rules and procedures on delivery of service<br><br>(incl. HR and fiscal arrangements) | Engineering<br><br>Having the physical infrastructure in place to deliver the agreed allocations | Feedback |
|---|---|---|---|---|---|---|
| Country<br>climate, demography, economy, trade<br>policy: food security, water security, role agriculture in economic development<br>decentralization/gvt levels<br>management culture and planning system, including planning horizons | National overview of water balance in all river basins.<br>Prioritization of water use | Stakeholder platforms:<br>National water council or higher in case of international rivers/aquifers | Water laws and implementing regulations<br>Incl.<br>Water (use) rights | Institutional structures<br>Unbundling of roles – legislator, regulator, operator<br>Fiscal arrangements | | |
| Basin<br>Open, closed<br>Seasons, storage<br>CC Vulnerability<br>Competition<br>Management | Water accounting systems | MIS and Planning systems,<br>Stakeholder platforms: Basin water council | Basin water management, conservation and allocation plans<br>Service agreements and charges for all uses and users | RBO<br>Revenues<br>Governance<br>Service standard<br>Accountability mechanisms | Hydro-meteo networks, MIS<br><br>Bulk water management infrastructure i.e. storage, conveyance, diversion flood protection and works, | |
| Service Interface<br>Basin – Main Irrigation System | Water Account | Irrigation representation in bulk water allocation negotiations | Bulk water service standards and agreements<br>Bulk water allocations | Accountability Mechanism<br><br>Payments for bulk water delivery | Data Sharing system<br><br>Discharge Measuring and control Device | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Main Irrigation System**<br>Rice, non-rice<br>Surface, ground, conjunctive<br>Gravity, pumped<br>Collective, individual users<br>Other uses | Water accounting systems | MIS and planning systems<br>Stakeholder platforms:<br>Irrigation Committee<br>Other uses | Water allocation and delivery plans<br>Operating strategy<br>Service agreements and charges<br>Cropping plans/schedules | Irrigation service<br>Revenues<br>Governance<br>Service standards<br>Partnership with WUA/WUAF<br>Accountability mechanisms | Storage;<br>Abstraction, conveyance, distribution and delivery ; drainage;<br>Recharge<br>Flow control, regulating, monitoring and measuring | |
| **Service Interface Main Irrigation – Sub-Irrigation System**<br>**(e.g. Irrigation Agency - (Federated ) WUAs)** | Water account | WUAF (and possible other users) representation in water allocation negotiations | WUA(F) water use rights | Service standards<br>Role sharing, Governance<br>Partnership Revenues | Data Sharing<br>Measuring and control Device | |
| **Sub irrigation systems**<br>Intermediate delivery (e.g. secondary systems under different management as the "upstream system". | Water accounting systems | MIS and planning systems<br>Stakeholder platforms: | Water allocation and delivery plans<br>Operating strategy<br>Service agreements and charges<br>Cropping plans/schedules | WUAF organization – staff , capacity<br>Irrigation service<br>Service standards<br>Accountability mechanisms<br>Formalization WUA, rights and obligations, revenue and charges | Storage<br>Abstraction, conveyance, distribution and delivery –<br>Drainage<br>Recharge<br>Flow control, Monitoring and measuring<br>Distribution and farm gate delivery | |
| **Service interface WUAF - WUA** | Water account | WUA (and possible other users)<br>representation in water allocation planning and distribution schedules | | | Data Sharing<br>Measuring and control Device<br>Payment mechanism | |