



Food and Agriculture Organization
of the United Nations



UNITED NATIONS

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ESCWA

Guidelines on Improved Water Allocation for Agriculture

Necessary requirements for application

04-10-2022





**KNOWING IS NOT ENOUGH;
WE MUST APPLY.
WILLING IS NOT ENOUGH;
WE MUST DO.**

- JOHANN WOLFGANG VON GOETHE

Moving into action

Four factors:

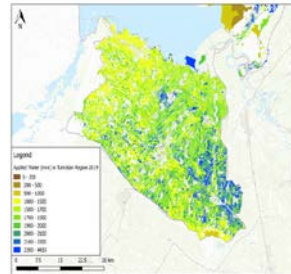


Leadership
Mandate, agendas



Engagement
Broad stakeholders
Coordination

Shared understanding
Data, maps, tools



Ownership
Diverse users
Self assessment



1. Select pilot area, description of area and challenges (short), justification of pilot

2. Proposed improvement in water allocation, objectives of the area

3. Proposed activities:

3.1 Stakeholder engagement

- Stakeholder overview (local, national)
- How to engage local leadership and stakeholders
- How to enforce national leadership and engagement

3.2 Improved water allocation preparation plan

- Use agenda tool for the pilot area
- Define what would need to be done to explore and set in motion

3.3 Improved (local) governance arrangements

- Use agenda tool to identify bottlenecks and priority actions

3.4 Supporting studies

- Compile existing studies
- Water accounting
- Remote sensing / WaPOR (maps, trends)
- Others

3.5 Supporting capacity building and familiarization activities

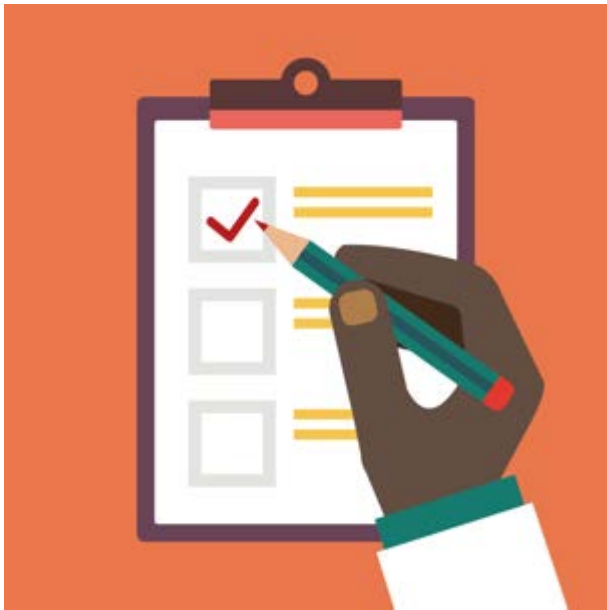
- How to create awareness, skills, ownership

3.6 Monitoring, reporting, sharing

- Timelines, proposed deliverables
- Proposed communication outputs

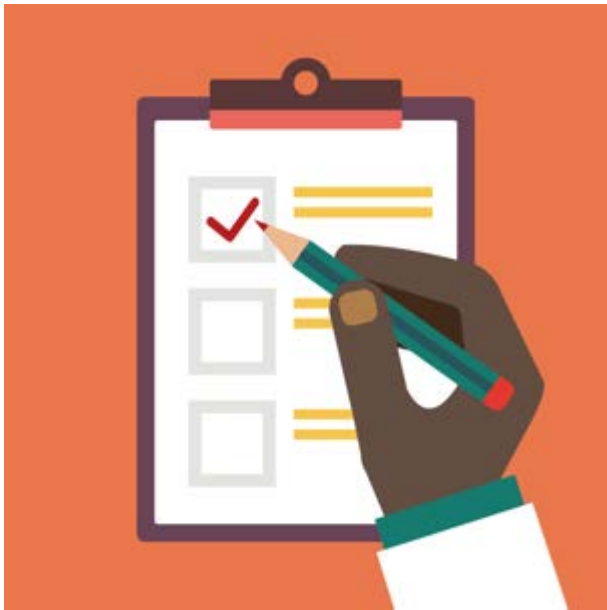
Work plan for Pilot Area

Agenda tool



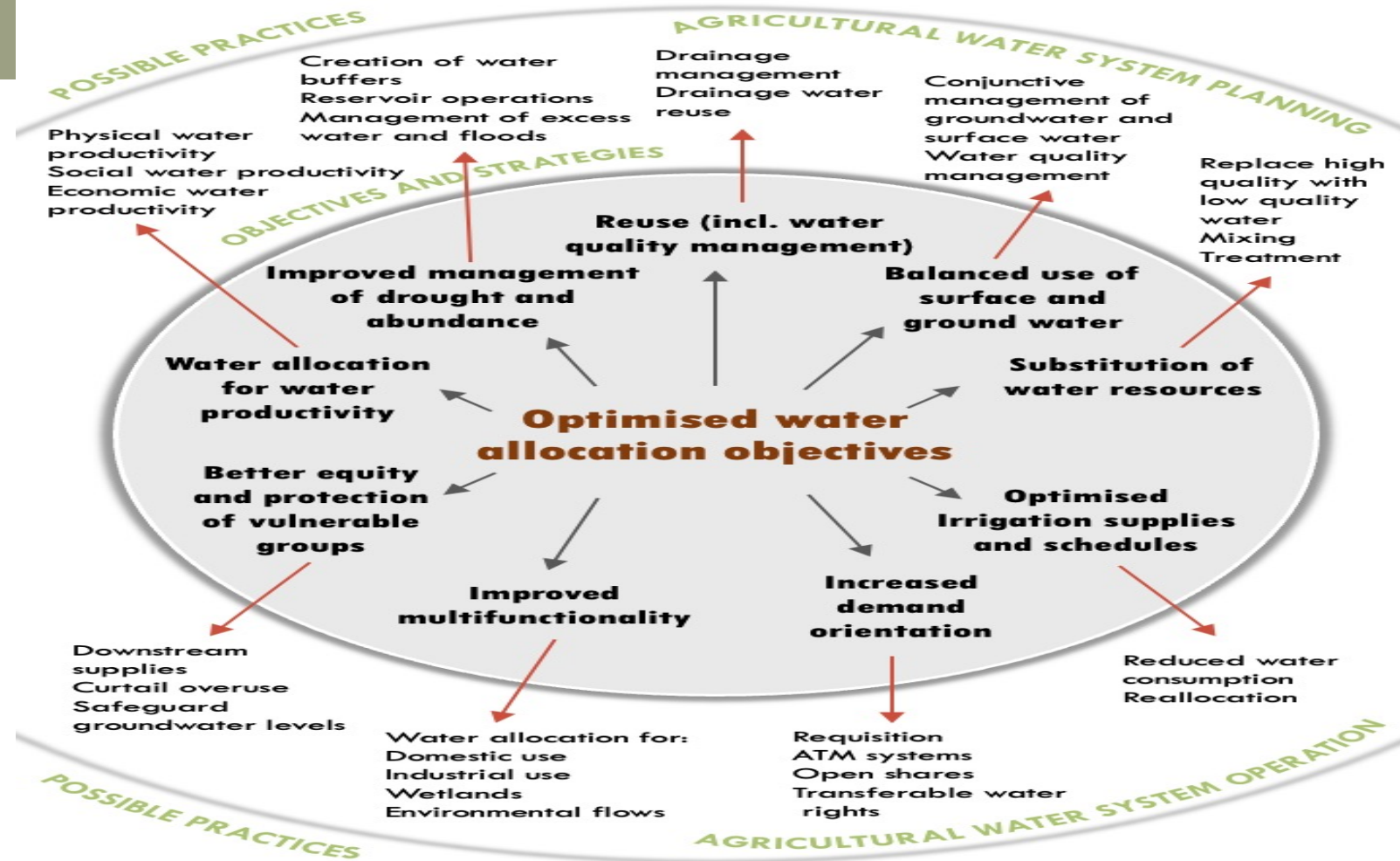
- Use agenda tool to understand and prioritize precise water allocation issues on the ground (work on this with small group)
 - (1) water allocation challenges and opportunities
 - (2) related governance
- Foster local ownership
- Communicate and engage with wider group of stakeholders (local and national) and with leadership
- Support with factfinding and (existing) studies

Agenda tool (annex to the Guideline)



- **Part 1:**
Improved water allocation opportunities
- **Part 2:**
Supporting water governance arrangements

Part 1: Improved water allocation opportunities





Assessment	Action/ area of improvement	Short term priority	Mid-term priority
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1	Water allocation for improved productivity
	Are there ways to increase the biophysical water productivity. i.e., to get more 'crop per drop', either on 'more crop' side or on the 'less drop' side?
	What would be the economic benefits of increased water productivity – in terms of total returns, jobs created, food security? Which systems optimizes economic water productivity?
	What would be the social benefits of increased water productivity? Who benefits how much – producers, laborers, suppliers, traders, processors? Which systems optimizes social water productivity?



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2	Improved management of drought and abundance?
	Is there storage in the water allocation system? For instance, in upstream reservoir, local storages, in canal storage, systematic use of groundwater? What is the capacity of these storages in terms of time?
	How is water managed during times of shortage and drought? Can the water allocation during times of shortage be improved?
	How are abundance/ flood situations managed within the water allocation system? Where does excess water (either during periods of low demand, high supply, or heavy rainfall) end up? Can such excess water be better used?
	Is there scope to increase/ create new storage in the water allocation system?
	Are the sequence of water turns over the different users systematic – from upstream to downstream for instance or from downstream to upstream? Would adjustments be desirable?
	Are there other ways to reduce water supplies for irrigation?



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3	Drainage water reuse and water quality management
	Is drainage water being reused? In what way? Is it part/ can it be part of the overall water allocation?
	Is there drainage water that is not being reused? What is the reason? Is there scope to reuse?
	Are there water quality issues which effect the current or future reuse of drainage water? Can they be mitigated for instance by reducing point or non-point pollution or by isolating highly contaminated water?



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4	Balanced management of surface water and groundwater
	Are there areas that suffer from water logging? When and where does it occur? How is it related to the water allocation system, for instance in case of high supplies? Is there scope to make corrections/ reduction in the water allocation system?
	Is shallow groundwater being used? How are the patterns of groundwater use influenced by the water allocation system? Is there scope to better adjust surface and groundwater use?
	Are the irrigation duties relatively high or low? Have they ever been adjusted? Is there scope to readjust them?
	Is overuse also caused by unauthorized water diversions? Are there ways to control these?



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5	Substitution of water resources
	Are there alternative sources of water (such as treated wastewater, industrial process water) that can substitute the current surface and groundwater? Would this be useful?
	Are there options to safely mix lower quality (saline, moderately polluted) water with higher quality water to improve water supply?



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6	Optimizing irrigation schedules and supplies
	Are current irrigation cycles (=duration of irrigation turns) harmonized with the main or the preferred crops? If not, what would be the way to better harmonize with preferred irrigation interval (shorter or longer cycles)?
	Is the volume of water per water turn adequate – not too much and not too little? Would adjustments be desirable?
	Is the duration of the normal irrigation turn adequate – not too short and not too long? Would adjustments be desirable?
	Are the sequence of water turns over the different users systematic – from upstream to downstream for instance or from downstream to upstream? Would adjustments be desirable?
	Are there other ways to reduce water supplies for irrigation?
	If the water is saved, where would it be used?



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7	Improved demand orientation?
	Is there flexibility in the water allocation system? Is there a scope to use more/extra or less water if one so requires?
	Can water rights be transferred temporarily or permanently between water users? Would this be desirable?
	Is there scope to have 'open' shares in the water allocation system that can be used by the persons most needy?



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8	Improved multifunctionality
	Is the water in the agricultural system used for other purposes: drinking water, industrial water, effluent disposal, wetlands, environmental flows, navigation, etc? Are these uses regulated?
	Can the supply of water services for these other uses be improved?



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9	Equity measures and protection of vulnerable people
	Is there large inequity in the system? Is this inequity part of the existing water allocation or is caused by mismanagement? Can this be corrected by adjustments in the water allocation or the way the system is managed?
	Are there special groups of vulnerable users that require more protection? Can this be given special attention in the water allocation?

Part 2: Supporting governance arrangements

Governance for improved water allocation for agriculture

✓ Adequate metrics

- ✓ Clear policy and regulation
- ✓ Institutional leadership
- ✓ Transparent public private roles
- ✓ Clear water tenure
- ✓ Routine integration in operations
- ✓ Systematic stakeholders and user coordination



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Assessment	Action/ area of improvement	Short term priority	Mid-term priority
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1	Adequate metric
	Are there reliable and generally accepted data on main water parameters, such as water resource availability, water usage, groundwater resources,
	Is there a community of experts is engaged in water accounting?



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2	Policy and regulations
	Which are the main policy documents, regulations or laws refer to (optimizing) water allocation and can these be used in the process of revising the current water allocation for agriculture?
	Are there policy and regulatory process where improved water allocation for agriculture can be added?



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3	Institutional leadership
	Is there formal institutional leadership for improved water allocation? Either by organizations or committees/ commissions? Where this political responsibility located? Can this be engaged and activated?
	Is there need and scope to improve formal institutional leadership for improved water allocation?



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4	Transparent private sector role
	Is water allocated/ being allocated to private commercial investors? If so, has the process included engagement of local stakeholders, recognition of prior land and water use and assessment on overall water balance? Is there scope to improve this?
	Is water allocated/ being allocated to private commercial investors? If so, has the contract included mutual risk assessment, clear benefit sharing arrangement, performance standards and waiver of liability claims? Is there need and scope to improve this?



Assessment	Action/ area of improvement	Short term priority	Mid-term priority
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5	Clear water tenure
	Is entitlement to water for agricultural users registered and recognized/codified? Is there scope to improve this?
	Are entitlement to water for non-agricultural users registered and recognized/codified?
	<p>Do the water rights include?</p> <ul style="list-style-type: none"> - Right to use - Right to exclude - Right to governance - Right to procedures - Right to transfer - Related obligations? <p>Is there need and scope to improve this?</p>



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6	Routine integration in operations
	Which organizations have operational responsibility for water allocation and distribution? Is the regular optimization and adjustment of water allocation part of their mandate?
	Can their role in updating and optimizing water allocations be strengthened?



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7	Systematic coordination of users and stakeholders
	Is there well-structured coordination between water system operators and water users (and other water stakeholders)? Is (improved) water allocation part of the agenda?
	Are water users organized in a formal way? How effective are these organizations? Do these organizations have a responsibility in (improving) water allocation? Can this be strengthened?
	Are stakeholders organized in (basin/catchment) council or committees? How effective are these organizations? Do these organizations have a responsibility in (improving) water allocation? Can this be strengthened?
	Who has the general leadership of the agricultural water system? Can its engagement in improved water allocation be strengthened? How?

Very early implementation activities - examples

- **Finalize the pilot area selection**
 - Today preferably but definitely before Oct. 3
- **Stakeholder engagement**
 - Informing national stakeholders/ decision makers
 - Contacting local stakeholders/ decision makers
 - Finetuning plan
- **Improved water allocation preparation, define the options for improvement**
 - Document current practice
- **Supporting studies:**
 - Additional analysis (WA+, WaPOR)
 - Sharing with stakeholders
- **Supporting capacity building**
 - Introduction of program to broader stakeholder platform
 - Information package
- **Monitoring, reporting, sharing**
 - Connect with other initiatives



Thank You

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