

ANNEX 6.1 Gantt Chart

Task#	Description	Key person(s)	Oct -03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	June-04	Jul-04	Oct-04	Dec-04
1	Literature review, baseline, diagnostic, projection													
1.1	Collection of reports and literature review	FAO Consultants												
1.2	Development of baseline													
1.3	Preparation of diagnostic	FAO Consultants												
1.4	Development of Projection													
2	Case studies													
2.1	Write reports	FAO Consultants												
3	Component report													
3.1	Pooled data analysis and integrated report	FAO Consultants/ Jake Burke												
3.2	Write report	FAO Consultants/ Jake Burke												
Milestone	Component report –30/06/04													
												☆		
3	Expert Meeting													
3.1	Presentaion of study report	FAO Consultant/ Jake Burke												
3.2	Contribute to overall Collaborative Program synthesis report	Jake Burke												
Milestone	Overall synthesis report 31/12/04													☆

N.B. The study will be carried out over a period of ten months. This would include a period of 4 weeks for collation of documentation, the literature review and desk studies; 4 weeks for region/country visits and provision for an expert group meeting to peer review the draft final report.

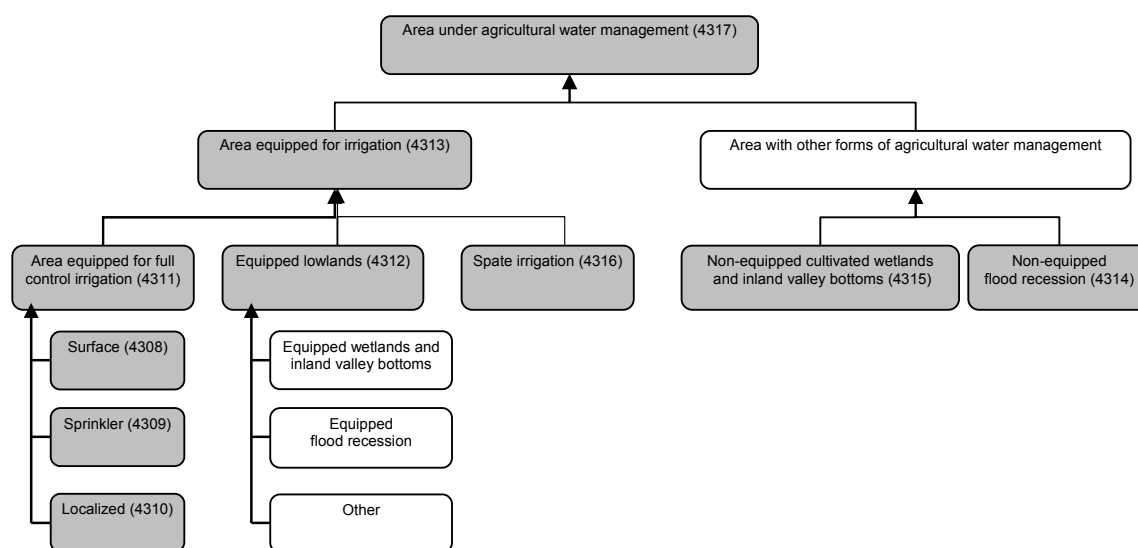
ANNEX 6.2 FAO Irrigation Typologies

Area under agricultural water management

This section considers all the land to which, in addition to eventual rainfall, water is added and managed to perform agriculture. The level of management and control of the water may vary greatly between the different agricultural water management types described under the variables. This section does not include “water harvesting”, which will be dealt with separately in Section IV.8. However, while sometimes spate irrigation is considered to be a type of water harvesting (called “floodwater harvesting”), **Aquastat** prefers including it in this present section, the reason for this being that spate irrigation often requires heavy structures to be built, using for example gabions or concrete.

The figures should refer to the physical area equipped. Thus, areas with double cropping are only counted once.

The classification adopted by **Aquastat** is presented the following diagram and an explanation of each of the variables is given below.



Note: Areas in grey are the variables that are disseminated in the new Aquastat database (not yet external), including the respective variable number.

4307 Irrigation potential (1000 ha)

Area of land which is potentially irrigable. Country/regional studies assess this value according to different methods, for example some consider only land resources suitable for irrigation, others consider land resources plus water availability, others include in their assessment economical aspects (such as distance and/or difference in elevation between the suitable land and the available water) or environmental aspects, etc.

Details of the computation method should be included in the comments. In any case, the figure should include the area already under agricultural water management (variable 4317).

4308 Area equipped for irrigation: full control - surface (excl. equipped lowland areas) (1000 ha)

Surface irrigation systems are based on the principle of moving water over the land by simple gravity in order to wet it, either partially or completely, before infiltrating. They can be subdivided into furrow, borderstrip and basin irrigation (including submersion

irrigation of rice). Surface irrigation does **not** refer to method of transporting the water from the source up to the field, which may be done by gravity or by pumping. Manual irrigation using buckets or watering cans should be put here also.

4309 Area equipped for irrigation: full control - sprinkler (1000 ha)

A *sprinkler irrigation* system consists of a pipe network, through which water moves under pressure before being delivered to the crop via sprinkler nozzles. The system basically simulates rainfall in that water is applied through overhead spraying. Therefore, these systems are also known as overhead irrigation systems.

4310 Area equipped for irrigation: full control - localized (1000 ha)

Localized irrigation is a system where the water is distributed under low pressure through a piped network, in a pre-determined pattern, and applied as a small discharge to each plant or adjacent to it. There are three main categories: drip irrigation (where drip emitters are used to apply water slowly to the soil surface), spray or micro-sprinkler irrigation (where water is sprayed to the soil near individual plants or trees) and bubbler irrigation (where a small stream is applied to flood small basins or the soil adjacent to individual trees). To refer to localised irrigation, the following other terms are also sometimes used: micro-irrigation, trickle irrigation, daily flow irrigation, drop-irrigation, sip irrigation, diurnal irrigation.

If you have detailed statistics per type of localized irrigation, please give them in the comments column.

4311 Area equipped for irrigation: full control - total (1000 ha)

This is the sum of surface irrigation (variable 4308), sprinkler irrigation (variable 4309) and localized irrigation (variable 4310).

4312 Area equipped for irrigation: lowland areas (1000 ha)

It includes:

- Cultivated *wetland and inland valley bottoms (IVB)*, which have been equipped with water control structures for irrigation and drainage (intake, canals, etc.)
- Areas along rivers where cultivation occurs making use of water from *receding floods* and where structures have been built to retain the receding water
- Developed *mangroves*

If separate figures for these three different categories are available, please put them in the comment column.

4316 Area equipped for irrigation: spate irrigation (1000 ha)

Spate irrigation can also be referred to as floodwater harvesting (Section IV.8). It is a method of random irrigation using the floodwaters of a normally dry water course or riverbed (wadi). These systems are in general characterized by a very large catchment upstream (200 ha - 50 km²) with a “catchment area : cultivated area” ratio of 100:1 to 10 000:1. There are two types of floodwater harvesting or spate irrigation: 1) floodwater harvesting within streambeds, where turbulent channel flow is collected and spread through the wadi in which the crops are planted; cross-wadi dams are constructed with stones, earth, or both, often reinforced with gabions; 2) floodwater diversion, where the floods - or spates - from the seasonal rivers are diverted into adjacent embanked fields for direct application. A stone or concrete structure raises the water level within the wadi to be diverted to the nearby cropping areas.

4313 Area equipped for irrigation: total (1000 ha)

Area equipped to provide water to crops. It includes areas equipped for full control irrigation (variable 4311), equipped lowland areas (variable 4312), and areas equipped for spate irrigation (variable 4316). It does **not** include non-equipped cultivated wetlands and inland valley bottoms (variable 4315) or non-equipped flood recession cropping areas (variable 4314).

As definitions and classifications on irrigation may vary between countries, please add any relevant comment in the comment column.

4318 Area equipped for irrigation: part actually irrigated (1000 ha)

Part of the area equipped for irrigation (variable 4313), which is actually irrigated, in a given year. Often, part of the equipped area is not irrigated for various reasons, such as lack of water, absence of farmers, land degradation, damage, organizational problems etc. It only refers to physical areas. Irrigated land that is cultivated twice a year is counted once. If figures on actually irrigated area are also available for each or some of the variables 4308, 4309, 4310, 4311, 4312, and 4316 please put them in the comments column.

4315 Non-equipped cultivated wetlands and inland valley bottoms (1000 ha)

Wetland and inland valley bottoms (IVB), which have not been equipped with water control structures but are used for cropping when covered with water. They are often found in Africa. They will have limited (mostly traditional) arrangements to regulate water and control drainage.

- In some countries, a distinction is made between the part of wetlands and IVB that are equipped and the part of the wetlands and IVB that are cultivated but are not considered equipped. In that case, put the figure relative to the first part in the category “equipped lowland areas” (variable 4312), and the figure relative to the second part in this category “non-equipped cultivated wetlands and inland valley bottoms” (variable 4315).
- In other countries, no distinction is made between the wetlands and IVB that are equipped and those that are not. In that case, put the total figure in this category: “non-equipped cultivated wetlands and inland valley bottoms” (variable 4315).

4314 Non-equipped flood recession cropping area (1000 ha)

Areas along rivers where cultivation occurs in the areas exposed as floods recedes and where nothing is undertaken to retain the receding water. The special case of floating rice is included in this category.

4317 Total area under agricultural water management (1000 ha)

It is the sum of total area equipped for irrigation (variable 4313) and areas with other forms of agricultural water management (variable 4315 + variable 4314).