Certificate Course in Participatory Irrigation Management (CCPIM)

Module 9 – Irrigation Recording by WUAs

Topic 9.2: Volume based Irrigation Recording

Topic 9.2

Volume based Irrigation Recording

Topics of Module 9:

9.1   Area based Irrigation Recording.

9.2   Volume based Irrigation Recording.

9.3   Role of WUA and the Department in Irrigation Recording

9.4   Process of Collection of Water Fees

1.   Volume based irrigation recording

1.1   Benefits of volumetric based irrigation recording: -

a. The farmers have to pay as much as they consume in volumetric based irrigation.

b. It will attract the farmer towards saving of water.

c. The farmers will come to know the real value of irrigation water and will try to use the resource economically.

d. Though the irrigation is written as many times as irrigated but charged in such a manner as it is irrigated once. In this system the farmers has to pay the same amount irrespective of number of irrigations he

received. It demotivates the farmer for saving the water or its economic use.

2. **Volumetric units and its conversion factor**

1 Cubic feet	=	0.0283 Cubic meter
1 Cubic meter	=	35.32 cubic feet
1 cusec day	=	86400 cubic feet (one cusec running a day
1 Acre feet	=	1233.5 Cubic meter (43560 cubic feet)
1 cubic feet	=	6.24 Gallon
1 Gallon	=	4.546 litter
1 litter	=	1000 Cubic Cm (0.353 Cubic feet)
1000 litter	=	1 cubic meter

3. **Units for canal running discharge**

1 Cusec (cubic feet per second) = 1 foot X 1 Foot X 1 foot running water

1 Cumec (cubic meter per second)= 1 meter X 1 meter X 1 meter running water

1 Million cubic feet (Mcft) per second = 10 lakh cubic feet running water

1 Cumec = 1 cubic meter per second= 35.32 cusec

1Cusec Hr= 1 Ha. Cm.=100 Cubic meter= 1 Acre Inch = 1cusec water flowing for an hour

1 Cusec = 28.32 litter per second

4. Process of volume-based irrigation recording

The following format may be used for volumetric based irrigation recording:

Irrigation Recording Format
(Volumetric Based)

1   Name of minor ---
2   Outlet No. ---
3   Chainage of outlet ------------------------------
4   Irrigation Year --
5   Rabi/ Kharif --

6   Irrigation week   --

Sl. No.	Farmer' s name @ Father' s Name	Field no.	Date & time of start irrigation	Date & time of irrigation completion	Total Time Hrs (5-4)	Discharge of outlet in cusec	Cusec hr (6*7)	Volume of used water Col8 Hacm	Name of crop	Area of crop
1	2	3	4	5	6	7	8	9	10	11

WARBANDI timings may also be used in recording volume- based irrigation or direct timings of start & completion may be used and total time may be written in col.6 Let it comes out to be 20 hrs and let outlet discharge be 0.33 cusec. Therefore, multiplying figures in col.6 and 7 may be written in col. 8. Its units will be cusec hr. Because 1 cusec hr = 1 ha cm, it will be written in col. 9 as it is which will be in ha cm may be converted in cubic meter as 1 hacm =100 cubic meter. If unit rates are per cubic meter the amount of irrigation charges may be had. If the unit rates are in cubic feet, then cubic meter may be converted into cubic feet as 1cubic meter is 35.32 cubic feet.

Example :

Problem: A farmer irrigates his field using an outlet of discharge 0.33 cusec for 25 hours and the irrigation rates are Rs. 0.10 per cubic meter. How much he has to pay?

Solution: - Discharge of outlet is 0.33 cusec running hours are 25, Volume of water used = 0.33X25 =8.25 cusec hour = 8.25 Ha cm = 825 cubic meter @Rs. 0.10 = Rs.82.50

Do yourself:

Exercise: A farmer irrigates his field using an outlet of 0.67 cusec for 20 hours. How much he has to pay if irrigation rates are Rs. 0.10 per cubic meter?

Format for intimating farmer about his recorded irrigation
(**Volumetric based**)

1. Name of minor -----------------------

2. Outlet No. ------------------------

3. Chainage of outlet -----------------------------

4. Name of village -----------------------------------

5. Tehsil ------------------------------

6. District --------------------------

7. Irrigation Year ---------------------------

8. Rabi / Kharif ---

Sl.No.	Farmer's Name	Farmer Father's name	Field No.	Total Time used in irrigation	Total Volume of water used	Rate per unit	Cost of water (6*7)	Arrear if any	Total payable (8+9)
1	2	3	4	5	6	7	8	9	10

Seal and signature of minor level chair person