

## Water Charges for Irrigation

### Crop based charges

In most countries of world (Pakistan, Iran, India etc.), water charge is actually a crop tax and often for the purpose of raising revenue in general and not for the purpose of operating and maintaining the irrigation system.. Crop-wise fee structure usually varies with type of crops either in terms of value, water use, or the length of time that the crop occupies the land.

## Water Charges for Irrigation

### Volumetric Charge

In canal irrigated area, the farmer pays for the actual volume of water delivered in a unit time. Volumetric charge can further be rationalized based on water requirements computed accurately using GIS approach.

# GIS ET MODEL

## MODIFIED FAO-24 BLANEY CRIDDLE METHOD

$$ET_o = a + bf$$

$$f = p(0.46T + 8.13)$$

$$a = 0.0043RH_{min} - n/N - 1.41$$

$$b = a_0 + a_1RH_{min} + a_2n/N + a_3U_d + a_4RH_{min}/(n/N) + a_5RH_{min}U_d$$

Where,

$ET_o$  = grass reference ET in mm/day

$p$  = mean daily percent of annual day time hours (monthly  $p/mo$ )

$T$  = mean air temperature (celcius)

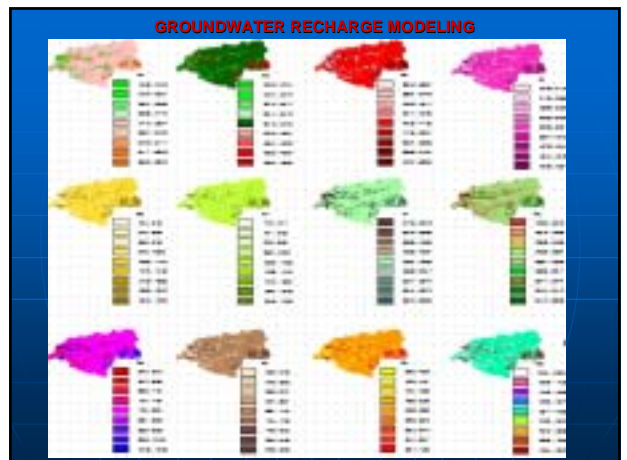
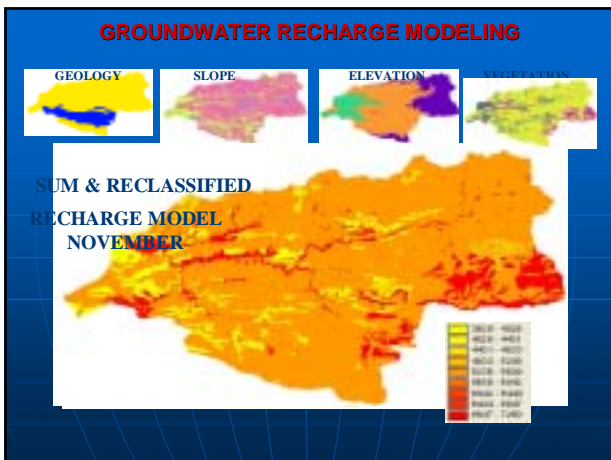
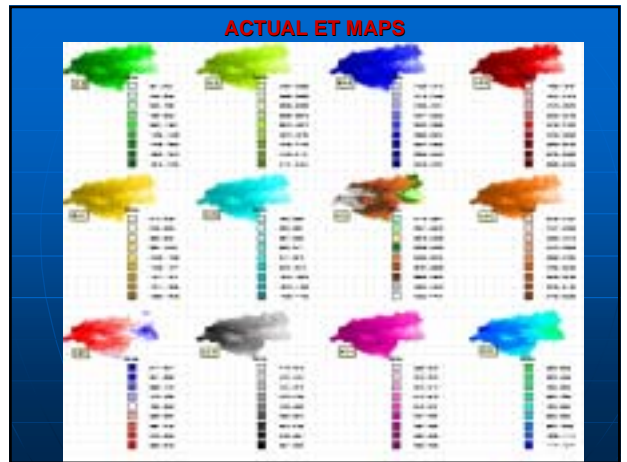
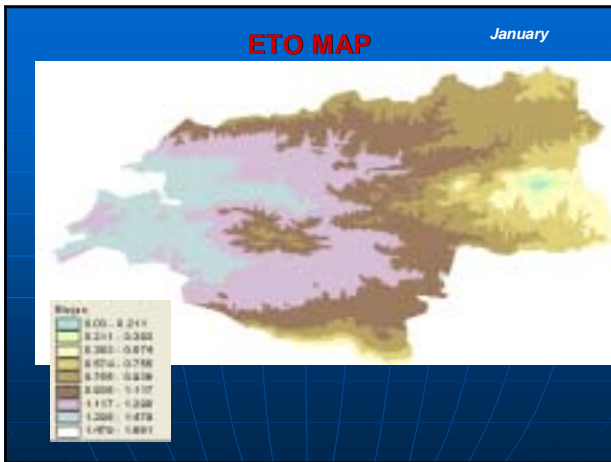
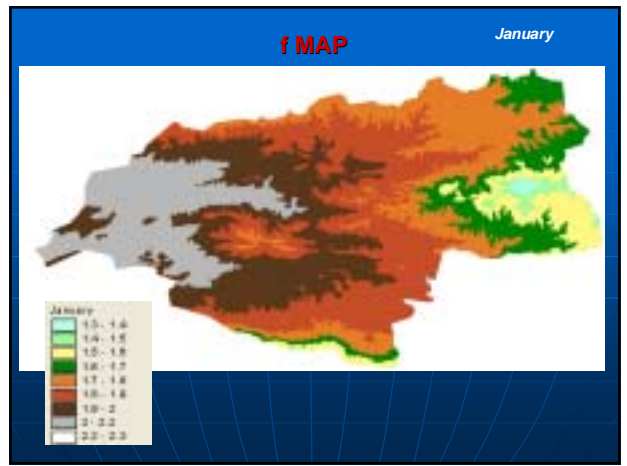
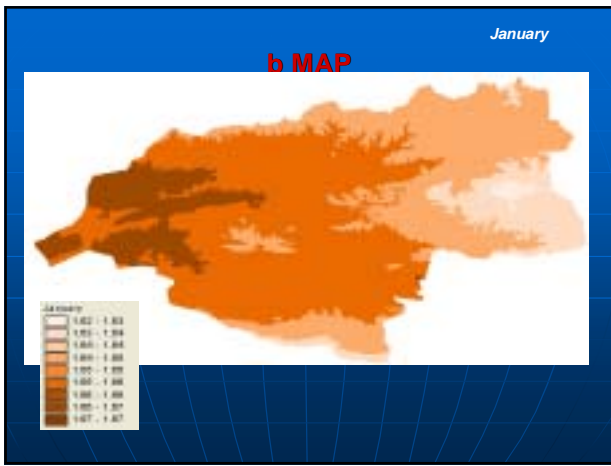
$n/N$  = ratio of possible to actual sunshine hours

$U_d$  = daytime wind speed at 2 meter height (meters/second)

$$\text{Crop Et} = KcEt_o$$





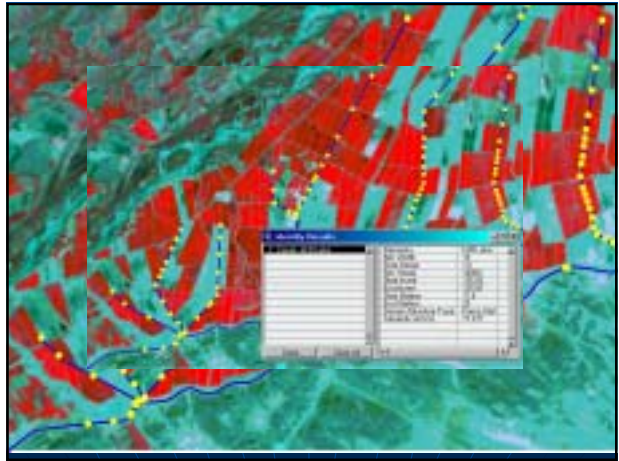
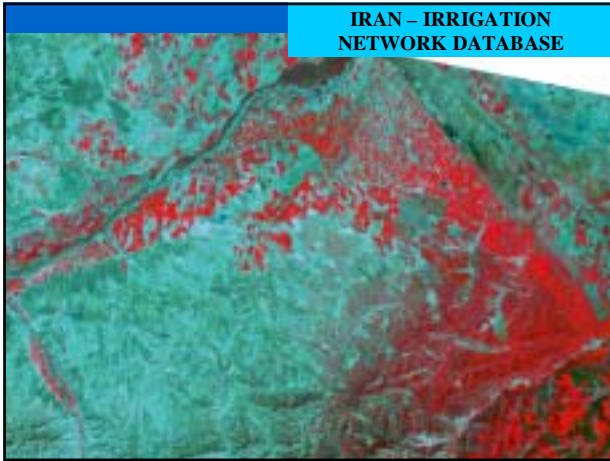


**Table 4.1**  
**WATER BALANCE MODEL (Average Year)**

Average Year (for outside zone of 850 Acres + House and Livestock)

Months	INFLOW (1000m <sup>3</sup> )					OUTFLOW I Surface water (1000m <sup>3</sup> )							OUTFLOW II Groundwater (1000m <sup>3</sup> )				
	From					To							To				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Jan	1.17	3.05	58.99	8881	37	3121	2177	4824	881	885	881	0	26	781	73	886	0
Feb	1.14	3.12	68.17	8749	80	3588	2788	4820	1061	875	878	0	29	875	71	875	0
Mar	5.08	13.919	88.16	28736	39	3739	18338	18328	2874	2878	0	39	1872	73	2874	0	
Apr	2.32	3894	66.36	12831	31	2536	2822	3697	821	1283	1283	0	39	1182	73	1283	0
May	9.98	2395	259	4887	9	1398	1398	2598	728	487	487	0	26	389	71	487	0
Jun	6.76	2876	2198	4289	24	1327	1326	2498	259	427	426	0	26	259	73	427	0
Jul	6.76	481	1198	2799	26	821	1198	1198	73	279	279	0	26	1198	71	279	0
Aug	1.47	487	1281	3281	178	321	487	487	18	259	258	0	26	487	73	259	0
Sep	28.99	81243.75	2487	138775	1849	1627	1626	3287	1649	13875	13875	0	1849	11281	289	13875	0
Year	48.88	1849	1198	1198	1198	1198	1198	1198	1198	1198	1198	0	1198	1198	1198	1198	0

# IRRIGATION IMPROVEMENT PROJECT - IRAN



*:: Thank You ::*