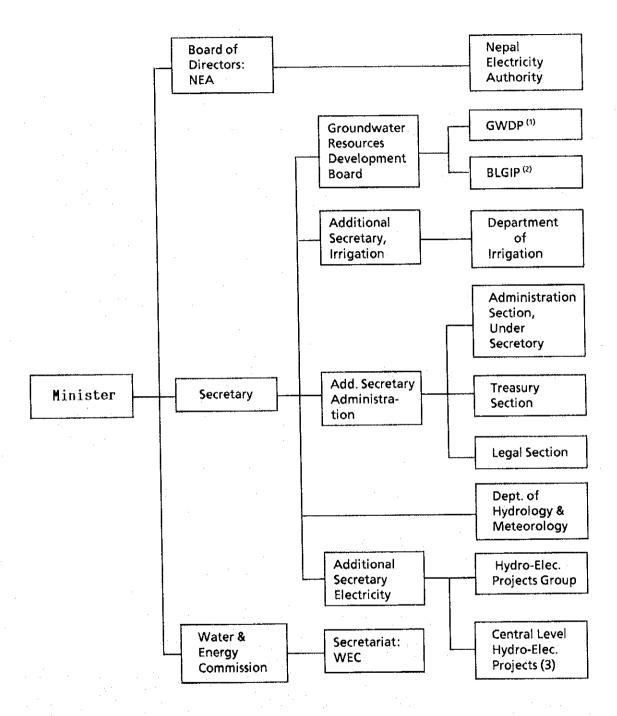


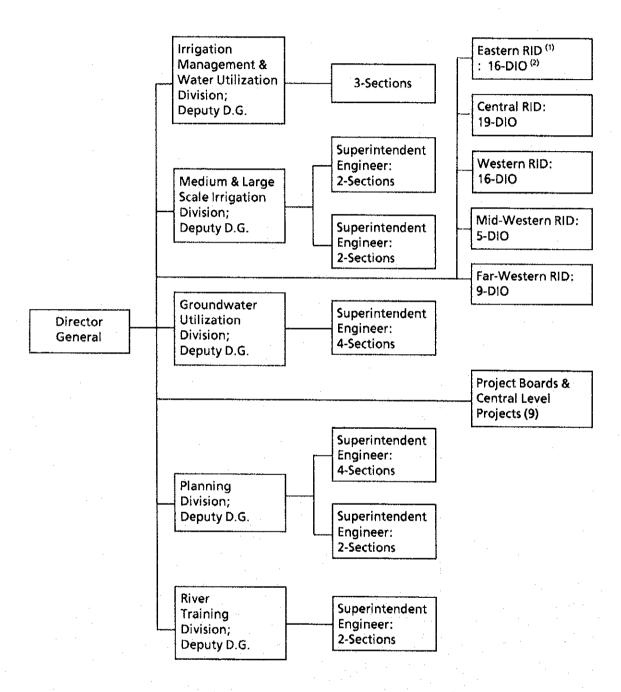
Figure 4.3.2 Organizational Chart of the Government (1991)



Notes: (1) Groundwater Development Project

(2) Bhairawa Lumbini Groundwater Irrigation Project

Figure 4.3.3 Organizational Chart of the Ministry of Water Resources



Notes: (1) Regional Irrigation Directorate

(2) District Irrigation Office

Figure 4.3.4 Organizational Chart of the Department of Irrigation

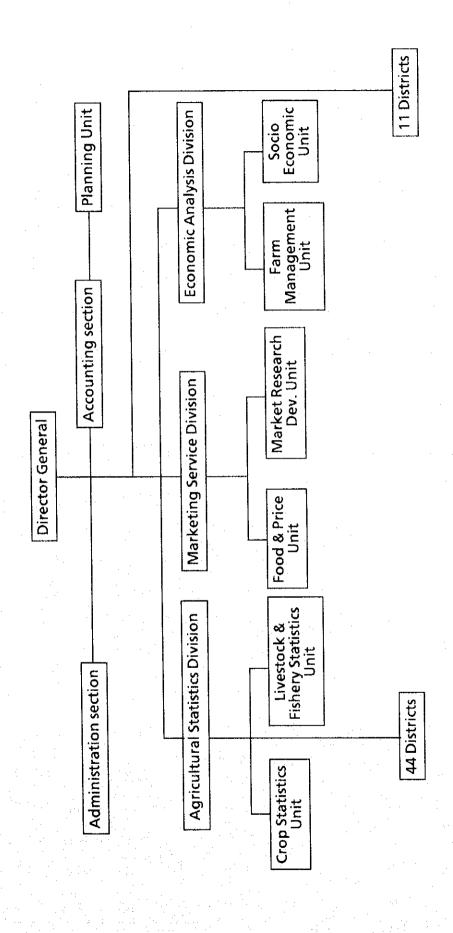


Figure 4.3.5 Organization Chart of DRAMS

Table 4.3.1 Population & Households Distribution

		19	181			19	991*		
		1	Population	1	}	Popula			
Region	House-	Total	Male	Female	House-	Total	Male	Female	
	holds				holds		ļ		
Nepal	2,585,194	15,022,839	7.695.336	7, 329, 503	3,345,052	18, 462, 081	9,220,914	9,241,167	
Mountain									
Region	236, 294	1.302.896	666, 432	636, 464	276,064	1,444,481	717, 153	727, 328	
Hill									
Region	1.240.434	7, 163, 115	3,619,439	3,543,676	1,567,120	8,411,309	4, 109, 169	4,302,140	
Terai									
Region	1,108,426	6,556,828	3,409,465	3, 147, 363	1,501,868	8,606,291	4, 394, 592	4,211,699	

* Priliminary Results of Population Census 1991.

Source: Central Bureau of Statistics

Table 4.3.2 Distribution of Population by Ecological Zones

Content	Unit	Mountain	Hill	Mountain &	Terai	Total
				Hill		
Popuration				(64.8)	(35.2)	
1952/54	No.	-	-	5,349,988	2,906,637	8,256,625
				(63.6)	(36.4)	
1961	No.	.	· - ·	5,991,297	3,421,699	9,412,996
		(9, 9)	(52.5)	(62.4)	(37.6)	
1971	No.	1,138,616	6,071,407	7,210,017	4,345,966	11,555,983
]	(8, 7)	(47.7)	(56.4)	(43.6)	
1981	No.	1,302,896	7, 163, 115	8,466,011	6,556,828	15,022,839
		(7.8)	(45, 6)	(53, 4)	(46.6)	
1991	No.	1,444,481	8,411,309	9,855,790	8,606,291	18,462,081

Note: The figure in the parenthesis indicates the percentage.

Source: Central Bureau of Statics.

fable 4.3.3 Economically Active Population 10 years of Age and Over Major Occupation (1991)

		Prof/Tech.	Admini-	Clerical	Sales	Service	Farm	Produ.		Occupat-
	Total	Workers	strative	Workers	Workers	Workers	Fish	Labour	Others	ion not
			Workers				Workers.	Workers		Stated
Nepal	7339586	130653	21942	77697	218496	453739	5952047	310414	153728	20870
	100.0	1.8	0.3	1.1	3.0	6.2	81.1	4.2	2.1	0.3
Jhapa	196009	4310	381	1809	12842	30516	129397	11044	5054	656
	100.0	2.2	0.2	0.9	6.6	15.6	66.0	5, 6	2.6	0.3
Mahottari	126802	2691	177	1377	3751	11362	100440	4315	2483	206
	100.0	2.1	0.1	1.1	3.0	9.0	79.2	3.4	2.0	0.2
Banke	93052	1722	507	1785	5815	12016	62813	6599	1460	335
	100.0	1.9	0.5	1.9	6.2	12.9	67.5	7.1	1.6	0.4

Source: Statistical Yearbook of Nepal. 1993

Table 4.3.4(1) Trade Balance

								(In Millio	n Rupees)	
ltems	1982/83	1983/84	1984/85	1985/86R	1986/87R	1987/88R	1988/89R	1989/90R	1990/91R	1991/92P
Export. f.o.b. (a) India (b) Other countries	1, 132. 0 843. 3 288. 7	1,703.9 1,160.7 543.2	2,740.6 1,601.7 1,138.9	3, 078. 0 1, 241. 1 1, 836. 9	2, 991. 4 1, 302. 5 1, 688. 9	4, 114. 6 1, 567. 8 2, 546. 8	4, 195. 3 1, 034. 9 3, 160. 4	5, 156. 2 602. 5 4, 553. 7	7, 387. 5 1, 552. 2 5, 835. 3	1,568.9
(mports. c.i.f. (a) India (b) Other countries.	6,314.0 2,499.0 3,814.0	6, 514. 3 3, 058. 0 3, 456. 3	7, 742.1 3, 895.8 3, 846.3	1 .	10, 905. 4 4, 262. 1 6, 643. 3	13, 869. 6 4, 595. 8 9, 273. 8	16, 263. 7 4, 238. 7 12, 025. 0	18, 324, 9 4, 674, 5 13, 650, 4	7, 323. 1	11,815.9
Trade Balance (a) India (b) Other countries	-5, 181. 9 -1, 656. 4 -3, 525. 5	-4,810.4 -1,897.3 -2,913.1	-5,001.5 -2,294.1 -2,707.4	-8, 263, 2 -2, 729, 8 -3, 533, 4	-7, 914.0 -2, 959.6 -4, 954.4	-3,028.0		-4,072.0	-5, 770. 9	-19,011.9 -10,247.0 -8,7 <u>64.9</u>

* customs based data (at basic exchange rate).

R: Revised.

P: Provisional

Source: Nepal Rastra Bank.

Table 4.3.4(2) Total Exports by Major Commodoties

						L 000 /00	F000 /00	1000 100	1000/01	8001 /00
	1982/83	1983/84	198 <u>4/85</u>	1985/86	1986/87	1987/88	H88\88			1991/92
				Thousand	Rupees				Million	Rupees
Food and Live Animals	327712	584138	992055	835625	703707		577566	616	987	2096
Tobacco and Beverage	13316	5292	4988	246	3510	10110	6584	ļ <u>4</u> .	11	4
Crude Materials, Inedibles	,,,,			İ]				010	170
Except Fuels	336377	372697	486836	412870	491085	513692	249907	239	312	478
Mineral Fuels and Lublicants	698	3277	998	187	227	838		ļ .	.	.
Animal and Vegetable Oils									000	100
and Fats	42165	67607	57094	61263	117079	171364	100391	20	202	120
Chemicals and Drugs	1755	6301	1193	2470	2029	12617	25964	11	18	31
anufactured Goods Classified	j.	ŀ							4010	7000
Chiefly by Materials	357323	581620	609073	899941	1009561	1601635	1982622	2693	4312	7628
Machinery and Transport	ļ									١ ,
and Equipments	7886	24412	33694	38625	2573	487	5744	U	0	J
Miscellaneous Manufactured Articles	44639	57710	513445	826524	661470	996843	1246504	1573	1546	3582
Commodities and Transport not	}		1		}			-		
Classified According to Kind	148	839	1226	337	174	2478	15	ļ <u>.</u>		1
Total	1132019	1703893	2700602	B078088	2991415	4114497	¥195297	5156	7388	13939

Source: Nepal Rastra Bank

Table 4.3.4(3) Total Imports by Major Commodoties

								h a s a 10 al	1000 /01	1001 /00
	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90		
				Thousand	Rupees				ion Rup	
Food and Live Animals	924679	728419	782878	971079	1028917	1523673	1332595	1608	1821	3670
Tobacco and Beverage	62524	71744	79427	112919	143963	172207	197039	227	257	152
Crude Materials, Inedibles				<u> </u>					0010	0751
Except Fuels	206274	266171	424497	392950	657215	1036857	1182678	1571	2013	3751
Mineral Fuels and Lublicants	701875	749191	918799	1053995	929477	1049899	1116600	1516	2278	3685
Animal and Vegetable Oils									540	
and Fats	66326	78529	122725	101936	175868	352646	342729	476	742	801
Chemicals and Drugs	645983	698421	907960	1170246	1287590	1495352	1532585	2824	3051	4437
Manufactured Goods Classified								5005	-05	oarı
Chiefly by Materials	936765	1801881	2376908	2759470	3226849	3359515	4671058	5065	5951	8751
Machinery and Transport						44.40505	10.49050	0700	5001	r079
and Equipments	1180956	1651227	1671436	2134654	2784078	4143737	4847059	3790	5991	5873
Miscellaneous Manufactured Articles	584257	466340	450631	637213	663951	729082	1036645	1248	1121	1657
Commodities and Transport not		l .					700	Ι.	١ .	175
Classified According to Kind	4297	2428	6847	6703	7314	6959	726	11	00000	175
Total	5313936	B514351	7742108	9341165	10905222	13869927	16259714	18325	23227	32952

Smrce:Nepal Rastra Bank

Table 4.3.4(4) Export of major Foods to India

(ton) Wheat Dried <u>Maize</u> 15988 Year Rice Flour Pulses Ginger Ginger Ghee 1981/1982 1982/1983 1983/1984 1984/1985 1985/1986 1986/1987 1987/1988 1988/1989

Source: Marketing Services Division

Table 4.3.5 Projected Growth Rate by Section Fighth Plan)
(in millions of rupees at 1991/92 prices)

	1991	/92	1996	/97	Growth Rate
	Amount (Rs.)	Share (%)	Amount (Rs.)	Share (%)	1992-97
Total Value Added	113,024	100.0	142, 992	100.0	4.8
Agriculture, Irrigation					
& Forestry	62,712	55.5	75, 364	52.7	3. 7
Mon-agriculture	50, 312	44.5	67, 628	47.3	6.1
Industry and Mining	7, 283	6.4	12.169	8.5	10.8
Electricity, Gas & Water	1,054	0.9	1, 617	1.1	8.9
Construction	9,408	8.3	11,604	8.1	4.3
Trade, Hotel & Restaurant	5, 995	5.3	8,685	6.1	7.7
Transport & Comminication	6,878	6.1	8, 548	8.0	4.4
Finance & Real Estate	9, 321	8.3	11,735	8.2	4.7
Social Services	10.372	9. 2	13, 270	9.3	5.0
Indirect Tax	8,038		12, 168	j .	8.6
GDP (At Market Price)	121,062		155, 160		5. 1

Table 4.3.6 Agricultural Production Target for the Eighth Plan

		Output		Targetted	ctivity	
· \				output	(M1)	/Ha)
Сгор	Unit)	Base Year	1996/97	increase		* .
1	1			rate per	Base	1996/97
				year(%)	Year	
Food Grains	TM 000			5.4		
Paddy		3, 392. 0	4, 452.0	5, 5	2.350	2.850
Maize	_	1.168.0	1,476.0	4.7	1.570	1.930
Wheat	[840.0	1,258.0	8.4	1.400	2.040
Millet	- 1	213.0	238.0	2.1	1.110	1.130
Buckwheat	_	23.0	32.0	6.8	0.540	0.640
Barley		27.0	32.0	3.4		1.140
Pulse Crops		124.0	186.0	8.4	0.600	0.820
Cash Crops	·			9.1		
Oilseeds	-	108.0	174.0	10.0	0.647	0.906
(including peanut)						
Sugarcane	_	1,106.0	1,530.0	6.7	33, 560	38.250
Tobacco	_	6. 3	9.5		0.854	.0.990
Jute Fibre	_ '	16.4	25.0	8.8	1	1.400
7415 11010		100.				
Horticulture				5.4		
Citrus		86.0	4	I .	1	9.820
Other Fruits	-	416.0	507.0	E	1	10.290
Vegetable	-	1.075.0	1,278.0	3.5	7.090	9.100
Potato	-	738.0	1,033.0	7.0	8.680	10.760
Livestock Developmen				3.8		
Milk		865.0	1,028.0	3.5		
Eggs	'000 Nos	369, 519. 0				
Meat	'000 MT	147.0	173.0		7	
Wool	MT	767.0	1			
Fish	MT	12, 656. 0	1			
Miscellaneous						
Tea	000 MT	1.5	2. 5	10.7	0.545	0.645
Cotton	000 MT	1.7	1		1.	
Silk(cocoon)	MT	30.0	400.0		1	
Mushroom	MT	56.0		0	1	
1 · · · · · · · · · · · · · · · · · · ·	000 MT	19.5	32.5	4		
Ginger	MT	3, 002. 0			1	1
Cardamon	MT	3.002.0	153.0			
Coffee		1	100.0	<u>' </u>		

Table 4.3.7 Irrigation Policies for the Eighth Plan(1992)

- Government agencies will be actively involved in the implementation of multi-purposes, large and medium scale projects;
- Small irrigation projects will be implemented with the participation of user's groups;
- Arrangement will be made to jointly manage and where appropriate turn-over government constructed irrigation projects to user's group
- User's group will be involved in every stage, from appraisal to implementation of irrigation projects;
- The dependency on lift irrigation and imported fuel will be reduced; substantial expansion will be made to sprinkler method of irrigation in hilly areas;
- Completed project feasibility study reports will be forwarded to district irrigation offices for execution, and list of reports will be provided to the district development committee and user's groups;
- Additional investment for uncompleted and high cost projects will be made only after reappraisal.

Table 4.3.8 Land Use by Ecological Belt

	Mou	ntain	Hi	11s	Ter	ai	Tot	al
Category	(000 ha.)	Percent						
Cultivated	252. 2	4	1, 481. 3	23.4	1, 234. 6	58.5	2, 986. 1	20. 1
Grazing	1, 394. 1	22. 1	313.3	4.9	49.7	2.4	1, 757. 1	11.9
Forest	1, 786. 7	28. 3	3, 238.8	51.2	591.3	28	5, 156. 9	38.1
Shrub	247. 9	3.9	440.6	7	1.4	0.1	609.9	4.7
Non-cultivated inclusions	149.1	2. 4	720.7	11.4	117.1	5. 6	986.9	6. 7
Others	2,478.6	39.3	134.9	2. 1	116.1	5. 5	2, 729. 6	18.5
Total	6,308.5	100	6,329.6	100	2,110.2	100.1	14,748.4	100

Source: Land Resources Maping Projects, LRMP.

Figure 4.3.9 Present Irrigation Status of Nepal

		•	(unit:ha)	
	Monsoon	Year Round	Total	
Region	Irrigated	Irrigated	Irrigated	
E. Mountain	9,913	4,023	13,936	
E. Hills	40,001	22,315	62,317	
E. Terai	129.349	45, 223	174,572	
E. Region	179, 263	71,561	250,826	
C. Mountain	10,928	6,641	17,569	
C. Hills	39.921	36,965	76.885	
C. Terai	119,719	106.908	226.626	
C. Region	170, 568	150,514	321,080	
W. Mountain	. 0	0	0	
W. Hills	41, 197	27,350	68,546	
W. Terai	70, 100	39, 285	109,385	
W. Region	111,297	66, 635	177, 931	
MW. Mountain	4,083	3,623	7,705	
MW. Hills	18,655	16,444	35,098	
MW. Terai	35,880		45, 968	
MW. Region	58.618	30, 155	88,771	
FW. Mountain	6.382	7,072	13,453	
FW. Hills	16,298			
FW. Terai	34,701	17,624		•
FW. Region	57,381	45,310	102,691	
Nepal	577, 127	364,175	941.299	100.0
Terai	389.749	219, 128	608,876	64.7
Mountain	31,306	21.359	52,663	5.6
Ilills	156.072	123,688	279,759	29.7
E. Region	179.263		250,825	26.6
C. Region	170,568			34.2
W. Region	111,297			18.9
MW. Region	58,618			9.4
FW. Region	57,381			10.9
Source: Agricultur	al Statistic	s of Nepal. 1	990	

Table 4.3.10 Food Balance of Nepal

						(ton)
Crops		1986/87	1987/88	1988/89	1989/90	1990/91
Rice	Production	1256383	1606965	1771671	1831713	1892105
	Requirement	1402380	1435892	1426697		
	Balance	-145997	171073	344974	1	
Maize	Production	664595	689576	835600	857846	877075
Ì	Requirement	663840	663381	789229	1	
[Balance	755	26195	46371		
Wheat	Production	548744	580184	653038	667972	651956
1	Requirement	467150	497727	548028	1	}
	Balance	81594	82457	105010	1	
Millet	Production	112356	122592	149851	184546	190177
1	Reguirement	112356	122592	149851		}
Ì	Balance	0	0	0	[
Barley	Production	6742	6622	7409	7510	7642
	Requirement	6742	6622	7409] .
	Balance	0	0	0		
Total	Production	2588820	3005939	3417569	3549587	3618955
1	Requirement	2652468	2726214	2921214	β559011°	3486776
	Balance	-63648	279725	496355	-9424	132179

Source: Statistical Yearbook of Nepal, 1993

Table 4.3.11(1)

AREA, PRODUCTION AND YIELD OF PADDY BY ECOLOGICAL BELT
(Area in Necture, Production in Metric Ton and Yield in Kg. per Necture)

YEAR		MOUNTAIN		·····	HILLS			TERAI			NEPAL	
	AREA	PROD.	YIELD	AREA	PROD.	YIELD	AREA	PROD.	YIELD	AREA	PROD.	YIELD
1984/85	31,010	53,310	1,719	295,720 	594,460	2,010	1,050,130	2.061.660	1,963	1,376,860	2,709,430 	1.968
1985/86	34,540	61,150	1.770	310.220	587,850	1.895	1,046,280	2.155.490	2.060	1,391,040	2,804,490	2.016
1986/87	35, 420	59,770	1.687	313,910	581,170	1,851	984,030	1,731,080	1,759	1,333,360	2,372,020	1,779
1987/88	35,500	65,300	1.839	337,890	667,390	1,975	1.049.900	2.249.090	2.142	1.423,290	2,981,780	2.095
1988/89	38,200	73,940	1,936	345,890	764,630	2,211	1,066.380	2, 444, 640	2,292	1,450,470	3, 283, 210	2,264
1989/90	41,350	82,510	1,995	335,410	771.690	2,301	1.056.090	2, 535, 470	2,401	1.432.850	3.389,670	2,366
1990/91	39,900	84, 160	2,109	346,110	823, 200	2,378	1,069,160	2,594,800	2,427	1,455,170	3,502,160	2,407
1991/92	40,430	79,940	1,977	341,380	764,840	2,240	1,030,000	2,377,760	2,309	1,411,810	3, 222, 540	2,283
1992/93	39,970	72,780	1,821	B37, 320	671,500	1.991	884,820	1,840,620	2,080	1,262,110	2,584,900	2,048

Table 4.3.11(2)

AREA, PRODUCTION AND YIELD OF MAIZE BY ECOLOGICAL BELT
(Area in Hectare, Production in Metric Ton and Yield in Kg. per Hectare)

YEAR		MOUNTAIN		· · · · · · ·	HILLS			TERAI			NEPAL	
11,111	AREA		YIELD	AREA		YIELD	AREA		YIELD	AREA	PROD.	YIELD
1984/85	47,350	74.910	1,582	402.180	541.140	1.346	129,190	203,800	1,578	578,720	819,850	1,417
1985/86	47,780	70,170	1,469	432,650	591,940	1.368	134,250	211,640	1,576	614.680	873,750	1,421
1986/87	49,170	73,770	1.500	439.200	579,430	1,319	138,340	215, 150	1,555	626,710	868,350	1,386
1987/88	53,380	72,310	1.355	482.940	621,480	1.287	137, 490	207.710	1.511	673,810	901,500	1,338
1988/89	52,190	73,400	1.406	522,030	749, 180	1.435	147,650	249,030	1,687	721,870	1,071,610	1,484
1989/90	59,740	83,970	1,406	532,790	827.380	1,553	158,640	289.640	1.826	751, 170	1,200,990	1,599
1990/91	58,550	88,300	1,508	537,320	846,290	1,575	161,840	296,360	1.831	757,710	1,230,950	1,625
1991/92	57,700	86,690	1,502	535,800	826,000	1.542	160,590	292,020	1,818	754,090	1,204,710	1.598
1992/93	59,950	90,370	1,507	546,870	874,690	1,599	168,400	325,440	1,933	775,220	1,290,500	1,665

Table 4.3.11(3)

AREA, PRODUCTION AND YIELD OF MILLET BY ECOLOGICAL BELT
(Area in Hectare, Production in Metric Ton and Yield in Kg. per Hectare)

YEAR		MOUNTAIN			HILLS			TERAI			NEPAL	
	AREA	PROD.	YIELD	AREA	PROD.	YIELD	AREA	PROD.	YIELD	AREA	PROD.	YIELD
1984/85	21,710	20,510	945	101,930	93,470	917	10,730	10,450	974	134, 370	124, 430	926
1985/86	22,570	21,230	941	116,930	106,240	909	11,550	10,470	906	151,050	137,940	913
1986/87	21,930	20.740	946	117.670	106,700	907	11,180	10, 150	908	150,780	137,590	913
1987/88	23,510	21,840	929	127,920	115,890	906	13,340	12,400	930	164,770	150,130	911
1988/89	22,310	21,620	969	148,520	149,500	1,007	11,730	11,970	1,020	182,560	183,090	1,003
1989/90	24, 480	26,920	1,100	156,790	184,670	1,178	12,220	13, 190	1,079	193, 490	224, 780	1,162
1990/91	25,080	27,750	1.106	160,780	189,950	1,181	12,710	13,930	1,096	198,570	231,630	1,166
1991/92	25, 120	27,470	1,094	160,100	187, 450	1, 171	13,020	13,740	1,055	198, 240	228, 660	1.153
1992/93	25,740	28,090	1,091	162,370	194,320	1,197	13,660	14,340	1,050	201,770	236,750	1,173

Table 4.3.11(4) AREA, PRODUCTION AND YIELD OF WHEAT BY ECOLOGICAL BELT (Area in Hectare, Production in Metric Ton and Yield in Kg. per Hectare)

YEAR		MOUNTAIN			HILLS			TERAI			NEPAL	
Ì	AREA	PROD.	YIELD	AREA	PROD.	YIELD	AREA	PROD.	YIELD	AREA	PROD.	YIELD
1984/85	23,120	21,950	949	163,260	176,060	1, 078	265,510	335,710	1,264	451,890	533, 720	1, 181
1985/86	34,930	29, 260	838	189,060	206.450	1,092	258,830	362,290	1,400	482,820	598,000	1,239
1986/87	35,760	31.820	890	207,010	238,860	1,154	292,760	430, 360	1.470	535, 530	701,040	1,309
1987/88	40,610	38,740	954	242,860	272, 110	1,120	313, 280	433,750	1,385	596,750	744,600	1,248
1988/89	42,020	43,140	1,027	243,010	293,060	1,206	314, 260	493,850	1.571	599, 290	830, 050	1,385
1989/90	42,340	44.360	1.048	244, 9 90	303,480	1, 239	316,910	507,120	1,600	604, 240	854,960	1.415
1990/91	42,210	44,870	1,063	242,270	301,080	1,242	308, 260	490,020	1,589	592,740	835, 970	1,410
1991/92	42,100	44,550	1,058	239,980	272,120	1.134	289, 180	445, 290	1,540	571,260	761,960	1.334
1992/93	39,200	42,010	1,072	241,140	290, 270	1.204	333,640	432,720	1.297	613,980	765,000	1,246

Table 4.3.11(5)

AREA, PRODUCTION AND YIELD OF BARLEY BY ECOLOGICAL BELT
(Area in Hectare, Production in Metric Ton and Yield in Kg. per Hectare)

YEAR		MOUNTAIN			HILLS			TERAI			NEPAL	
122.11.	AREA		YIELD	AREA	PROD.	YIELD	AREA	PROD.	YIELD	AREA	PROD.	YIELD
1984/85		8,590	861	13, 170	11,070	841	4,240	3,800	896	27, 390	23, 460	857
1985/86	10,760	8,680	807	15, 120	11,730	776	3,440	3,020	878	29,320	23,430	799
1986/87	10,650	9,000	845	14, 350	12,390	863	3,560	3.280	921	28,550	24,670	864
1987/88	11,130	9,380	843	14, 500	11,860	818	3,480	3,050	876	29,110	24,290	834
1988/89	10,810	10,060	931	15, 290	13,790	902	3,350	3,170	946	29, 450	27,020	917
1989/90	10,850	10, 120	933	15,310	14,030	916	3,380	3,240	959	29, 540	27, 390	927
1990/91	10,830	10, 150	937	15,390	14.410	936	3,390	3,280	968	29,610	27,840	940
1991/92	10,910	10, 190	934	15,410	14,250	925	3,340	3,200	958	29,660	27,640	932
1992/93	11,090	10,390	937	15, 430	14,360	931_	3,160	2,860	905	29,680	27,610	930

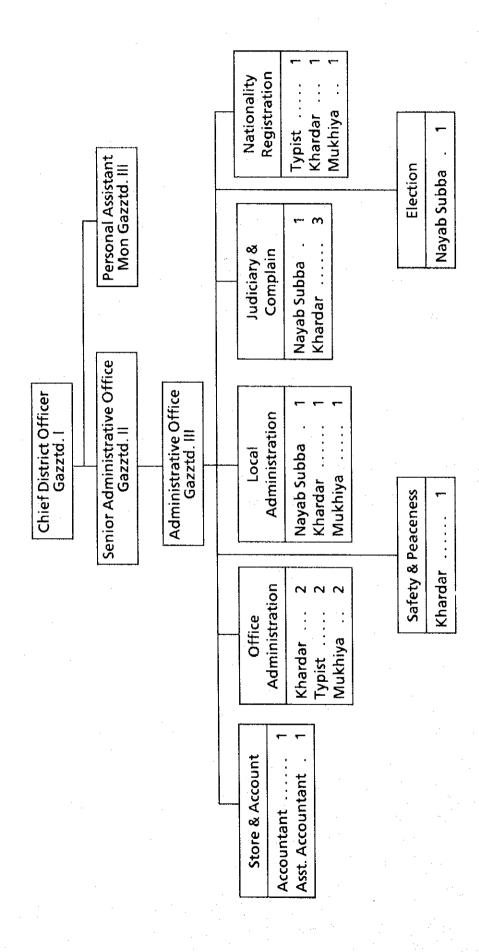


Figure 4.3.6 Organizational Chart of District Administration Office, Jhapa

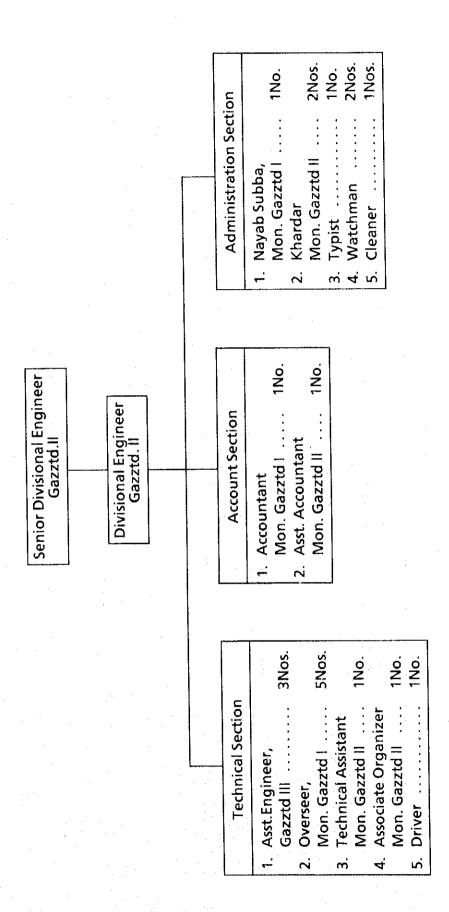


Figure 4.3.7 Organization Chart of District Irrigation Office. Jhapa

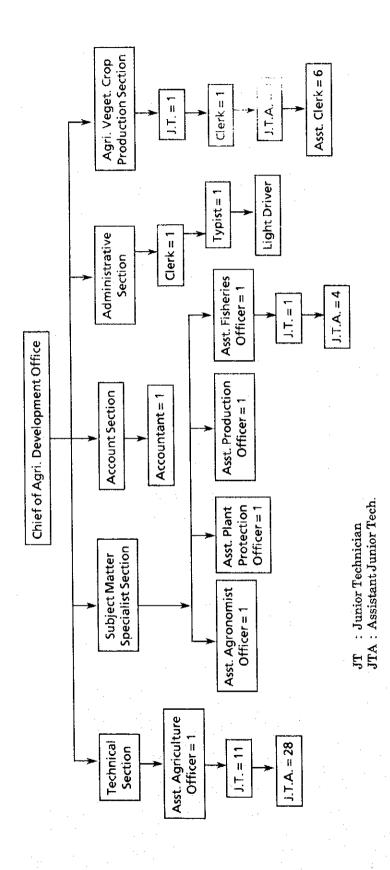
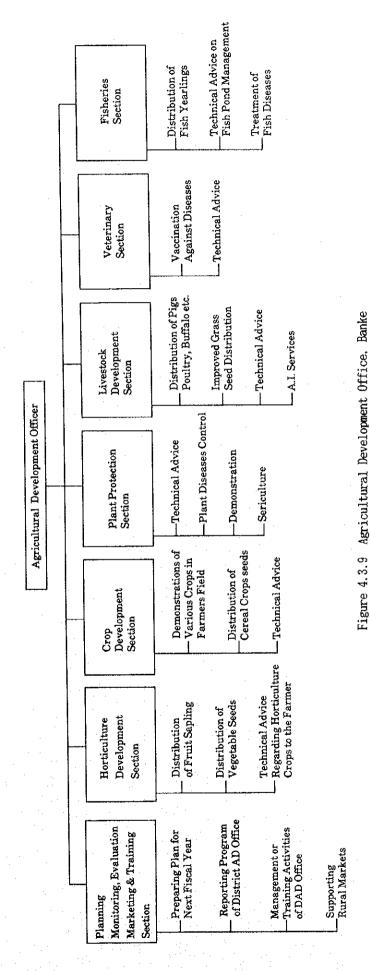


Figure 4.3.8 Agricultural Development Office. Mahottari



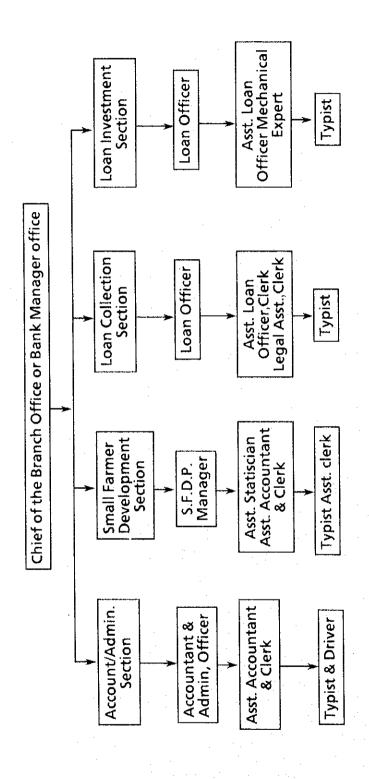


Figure 4.3.10 ADBN Branch Office, Jhapa

Table 4.3.12 Agricultural Production in Jhapa District

	Average	Yield	(ton/ha)	2, 45	1.31	1.39	-	1 0	0.31	0.61	60 6	0.81	24.56	0.60	0.64	5 6	0	0.04	0.72	0.60	0.64	0.57	0.65	3	7.00	0. 0									
	Yield	•	(ton/ha)	۱.	1.40		:: _	٠.	4∶	0	0	.0	: 10) · C) · C	⊃:<	⊃∵ç	ວ:	0	0	;⇔	∵⊏	⊃∶⊂	21								-		-	
1992/93	Produ-	ction	(ton)	202530	18630	13090	0016		20	1790	12960	730	5500	2.0	1	2 6	0×1	220	5	0	40		2 0	260			-				-				
	Area		(þa	20730	13310	200	200	0107	20	2990	1200	830	250	200	3:5	3	740	380	130	30	70	100	001	N7CT							-	:		<u>:</u>	_
	Vield		(ton/ba)	18.6	5 0	: -	3 8	S:	0.67	0.59	8 69	× ×	3.6	5.5	5 6	70 D	0.70		0.46	0.50		5 6	გ. ე. ა	U. 33	0.90	6.94		_				1		-	
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	dros	3 2	<u> </u>		1.0501																							707	ើ		1961	7 0	5.0	-	
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000	06/202	Produ-	ction	(ton)	234550	12830	14720	1290	10	200	0.00	ngcs	280	2000	90	09	ΨV	370	2.4	2	₽	2	98	670	3508	14649	Ž	ž	C X	S.	¥	Š	¥	ž	NA
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		Yield		(ton/ha)	2.49	1.48	. 55	1 00		3.5	TQ .0	6.00	0.69	24.00	1.00	0.80	}	7	સ:	?.	0.67	1.8	0.60	1.03		1 L	5								
	1988/89	Produ-	ction	(ton)	216770	16000	14230	1280	3 0	2.5	3	9450	570	2880	9	Ų	? ?	2 6		120	ಜ	S	150	GÜ	26.53	19670	2 2	5	£;	Ę	¥.	¥	¥	¥	NA
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	-	Yield		(ton/ba)	1.97	1.15	 2		0:0	8	0.80	∞ .50	0.72	24.00						-					1	7.0	20							-	
	1987/88	Produ-	ction	(ton)	167800	8790	1521	2.0	noot	22	1590	9350	380	3600											4700	1000	2071	ď.	Z	Ž	¥	Ž	Æ	Ž	NA
	-	Area		(E)	85240	7620	10.00	2070	ncc7	70	2640	1100	530	110	3	-									0.0	0786	3 :	1/4	జ	153	4	2	\$	4	9
	-	Cros			Paddy	25.70	1	Mnear	Willet	Barley	Dilseed	Potato	Tobacco	Cocco	טופסו כפווכ	Lentil	Chick Pea	Pigeon Pea	Black Gram	Grass Pea	Horse Gram		poyabean	Truer rutses	lotal Pulses	Jute	Vegetables	tango	Lichi	Banana	Bada	Coconut	Nut	Panaya	Pineapple

Source:Agricultural Statistics of Nepal Statistical Yearbook of Nepal.1993 ADO, Jhapa

Table 4.3.13 Agricultural Production in Mahottari District

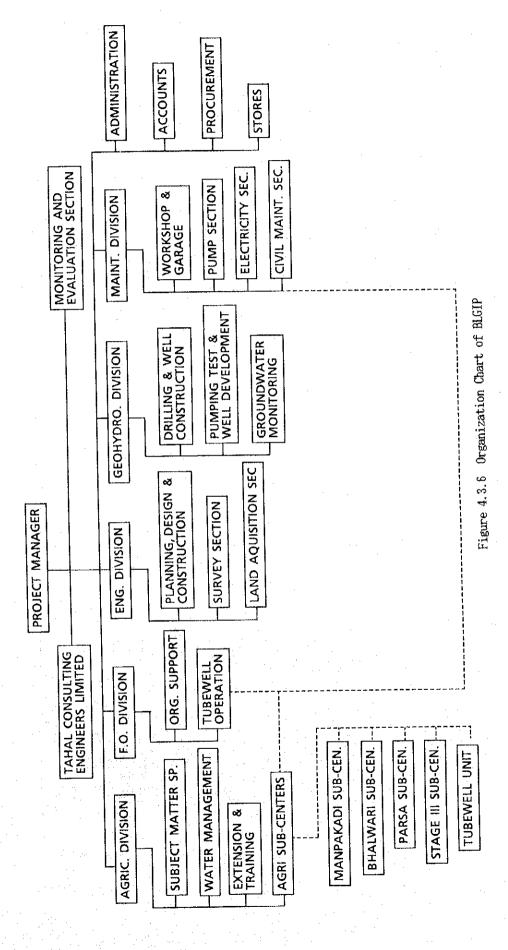
(ha) (ton) 32590 52140 4100 8200 24090 26510 1830 1960 270 220	(ha) 32590 4100 24090 1830 1830 740 1400 1210 6780 920		(ha) 32590 4100 24090 1830 1830 1830 1400 1400 1740 1740 17210 672 973 973 973 974 975 975 976 976 976 976 976 976 976 977 976 976	(ha) 32590 4100 24090 1830 1830 1400 1210 6780 920 920 920 920 600 600 600 600	(ha) 32590 4100 24090 1830 1830 1830 1830 1400 1210 8780 8780 8780 8780 8780 8780 8780 87	(ha) 32590 4100 24090 1830 1830 1830 1830 1840 1400 1210 8780 8780 8780 8780 8780 8780 8780 87	(ha) (ton) (ton/ha) 32590 52140 1.60 4100 8200 2.00 24090 26510 1.10 1830 1960 1.07 270 220 0.51 4630 2360 0.51 470 8140 11.00 1210 43610 36.04 6780 4130 0.61 920 510 0.55 50 30 0.60 220 120 0.55 16450 9540 0.58	(tra) (ton/ha) (ton/ha) (20/ha) (20/	(ta) (ton) (ton/ba) (ton/sa) 32590 (52140 1.60 (4100 24090 2.501 1.10 (52090 2.501 1
(ton) (ton/ha) (ha) 98990 2.13 32590 6460 1.97 4100 27190 1.67 24090 1940 1.08 1830 250 0.89 270	(ton) (ton/ha) (ha) 98990 2.13 32590 6460 1.97 4100 27190 1.67 24090 1940 1.08 1830 270 550 0.50 4630 7910 12.17 740 1250 0.89 1400 49000 35.00 1210 3180 0.61 6750 659	(ton) (ton/ha) 98990 2.13 6460 1.97 27190 1.67 1940 1.08 550 0.89 7800 35.00 3180 0.59 780 0.59 780 0.59 2220 0.48	(ton) (ton/ha) (ha) 98990 2.13 32590 6460 1.97 4100 27190 1.67 24090 1940 1.08 1830 250 0.89 270 7910 12.17 740 1250 0.89 1400 49000 35.00 1210 3180 0.61 6730 650 0.69 3070 20 0.60 50 3000 20 0.50 0.60 300 0.48 4760 20 0.50 220 7290 0.50 0.67 50 7290 0.50 16450	(ton) (ton/ha) (ha) 98990 2.13 32590 6460 1.97 4100 27190 1.67 24090 1940 1.08 1830 250 0.89 277 250 0.89 1400 49000 35.00 1210 3180 0.61 6720 650 0.69 920 780 0.59 3070 2220 0.48 4760 300 0.48 600 2220 0.48 600 300 0.48 600 300 0.50 55 16450 7299 0.55 16450	(ton) (ton/ha) (ha) 98990 2.13 32590 6460 1.97 4100 27190 1.67 24990 1940 1.08 1830 250 0.50 4630 7910 12.17 740 1250 0.50 4630 7910 0.50 4630 7910 0.50 3570 2220 0.69 3070 20 0.50 3070 20 0.50 3070 20 0.50 20 120 0.50 20 120 0.50 16450 20 0.67 20 20 0.	(ton) (ton/ha) (ha) 98990 2.13 32590 6460 1.97 4100 27199 1.67 24090 1940 1.08 1830 250 0.89 270 7910 12.17 740 11250 0.61 6780 650 0.69 3070 20 0.69 3070 20 0.69 3070 20 0.69 3070 20 0.60 50 800 10.00 20 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220 120 0.50 220	(ton) (ton/ha) (ha) 98990 2.13 32590 6460 1.97 4100 27190 1.67 24090 1940 1.08 1830 250 0.89 270 7510 12.17 740 11250 0.69 1400 49000 35.00 1210 3180 0.61 6780 20 0.69 3070 20 0.69 3070 20 0.60 50 300 0.48 600 20 0.67 50	(ton) (ton/ha) (ha) 98990 2.13 32590 6460 1.97 4100 27190 1.67 24090 1.94 1.08 1830 1.55 0.50 4630 1.55 0.89 1.400 1.50 0.69 3200 2.220 0.48 4760 3.00 0.50 4.8 600 2.220 0.40 600 2.220 0	(ton) (ton/ha) (ha) 9890 2.13 32590 6460 1.97 4100 27190 1.67 24090 1940 1.08 1330 250 0.89 270 7910 12.17 740 1250 0.89 1400 49000 35.00 1210 3180 0.61 6730 650 0.69 3070 20 0.67 50 2220 0.48 4760 20 0.50 220 7290 0.50 1650 120 0.50 220 7290 0.50 1650 120 0.50 220 7290 0.50 1650 1400 10.00
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Table 4.3.14 Agricultural Production in Banke District

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Paret Do				1450	29.0	0.81	1480	920	0.62	1550	1080	0.70	1510	1070	0.71	1620	1060	0.03	0.66
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Banana							-						3 .						00 0
Lemon													_ ST						

Table 4.3.15 Irrigation Impact in BLGIP

Yield in Bhailawa Lumbini GroundWater Project (Unit:ton/ha) Before After Project Project|1981/82|1982/83|1983/84|1984/85|1985/86|1986/87|1987/88|1988/89|1989/90|1990/91|1991/92|1992/93 Summer Paddy Local 1.10 1.50 1.80 2.00 2.10 1.70 1.90 2.95 2.26 2.65 2.60 2.60 2.10 Paddy HYV 1.80 2.60 2.80 3.50 4.20 4.00 4,23 4.63 4,40 4.46 3.50 4.50 4.18 Sugarcane 25.00 30.00 30.00 32.00 50.0056.0036.0025.16 35.40 Maize 2.50 3.003.00 2.80 3.00 2.50 3.69 3.20 Pulse 0.500.700.800.87 0.850.900.901.34 1.20 0.70 1.15 1.30 1.20 Vegetables 22.17 17.60 15.0012.90 Groundnut 1.60 2.41 Winter Mheat 0.802.20 2.50 2.17 2.50 3.00 2.00 2.87 2.60 2.70 2.85 3.03 3.07 Dilseed 0.40 0.500.60 0.600.77 0.80 0.70 0.700.72 0.750.690.680.39Pulse 0.500.600.800.900.87 0.901.20 1.10 1.20 1.12 1.33 1.45 0.90Maize 2.50 3.00 3.00 3.00 3.20 2.80 3.74 3.80 4.00 3.23 4.46 4.03 Potato 17.00 17.5018.00 15.0023.00 18.00 27.00 25.0019.73 25.06 22.50 Vegetable 10.0013.0013.00 21.00 20.0022.08 17.89 22.40 bpring Spring Paddy 2.50 2.90 3.00 3.50 4.00 4.00 2.85 2.83 3.15 3.50 2.40 Maize 3.50 3.82 3.23 2.92 4.39 3.10 Pulses 0.991.30 1.13 1.00 0.931.10 Dilseeds 1.40 Dnion 20.50 27.00 18.90 18.20 31.33 24.84 Vegetables 13.60 16.00 19.33 21.97 17.10 18.70 Potato 12.00 12.35 Stringbean 12.03 18.50



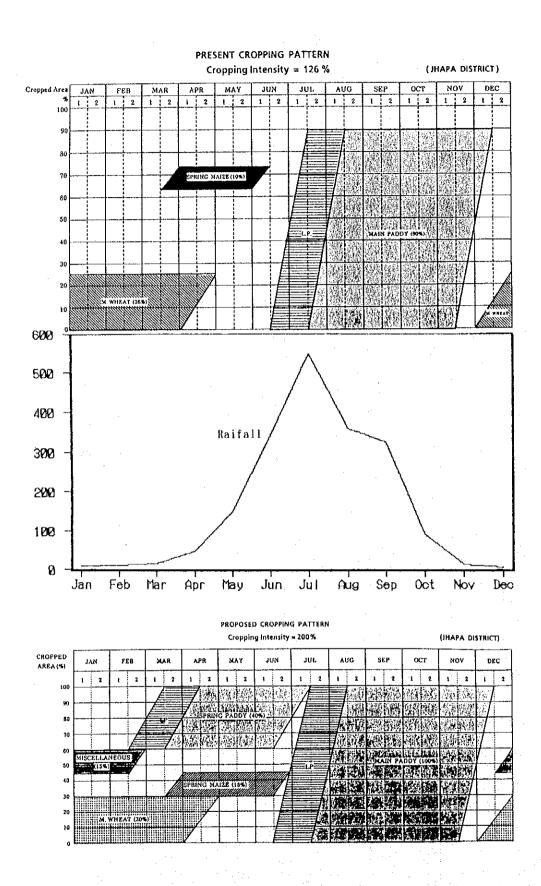


Figure 4.3.7 Present and Proposed Cropping Pattrens in Jhapa District

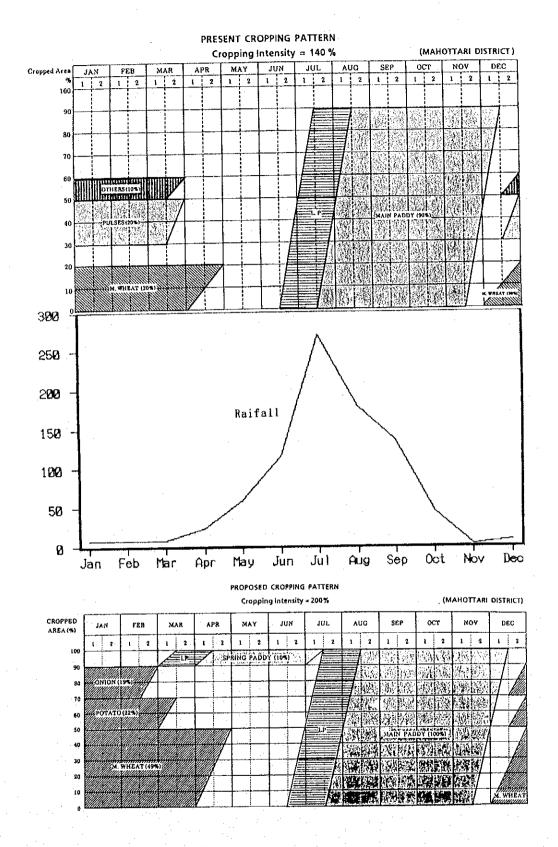


Figure 4.3.8 Present and Proposed Cropping Pattrens in Mahottari District

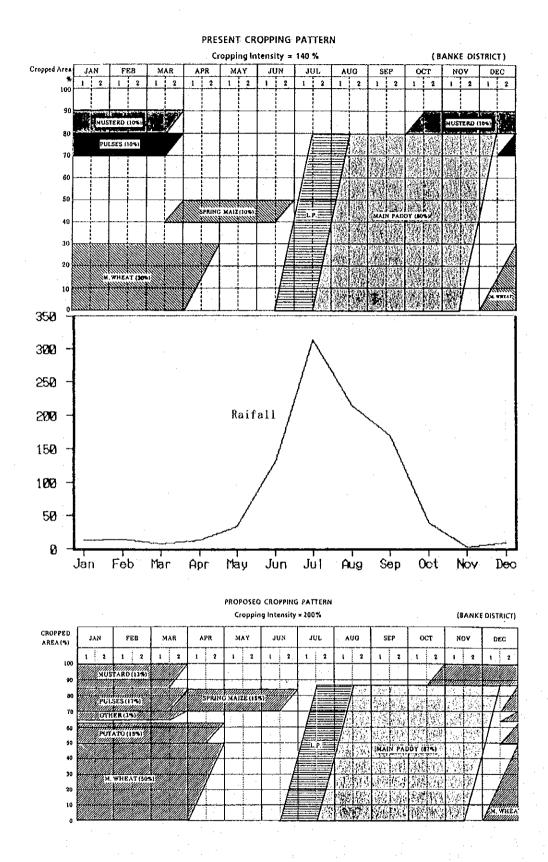


Figure 4.3.9 Present and Proposed Cropping Pattrens in Banke District

Table 4.3.16 Projected Crop Production

1. Jhapa	Planted Area	Yield	Production
	(ha)	(ton/ha)	(ton)
Without Project			
M. Paddy, Rainfed	15,300	2.33	35,649
Maize	1,700	1.31	2,227
Wheat	4,420	1.59	7,028
Total	21,420		
With Project			
M. Paddy, Irrigated	17,000	4.00	68,000
S. Paddy, Irrigated	6,800	3,80	25,840
Maize	2,550	2.70	6,885
Wheat	5.100	2.70	13,770
Miscellaneous	2,550	0.80	2,040
Total	34,000		

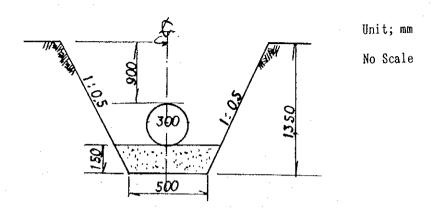
2. Mahottari		Planted Area (ha)	Yield (ton/ha)	Production (ton)
Without Project M. Paddy, F Wheat Pulses Others Total	Rainfed	6,300 1,400 1,400 700 9,800	2.29 1.48 0.60 0.54	14, 427 2, 072 840 378
	Irrigated Irrigated	7,000 700 3,430 1,330 1,540 14,000	3.40 3.60 2.60 13.00 12.00	2,520 8,918 17,290

3. Banke	Planted Area	Yield	Production
	(ha)	(ton/ha)	(ton)
Without Project			
M.Paddy, Rainfed	6,400	1.95	12,480
Maize	800	1.61	1,288
Mustard	800	0.55	440
Wheat	2,400	1.40	3,360
Pulses	800	0.68	544
Total	11,200	* .	
With Project			
M. Paddy, Irrigated	6,960	3.50	
Maize	1,200	2.60	
Mustard	1.040	0.80	832
Wheat	4,000	2.10	•
Pulses	1,360	1.00	1,360
Potato	1,200	14.00	16,800
Others	240	11.00	2,640
Total	16,000		

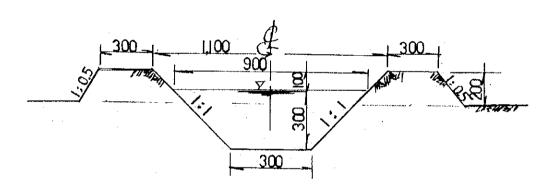
4.4.1. Typical Standard Design

Figure 4.4.1

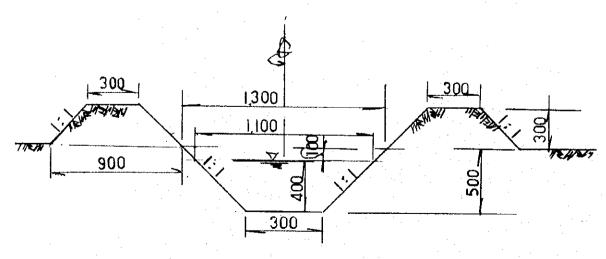
TYPICAL SECTION



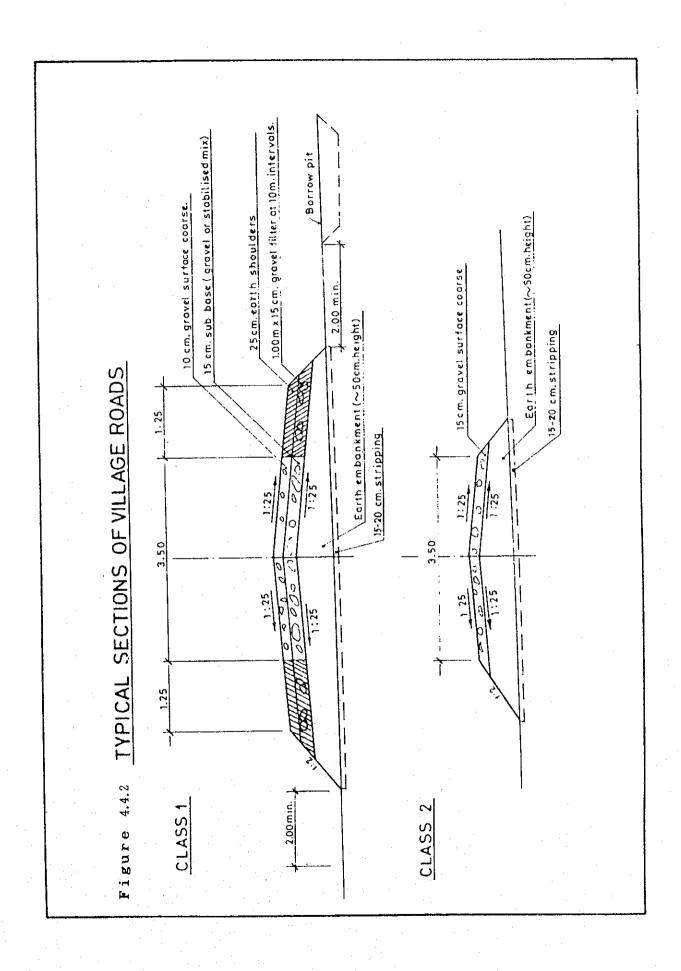
TYPICAL SECTION OF PIPELINE

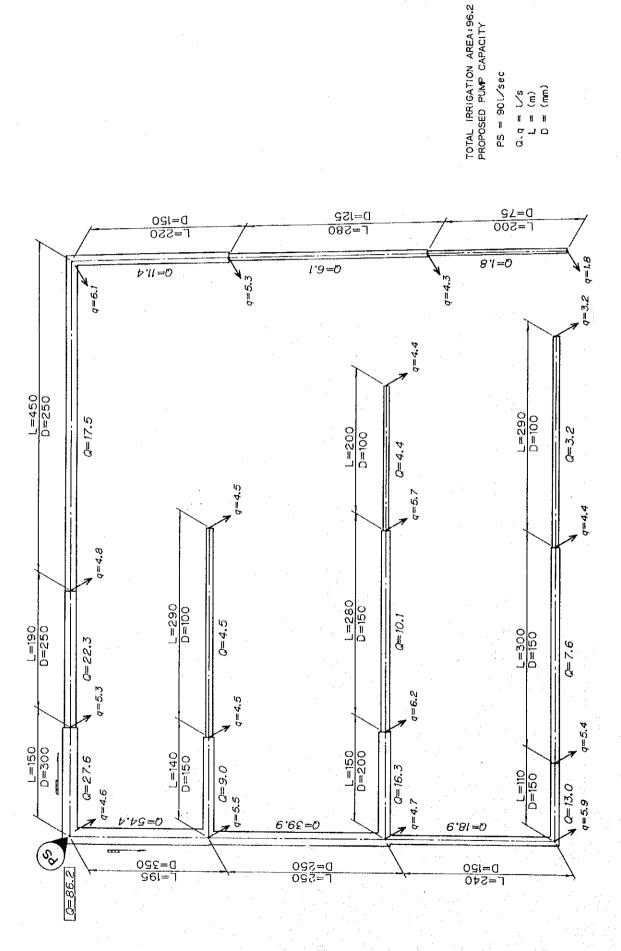


TYPICAL SECTION OF TERMINAL IRRIGATION CANAL

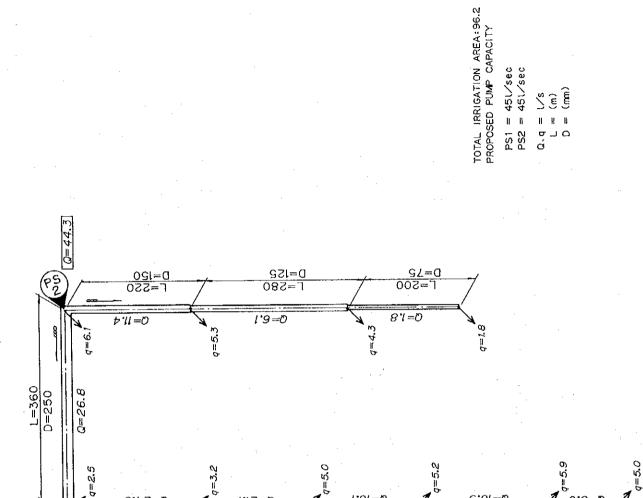


TYPICAL SECTION OF DRAINAGE CANAL FOR IRRIGATION BLOCK



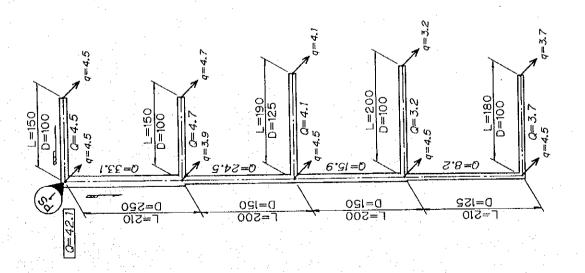


PS = 901/sec



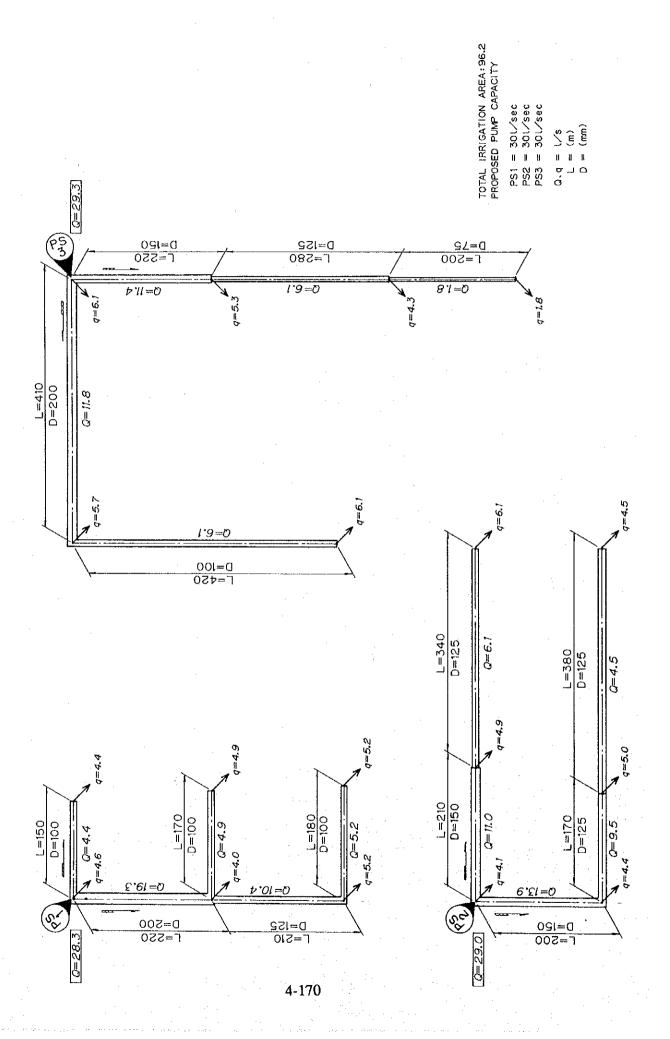
D=S00 Γ=S00 001≕0 C=130

D=120



D=500 F=500

D=500



4.4.2. Water Requirement

WATER REQUIREMENT OF MAIN PADDY (JHAPA DISTRICT) **TABLE** 4.4.1(1)

	CR PA	Tota	<u> </u>		「E 171			T.	
	CROPPING	(mm) Total W.R (f)	(mm) E.R	(mm) Total W.R (n)	(mm) T.W.R (IE=0.7)	m³/(ha)	£/s/(ha)	T.W.R for B.A (10 ³ m ³)	
JAN									
FEB									
						:			:
MAR									•••••
APR									
MAY			*********						
> -									
NOC			•••••				.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
JUL		10	35						
		108.1 140.0	186.7 121.8	- 18.2	26.0	- 260	0 -	- 4,420	
AUG		.0 103.5	.8 121.8		- 0:		0.2	1	*********
SEP		88.5	110.3	1	ı	ı	ŀ	'	
Ą.		87.5	110.3	1	ı	1	1	-	
OCT	.,,,,,,,,,	86.0 8	31.0	55.0	78.6	786 84	9.0	13,362 14,	
_		9.68	31.0	58.6	83.7	837 76	9.0	14,229 12,	
NOV		57.7 3	4.4	53.3 2	76.1 4	761 404	9.0	12,937 6,868	
		32.7	4.4	28.3	40.4	99	0.3	8 1,122	
DEC		6.7	2.1	4.6	6.6		0.1	7	

Total W.R (f) = Total Water Requirement of Field IE = Irrigation Efficiency B.A (ha); Benefical Area $\rightarrow 17,000$

EK; Effective raiman 10 T.W.R for B.A; 52,938 10 m³/year

TABLE 4.4.1(2)

WATER REQUIREMENT OF SPRING PADDY (JHAPA DISTRICT)

CROPPING PATTERN (mm) Total W.R (f) (mm) E.R (mm) T.W.R (IE=0.70) T.W.R for B.A (10 ³ m ³)	NAL G	72.	FEB	N N N N N N N N N N N N N N N N N N N	MAR 110.7 105.3 150.4 1,504 1,504	APR 156.0 12 156.0 12 200.9 1,4 1.6 11 13,661 110,0	2 2 2 159 4 159 4 159 4 159 4 159 4 159 4 159 4 159 4 159 4 159	MAY 116.5 12 50.2 5 66.3 7 66.3 7 94.7 10 94.7 1,0	3.0 0.2 3.2 0.0 2.8 0.0 0.0	JUN 116.3 111	8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	JUL 9.3 - -	AUG	SEP	L20	NOV	DEC
	Total W.R (f) = IE = Irrigation B.A (ha); Benef	R (f) = igation Benef	Total W.R.(f) = Total Water Requirement of Field IE = Irrigation Efficiency B.A.(ha); Benefical Area → 6,800	ter Requ $\rightarrow 6,800$	iremen	t of Fie		ER,	Effect R for I	ive Rain	ufall 7,579 1	Total	Figure Figure 10 Total W.R. (n) = T. W.R. for B.A; $47,579 \cdot 10^3 \text{m}^3/\text{year}$	Total Net Requirement	irement		

WATER REQUIREMENT OF MAIN WHEAT (JHAPA DISTRICT)

DEC		13.9	2.1	11.8	19.7	197	0.1	1,005	
II		5.0	2.1	2.9	4.8	84	1	225	
NOV					**********				
ОСТ									
SEP									
AUG									
JUL									
NOF									
MAY			^ · · · · · · · · · · · · · · · · · · ·						
ж		7.0	15.4	ı	ı	t	•	ı	:
APR		14.0	15.4	1	ı	ı	•	1	
1R		35.7	5.4	30.3	50.5	505	0.4	2,576	
MAR	, ,	50.5	5.4	45.1	75.2	752	9.0	3,835	:
В		39.0	3.5	35.5	59.2	592	0.5	3,019	
FEB		41.0	3.5	37.5	62.5	625	0.5	3,188	
z		27.2	2.7	24.5	40.8	408	0.3	2,081	
JAN		20.0	2.7	17.3	28.8	288	0.2	1,469	
	CROPPING PATTERN	(mm) Total W.R (f)	(mm) E.R	(mm) Total W.R (n)	(mm) T.W.R (TE=0.60)		E/s/(ha)	T.W.R for B.A (10 ³ m ³)	

Total W.R.(f) = Total Water Requirement of Field IE = Irrigation Efficiency B.A (ha); Benefical Area $\rightarrow 5,100$

ER; Effective Rainfall Total W.R (n) = Total Net Requirement T.W.R for B.A; $17,398 \ 10^3 \text{m}^3/\text{year}$

TABLE 4.4.1(4)

WATER REQUIREMENT OF SPRING MAIZE (JHAPA DISTRICT)

	OCT NOV										4
	SEP OC										Total Mat Deminstrates
	JUL AUG										m.4.1 viv D ()
	NOC		64.0 32.0	116.3 116.3		,	,		,		
,	MAY		85.5 91.2	50.2 50.2	35.5 41.0	58.8 68.3	588 683	0.5 0.5	1,499 1,742		
	APR		82.5 85.5	15.4 15.4	67.1 70.1	111.8 116.8	1,118 1,168	6:0	2,851 2,979	••••	
	MAR		94.4	5.4	0.68	148.3	1,483	11	3,782		
	FEB							•••••			
	JAN	ch.	- 6		(2)					• • • • • • • • • • • • • • • • • • • •	
		CROPPING PATTERN	(mm) Total W.R (f)	(mm) E.R	(mm) Total W.R (n)	(mm) T.W.R (IE=0.6)	m³/(ha)	<i>e</i> /s/(ha)	T.W.R for B.A (10 ⁵ m ³)		

Total W.R (f) = Total Water Kequirement of Field IE = Irrigation Efficiency B.A (ha); Benefical Area $\rightarrow 2,550$

T.W.R for B.A; 12,853 10°m³/year

TABLE 4.4.2(1)

WATER REQUIREMENT OF MAIN PADDY (MAHOTTARI DISTRICT)

DEC DEC CROPPING DEC DEC CROPPING DEC DEC CROPPING DEC D		O H	Ē	<u>' </u>	ع ا	4-17					
JAN FEB MAR APR JUL AUG SEP OCT NOV 100 100 110		CROPPING PATTERN	(mm)	(mm) F. R	(mm)	(mm) T.W.R	() -0 - ar)	M (ud)	T.W.R for B.A (10 ³ m ³)		
FEB MAR APR MAY JUL AUG SEP OCT NOV 116.6 118.6 118.6 118.6 118.6 98.0 98.0 98.5 98.0 98.0 98.7 77	JAN										•,•
MAR APR MAY JUN JUL AUG SEP OCT NOV 116.6 163.0 119.5 99.0 98.0 90.5 94.4 54.2 30.7 7 20.9 20.9 47.9 47.9 15.6 15.6 0.7 0.7 2 20.9 90.1 56.6 51.1 50.1 74.9 78.8 53.5 30.0 4 20.9 90.1 56.6 51.1 50.1 71.6 107.0 112.6 76.4 42.9 61 20.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 20.9 20.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 20.9 20.9 73.0 71.6 107.0 112.6 60.6 60.6 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8				1							
MAR APR MAY JUN JUL AUG SEP OCT NOV 116.6 163.0 119.5 99.0 98.0 90.5 94.4 54.2 30.7 7 20.9 20.9 47.9 47.9 15.6 15.6 0.7 0.7 2 20.9 90.1 56.6 51.1 50.1 74.9 78.8 53.5 30.0 4 20.9 90.1 56.6 51.1 50.1 71.6 107.0 112.6 76.4 42.9 61 20.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 20.9 20.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 20.9 20.9 73.0 71.6 107.0 112.6 60.6 60.6 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8	FEE									1	
APR MAY JUL AUG SEP OCT NOY 116.6 153.0 119.5 99.0 98.0 90.5 94.4 64.2 30.7 7 20.9 95.7 62.9 62.9 47.9 15.6 15.6 0.7 0.7 2 20.9 90.1 56.6 51.1 50.1 74.9 78.8 53.5 30.0 4 20.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 20.9 10.2 1.0 0.6 0.6 0.8 0.6 0.6 0.6 0.8 0.6 0.3 0.6 0.3 0.6 0.3 0.6 0.8 0.8 0.8 </td <td>~</td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	~			-							
APR MAY JUL AUG SEP OCT NOY 116.6 153.0 119.5 99.0 98.0 90.5 94.4 64.2 30.7 7 20.9 96.7 62.9 62.9 47.9 15.6 15.6 0.7 0.7 2 20.9 90.1 56.6 51.1 50.1 74.9 78.8 53.5 30.0 4 20.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 20.9 1.0 0.6 0.6 0.6 0.8 0.6 0.3 0.6 0.3 0.6 0.3 0.6 0.3 0.6 0.3 0.6 0.3 0.6 0.8 <td>MAI</td> <td></td>	MAI										
MAY JUL AUG SEP OCT NOV 116.6 153.0 119.5 99.0 98.0 90.5 94.4 54.2 30.7 7 20.9 96.7 62.9 47.9 15.6 15.6 0.7 0.7 2 20.9 90.1 56.6 51.1 50.1 74.9 15.6 0.7 0.7 2 20.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 1,287 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 1,287 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 1,087 80.9 73.0 71.6 107.0 112.6 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8 60.8 <td>~</td> <td></td>	~										
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JUN JUL AUG SEP OCT NOV 116.6 153.0 119.5 99.0 98.0 90.5 94.4 54.2 30.7 7 20.9 96.7 62.9 47.9 47.9 15.6 15.6 0.7 0.7 2 20.9 90.1 56.6 51.1 50.1 74.9 78.8 53.5 30.0 4 20.9 128.7 80.9 73.0 71.6 1,07.0 112.6 76.4 42.9 61 20.9 1,287 80.9 73.0 71.6 1,07.0 1,126 76.4 42.9 61 20.9 1,287 80.9 73.0 71.6 1,070 1,126 76.4 42.9 61 20.93 9,009 5,663 6,110 5,012 7,480 7,882 5,348 3,003 422	<u>~</u>										
JUL AUG SEP OCT NOY 116.6 153.0 119.5 99.0 98.0 90.5 94.4 54.2 30.7 7 20.9 90.1 56.6 51.1 50.1 74.9 15.6 0.7 0.7 2 20.9 90.1 56.6 51.1 50.1 74.9 78.8 53.5 30.0 4 20.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 20.9 1,287 80.9 73.0 71.6 1,070 1,126 76.4 42.9 61 20.9 1,287 80.9 73.0 71.6 1,070 1,126 76.4 42.9 61 20.93 9,009 5,663 6,110 5,012 7,490 7,882 5,348 3,003 422	MA										•
JUL AUG SEP OCT NOV 116.6 153.0 119.5 99.0 98.0 90.5 94.4 54.2 30.7 7 20.9 62.9 47.9 47.9 15.6 15.6 0.7 0.7 2 20.9 90.1 56.6 51.1 50.1 74.9 78.8 53.5 30.0 4 29.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 29.9 1,287 80.9 73.0 71.6 1,070 112.6 76.4 42.9 61 20.99 1,287 80.9 73.0 71.6 1,070 1,12.6 76.4 42.9 61 2,093 9,009 5,663 6,110 5,012 7,490 7,882 5,348 3,003 427	→										
JUL AUG SEP OCT NOV 116.6 153.0 119.5 99.0 98.0 90.5 94.4 54.2 30.7 7 20.9 62.9 47.9 47.9 15.6 15.6 0.7 0.7 2 20.9 90.1 56.6 51.1 50.1 74.9 78.8 53.5 30.0 4 29.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 29.9 1,287 80.9 73.0 71.6 1,070 112.6 76.4 42.9 61 20.99 1,287 80.9 73.0 71.6 1,070 1,12.6 76.4 42.9 61 2,093 9,009 5,663 6,110 5,012 7,490 7,882 5,348 3,003 427	TOP			********		,					•
6.6 153.0 119.5 99.0 98.0 90.5 94.4 54.2 30.7 7 20.9 96.1 98.0 98.0 90.5 94.4 54.2 30.7 7 20.9 90.1 56.6 51.1 50.1 74.9 78.8 53.5 30.0 4 29.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 99 1,287 80.9 73.0 71.6 1,070 1,126 76.4 42.9 61 99 1,287 80.9 73.0 71.6 1,070 1,126 76.4 42.9 61 99 1,287 80.9 73.0 71.6 1,070 1,126 76.4 42.9 61 98 9,009 5,663 5,110 5,012 7,490 7,882 5,348 3,003 427	7										
6.6 153.0 119.5 99.0 98.0 90.5 94.4 54.2 30.7 7 20.9 90.1 62.9 47.9 47.9 15.6 15.6 0.7 0.7 2 20.9 90.1 56.6 51.1 50.1 74.9 78.8 53.5 30.0 4 29.9 128.7 80.9 73.0 71.6 107.0 112.6 76.4 42.9 61 99 1,287 80.9 73.0 71.6 1,070 1,126 76.4 42.9 61 99 1,287 80.9 73.0 71.6 1,070 1,126 76.4 42.9 61 99 1,287 80.9 73.0 71.6 1,070 1,126 76.4 42.9 61 98 9,009 5,663 5,110 5,012 7,490 7,882 5,348 3,003 427	IUL	.,,,							Q		
5 99.0 98.0 90.5 94.4 54.2 30.7 7 1.9 47.9 47.9 15.6 15.6 0.7 0.7 2 1.9 73.0 71.6 107.0 112.6 76.4 42.9 61 1.0 0.6 0.8 0.8 0.8 0.6 0.3 (2) 1.10 5,012 7,490 7,882 5,348 3,003 427	. 7			95.7	20.9	 		0.2	1		
5 99.0 98.0 90.5 94.4 54.2 30.7 7 1.9 47.9 47.9 15.6 15.6 0.7 0.7 2 1.9 73.0 71.6 107.0 112.6 76.4 42.9 61 1.0 0.6 0.8 0.8 0.8 0.6 0.3 (2) 1.10 5,012 7,490 7,882 5,348 3,003 427	AUC			62.9	90.1	128.7		1.0	1 1		
15.6 0.7 0.7 2 15.6 0.7 0.7 2 112.6 76.4 42.9 6 1.26 76.4 42.9 6 0.8 0.6 0.3 (9 5.348 3,003 42:	rh.				ļ	80.9	†	9.0]]		
15.6 0.7 0.7 2 15.6 0.7 0.7 2 112.6 76.4 42.9 6 1.26 76.4 42.9 6 0.8 0.6 0.3 (9 5.348 3,003 42:	SEP		<i></i>				1	9.0	1 1	********	
15.6 0.7 0.7 2 15.6 0.7 0.7 2 112.6 76.4 42.9 6 1.26 76.4 42.9 6 0.8 0.6 0.3 (382 5,348 3,003 427								9.0			
NOV 4.4 54.2 30.7 7 5.6 0.7 0.7 2 8.8 53.5 30.0 4 12.6 76.4 42.9 61 26 76.4 42.9 61 26 76.4 42.9 61 28 5,348 3,003 427	OCT						Į.	8.0		.,	
30.7 7 30.0 4 42.9 61 42.9 61 30.03 42.7 61 82.9 61 82.0 61 82				15.6				8.0			
0.7 7 7 00.0 6.2 6.1 6.0 0.3 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1	NOV			0.7	53.5	76.4		9.0	i i	•••••	
6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1			30.7	7.0	30.0	42.9	623	0.3			
	DEC		7.0	2.7	4.3	6.1	61	0.1	127		

Total W.R.(f) = Total Water Requirement of Field IE = Irrigation Efficiency B.A.(ha); Benefical Area → 7,000

ER; Effective Rainfall Total V T.W.R for B.A; 51,037 10⁸m³/year

		TABLE	E 4.4.2(2)	WATER RE	REQUI	REME	INT OF	SPRI	NG PA	QUIREMENT OF SPRING PADDY (MAHOTTARI DISTRICT)	HOTT	ARI DIST	RICT)		
	JAN	FEB	MAR	APR	MAY	X	NOC		JUL	AUG	واج	SEP	OCT	NOV	DEC
	_				,	+		+]						
CROPPING PATTERN															
(mm) Total W.R.(f)				148.6 219.0	144.0	152.0	114.0	81.4	11.7						
(mm) E.R				8.2 8.2	20.6	20.6	40.8	40.8	95.7						
(mm) Total W.R (n)				140.4 210.8	123.4	131.4	73.2	40.6							
(mm) T.W.R (IE=0.70)		.,,		200.6 301.1	176.3 187.7		104.6	58.0							
m³/(ha)				2,006 3,011	1,763	1,877	1,046 5	580	1						
<i>e</i> /s/(ha)				1.5 2.3	1.4	1.4	0.8	0.4	1		·				
T.W.R for B.A (10 ³ m ³)				1,404 2,108	1,234	1,314	732 4	406							
	Total W.R (f) = Total Water Re IE = Irrigation Efficiency B.A (ha); Benefical Area → 700	= Total Wa on Efficiency efical Area	Total Water Requirement of Field Efficiency cal Area → 700	nt of Field	ER; T.W.I	Effec R for	ER; Effective Rainfall T.W.R for B.A; 7,198		Tota 10³m³/year	Total W.R (n) = year		Total Net Requirement	uirement		

<u> </u>		MAR	APR	<u>κ</u>	MAY	NOf	ਸ਼ 	JUL	AUG	SEP	ocī	NOV	DEC
						:			/,				
57		57.0 40.0	17.0	8.5									5.5 15.5
7		2.9 2.9	8.2	8.2									2.7
54		54.1 37.1	8.8	0.3									2.8 12.8
90.2	- 2 1	2 61.8	14.7	0.5			·						4.7 21.3
903		618	147	ю		:							47 213
	0 '	0.7 0.4	0.1										1
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TABLE 4.4.3(1) WATER REQUIREMENT

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	JAN	FEB	 8	MAR	APR	ســـــــــــــــــــــــــــــــــــــ	MAY	-	NOC	<u>ب</u>	JUL	AUG	<u></u>	SEP		OCT		NOV	Λ.	DEC	C
CROPPING																					
(mm) Total W.R (f)											113.9	146.0	113.1	96.0	95.0	89.0	92.8	53.0	30.0	6.2	
(mm) E.R											111.9	7.97	76.7	60.7	60.7	14.0	14.0	1.2	1.2	3.3	
(mm) Total W.R (n)											2.0	69.3	36.4	35.3	34.3	75.0	78.8	51.8	28.8	9.9	
											2.9	0.66	52.0	50.4	49.0	107.1	112.6	74.0	41.1	4.1	
m³/(ha)											29	066	520	504	490 1,9	1,0,1	1,126	740	411	∓	
<i>e</i> /s/(ha)											1	8.0	4.0	4.0	0.4	8.0	8:0	9.0	0.3	1	-
T.W.R for B.A (10 ³ m ³)											202	6,890	3,619 3	3,508 3,	3,410 7,	7,454 7,8	7,837 5,	5,150 2,	2,861	285	
I E M	Total W.R.(f) = Total Water Requirement of Field IE = Irrigation Efficiency B.A.(ha); Benefical Area → 6,960	= Total ion Efficie refical Are	Water R ancy $\Rightarrow a \rightarrow 6, 9$	Requireme	ant of Field	_	ER; EI T.W.R	fective for B.A	ER; Effective Rainfall T.W.R for B.A; 41,216	1 6 10³m	Total V 10³m³/year	Total W.R (n) = \$\frac{3}{7}\$year	= Tot	Total Net Requirement	Require	ement					

TABLE 4.4.3(2)

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WATER REQUIREMENT OF MAIN WHEAT	
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DEC		12.3	3.3	9.0	15.0	150	0.1	909	
· •		4.5	3.3	1.2	2.0	20		98	······································
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nor									
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		8.0	4,4	3.6	6.0	09	0.1	240	
APR		16.0	4.4	11.6	19.3	193	0.1	772	
<u>~</u>		35.7	2.8	32.9	54.8	548	0.4	2,192	
MAR		50.5	2.8	47.7	79.5	795	9.0	3,180 2	
В		36.4	5.1	31.3	52.2	522	0.5	2,088	
FEB		38.5	5.1	33.4	55.7	557	0.4	2,228	
Z		25.1	4.6	20.5	34.2	342	0.2	1,368	
JAN		18.5	4.6	13.9	23.2	232	0.2	928	
	CROPPING PATTERN	(mm) Total W.R (f)	(mm) E.R	(mm) Total W.R (n) 13.9	(mm) T.W.R (IE=0.60)	m³/(ha)		T.W.R for B.A (10 ³ m ³)	

Total W.R (f) = Total Water Requirement of Field IE = Irrigation Efficiency B.A (ha); Benefical Area \rightarrow 4,000

ER; Effective Rainfall Total W.R (n) = Total Net Requirement T.W.R for B.A; $13,676 ext{ } 10^3 ext{m}^3/\text{year}$

TABLE 4.4.3(3)

WATER REQUIREMENT OF SPRING MAIZE (BANKE DISTRICT)

		JAN	FE	FEB	MAR	8	APR	- H	MA	(AY	NOF	7	INF	AUG	SEP	OCT	NOV	 DEC
(mm) (mm) (mm) (mm) (mm) (mm) (mm) (mm)	CROPPING							1										
(mm) 94.4 96.0 99.0 115.5 123.2 98.0 4 (mm) 2.8 4.4 4.4 12.0 12.0 46.7 4 (mm) 91.6 91.6 94.6 103.5 111.2 46.3 77.2 (mm) T.W.R 152.7 152.7 157.7 172.5 185.3 77.2 (E=0.60) 1,527 1,527 1,577 1,725 1,853 77.2 T.W.R for 1,527 1,577 1,725 1,853 77.2 B.A (10 ⁸ m³) 1,892 1,892 2,070 2,224 926	PATTERN				•••••	<u> </u>							•					
(mm) 2.8 4.4 4.4 12.0 12.0 46.7 4 (mm) 91.6 91.6 91.6 94.6 103.5 111.2 46.3 T.W.R (mm) T.W.R (mm) 152.7 152.7 157.7 172.5 185.3 77.2 m³/(ha) (ha) 1,527 1,527 1,577 1,725 1,863 772 T.W.R for 1.1 1.2 1.2 1.3 1.3 0.6 B.A (10³m³) 1.832 1,832 1,832 1,832 2,070 2,224 926	(mm) Total W.R (f)					94.4	96.0		*****	123.2	93.0	46.8						
Total W.R (n) 91.6 91.6 94.6 103.5 111.2 46.3 (mm) T.W.R (mm) 152.7 152.7 157.7 172.5 185.3 77.2 (IE = 0.60) 1,527 1,527 1,527 1,725 1,853 77.2 m³/(ha) 1,1 1,2 1,2 1,3 1,3 0.6 T.W.R for 1,832 1,892 2,070 2,224 926	(mm) E.R					2.8	4.4	4.4	12.0	12.0	46.7	46.7						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$						91.6	91.6			111.2	46.3	0.1						
1,527 1,527 1,577 1,725 1,853 772 1,1 1,2 1,2 1,3 1,3 0.6 1,832 1,832 1,892 2,070 2,224 926							152.7		172.5	185.3	77.2	0.2	•					
1.1 1.2 1.2 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.83 1.8	m³/(ha)					I .	1,527	ŀ	i	1,853	772	73						
1,832 1,832 1,892 2,070 2,224	e/s/(ha)					=	1.2	1.2	1.3	1.3	9.0	1						
	T.W.R for B.A (10 ³ m ³)				,		1			2,224	926	1						
							•••••											

Total W.R (f) = Total Water Requirement of Field ER; Effective Rainfall IR = Imigation Efficiency T.W.R for B.A; $10.776 ext{ } 10^3$ n

ER: Effective Rainfall Total W.R (n) = Total Net Requirement T.W.R for B.A; 10,776 10^3 m 3 year

IE = Irrigation Efficiency B.A (ha); Benefical Area → 1,200

ESTIMATION OF EFFECTIVE PRECIPITATION FOR PRIORITY SUB-AREA

Summary of Monthly Probable Effective Precipitation at Jhapa averaged by Thiessen Method, mm

(S)		_	T			
Yearly Remarks						
Yearly	1,434	1,299	1,236	1,197	1,150	1,098
Dec.	4.6	4.2	4.0	3.9	3.7	3.5
Nov.	9.7	8.8	8.4	8.1	7.8	7.4
Oct.	68.4	6.1.9	59.0	57.1	54.8	52.4
Sep.	243.6	220.6	210.0	203.4	195.3	186.5
Aug.	268.9	243.5	231.8	224.5	215.6	205.9
Jul.	412.3	373.4	355.5	344.3	330.6	315.8
Jun.	256.8	232.6	221.4	214.4	205.9	196.7
May	110.8	100.3	95.5	92.5	88.8	84.8
Apr.	34.0	30.8	29.4	28.4	27.3	26.1
Mar.	11.9	10.8	10.2	6.6	9.5	9.1
Feb.	7.8	7.0	6.7	6.5	6.2	6.0
Jan.	5.9	5.3	5.1	4.9	4.7	4.5
R.period	ĸ	%10	15	20	30	50

Note; **Adopted value for the evaluation of water demands

Summary of Monthly Probable Effective Precipitation at Janakpur Airport Station (1111), mm

R.period	Jan.	Feb.	Mar	Apr.	May	Jun.	Jul.	Aug.	Sep.	ö	Nov.	Dec.	Yearly	Yearly Remarks
5	6.7	6.7	1.9	18.7	47.3	93.8	220.1	144.6	110.0	35.8	1.7	١.	869	
% 10	5.8	5.9	5.8	16.3	41.2	81.5	191.3	125.7	95.7	31.2	1.4	5.3	607	
15	5.4	5.5	5.5	15.2	38.6	76.4	179.3	117.8	89.6	29.2	1.3	5.0	569	
20	5.2	5.3	5.3	14.7	37.1	73.6	172.6	113.4	86.3	28.1	1.3	4.8	548	
30	5.0	5.0	5.0	14.0	35.4	70.1	164.5	1.801	82.3	26.8	1.2	4.6	522	
20	4.7	4.8	4.8	13.3	33.7	8.99	156.7	103.0	78.4	25.5	1.2	4.3	497	

Summary of Monthly Probable Effective Precipitation at Khajura Station (0409), mm

Yearly Remarks	622	989	645	621	592	563
Dec.	7.4	6.5	6.2	5.9	5.6	5.4
Nov.	2.6	2.3	2.2	2.1	2.0	1.9
Oct.	31.7	27.9	26.2	25.3	24.1	22.9
Sep.	137.9	121.4	114.2	109.8	104.8	9.66
Aug.	174.2	153.4	144.3	138.8	132.4	125.8
Jul.	254.1	223.7	210.3	202.4	193.1	183.5
Jun.	106.1	93.4	87.8	84.5	80.6	76.6
May	27.3	24.0	22.6	21.7	20.7	19.7
Apr.	10.0	8.8	8.3	8.0	7.6	7.2
Mar.	6.2	5.5	5.1	4.9	4.7	4.5
Feb.	11.5	10.1	9.5	9.1	8.7	8.3
Jan.	10.3	9.1	8.5	8.2	7.8	7.4
R.period Jan.	3	× 10	15	20	30	50

ESTIMATION OF EFFECTIVE PRECIPITATION FOR PRIORITY SUB-AREA (JHAPA) **TABLE** 4.4.4(2)

Summary of Monthly Probable Precipitation at Jhapa averaged by Thiessen Method, mm

	,					
Yearly Remarks					·	
Yearly	2,110	1,911	1,819	1,762	1,692	1,616
Dec.	6.8	6.2	5.9	5.7	5.5	5.2
Nov.	14.3	12.9	12.3	11.9	11.4	10.9
Oct.	100.6	91.1	86.8	84.0	80.7	77.1
Sep.	358.4	324.6	309.0	299.3	287.4	274.5
Aug.	395.7	358.4	341.1	330.4	317.3	303.0
Jul.	8.909	549.6	523.1	506.7	486.6	464.7
Jun.	377.9	342.3	325.8	315.6	303.1	289.4
May	163.0	147.7	140.6	136.2	130.7	124.9
Apr.	50.1	45.4	43.2	41.8	40.2	38.4
Mar.	17.5	15.8	15.1	14.6	14.0	13.4
Feb.	11.5	10.4	9.6	9.6	9.2	8.8
Jan.	8.7	7.8	7.5	7.2	6.9	6.6
R.period	5	10	15	20	30	20

Summary of Monthly Probable Effective Precipitation at Jhapa averaged by Thiessen Method, mm

R.period	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Yearly	Yearly Remarks
ъ	5.9	7.8	11.9	34.0	110.8	256.8	412.3	268.9	243.6	68.4	9.7	4.6	1,434	
% 10	5.3	7.0	10.8	30.8	100.3	232.6	373.4	243.5	220.6	61.9	8.8	4.2	1,299	
15	5.1	6.7	10.2	29.4	95.5	221.4	355.5	231.8	210.0	59.0	8.4	4.0	1,236	
20	4.9	6.5	6.6	28.4	92.5	214.4	344.3	224.5	203.4	57.1	8.1	3.9	1,197	
30	4.7	6.2	9.5	27.3	88.8	205.9	330.6	215.6	195.3	54.8	7.8	3.7	1,150	
20	4.5	0.9	9.1	26.1	84.8	196.7	315.8	205.9	186.5	52.4	7.4	3.5	1,098	

Note; **Adopted valve for the evaluation of water demands

ESTIMATION OF EFFECTIVE PRECIPITATION FOR PRIORITY SUB-AREA (MAHOTTARI)

Summary of Monthly Probable Precipitation at Janakpur Airport Station (1111), mm

20 T	· · · · ·		1				
Yearly Remarks							•
Yearly	987	858	804	774	738	703	
Dec.	8.6	7.5	7.0	8.9	6.4	6.1	
Nov.	2.3	2.0	1.9	1.8	1.8	1.7	
Oct.	50.7	44.0	41.3	39.7	37.9	36.1	
Sep.	155.5	135.2	126.7	122.0	116.3	110.8	
Aug.	204.4	177.7	166.5	160.3	152.9	145.6	
Jul.	311.0	270.4	253.4	243.9	232.6	221.5	1
Jun.	132.6	115.3	108.0	104.0	99.1	94.4	1
May	6.99	58.2	54.5	52.5	50.0	47.7	
Apr.	26.4	23.0	21.5			18.8	_
Mar	9.5	8.3	7.7		-	6.8	
Feb	10	8.3	7.8			6.8	
Tan	.	8.2			0.2	6.7	
D monitod	n.period	10	100	2 0%	R C	50	

Summary of Monthly Probable Effective Precipitation at Janakpur Airport Station (1111), mm

R.period	.,	-			7.60	Lynn	, <u> </u>	Ang	Sep			i cec	reariy	rearly Kemarks
	Jan.	rep.	Mar	Apr.	LYLAY	e utr.	c m:	.0						
.c	6.7	6.7	6.7	18.7	47.3	93.8	220.1	144.6	110.0	35.8	1.7	6.1	869	
01 ×	5.8	5.9	5.8	16.3	41.2	81.5	191.3	125.7	95.7	31.2	1.4	5.3	509	
70	π. 4	5.5	5.5	15.2	38.6	76.4	179.3	117.8	89.6	29.2	1.3	5.0	569	
06	6 7	10	1C	14.7	37.1	73.6	172.6	113.4	86.3	28.1	1.3	4.8	548	
07	2 K	2 2	5.0	14.0		70.1		108.1	82.3	26.8	1.2	4.6	522	
50	4.7	4.8				8.99		103.0	78.4	25.5	1.2	4.3	497	

Note; **Adopted valve for the evaluation of water demands

ESTIMATION OF EFFECTIVE PRECIPITATION FOR PRIORITY SUB-AREA (BANKE-BARDIYA) TABLE 4.4.4(4)

Summary of Monthly Probable Precipitation at Khajura Station (0409), mm

	Apr.	May	Jun.	Jul.	Aug	Sep.	Oct	Nov.	Dec.	Yearly	Yearly Remarks
Ξ.	14.0	38.0	148.0	354.4	243.1	192.3	44.2	3.6	10.4	1,087	
÷	12.3	33.5	130.3	312.0	214.0	169.3	38.9	3.2	9.1	957	
11.(9.	31.5	122.5	293.5	201.2	159.3	36.6	3.0	8.6	006	
11.2	2	30.3	117.9	282.4	193.6	153.2	35.2	2.9	8.3	866	
10.6		28.9	112.4	269.3	184.7	146.2	33.6	2.8	7.9	826	
10.1	1	27.5	106.9	256.0	175.5	138.9	31.9	2.6	7.5	785	

Summary of Monthly Probable Effective Precipitation at Khajura Station (0409), mm

v. Dec. Yearly Remarks	2.6 7.4 779	2.3 6.5 686	2.2 6.2 645	2.1 5.9 621	2.0 5.6 592	1.9 5.4 563
Oct. Nov.	31.7	27.9	26.2	25.3	24.1	22.9
Sep.	137.9	121.4	114.2	109.8	104.8	9.66
Aug.	174.2	153.4	144.3	138.8	132.4	125.8
Jul.	254.1	223.7	210.3	202.4	193.1	183.5
Jun.	106.1	93.4	87.8	84.5	9.08	76.6
May	27.3	24.0	22.6	21.7	20.7	19.7
Apr.	10.0	8.8	8.3	8.0	7.6	7.2
Mar.	6.2	5.5	5.1	4.9	4.7	4 5
Feb.	11.5	10.1	9.5	9.1	8.7	8
Jan.	10.3	9.1	8.5	8.2	7.8	7.4
R.period	5	*10	15	20	30	λ.

Note; **Adopted valve for the evaluation of water demands

WATER REQUIREMENT OF MAIN PADDY (JHAPA)

MONTH MONT), ALL.), () = 1	MITH	1111	AUG	SEP	OCT)X	NOV	DEC	TOTAL	REMARKS
Free ET+*Ke	MONTH	NTOP					/	-			
ET (m.m.) 38 4.1 4.1 3.6 3.6 3.6 3.6 3.0 3.0 2.1		 / /)	(_		H.V		
ET (m.m.) 38 4.1 4.1 1.10 1.08 1.06 1.09 1.05 3.0 2.1 ET (m.m.) 3.8 4.1 4.1 1.01 1.08 1.06 1.00 0.95 0.95 2.0 ET = ET**Kc 4.2 4.5 4.4 3.8 3.8 3.6 3.4 2.9 2.0 C=ETc+P 2.0	CROPPING PATTERN	Seedling	<i>**</i> **********************************	T.P				Y	····		
KC 38 4.1 4.1 3.6 3.6 3.6 3.6 3.0 3.0 3.1 KC 1.10 1.10 1.10 1.06 1.05 1.05 1.06		••••									
Ke PT. Days 1.10 1.10 1.10 1.06 1.05 1.06 0.05 0.05 0.05 Fine = ET.*Ke 4.2 4.5 4.4 3.8 3.8 3.6 3.4 2.0 P (m.m) C=ETc + P 6.2 6.5 6.4 3.8 3.8 3.6 3.4 2.0 P (m.m) C=ETc + P 1.6 1.5 1.6 1.5 1.6 5.6 6.4 4.9 7 ET (m.m) Secondary 99.2 97.5 102.4 87.0 84.0 86.4 24.5 9.6 ET (m.m) Mc 4.1 1.1 1.0 1.05 1.0 0.05 0.05 ET (m.m) A 4.1 4.1 3.6 3.6 3.6 3.9 3.9 ET (m.m) Days 3.2 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	-		3.8				_		7.7		
KC 4.2 4.5 4.4 3.8 3.8 3.6 3.4 2.9 P 2.0			1.10		1.05	1.00					
NGC 2.0 <td>INC DIM # 17</td> <td></td> <td>4.2</td> <td></td> <td>3.8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	INC DIM # 17		4.2		3.8						
Periods 6.2 6.5 6.4 5.8 5.8 5.6 5.4 4.9 ys 16 15 16 15 16 15 16 15 16 15 16 15 16 15 16 15 16 15 16 15 16 15 16 15 16	E1c = E1. Ac		0.6	ļ	ļ						
r 16 15 16 15 15 16 15 16 15 16 15 16 15 16 24 245 26 245 24 245 24 245 36	P(m.m)		6.2	ļ	.	ļ					
yes 99.2 97.5 102.4 87.0 87.0 86.4 24.5 3.0 3.0 Kc 4.1 4.1 4.1 3.6 3.6 3.6 3.0 3.0 Kc 1.10 1.10 1.10 1.08 1.05 1.00 0.95 0.95 P 4.5 4.5 4.5 3.9 3.8 3.6 2.9 2.9 P 2.0 </td <td>C=Ele+F</td> <td></td> <td>91</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	C=Ele+F		91								
Kc 41 41 3.6 3.6 3.6 3.0 3.0 Kc 1.10 1.10 1.10 1.08 1.05 1.05 1.00 0.95 0.95 Kc 4.5 4.5 3.9 3.8 3.8 3.6 2.9 2.9 2.9 P 2.0	Days		6 66		.	ļ	·				
Kc 1.10 1.01 1.05 1.05 1.00 0.95 0.95 0.95 P 4.5 4.5 4.5 3.9 3.8 3.6 2.9 2.9 2.9 P 2.0	S t=C.Days		7.00	.∤…	ļ		_	3.0	• • • • •		
KC KC KC KC KC KC KC KC KC CETC = ET.* KC ET. (M.m.) A.5 4.5 4.5 3.8 3.8 3.8 3.8 3.8 3.8 3.8 3.8 3.8 3.8 3.8 3.8 3.8 3.0 2.0 <t< td=""><td>(2) ET. (m.m)</td><td></td><td></td><td></td><td>1.08</td><td>1.05</td><td></td><td><u> </u></td><td>•</td><td></td><td></td></t<>	(2) ET. (m.m)				1.08	1.05		<u> </u>	•		
ETC = ET.* Kc P(m.m) 2.0	Kc				3.9	ļ	_	2.9			
P(m.m) 6.5 6.5 6.5 6.9 5.8 5.8 5.8 5.8 5.9 4.9 4.9 4.9 C=ETc+P 15 16 15 16 15 16 15 5 Days St=C.Days 97.5 104.0 88.5 87.0 87.0 89.6 73.5 24.5 ET (m.m) At C.Days 4.1 3.6 3.6 3.6 3.0 2.1 ET = ET.*Kc ET = ET.*Kc 4.5 4.0 3.9 3.8 3.8 3.0 2.0 2.0 F(m.m) 6.5 6.0 2.0	ETC = ET. AC				ļ	ļ		2.0			
C=ETC+F Days 15 16 15 16 15 16 15 5 Days St=C.Days 97.5 104.0 88.5 87.0 89.6 73.5 24.5 ET.(m.m) 41 3.6 3.6 3.6 3.6 3.0 3.0 2.1 ET.(m.m) 110 1.10 1.08 1.05 1.05 1.00 0.95 0.95 ETc=ET.*Kc 4.5 4.0 3.9 3.8 3.8 3.0 2.0 2.0 P(m.m) 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 P(m.m) 6.5 6.5 6.0 5.9 5.8 5.0 4.0 1.0 Days 16.1 15 15 15 15 5 2.0 2.0 S t=C.Days 33.1 65.0 103.5 88.5 87.5 86.0 89.6 57.7 32.7 6.7 Land Preparation 75.0 </td <td>P(m.m)</td> <td></td> <td></td> <td></td> <td></td> <td>ļ</td> <td></td> <td>4.9</td> <td>•</td> <td></td> <td>-</td>	P(m.m)					ļ		4.9	•		-
Days Days Processor Processo	C=ETc+F					ļ	-	5	• • • •		
ET. (m.m) St = C.Days 3.6 3.6 3.6 3.6 3.6 3.0 3.0 2.1 KC KC 1.10 1.10 1.10 1.08 1.05 1.05 1.00 0.95 0.95 0.95 ETC = ET.* KC 4.5 4.0 3.9 3.8 3.8 3.0 2.9 2.0 2.0 P(m.m) P(m.m) C=ETc + P 6.5 6.0 5.9 5.8 5.0 4.0 4.0 7.0	Days				5	ļ	<u> </u>	24.5			
ET. (m.m.) ET. (m.m.) ET. (m.m.) 1.10 1.10 1.10 1.05 1.05 1.00 0.95 0.95 Kc ETC = ET.* Kc 4.5 4.0 3.9 3.8 3.8 3.0 2.9 2.0 ETC = ET.* Kc 2.0				.∤…	ļ	ļ		3.0	2.1		
KC KC A.5 4.5 4.0 3.9 3.8 3.8 3.9 2.9 2.0 ETc = ET.* Kc ETc = ET.* Kc 2.0 2.				1.10	1.10	1.05		. ,	0.95		
E1c = E1.7 Rc P(m.m) 2.0 <td>Ke Sm + m</td> <td></td> <td></td> <td>4.5</td> <td>4.0</td> <td></td> <td></td> <td>2.9</td> <td>2.0</td> <td></td> <td></td>	Ke Sm + m			4.5	4.0			2.9	2.0		
P (m.m) P (m.m) F (m.m) G.5 6.0 5.9 5.8 5.8 5.0 4.9 4.0 C=ETc + P 16 15 15 15 16 15 16 15 15 5 Days S t=C.Days S t=C.Days Avr = (1) + (2) + (3)/3 33.1 65.0 103.5 88.5 87.5 86.0 89.6 57.7 32.7 6.7 I and Preparation 75.0	Elle = Ell. * Nc			0.6		ļ		2.0	2.0		
C=ETc + P C=ETc + P 16 15 16 15 16 15 16 15 15 5 Days S t=C.Days S t=C.Days 104.0 90.0 88.5 87.0 92.8 75.0 73.5 20.0 Avr = (1) + (2) + (3)/3 33.1 65.0 103.5 88.5 87.5 86.0 89.6 57.7 32.7 6.7 I and Preparation 75.0 75.0 75.0 75.0 75.0 77.0	P(m.m)			i c	.			4.9	4.0		
Days Days Total T	C=ETc + P			200	. -		-	15	2		
S t=C.Days 104.0 30.0 <td>Days</td> <td></td> <td></td> <td>070,</td> <td></td> <td>ļ</td> <td>1</td> <td>73.5</td> <td>20.0</td> <td></td> <td></td>	Days			070,		ļ	1	73.5	20.0		
Avr = (1) + (2) + (3)/3 Avr = (1) + (2) + (3)/3 88.5 88.5 87.5 86.0 89.6 57.7 32.7 6.7 Land Preparation 75.0 75.0	S t=C.Days			104.0		<u>.</u>	+				
Avr = (1)+(2)+(3)/3			Foo				-	32.7	6.7	650.3	
Land Preparation	.		33.1				\perp			150.0	
6 / 82 / 82 / 6 / 6 / 6 / 6 / 6 / 6 / 6 / 6 / 6 /	(5) Land Preparation		n.c)	•••		0 0 00	5 R R77	39.7	6.7	800.3	

T.P = Transplanting E.I = End of Irrigation H.V = Harvesting NOTE:-

TABLE 4.4.5(2)

WATER REQUIREMENT OF SPRING PADDY (JHAPA)

MONTH	FEB.	MAR.	APR.	MAY	JUN.	JUL.	TOTAL	REMARKS
CROPPING PATTERN	Seedling	A.T.			E.1	> /		
(1) RT (m m)		4.3	5.5 : 5.5	5.4 : 5.4	4.4			
		1.10		1.05 0.95	0.95			
ETc = ET.* Kc		4.7	6.1 5.8	5.7 5.7	4.2			
P(m.m)		2.0	2.0 2.0	2.0 2.0	2.0			
C=ETc + P		6.7	8.1 7.8	T.T T.T	6.2	-		-
Days		16	15 15	15 16	5 :			
S t=C.Days		107.2	121.5 117.0	115.5 123.2	31.0			
(2) ET. (m.m)			5.5 5.5	5.4 5.4	4.4 4.4			
			1.10 1.10	1.05 1.05	0.95 0.95	15		
ETc = ET.* Kc			6.1 6.1	5.7 5.7	4.2 4.2			
P (m.m)			2.0 2.0	2.0 2.0	·			
C=ETc + P			8.1 8.1	L.T F.T	6.2 6.2			
Days			15 15	15 16	15 5			٠
S t=C.Days			121.5 : 121.5	115.5 123.2	93.0 31.0			
(3) ET. (m.m)			5.5	5.4 5.4	4.4 4.4			
			1.10	1.10	1.05			
ETc = ET.* Kc			6.1	5.9 5.7		_		
P (m.m)			2.0	2.0 2.0	2.0 2.0	2.0		
C=ETc + P			8.1	L'L 6'L	9	_		
Days			15	15 15				
S t=C.Days			121.5	118.5 : 123.2	99.0 : 93.0	28.0		
			••••					
(4) $Avr = (1) + (2) + (3)/3$		35.7	81.0 : 120.0	116.5 : 123.2	74.3 : 41.3	9.3	601.3	
(5) Land Preparation		75.0	75.0				150.0	
		110.7	156.0 120.0	116.5 123.2	74.3 41.3	9.3	751.3	
NOTE:- T.P = Transplanting E.I = End of Irrigation H.V = Harvesting	g P = ion ST = Avr=	Percolation Sub-Total Average	Total W.R(f)	Total W.R(f) = Total Water Requirement of Field	equirement of F	ield		

WATER REQUIREMENT OF MAIN WHEAT (JHAPA)

TABLE 4.4.5(3)

TATTACORE	DEC	JAN.	FEB		MAR.		APR.	·	TOTAL	KEMAKKS
MUNITH										·
	/								_ 410 × -	
COODDING PATTERN	/				•		/.			
	/									
	91 91	9.0 : 2.0	2.9	2.9	4.3	4.3	5.5	5.5		
(1) ET (m.m)				- 5.	0.25	0.25				
Kc		.].		3.0	-					
ETc = ET: * Kc	1.0 : 1.6	1.2 6.1	1	2						
P (m.m)	1		-	,	, ,					
7 - ETT - D	1.0 1.6	1.5 2.1	·. !	3.0		11				
Donate	15 : 16	15 16	15	13	15	16	•••			
Days		22.5 33.6	45.0	39.0	16.5	17.6		,		
S t=C.Days		ļ	2.9	2.9	4.3	4.3	5.5			
(2) ET. (m.m)	1.7			1 05	1.05	0.25	0.25			
Kc	0.43			0 %	4.5	111	1.4			
ETc = ET.*Kc	1.0	6.1		2		-]			
(m m)d		1		-	1	, ,				
	1.0	1.5 1.5	3.0	3.0	4.5		4		-	
Clarch	16	15 16	15	13	15	16	15			
Days	75.0	L	-	39.0	67.5	17.6	21.0			
S t=C.Days	0.01	.∤.	+	06	4.3	4.3	5.5	5.5		
(3) ET. (m.m)				2 40	1 05	1 05	0.25	0.25		
Kc				CO.T	1.00:	3	F	7 1		
BTc = ET.* Kc		1.0 : 1.5	2.2	3.0	4.5	4.0	-	***		
P(m.m)			_	-		,		, F		
C=ETc + P		1.0 : 1.5		3.0	4.0	C.4.	***	t u		
Dave		15 16	15	13		aT	CY CY	010		
C to Dogs		15.0 24.0	33.0	39.0	67.5	72.0	21.0	27.0		
S the Condition									0	
(1) + (3) + (3)/3	5.0 13.9	20.0 : 27.2	2 41.0	39.0	50.5	35.7	14.0	7.0	CC7	11111 C.CCZ
					••••					
(5) Land Freparation				-			•••			
Total W.R (f)		• •				,		- P 10: - 1 A		
NOTE: T.P = Transplanting	ig P ==	- Percolation	Total	Total W.R(f) =	= Total Water Requirement of Fleid	ater Keqi	uremen	or r tera		

P = Percolation ST = Sub-Total Avr = Average

T.P = Transplanting E.I = End of Irrigation H.V = Harvesting

NOTE:-

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TABLE 4.4.5(4)

WATER REQUIREMENT OF SPRING MAIZE (JHAPA)

MONTH	FEB.	M	AR.	APR.	ف.م	MAY		JUN		JUL.	TOTAL	REMARKS
CROPPING PATTERN	· · · · · · · · · · · · · · · · · · ·											
(1) ET (m.m)			4.3	5.5	5.5	5.4	5.4	4.4	4.4			
			1.0	1.0	1.05	1.05	1.05	0.95				
ETc = ET.* Kc			4.3	5.5	5.8	5.7	5.7	4.2				
P (m.m)			,		,	:,	,					
C = ETc + P			4.3	5.5	5.8	5.7	5.7	4.2		,		
Days			91	15	15	15	16	15				
S t=C.Days	-		68.8	82.5	87.0	85.5	91.2	63.0				
(2) ET. (m.m)			4.3	5.5	5.5	5.4	5.4	4.4	4.4			
Ke			1.0	1.0	1.05	1.05	1.05	0.95	0.95	•••		
ETc = ET.* Kc	*****		4.3	5.5	5.8	5.7	5.7	4.2	4.2	•••		
P (m.m)			-	,	1		-					
C=ETc + P			4.3	5.5	5.8	5.7	5.7	4.2	4.2	••••		
Days			8	15	15	15	16	15	8			
S t=C.Days			34.4	82.5	87.0	85.5	91.2	63.0	33.6			
(3) ET. (m.m)				5.5	5.5	5.4	5.4	4.4	4.4			
Ke				1.0	1.0	1.05	1.05	1.0	0.95	••••		
ETc = ET.* Kc				5.5	5.5	5.7	5.7	4.4	4.2			
P (m.m)				-		_						
C=ETc + P	•			5.5	5.5	5.7	5.7	4.4	4.2			
Days	<u> </u>			15	15	15	16	15	15	,		
S t=C.Days				82.5	82.5	85.5	91.2	66.0	63.0			
	• • • •					••••						
(4) $Avr = (1) + (2) + (3)/3$			34.4	82.5	85.5	85.5	91.2	64.0	32.2		475.3	
(5) Land Preparation			0.09								0.09	
Total W.R (f)			94.4	82.5	85.5	85.5	91.2	64.0	32.2		535.3	
t e	 ۶	מ		0) CL 211 1 - 1 - 10	0)(1	n - + - 1 W/ - 4 - m			L1-2013-			

T.P = Transplanting E.I = End of Irrigation H.V = Harvesting NOTE:-

P = Percolation ST = Sub-Total

Average Avr =

Total W.R(f) = Total Water Requirement of Field

WATER REQUIREMENT OF MAIN PADDY (MAHOTTARI)

NOTE:- T.P = Transplanting E.I = End of Irrigation H.V = Harvesting

TABLE 4.4.6(2)

WATER REQUIREMENT OF SPRING PADDY (MAHOTTARI)

MONTH		MAR.	APR.	MAY	JUN.	JUL.	TOTAL R	REMARKS
		1	5			H.V.		
CROPPING PATTERN		Seedling	T.P	*****	E.1			
(1) ET (m.m)		J	6.9 : 6.9	7.1 : 7.1	5.7 : 5.7	7		
			1.10 1.10	1.05 1.05	0.95	0.95		
ETc = ET.* Kc			7.6 ; 7.6	7.5 7.5	5.4 5	5.4		
P (m.m)			2.0 : 2.0	2.0 2.0	2.0	2.0		
C=ETc + P			9.6 9.6	9.5 9.5	7.4 7.4	4		
Days			15 15	15 16	15 5			
S t=C.Days			144.0 : 144.0	142.5 152.0	111.0	37.0		
(2) ET. (m.m)			6.9 : 6.9	7.1 7.1	5.7 5.7	7		
٠.			1.10 1.10	1.05 1.05	0.95	0.95		
ETc = ET.*Kc			9.7 3.6	7.5 7.5	5.4 : 5.4	4		
P (m.m)			2.0 2.0	2.0 2.0	2.0 : 2.0	0		
C=ETe + P			9.6 ; 9.6	9.5	7.4	4		
Days		•••	8 15	15 16	15 : 13			
S t=C.Days			76.8 : 144.0	142.5 152.0	111.0 : 96.2	2		
(3) ET. (m.m)			6.9	7.1 7.1	5.7 5.7	7 5.3		
Kc			1.10	1.10: 1.05	1.05	10		
ETc = ET.* Kc			9.7	7.8 7.5	6.0 5.4	5.0		
P (m.m)	-		2.0	2.0 2.0	2.0 2.0	0 2.0		
C=ETc + P			9.6	9.8 9.5	0			
Days			15	15 16	15 : 15	5		
S t=C.Days			144.0	147.0 152.0	120.0 : 111.0	0 35.0		
					-•••			
(4) $Avr = (1) + (2) + (3)/3$		••••	73.6 : 144.0	144.0 : 152.0	114.0 : 81.4	4 11.7	720.7	
(5) Land Preparation			75.0 75.0	•			150.0	
Total W.R (f)			148.6 : 219.0	144.0 : 152.0	114.0 81.4	4 11.7	870.7	
				,	•	;		

NOTE.- T.P = Transplanting
E.I = End of Irrigation
H.V = Harvesting

P = Percolation Total W ST = Sub-Total Avr = Average

Total W.R(f) = Total Water Requirement of Field

TABLE 4.4.6(3)

WATER REQUIREMENT OF MAIN WHEAT (MAHOTTARI)

					-				-						1
HUNOM		DEC.		JAN.		FEB.		MAR.		APR.				TOTAL	REMARKS
TWO TATE															
		/													
CROPPING PATTERN		/								<i>[</i>			<u></u>		
			7								1	•			
(1) E(T) (m m)		2.3	2.3	2.1	2.1	2.9	2.9	4.9	4.9	6.9	6.9				
		0.49	0.77	0.77	1.05	1.05	1.05	0.25	0.25	•••					
DW. — DM * K.			1.8	1.6	2.2	3.0	3.0	1.2	1.2	,					
pre- pr. nc				,	,		-	,	,			•••			
r (m.m)		-	× ×	18	2.2	3.0	3.0	1.2	1.2						
C=Elc+r		i i	7 .		9	XC	13	15	16						
Days		207	000	0 /6	35.9	45.0	39.0	18.0	19.2						
		10.01	0.00	0.1.0	7.0	6 6	2.9	4.9	4.9	6.9					
(2) ET. (m.m)			6.9	1 6	1 0	i -	1 05	1 05	0.25	0.25:					
Kc			0.49	0.77	2.7	CO.T	3	3	27 6			.			
ETc = ET. * Kc		,	1.1	1.6	1.6	4.4	4.4	5.1	1.2	7.1	+		+		
			-		1		1		,	-			1		
O + P.T.			111	1.6	1.6	4.4	4.4	5.1	1.2	1.7			+		
			16	15	16	15	13	15	16	15					
Days			17.6	0 76	25.6	0.99	57.2	76.5	19.2	25.5					
			0.5	2.1.0	2.5	2.6	2.9	4.9	4.9	6.9	6.9				
(3) ET. (m.m)				0 49	0.77	0.77	1.05	1.05	1.05	0.25	0.25				
Kc						0.0	3.0	7.	5.1	1.7	1.7				
ETc = ET.* Kc	1			2.	2	7.7				,					
P (m.m)						1. 0		- -	۲ ۲	7	17		-		
C=ETc + P		••••		1.0	1.6	2.7	3.0	1.C	7.0						
Davs		••••		15	16	15	22	27	٤	CT 2	2 2				
S t=C.Days				15.0	25.6	33.0	39.0	76.5	81.6	55.5	c.c2				
		*		••••							,			996 4 2020	
(4) $Avr = (1) + (2) + (3)/3$	J.	5.5	15.5	21.0	28.8	48.0	45.1	57.0	40.0	17.0	ς.χ 2			7007	
Total W.R (f)						***				``			-		
NOTE. T.P = Transplanting	splanting		e e	Percolation	tion	Total	Total W.R(f)	= Total V	Vater Re	= Total Water Requirement of Field	t of Field	_			

T.P = Transplanting E.I = End of Irrigation H.V = Harvesting NOTE:-

Percolation Sub-Total P = ST = Avr =

Average

TABLE 4.4.7(1)

WATER REQUIREMENT OF MAIN PADDY (BANKE)

L REMARKS												-												0	0	0
TOTAL																								685.0	150.0	835.0
DEC	H.V	1.8								••••			••••	••••		1.8	0.95	1.7	2.0	3.7	5	18.5		6.2		6.2
NOV	E.I	2.6 : 2.6	0.95	2.5	2.0	4.5		22.5	2.6 2.6	0.95 0.95	2.5 2.5	2.0 2.0	4.5 4.5	2	67.5 : 22.5	2.6 : 2.6	1.00 0.95	2.6 2.5	2.0 2.0	4.6 4.5	15	.0 67.5		0.08 : 0.		0.08 : 0.
		3.8	0.95	3.6	2.0 2	5.6 4	16 5	89.6 22	3.8	1.00	3.8	2.0 2	5.8 4	16 15	92.8 67	3.8 2	1.05	4.0 2	2.0 2	6.0 4	16 15	0.69 0.96		92.8 53.0	٠٠.	92.8 53.0
OCT		3.8	1.00	3.8	2.0	5.8	15	87.0	3.8	1.05	4.0	2.0	6.0	15	90.0	3.8	1.05	4.0	2.0	6.0	15	90.0		89.0		89.0
SEP		4.1 4.1	1.05 1.05	4.3 4.3	2.0 2.0	6.3 6.3	15	5 94.5	4.1 4.1	1.08 1.05	4.4 4.3	2.0 : 2.0	6.4 6.3	15	0 94.5	1 4.1	1.10 1.08	4.5 4.4	0 2.0	6.5 6.4	. 15	5 : 96.0		0 : 95.0		0 : 95.0
		4.6 4	1.08	5.0 4	2.0 2	7.0 6	16 15	112.0 94.5	4.6 4	1.10	5.1 4		7.1 6	16 15	113.6 96.0	4.6 4.1	1.10	5.1 4	2.0 2.0	7.1 6	16 15	113.6 97.5		113.1 96.0		113.1 96.0
AUG	T.P	4.6	1.10	5.1	2.0	7.1	15	106.5	4.6	1.10	5.1	2.0	7.1	15	106.5							1	••••		75.0	146.0 1
nnr	7	: 4.8	1.10	5.3	2.0	7.3	16	116.8																38.9	75.0	113.9
	Ş pin																									
NOC	Seedling																						••••			
MONTH	CROPPING PATTERN	(1) ET (m.m)	Kc	ETc = ET.* Kc	P (m.m)	C=ETc + P	Days	S t=C.Days	(2) ET. (m.m)	٠.	ETc = ET.* Kc	P (m.m)	C=ETc + P	Days	S t=C.Days	(3) ET. (m.m)	Kc	ETc = ET.* Kc	P (m.m)	C=ETc + P	Days	S t=C.Days		Avr = $(1) + (2) + (3)/3$	Land Preparation	Total W.R (f)

NOTE:- T.P = Transplanting
E.I = End of Irrigation
H.V = Harvesting

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TABLE 4.4.7(2)

WATER REQUIREMENT OF MAIN WHEAT (BANKE)

				4435	day		TOTAL	REMARKS
MONTH	DEC.	JAN.	FEB.	MAR.	174.7		,	
CROPPING PATTERN	/		*****	1000	/			
			700 . 70	49: 43	64:	6.4		
(1) ET (m.m)	1.8 : 1.8		2. (4.0				
	0.49; 0.77	0.77 1.05	1.05	67.0	 			
жте = кт * Кс	0.9 1.4	1.4 1.9	2.8 2.8	1.1				
D(m m)	1	1	1					
0 + 30.4 - C	0.9 1.4	1.4 1.9	2.8 : 2.8	1.1 1.1				
Design Transfer of the second		15 16	15 13					
Days		21.0 30.4	42.0 36.4	16.5 17.6	_			
		1.8 1.8	2.7 2.7	4.3 4.3			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
(2) E1. (III.III.)	0.49	0.77	7 1.05 1.05	1.05	0.25 0.25	•••		
NC TAN TAN # 17.	60		2.8 2.8	4.5	1.6			
FIG = B1. INC		,		ı ı	1			
	60	1.4	2.8 2.8	4.5 1.1	1.6			
C=EIc+r	200		15 : 13	15 16	15			
Days	14.4		_	67.5 17.6	6 24.0			
	***		ļ	4.3 4.3	_	6.4		
(3) ET. (m.m)			0.77	1.05	1.05 0.25	0.25		
Kc					5 1.6	1.6		
ETc = ET.*Kc		1.4			-	1		
P (m.m)				7.7	16	1.6		
C=ETc + P		ارد		.	-	15		
Days			cı		\downarrow	0.76		
S t=C.Days		13.5 22.4	31.5 35.4	67.9	-	>		
				.	4		945.5 mm	mm
(4) Avr = $(1) + (2) + (3)/3$	4.5 12.3	18.5 25.1	38.5 36.4	50.5 35.7	7.01	0.0		
								-
	. 0	- Dercolation	Total W.R(f)	T_{ota} W.R(f) = Total Water Requirement of Field	r Requireme	nt of Field	-	

P = ST = Avr = T.P = Transplanting E.I = End of Irrigation H.V = Harvesting

= Percolation | Sub-Total | Average

NOTE:-

TABLE 4.4.7(3)

WATER REQUIREMENT OF SPRING MAIZE (BANKE)

6.4					
6.4 7.3					
6.4 7.3					
	6.4 6.4 7.3	6.4 7.3	6.4 6.4 7.3	6.4 6.4 7.3	6.4 6.4 7.3
1.05 1.05	1.0 1.05 1.05	1.0 1.05 1.05	1.0 1.05 1.05	1.0 1.05 1.05	1.0 1.05 1.05
6.4 6.7 7.7 7.7	6.7 7.7	6.4 6.7 7.7	6.4 6.7 7.7	6.4 6.7 7.7	6.4 6.7 7.7
	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
15 15 1	15 15 15 16 1	15 15 15 16 1	15 15 15 16 1	15 15 15 16 1	15 15 15 16 1
96.0 100.5 115.5 123.2 91.5	100.5 115.5 123.2	96.0 100.5 115.5 123.2	96.0 100.5 115.5 123.2	96.0 100.5 115.5 123.2	96.0 100.5 115.5 123.2
	6.4 7.3 7.3	6.4 6.4 7.3 7.3	6.4 6.4 7.3 7.3	6.4 6.4 7.3 7.3	6.4 6.4 7.3 7.3
1.0 1.05 1.05 0.95	1.05 1.05 1.05	1.0 1.05 1.05 1.05	1.0 1.05 1.05 1.05	1.0 1.05 1.05 1.05	1.0 1.05 1.05 1.05
6.4 6.7 7.7 7.7	6.7 7.7	6.4 6.7 7.7	6.4 6.7 7.7	6.4 6.7 7.7	6.4 6.7 7.7
1		1	1	1	1
4 6.7 7.7 7.7	4 6.7 7.7 7.7	6.4 6.7 7.7 7.7	6.4 6.7 7.7 7.7	6.4 6.7 7.7 7.7	6.4 6.7 7.7 7.7
• • • • • • • • • • • • • • • • • • • •	15 15 15 16 06 0 100 K 115 K 193 9	15 15 15 16 06 0 100 K 115 K 193 9	15 15 15 16 06 0 100 K 115 K 193 9	15 15 15 16 06 0 100 K 115 K 193 9	15 15 15 16 06 0 100 K 115 K 193 9
6.4 7.3 7.3	6.4 6.4 7.3	6.4 6.4 7.3	6.4 6.4 7.3	6.4 6.4 7.3	6.4 6.4 7.3
1.0 1.05 1.05	1.0 1.05 1.05	1.0 1.05 1.05	1.0 1.05 1.05	1.0 1.05 1.05	
6.4 7.7 7.7	6.4 7.7 7.7	6.4 7.7 7.7			1.0 1.05: 1.05
1.1	#:0		77 : 77	64 77 77	1.0 1.05 1.05
•	•••		6.4 7.7 7.7	6.4 7.7 7.7	1.0 1.05 1.05 6.4 7.7 7.7
	•••		6.4 7.7	6.4 7.7	1.0 1.05 6.4 7.7
6.4 7.7	6.4 7.7	6.4 7.7			1.0 1.05
6.7 6.7 100.5 6.4 6.4 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7	6.4 6.7 6.4 6.7 15 15 96.0 100.5 6.4 6.4 1.0 1.05 6.4 6.7 6.4 6.7 15 15 96.0 100.5 6.4 6.7 16 1.0	3 6.4 6.7 15 15 15 16 6.4 6.7 17 10.5 18 96.0 100.5 19 6.4 6.7 10 10.5 10 1.0 10 1.0	3 6.4 6.7 3 6.4 6.7 15 15 16 100.5 3 6.4 6.4 10 1.05 3 6.4 6.7 	3 6.4 6.7 15 15 16 6.4 6.7 18 6.4 6.4 10 1.05 10 1.0	3 6.4 6.7 15 15 16 6.4 6.7 18 96.0 100.5 19 6.4 6.4 10 1.05 10 1.05
1.0 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4 6.4		8 8 8 8 8 8 8	8, 8, 8, 8, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7,	8 8 8 8 4	8 8 8 8 8
	4.3 1.0 1.0 1.0 1.0 1.0 4.3 4.3 4.3 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	4.3 4.3 4.3 1.0 1.0 1.0 4.3 8 8 8 8 8 8 8 8	4.3 1.0 1.0 1.0 68.8 68.8 68.8 4.3 4.3 4.3 8 8 8	4.3 4.3 4.3 1.0 1.0 4.3 4.3 8.8 8.8 8.8	4.3 1.0 1.6 68.8 68.8 68.8 64.3 7.0 1.0 1.0 8.8

NOTE:- T.P = Transplanting
E.I = End of Irrigation
H.V = Harvesting

P = Percolation ST = Sub-Total Avr= Average

al

Name of Project; JHAPA Remarks DEC 1.6 0.5 2.1 OCT NOV CALCULATION OF WATER REQUIREMENT BY MODIFIED PENMAN METHOD 2.2 8.0 3.0 2.9 0.7 3.6 SEP 3.1 0.5 3.6 AUG 9.0 ည က 4.1 JUL 0.5 3. 8 က က NDC ა დ 9.0 4.4 APR MAY 4.3 5.4 1.1 No. 1421) 1.5 5.5 4.0 MAR 3.0 1.3 4.3 Name; Kankai FEB 2.9 2.2 0.7 JAN 1.6 0.4 2.0 $\text{(1-w)} \cdot f(u) \cdot (\text{ed-ed}) \text{ } \text{\textcircled{2}}$ Month (Station; $\mathbf{ETo} = \mathbb{O} + \mathbb{O}$ W .Rn $(\mathbb{D}$ **TABLE** 4.4.8(1) Items No. 10 0 က 4 ιO 9 ∞ o,

CALCULATION OF WATER REQUIREMENT BY MODIFIED PENMAN METHOD **TABLE** 4.4.8(2)

ABL	ABLE 4.4.8(2) (Station;	Name; Kankai	ne; Kanka		No. 1421)	•					Ż	ame of]	Project;	Name of Project; JHAPA
No.	Month	JAN	FEB	MAR	APR	MAY	NUL	JUL	AUG	SEP	OCT	NOV	DEC	Remarks
-	Monthly Mean Temperature	15.4	18.2	22.9	26.6	27.1	28.1	27.3	27.9	27.1	25.8	22.1	17.6	
2	f(t)	13.7	14.2	15.2	16.0	16.1	16.3	16.1	16.3	16.1	15.9	15.0	14.2	·
	(pa)	14.5	16.1	18.4	23.0	26.9	31.9	32.0	31.6	30.5	25.6	18.9	15.5	
က	f (ed)	0.17	0.16	0.15	0.13	0.11	0.09	0.09	0.09	0.10	0.12	0.15	0.17	
	N/u	0.67	0.62	0.65	0.65	0.61	0.39	0.27	0.42	0.40	0.58	0.69	0.61	
4	f(n/N)	0.71	0.65	0.69	69.0	0.64	0.46	0.33	0.48	0.46	0.62	0.73	0.64	
тo	$Rnl = f(t)f(ed) \cdot f(n/N)$ $5 = 2 \times 3 \times 4$	1.8	1.5	1.7	1.5	1.2	0.7	0.5	0.8	0.7	1.2	1.6	1.5	
9	Rns	4.4	4.8	5.9	6.7	6.9	5.6	4.9	5.4	4.8	5.0	4.7	3.9	.]
7	Rn=Rns-Rnl 7=6-5	2.6	3.3	4.2	5.2	5.7	4.9	4.4	4.6	4.1	3.8	3.1	2.4	
∞	M	0.62	99.0	0.72	0.76	0.76	0.77	0.76	0.77	0.76	0.75	0.71	99.0	
6	W.Rn	1.6	2.2	3.0	4.0	4.3	3.8	3.3	3.5	3.1	2.9	2.2	1.6	
10					: .						.·			

D PENMAN METHOD	ATAMA of Duniont THADA	INSUITE OF TOJECO, OTTENT
CALCIII ATION OF WATER REQUIREMENT BY MODIFIED PENMAN MEI HOU		101 on 30
CALCLEATION		Mr. Tomboi
(6/0 * * L	ABLE 4.4.0(3)	ζ

, T	Si					шΤ								
Name of Froject, ottor of	Remarks	(°C)		(%)		ea×R.H	·			·				
roject,	DEC	17.6		77	20.1	15.5	4.6	1.4	34.0	0.34	0.66	0.34	0.5	
no aume	NOV	22.1		7.1	26.6	18.9	7.7	1.3	31.0	0.35	0.71	0.29	0.8	
ž	OCT	25.8		7.7	33.2	25.6	7.6	1.6	38.0	0.37	0.75	0.26	0.7	
	SEP	27.1		85	35.9	30.5	5.4	2.3	55.0	0.42	0.76	0.24	0.5	
	AUG	27.9		84	37.6	31.6	6.0	2.6	62.0	0.43	0.77	0.23	9.0	
	TOF	27.3		88	36.3	32.0	4.3	3.2	77.0	0.45	0.76	0.24	0.5	0.
	NOS	28.1		84	38.0	31.9	6.1	3.0	72.0	0.46	0.77	0.23	9.0	C = 1.0
	MAY	27.1		75	35.9	26.9	9.0	3.3	79.2	0.49	0.76	0.24	1:1	-ed)]
(21)	APR	26.6		99	34.9	23.0	11.9	4.2	101.0	0.54	0.76	0.24	1.5	$(1-W) \cdot f(u) \cdot (ea-ed)$
No. 1421)	MAR	22.9		99	27.9	18.4	9.5	3.4	82.0	0.49	0.72	0.28	1.3	1-W)·f
ankai	FEB	18.2		7.2	20.8	16.1	4.7	9.5	60.09	0.43	99.0	0.34	0.7	1 .
Name; Kankai	JAN	15.4		83	17.5	14.5	3.0	ot T	43.2	0.38	0.62	0.38	0.4	=C·[W
(Station; Na	Month	Monthly	Temperature	Monthly Relative Humidity	ea (mbar)	ed (mbar)	(ea-ed)	(19011)	W.V (Rm/24)	f(u)	Μ	(1-W)	(1-W)	Basic Formular; ETo = C · [W.Rn +
	No.	,	7	2	က	4	က		. 6		∞ ∞	6.	10	B

TABLE 4.4.8(4)

CALCULATION OF WATER REQUIREMENT BY MODIFIED PENMAN METHOD Name; Kankai No. 1421) (Station;

	Ì	(Station:	Name	Name: Kankai)	No. 1421)	, ,	\ !. !) ; ;	 - -			Name o	if Proje	Name of Project; JHAPA
														,[
	No.	Month Items	JAN	FEB	MAR	APR	MAY	NOS	INF	AUG	SEP	OCT	NOV	DEC	Remarks
	, , , ,	Ra(mm/day)	9.8	11.5	13.7	15.3	16.4	16.7	16.6	15.7	14.3	12.3	10.3	9.3	N=26°30′
	2	Sunshin hrs (n)	6.5	7.0	7.8	8.2	8.1	5.4	3.7	5.5	4.9	6.7	7.5	6.5	Measurement data
<u> </u>	က	Z	9.7	11.3	12.0	12.7	13.3	13.7	13.5	13.0	12.3	11.6	10.9	10.6	
	4	N/u	0.67	0.62	0.65	0.65	0.61	0.39	0.27	0.42	0.40	0.58	0.69	0.61	
	10	(0.25+0.5n/N)	0.59	0.56	0.58	0.58	0.56	0.45	0.39	0.46	0.45	0.54	09.0	0.56	
	9	Rs=Ra(0.25+0.5n/N)	5.8	6.4	7.9	8.9	9.2	7.5	6.5	7.2	6.4	9.9	6.2	5.2	m.m/day
	7	Rns=Rs×0.75	4.4	4.8	5.9	6.7	6.9	5.6	4.9	5.4	4.8	5.0	4.7	3.9	
<u> </u>	8														
L,	6														
	10														

DEC Remarks Name of Project; MAHOTTARI 0.5 2.3 1.8 NOV CALCULATION OF WATER REQUIREMENT BY MODIFIED PENMAN METHOD 0.5 2.7 2.2 OCT 9.0 3.9 ಕು ಕು SEP 4.3 3.6 0.7 AUG 5.0 6.0 4.1 JUL 5.3 4.4 6.0 NDC 1.6 5.7 4.1 MAY 7.1 5.0 2.1 JA = Janakpur Airport APR 2.5 6.9 4.4 Name; JA No.1111) MAR 1.5 4.9 3.4 FEB 9.0 2.9 2.3 JAN 0.4 2.1 1.7 $(1\text{-}W)f(u)\cdot(ea\text{-}ed)\, \textcircled{2}$ J. A = Janakpure (Station; Month $\mathbf{ETo} = (1) + (2)$ $(\mathbf{mm/day})$ W.Rn **TABLE** 4.4.9(1) Items Ŝ. ~ က

CALCULATION OF WATER REQUIREMENT BY MODIFIED PENMAN METHOD **TABLE** 4.4.9(2)

•	(Station;	Nam	Name; JA	No.1111)	(11)	•				Ä	ame of]	Project;	MAH	Name of Project; MAHOTTARI
No.	Month Items	JAN	FEB	MAR	APR	MAY	NOF	JUL	AUG	SEP	OCT	NOV	DEC	Remarks
-	Monthly Mean Temperaturl	15.4	17.4	22.7	27.6	28.8	29.7	28.5	28.9	27.7	26.7	21.3	17.5	
27	f(T)	13.6	14.0	15.2	16.0	16.5	16.7	16.5	16.5	16.2	16.1	14.8	14.1	
	ed	15.1	16.4	18.8	23.9	29.6	34.8	34.3	34.9	32.4	29.5	20.8	17.0	
က	(pe) J	0.17	0.16	0.14	0.12	0.10	0.08	0.08	0.08	0.09	0.11	0.14	0.15	-
	N/(n)	0.72	0.77	0.75	0.75	0.74	0.46	0.50	0.54	0.55	0.73	0.77	0.80	
4	f (n/N)	0.73	0.79	0.78	0.78	0.78	0.51	0.55	09.0	0.60	0.73	0.79	0.82	
70	$Rnl = f(t) \cdot f(ed) \cdot f(n/N)$	1.7	1.8	1.7	1.5	1.3	0.7	0.7	0.8	0.9	1.3	1.4	1.7	
9	Rns	4.4	5.4	6.4	7.2	7.7	6.0	6.3	6.1	5.6	5.7	4.8	4.4	
7	Rn=Rns-Rnl	2.7	3.6	4.7	5.7	6.4	5.3	5.6	5.3	4.7	4.4	3.2	2.7	
∞	M	0.62	0.65	0.72	0.77	82.0	0.78	0.78	0.78	0.77	0.76	0.69	0.65	
6	W·Rn	1.7	2.3	3.4	4.4	5.0	4.1	4.4	4.1	3.6	3.3	2.2	1.8	
10					·		· ·							

JA; Janakpur Airport

D PENMAN METHOD	Name of Project; MAHOTTARI
CALCIII ATION OF WATER REQUIREMENT BY MODIFIED PENMAN METHOD	A NA 1111)
CALCIII	100000 ·
	ABLE 4.4.9(3)

	(Station;		Name; JA	No.1111)	[1]							`		
No.	Month	JAN	FEB	MAR	APR	MAY	NDC	JUL	AUG	SEP	OCT	NOV	DEC	Remarks
-	Monthly Temperature	15.4	17.4	22.7	27.6	28.8	29.7	28.5	28.9	27.7	26.7	21.3	17.5	(0,0)
63	Monthly Relative Humidity	98	82	69	65	74	82	88	87	88	85	83	85	(%)
က	ea(mber)	17.6	20.0	27.3	36.8	40.0	42.4	39.0	40.1	36.8	34.7	25.0	20.0	
4	ed (mbar)	15.1	16.4	18.8	23.9	29.6	34.8	34.3	34.9	32.4	29.5	20.8	17.0	еа×к.н
. ro	(ea-ed) (mbar)	2.5	3.6	8.5	12.9	10.4	7.6	4.7	5.2	4.4	5.2	4.2	3.0	
	(km/hr)	2.8	3.7	5.4	8.9	9.8	10.2	8.6	8.2	6.4	3.4	2.8	2.5	
9	W.V (km/24)	67.2	88.8	129.6	213.6	235.2	244.8	235.2	196.8	153.6	81.6	67.2	0.09	
2	f(u)	0.45	0.51	0.62	0.85	0.91	0.93	0.91	0.80	0.68	0.49	0.45	0.43	·
00	W	0.62	0.65	0.72	0.77	0.78	0.78	0.78	0.78	0.77	92.0	0.69	0.65	
<u></u>	(1-W)	0.38	0.35	0.28	0.23	0.22	0.22	0.22	0.22	0.23	0.24	0.31	0.35	
10	$(1-W)\cdot f(u)\cdot (ea-ed)$ $10=5\times 7\times 9$	0.4	9.0	1.5	2.5	2.1	1.6	6.0	6.0	0.7	9.0	0.5	0.5	
	Basic Formular; ETo = C[W.Rn	To = C		+(1-W)	$+(1-W)\cdot f(u)\cdot (ea-ed)]$	ea-ed)]	Ö	C=1.0	r	JA; Janakpur Airport	ıakpur	Airport		

CALCULATION OF WATER REQUIREMENT BY MODIFIED PENMAN METHOD **TABLE** 4.4.9(4)

	(Station;	Nam	Name; JA	No.1111)	11)	, ,				Ñ	ame of 1	Project;	MAH(Name of Project; MAHOTTARI
No.	Month Items	JAN	FEB	MAR	APR	MAY	NDr	TOF	AUG	SEP	LOO	NOV	DEC	Remarks
+4	Ra	9.6	11.3	13.6	15.3	16.5	16.8	16.7	15.7	14.2	12.2	10.1	9.1	$(N = 27^{\circ})$
23	Sunshine Hrs Data (n)	9.7	8.6	9.0	9.6	10.0	6.4	6.9	7.1	6.8	8.5	8.3	8.3	
က	N	10.6	11.2	12.0	12.8	13.5	13.9	13.7	13.1	12.4	11.6	10.8	10.4	$(N = 27^{\circ})$
4	N/(u)	0.72	0.77	0.75	0.75	0.74	0.46	0.50	0.54	0.55	0.73	0.77	08.0	
ıO	0.25 + 0.5 (n)/N	0.61	0.64	0.63	0.63	0.62	0.48	0.50	0.52	0.53	0.62	0.64	0.65	:
9	Rs = Ra(0.25 + 0.5(n)/N)	5.8	7.2	8.6	9.6	10.2	8.1	8.4	8.2	7.5	9.7	6.5	5.9	
7	$ m Rns = Rs \times 0.75$	4.4	5.4	6.4	7.2	7.7	6.0	6.3	6.1	5.6	5.7	4.8	4.4	
∞													·	
6			·											
10			.:											

JA; Janakpur Airport

TABLE 4.4.10(1)

CALCULATION OF WATER REQUIREMENT BY MODIFIED PENMAN METHOD

No. 1 3 8	(Station; Month Tems W.Rn ① (1-W).f(u).(ea-ed)②	Name; JAN F 1.5	Kh. EB 2.2 2.2 0.5	Khajura 3B MAR 2 3.0 5 1.3	No. 0409) APR MAN 3.9 4.6 2.5 2.7	No. 0409) APR MAY JUN 3.9 4.6 4.6 2.5 2.7 1.8		JUL AUG 3.9 3.9 0.9 0.7		SEP 3.5 0.6	Name OCT NOV 3.2 2.1 0.6 0.5	2.1 0.5	DEC 1.4 0.4	Name of Project; BANKE NOV DEC Remarks 2.1 1.4 0.5 0.4
	$\mathbf{ETo} = \mathbb{Q} + \mathbb{Z}$ $(\mathbf{m} \cdot \mathbf{m}/\mathbf{day})$	1.8	2.7	4.3	6.4	7.3	6.4	4.8	4.6	4.1	3.8	2.6	1.8	
1				٠.										
21														

TABLE 4.4.10(2)

CALCULATION OF WATER REQUIREMENT BY MODIFIED PENMAN METHOD

NKE	Remarks	(°C)		 									
Name of Project; BANKE	DEC R	16.0	13.8	15.7	0.17	0.68	0.71	1.7	3.9	2.2	0.64	1.4	
ne of Pro	NOV	20.3	14.7	19.4	0.15	0.79	0.81	1.8	4.8	3.0	0.69	2.1	
Nau	OCT	25.2	15.7	26.6	0.11	0.73	0.76	1.3	5.6	4.3	0.74	3.2	
	SEP	27.9	16.3	32.3	0.09	0.52	0.57	0.8	5.4	4.6	0.77	3.5	
	AUG	29.2	16.5	34.5	0.08	0.46	0.51	0.7	5.7	5.0	0.78	3.9	
	lur	29.3	16.6	34.3	0.08	0.39	0.45	9.0	5.6	5.0	0.78	3.9	
	JUN	30.6	16.9	31.6	0.09	99.0	0.60	6.0	6.7	5.8	0.79	4.6	
No. 0409)	MAY	30.1	16.8	24.8	0.12	0.71	0.74	1.5	7.4	5.9	0.78	4.6	
No.	APR	27.4	16.2	19.3	0.15	0.70	0.73	1.8	6.9	5.1	92.0	3.9	
hajura	MAR	21.3	14.9	17.3	0.16	0.72	0.75	1.8	6.1	4.3	0.70	3.0	
Name; K	FEB	16.5	13.9	15.6	0.17	0.74	0.77	1.8	5.2	3.4	0.64	2.2	
	JAN	14.3	13.5	14.4	0.17	69.0	0.72	1.7	4.2	2.5	0.61	1.5	
(Station;	Month Items	Monthly Mean Temperature	f(T)	ed	f(ed)	n/N	f(n/N)	$\operatorname{Rn}\ell = \operatorname{f}(\operatorname{T}) \cdot \operatorname{f}(\operatorname{ed}) \cdot \operatorname{f}(\operatorname{n}/\operatorname{N})$	Rns	$Rn = Rns - Rn\ell$	W	$W \times Rn$	
	No.	н	63	2.5	က		4	5	9	7	8	6	10

CALCULATION OF WATER REQUIREMENT BY MODIFIED PENMAN METHOD

(Station;

Name; Khajura No. 0409)

Name of Project; BANKE

	(DIAMOII)		radisc, reading	2										
No.	Month	JAN	FEB	MAR	APR	MAY	NOL	JUL	AUG	SEP	OCT	NOV	DEC	Remarks
	Monthly Temperature	14.3	16.5	21.3	27.4	30.1	30.6	29.3	29.5	27.9	25.2	20.3	16.0	(0,0)
5	Monthly Relative Humidity	88	83	68	53	58	72	84	85	86	83	81	98	(%)
က	ea (mbar)	16.4	18.8	25.4	36.5	42.7	43.9	40.8	40.6	37.6	32.1	23.9	18.2	
4	ed (mbar)	14.4	15.6	17.3	19.3	24.8	31.6	34.3	34.5	32.3	26.6	19.4	15.7	ea×R.H
ىء	(ea - ed) (mbar)	2.0	3.2	8.1	17.2	17.9	12.3	6.5	6.1	5.3	5.5	4.5	2.5	
	(km/hr)	1.8	3.1	3.9	5.3	6.5	9.9	5.3	4.2	3.2	2.0	1.6	1.9	1 1
9	W.V (km/24)	43.2	74.4	93.6	127.2	156.0	158.4	127.2	100.8	76.8	48.0	38.4	45.6	
-	f(u)	0.39	0.47	0.52	0.61	0.69	0.70	0.61	0.54	0.48	0.40	0.38	0.40	
	W	0.61	0.64	0.70	0.76	0.78	0.79	0.78	0.78	0.77	0.74	0.69	0.64	
6	(1-W)	0.39	0.36	0.30	0.24	0.22	0.21	0.22	0.22	0.23	0.26	0.31	0.36	
10	$\begin{array}{c} (1-W) \cdot f(u) \cdot (\text{ea-ed}) \\ 10 = 5 \times 7 \times 9 \end{array}$	0.3	0.5	1.3	2.5	2.7	1.8	6.0	0.7	9.0	9.0	0.5	0.4	
	Rasic Formular: ETc	ETo = C [W · Ru +)J · (M - 1	$(1-W)\cdot f(u)\cdot (ea-ed)]$	(þ:	C ≡ 3	1.0						

 $Basic\ Formular; \quad ETo = C\left[W\cdot Ru + (1\cdot W)\cdot f(u)\cdot (ea-ed)\right]$

TABLE 4 4 10(4)

CALCULATION OF WATER REQUIREMENT BY MODIFIED PENMAN METHOD

(Station;	Name;		Khajure	No. (No. 0409)					A	ame of	Projec	Name of Project; BANKE
No. Items	JAN	FEB	MAR	APR	MAY	NOC	JUL	AUG	SEP	OCT	NOV	DEC	Remarks
1 Ra	9.3	11.1	13.4	15.3	16.5	16.8	16.7	15.7	14.1	12.0	9.9	8.8	(N=28°)
Sunshine Hrs. Data (n)	7.3	8.3	8.4	8.9	9.4	9.8	5.4	5.9	6.7	8.6	8.4	7.2	
3 N	10.6	11.2	12.0	12.8	13.5	13.9	13.7	13.1	12.4	11.6	10.8	10.4	$(N = 28^{\circ})$
4 (n)/N	0.69	0.74	0.70	0.70	0.70	92.0	0.39	0.45	0.54	0.74	0.78	0.69	
5 $0.25 + 0.5 (\text{n})/\text{N}$	09.0	0.62	09.0	09:0	09.0	0.53	0.45	0.48	0.52	0.62	0.64	09.0	
6 Rs = Ra $(0.25 + 0.5(n)/N)$	5.58	6.88	8.04	9.18	9.90	8.90	7.52	7.54	7.33	7.44	6.34	5.28	
7 Rns = Rs \times 0.75	4.19	5.16	6.03	68.9	7.43	6.68	5.64	5.66	5.50	5.58	4.76	3.96	
80													
6													
10											·		

4.4.3. Disbursement schedule

TABLE 4.4.11(1)

No. of D. T.W ; 113
Project Area ; 1,700 (ha)
Unit : 1,000 NRs

GILL SOLIEGUALE
JHAPA DISTRICT PRIORITY SUB-AREA
Proposed Disbursement Schedule

A Well Development 24,747 146 B Pump Station 121,588 326			160	1	2 Year		3 Year		4 Year		o rear		6 Year		'i rear	5	o rear	1 6	3 lear	7 07	To rear
17C 24,747 121,588	C. C							l I				1	75 0/ 1	U 1	<u>ل</u> (ال	0/1	P/C	2/1	F/C	2	P/C
24,747	F/C	Total	2	F/C	2	F/C	L/C	F/C 1	2	7/I	I I	ı	i	-1	1	ļ		ı	1	6	900
121,588	146,561	171,308		i 						4,	4,207 24,	24,915 4,	4,207 24,	24,915 4,	4,207 24,915	15 4,207	7 24,915	7,207	24,915	3,712	27,386
	326,118	447,706								20,0	20,670 55,	55,440 20,	20,670 55,	55,440 20,	20,670 55,440	40 20,670	0 55,440	20,670	55,440	18,238	48,918
ual System 146,335		253,459								24,(24,877 18,	18,211 24,	24,877 18,	18,211 24,	24,877 18,211	11. 24,877	7 18,211	24,877	18,211	21,950	16,069
42,940	9,831	52,771								7,5	7,230 1,	1,671 7,	7,230 1,	1,671	7,230 1,671	71 7,230	1,671	7,230	1,671	6,790	1,476
m 173,455	115,599	289,054						ń	34,691 23	23,120 34,6	34,691 23,	23,120 34	34,691 23,	23,120 34,	34,691 23,120	20 34,891	1 23,119	_	-		
F Land Acquisition 237,300		237,300	'		47,460	4	47,460	₹ †	47,460	- 47,460	460	- 47	47,460	٠.	:						
G Building for O & M 7,527	3,980	11,507	3,764	1,990	3,763	1,990											•				
The H Procurement of 0 & M 2,940 55	52,170	55,110			1,176	20,868	882 15	15,651	882 16	15,651											
108,030	304,530	412,560 21,606		91,359	21,606	91,359 2	21,606 91	91,359 16	16,205 €	6,091 5,4	5,401 6,	6,091 5	5,401 6,	6,091 5,	5,401 6,091	91 5,401	6,089	5,403			
J Project Administration 107,730	•	107,730	9,696	r	969'6		9696		969'6	்6 ,	969'6	. 11	11,853	. 11,	11,850	. 11,850	9	. 11,849	•	11,848	
Total Investment Cost 972,592 1,065,913 2,038,505	65,913 2,		35,066 93,344		83,701 114,217		79,644 107,010	,010 10	108,934 44	44,862 154,232 129,448	232 129,	448 156	,389 129	,448 108,	926 129,4	48 108,93	156,389 129,448 108,926 129,448 108,926 129,445		74,236 100,237	62,538	88,449
s 97,259	106,591	203,850	3,507	9,335	8,370	11,422	7,964 10	10,701	10,893	4,486 15,4	15,423 12,	12,945 15	15,639 12,	12,945 10,	10,892 12,945	145 10,893	3 12,944	7,424	10,024	6,254	8,844
486,296	159,887	646,183	17,533	14,002	41,851	17,133 39,822		16,052 5	54,467 (6,729 77,	77,116 19,	19,417 78	78,194 19,	19,417 54,	54,463 19,417	17 54,463	3 19,417	37,118	15,036	31,269	13,267
Total Project Cos 1,556,147 1,332,391 2,888,538	132,391 2		56,106	116,686 1	33,922 1	12,772 12	56,106 116,686 133,922 142,772 127,430 133,763 174,294	3,763 17	- 1	56,077 246,771 161,810 250,222 161,810 174,281 161,810 174,282 161,806 118,778 125,297 100,061 110,560	171 161	810 250	,222 161	,810 174,	281 161,8	110 174,2	161,806	118,778	125,297	100,001	110,560

MAHOTTARI DISTRICT PRIORITY SUB-AREA Proposed Disbursement Schedule

No. of D. T.W ; 92 Project Area ; 7,000 (ha) Unit : 1,000 NRs

		Amount		1 Year	ar	2 Year	'ar	3 Year	ar	4 Year	3ar	5 Year	ear	6 Y	6 Year	7 Year	ar	8 Year	ar	9 Year	ıg	10 Year	ear
Description	,	The state of the s	1	١	0/4	٥	2/4	9/1	P/C	23	P/C	3	F/C	27	F/C	Z/C	F/C	2	F/C	2	F/C	ZC Z	P/C
	3		- 1	2	23	3	?					4.030	23,865	4,030	23,865	4,030	23,865	4,029	23,865	4,029	23,864		
A Well Development	20,148	119,324	139,412																		:		
B Pump Station	69,301	69,301 168,875	238,176									13,861	33,775	13,860	33,775	13,860	33,775	13,860	33,775	13,860	33,775		
C Irrigation Canal System		45.965	108,756									12,559	9,193	12,558	9,193	12,558	9,193	12,558	9,193	12,558	9,193		
			. ;									3 679	848	3.679	848	3,678	847	3,678	847	3,678	847		
D Drainage System	18,392	4,237	22,629									,											
E Farm Road System	74,428	49,619	124,047							18,607	12,405	18,607	12,405	18,607	12,405	18,607	12,404						
F Land Acquisition	103,170		103,170			25,793	,	25,793	•	25,792	•	25,792	•		-								
G Building for O & M	5,018	2,653	7,671	2,509	1,327	2,059	1,326			٠						•							
A H Procurement of O & M and Office Equipment	1,960		34,780 36,740			980	17,390	980	17,390			,	•										
80 I Technical Support	72,020	203,020	275,040	275,040 14,404	906'09	60,906 14,404		60,906 14,404	906'09	14,404	8,122	3,601	4,060	3,601	4,060	3,601	4,060	3,601	1				
J Project Administration	71,820		71,820	7,253	•	7,253		7,253	٠	7,253	•	8,561	•	8,561	•	8,561	•	8,561		8,564	ı		
Total Investment Cost	499,048		628,473 1,127,521	24,166	62,233	50,939	79,622	48,430	78,296	66,056	20,527	069'06	84,146	64,896	84,146	64,895	84,144	46,287	67,680	42,689	67,679		
Physical Contingencies	49,505		112,752		2,417 6,223	5,094	7,962	4,843	7,830	6,606	2,053	690'6	8,415	6,490	8,415	6,490	8,414	4,628	6,768	4,628	6,767		
Price Escalation	249,524	94,271		12,083	9,335		25,470 11,943	24,215	11,744	33,028	3,079	45,345	12,622	32,448	12,622	32,448	12,622	23,143	10,152	21,344	10,152		
Matel Designate Cont.	798 477	785 591	785 591 1 584,068 38,666	38.666	77,791	81,503	99,527	77,488	97,870	97,870 105,690	25,659	145,104	105,183	103,834	25,659 145,104 105,183 103,834 105,183 103,833 105,180	103,833	105,180	74,058	84,600	68,301	84,598		

BANKE-BARDIYA DISTRICT PRIORITY SUB-AREA Proposed Disbursement Schedule

No. of D. T.W ; 51 Project Area ; 8,000 (ha) Unit : 1,000 NRs

F	TABLE 4.4.11(3)		: .			1.1	* .		٠								٠				a	Unit: 1,000 NKS	Ks.	
			4.000.00	-	1 Year	rear	2 Year	ear Tee	3 Ye	ear	4 Year	늄	5 Year	ч	6 Year	Ŀ	7 Year	ا .	8 Year		9 Year]	10 Year	
` i	Description ~	Ç	0/3	Total	1.6	7/A	2	E/C	1,00	F/C	27	F/C	277	F/C	27	F/C	D/C	F/C	LC	F/C I	LC	F/C	23	F/C
۳	A Well Development	11,169		ı	1								2,793	16,537	2,792	16,537	2,792	16,537	2,792 1	16,536	-			
-	B Pump Station	54,672	141,576	196,248									13,668	35,394	13,668	35,394	13,668	35,394 1	13,668 3	35,394				
Ų	C Irrigation Canal System	70,431	51,561	121,992				•					17,608	12,891 17,608		12,890	17,608	12,890 1	17,607	12,890		٠.		
-	D Drainage system	20,655	4,743	25,398									5,164	1,186	5,164	1,186	5,164	1,186	5,163	1,185				
- 7	E Farm Road System	83,487		55,641 139,128	12.						20,872	13,911	20,872	13,910	20,872	13,910	20,872	13,910						
	F Land Acquisition	114,750	•	114,750			28,688	•	28,688		28,687	٠	28,687	1										
•	G Building for O & M	5,018	2,653	7,671	2,509	1,327	2,509	1,326																
4-20	Procurement of 0 & M and Office Equipment	1,960	34,780	36,740			980	17,396	980	17,390									ě					
)9	I Technical Support	72,020	203,020		275,040 14,404	906'09 1	14,404		60,906 14,404	906'09	7,202	5,076	7,202	5,076 7,202	7,202	5,075	7,202	5,075						
	J Project Administration	71,820	•	71,820	8,160	. •	8,160		8,160	•	9,468	,	9,468	•	9,468	1	9,468	•	9,468	ŧ				
	Total Investment Cost	505,982		560,121 1,066,103 25,073	25,073	62,233	54,741	79,622	52,232	48,296	66,229	18,987 105,462		84,994	76,774	84,992	76,773	84,992 4	48,698	99,005				
	Physical Contingencies	50,598	50,598 56,012 106,610	106,610	2,507	6,223	5,474	7,962	5,223	7,830	6,623	1,899	10,546	8,499	7,677	8,499	7,677	8,499	4,871	6,601				
	Price Escalation	252,991	252,991 84,018 337,009 12,537	337,009	12,537	9,335	27,371	11,943	26,116	11,744	33,115	2,849	52,731	12,749	38,387	12,749	38,387	12,749	24,347	006'6				
	Total Project Cost	809,571	809,571 700,1511,509,722 40,117	1,509,722	40,117	77,791	87,586	99,527	83,571	97,870 105,967		23,735 1	23,735 168,739 106,242 122,838 106,240 122,837	06,242 1	22,838 1	06,240 1	22,837 1	106,240	77,916 8	82,506				

COST ESTIMATE OF CASE STUDY (1-III)

TABLE 4.4.12

	Study Case		Case Study I		I	Case	Study I	ı	Case Study III			Remarks	
No.	Work Items	Currency	L/C	F/C	T/C	L/C	F/C	T/C	I/C	F/C	T/C	Remarks	
1	Well Developm	ent										Unit 10 ⁵ NRs	1
-	(1) Construction		185	655	840	296	1,048	1,344	444	1,572	2,016	A=100 (ha)	1
	(2) Material S		34	642	676	54	1,028	1,082	81	1,541	1,622	•	١
	Sub - T	~PP-J	219	1,297	1,516	350	2,076	2,426	525	3,113	3,638		
								.	-				
2	Pump Station								2.4		1 000		
j .	(1) Pump Sets		212	1,097	1,309	216	1,116	1,332	216	1,116	' '	Including electric motor	
	(2) Pump Hou		198	116	314	396	232	628	594	348	942	•	
	(3) Control Ch	amber	116	140	256	232	280	512	348	420	768		
ĺ	(4) Power Sup	ply	180	930	1,110	360	1,860	2,220	540	2,790	3,330		
	Sub - T		706	2,283	2,989	1,204	3,488	4,692	1,698	4,674	6,372		
3	Irrigation Can	al System		i									
"	(1) Pipe line S		696	552	1,248	584	439	1,023	514	352	866		
	(2) Alfalfa Va	-	83	80	163	69	67	136	66	64	130		
	(3) Terminal		84	_	84	103		103	101	_	101		
1	Sub - T	Higation	863	632	1,495	. 1	506	1,262	1	416	1,097		
	Sun-1		000	001	1,100	,,,,		-,					
4	Drainage Syst	em						•		ĺ			
	(1) Darth Wor	rks	104	-	104		-1	122	131	-	131		
1	(2) Structures	5	149	58	207	176	68	244	189	73	262		
	Sub - T		253	58	311	298	68	366	320	73	393		
5	Farm Road Sy	stem	1,023	682	1,705	1,023	682	1,705	1,023	682	1,705		
6	Procurement Office Equipm		26	460	486	26	460	486	26	460	486		
7	Technical Su	oports	950	2,680	3,630	950	2,680	3,630	950	2,680	3,630	· · ·	
8	Project Admi	nistration	950		950	950	-	950	950	-	950		
5	Land Acquisi	tion	1,410		1,410	1,740	-	1,740	1,890	-	1,890		
	1	VESTMENT OST	6,40	8,09	14,49	7,297	9,960	17,25	8,063	12,098	20,161		
	us\$ Equivale		12	8 16	2 29	146	199	34	5 161	242	403	3	
		$ha(\times 1,000)$	1.2		1	1		ľ		1	4.03		
1	0 Physical Cor	itingence(10%)	64	0 80	9 1,44	9 730	996	1,72	6 806	1,210	2,016	3	-
1	1 Price Escala	tion	64	0 16	2 80	2 73	199	92	9 806	242	1,048	3 L/C 10% for T. I. C F/C 2% for T. I. C	
	o momai pr	ROJECT COST	7,68	0 0 00	3 16,74	3 8,75	7 11 150	19,91	2 9.67	13,550	23.22		
1	<u>.</u>		15					1		1 .	1	1	
ļ	usa Equiv	alent (×1,000)	10		1 33			1	1		1		

4.5 Evaluation of Groundwater Resources

4.5.1. Detail of Basin Structure

```
NUMBER OF SUB-BASIN * 37
POTENTIAL MONTHLY EVAPOTRANSPILAT.N(NM/DAY)

1 2 3 4 5 6 7 8 9 10 11
1.5 3.0 4.0 6.0 6.0 5.5 4.5 5.0 5.0 4.0 3.0
YEARLY DATA BASIN/LAYERS ARE 0 0 0 0 0
VERRLY DATA BASIN/LAYERS ARE 0 1 1 1 1
YEARLY DATA BASIN/LAYERS ARE 0 17
AREA #1181.542 SQ.KM

RAINFALL RATE = 1.20

CONNECT TO D/S BASIN = 8

NUMBER OF TANKS = 3

RATE OF DRAFR = .00

ADDITIONAL DRAFT = .00 CUM/DATANK NO. 1 COEFFICIENTS .0300

HEIGHTS .000
                                                                                                 .00
.00 CUM/DAY
                                                                                                                            .0800
110.000
8
                                                                                                                                                      .3500
200.000
8
                                 RATE OF ET
COEFFICIENTS
REIGETS
                                                                               .700
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                                                                                                      .0450
  TANK NO. 2
                                                                                 .000
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  HEIGHTS
NOUT
INITIAL W.L.
RATE OF ET
TANK NO. 3 COEFFICIENTS
HEIGHTS
NOUT
INITIAL W.L.
RATE OF ET
GW TANK INTERCONNECTION
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                                                                               .550
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8
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                                                                         210.000
                                                                    0
                          ****** SUB-BASIN NO. 2
                                                                                              (CASE 1)
                            AREA = RAINFALL RATE = CONNECT TO D/S BASIN = NUMBER OF TANKS = RATE OF DRAFT = ADDITIONAL DRAFT =
                                                                                           5.225 SQ.KM
1.00
                                                                                                 .00
.00 CUM/DAY
   TANK DIMENSIONS
TANK NO. 1 COE
                                                                                                    .1500
10.000
9
                                                                                                                               .4500
23.000
9
                                COEFFICIENTS
HEIGHTS
                                                                              .0300
                                                                                                                                                              .000
  HEIGHTS
NOUT
INITIAL W.L.
RATE OF ET
TANK NO. 2 COEFFICIENTS
HEIGHTS
NOUT
INITIAL W.L.
RATE OF ET
GW TANK INTERCONNECTION
                                                                            0
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.700
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.550
                                                                   0
ARRA = 160,385 SQ.KM

RAINFALL RATE = 1.10

CONNECT TO D/S BASIN = 5

NUMBER OF TANKS = 3

RATE OF DAFFR = .00

ADDITIONAL DRAFT = .00 CUM/DATANK DIMENSIONS

TANK NO. 1 COEFFICIENTS .0350 .1000
HEIGHTS .0000
NOUT .00000
                                                                                                 .00 CUM/DAY
                                                                                                                              .4500
30.000
.5
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                                 NOUT
INITIAL W.L.
RATE OF ET
COEFFICIENTS
HEIGHTS
NOUT
INITIAL W.L.
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   TANK NO. 2
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                                                                                  .000
  TANK NO. 3 COEFFICIENTS
HEIGHT
NOUT
INITIAL W.L.
RATE OP ET
GW TANK INTERCONNECTION
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15.000
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15.000
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                           ****** SUB-BASIN NO. 4 (CASE 1) *******
                            AREA = 66.535 SQ.KM

RAINFALL RATE = 1.10

CONNECT TO D/S BASIN = 7

NUMBER OF TANKS = 3

RATE OF DRAFR = .00
ADDITIONAL DRAFT = .00 CUM/DA
                                                                                                  .00 CUM/DAY
  TANK DIMENSIONS
TANK NO. 1 COEFFICIENTS
HEIGHTS
NOUT
INITIAL W.L.
RATE OF ET
COEFFICIENTS
HEIGHTS
NOUT
INITIAL W.L.
RATE OF ET
TANK NO. 2 COEFFICIENTS
HEIGHTS
NOUT
TANK NO. 3 COEFFICIENTS
HEIGHTS
NOUT
INITIAL W.L.
RATE OF ET
GW TANK INTERCONNECTION
   TANK DIMENSIONS
TANK NO. 1 COE
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15.000
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****** SUB-BASIN NO. 5
                                                                                                                                                                         (CASE 1) *******
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ARRA = 111.100 SQ.700
                                                                                                                                                                                                                                                                                                                                                                                                                     AREA = 111
RAINFALL RATE =
CONNECT TO D/S BASIN = 12
NUMBER OF TANKS = 2
RATE OF DRAFF =
ADDITIONAL DRAFT =
ISLONG
                                                                                     RAINFALL
                                                   CONNECT TO D/S BASIN =
NUMBER OF TANKS =
RATE OF DRAFR =
ADDITIONAL DRAFT =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .00 CUM/DAY
                                                                                                                                                                                         .00 CUM/DAY
   ADDITIONAL
TANK DIMENSIONS
TANK NO. 1 COEFFICIENTS
REIGHTS
NOOT
INITIAL W.L.
RATE OF ST
TANK NO. 2 COEFFICIENTS
HEIGHTS
NOOT
                                                                                                                                                                                                                                                                                                                                                                     TANK DIMENSIONS
TANK NO. 1 COMPPLICIENTS
HEIGHTS
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INITIAL W.L.
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COEFFICIENTS
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### HEIGHTS
NOUT
INITIAL W.L. 20.

### ANK INITIAL W.L. 20.

### OF ET .550

GW TANK INTERCONNECTION 0 9

####### AQUIFER NO. 1 ****
COEFFICIENTS .000
G-HEIGHT .000
AQUIFER HEIGHT 10.00
AQUIFER HEIGHT 130.00

"TCL. THICK .50
"** ARANCE .50
"** ARANCE .50
"** ACCOUNT .05000
150.100
"** COUNT .0000
150.100
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REIGHTS .000
NOUT 0
INITIAL W.L. 30.000
RATE OF ET .550
GW TANK INTERCONNECTION 0 12
******** AQUIFER NO. 1 ****
COEFFICIENTS .000
AQUIFER THICK .000
AQUIFER THICK .1.50
AQUICL. THICK .1.50
ACL. LERARNCE 4.67E-03
SPEC. YIELD .03500
INITIAL W.L. 180.000
GROUND LEVEL 183.00
MAX. STORAGE 104989500.0
******** AQUIFER NO. 2 ********
AQUIFER THICK .000
AQUIFER THICK .000
AQUIFER THICK .000
AQUIFER THICK .000
AQUIFER THICK .550
AQUIFER BEIGHT .550
AQUIFER BEIGHT .550
AQUICL. THICK .550
ACL. LERMANCE 2.18E-05
SPEC. YIELD .00010
INITIAL W.L. 179.600
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179.600
NO. 3 ***
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AQUIFER TEICK
AQUIFER BEIGHT
AQUICL. THICK
ACL. LEAKANCE
SPEC. YIELD
INITIAL W.L.

**********************
AQUIFER
COEFFICIENTS
AQUIFER THICK
AQUIFER THICK
AQUIFER THICK
INITIAL W.L.

INITIAL W.L.
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179.000
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                                                                                                                                                                                     (CASE 1) ******
                                                  ****** SUB-BASIN NO. 6
     AREA = 46
RAINFALL RATE =
CONNECT TO D/S BASIN = 13
NUMBER OF TANKS = 2
RATE OF DRAFF = ADDITIONAL DRAFT =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        48.365 SO.RM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .00 CUM/DAY
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13
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HEIGHTS
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                                                         RATE OF ST .550
TITERCONNECTION 0 .1 ****
COEFFICIENTS .000
G-HEIGHT .000
AQUIFER THICK 27.00
AQUIFER THICK 27.00
AQUIFER THICK 136.00
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RECONNECTION 0

CORFFICIENTS 5.000

AGUIFER THICK 30.00

AGUIFER THICK 1.00

AGUICL THICK 1.00

ACUL LEAKANCE 3.00E-01

SPEC. YIELD 0.3000

INITIAL W.L. 113.300

CROUND LEVEL 115.00

MAX. STORAGE 43528500.0

AGUIFER THICK 1.00

AGUIFER THICK 33.00
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80.000
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AQUIFR BEIGHT
AQUICL. THICK
ACL. LEAKANCE
SPEC. YIELD
                                                                   COEFFICIENTS
AQUIFER THICK
AQUIFER HEIGHT
AQUICL. THICK
ACL. LEAKANCE
SPEC. YIELD
OOO
INITIAL W.L.
COEFFICIENTS
AQUIFER THICK
AQUIFER THICK
AQUIFER THICK
AQUIFER THICK
ACL. LEAKANCE
SPEC. YIELD
INITIAL W.L.
AGAMACE
SPEC. YIELD
AQUIFER THICK
AGUIFER THICK
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1.56E-04
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112.700
NO. 3 ***
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29.00
52.10
38.00
5.26E-06
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COEFFICIENTS
AQUIFER THICK
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AQUIFER HEIGHT
AQUICL. THICK
ACL. LEAKANCE
SPEC. YIBLD
INITIAL W.L.
****** AQUIFER
COEFFICIENTS
AQUIFER THICK
AQUIFER HEIGHT
SPEC. YIELD
INITIAL W.L.
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112.500
NO. 4 **
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****** SUB-BASIN NO. 7

(CASE 1) ******

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AREA = 28.757 SQ.RM

RAINFALL RATE = 1.00

CONNECT TO D/6 BASIN = 16

NUMBER OF TANKS = 2

RATE OF BRAFE = .00

ADDITIONAL DRAFT = .00 CUM/DA

TANK DIMENSIONS
TANK NO. 1 COEFFICIENTS .0400
BEIGHTS .0007
                                                                                                                                                                                                                                                                                                                                                                                     ******* SUB-BASIN NO.11 (CASE 1) *******
                                        ****** SUB-BASIN NO. 9
                                                                                                                                                                    (CASE 1) *******
                                           AREA = 56

CONNECT TO D/S BASIN = 14

NUMBER OF TANKS = 2

RATE OF DRAFR = ADDITIONAL DRAFT = (SIONS
                                                                                                                                                    56,512 SQ.KM
1.00
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.00 CUM/DAY
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15.000
14
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60.000
16
TANK DIMENSIONS
TANK NO. 1 COEFFICIENTS
HEIGHTS
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NOUT
INITIAL W.L.
PATE OF ET
COEFFICIENTS
HEIGHTS
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INITIAL W.L.
RATE OF ET
COEFFICIENTS
HEIGHTS
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HEIGHTS
NOUT
O
INITIAL W.L.
RATE OF ET
GW TANK INTERCONNECTION 6

******* AQUIFER NO.
COEFFICIENTS
G-ERICHT 110
AQUIFER THICK
AQUIFER THICK
ACL. LEARANCE 2.00
SPEC. YIELD .00
INITIAL W.L. 121
GROUND LEVEL 11
MAX. STORAGE 250
******** AQUIFER NO.
COEFFICIENTS
AQUIFER THICK
AQUIFER HICK
AQUIFER THICK
AQUIFER HEIGHT
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^7100
 TANK NO. 2
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  NOUT
INITIAL W.L.
RATE OF ET
GW TANK INTERCONNECTION
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2.00E-02
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NO. 2 ****
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AQUIFER THICK
AQUICL THICK
ACL LEARANCE 7.8.
SPEC, YIELD
INITIAL W.L. 12.
ACUIFER AQUIFER NO.
COMPFICIENTS
AQUIFER THICK
AQUIFER THICK
AQUIFER THICK
SPEC, YIELD
INITIAL W.L. 12.
AASSESS AQUIFER NO.
COMPFICIENTS
AQUIFER THICK
AQUIFER THICK
AQUIFER THICK
AQUIFER THICK
INITIAL W.L. 12.
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123.500
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                                                                                                                                                                               (CASE 1) **
                                                   ****** SUB-BASIN NO.10
                                                                                                                                                                                                                                                                                                                                                     AREA = 41.319 SQ.KM

RAINFALL RATE = 1.00

CONNECT TO D/S BASIN = 15

NUMBER OF TANKS = 2

RATE OF DRAFR = .00
ADDITIONAL DRAFT = .00 CUM/DJ

RSIONS
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.00 CUM/DAY
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.00 CUM/DAY
    JENTS

OUT 0
INITIAL W.L.
RATE OF ET

AK NO. 2 COEFFICIENTS 0:
HEIGHTS 0
INITIAL W.L.
RATE OF ET 55

GW TANK INTERCONNECTION 0

GRATE OF ET 55

GW TANK INTERCONNECTION 0

GRATE ADUIFER NO. 1 **
COEFFICIENTS 000
GREIGHT 000
GREIGHT 000
AQUIFER HEIGHT 98.00
AQUIFER HEIGHT 98.00
AQUIFER BIGHT 98.00
AQUIFER BIGHT 98.00
AQUIFER THICK 27.00
AQUIFER BIGHT 98.00
AQUIFER BIGHT 98.00
AQUIFER BIGHT 98.00
AQUIFER THICK 121.800
GROUND LEVEL 125.00
MAX. STORAGE 39046460.0

********* AQUIFER NO. 2 *******
COEFFICIENTS 000
AQUIFER THICK 31.00
AQUIFER THICK 31.00
ACL. LEAKANCE 3.228-05
SPEC. YIELD 00010
INITIAL W.L. 122.500

********** AQUIFER NO. 3 ********
COEFFICIENTS 000
AQUIFER THICK 17.00
AQUIFER THICK 17.00
AQUIFER THICK 17.00
AQUIFER HEIGHT 25.00
ACL. LEAKANCE 1.238-04
SPEC. YIELD 00080
INITIAL W.L. 122.800

********** AQUIFER NO. 4 ***********
COEFFICIENTS 000 .300
AQUIFER HEIGHT 170.00
SPEC. YIELD 00200
INITIAL W.L. 121.700
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           TANK DIMENSIONS
TANK NO. 1 COEFFICIENTS
HEIGHTS
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****** AQUIFER NO. 1 ****
COEFFICIENTS 5.000
G-HEIGHT 100.00
AQUIFER THICK 5.00
GROUND LEVEL 100-00
HITTAL W.L. 126.200
GROUND LEVEL 130.00
MAX. STORAGS 3.00E-02
****** AQUIFER THICK AQUIFER REIGHT 78.00
AQUIFER THICK ACL. LEAKANCE 20.00
AUDIFER THICK ACL. LEAKANCE 3.00E-05
SPEC. YIELD 100090
INITIAL W.L. 17.00
AQUIFER THICK AQUIFER NO. 3 3***
COEFFICIENTS AQUIFER THICK AQU
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****** SUB-BASIN NO.15
                                                           ******* SUB-BASIN NO.13
                                                                                                                                                                                                        (CASE 1) ******
                                                             AREA = 41,297 SQ.XM

RAINFALL RATE = 1.00

CONNECT TO D/S BASIN = 18

NUMBER OF TANKS = 2

RATE OF DEAFR = .00
ADDITIONAL DRAFT = .09 CUM/DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AREA = 37
RAINPALL RATE = 2
CONNECT TO D/S BASIN = 20
NUMBER OF TANKS = 2
RATE OF DRAFT = ADDITIONAL DRAFT = 1510NS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              37.410 SQ.101
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1.00 CUM/DAY
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.00 CUM/DAY
         TANK DIMENSIONS
TANK NO. 1 CORFFICIENTS
HEIGHTS
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TANK NO. 1 COEFFICIENTS
HEIGHTS
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         TANK NO. 1 CORFFICIENTS
HEIGHTS
NOUT
INITIAL W.L.
RATE OF ET
TANK NO. 2 CORFFICIENTS
HEIGHTS
NOUT
INITIAL W.L.
RATE OF ET
CW TANK INTERCONNECTION 8
********* AQUIFER
COEFFICIENTS
G-MEIGHT
AQUIFER THICK
ACUL LEAKANCE
SPEC. YIELD
INITIAL W.L.
GROUND LEVEL
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INITIAL W.L.
RATE OF ET
COEFFICIENTS
HEIGHTS
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RATE OF ET
CW TANK INTERCONNECTION 10
******* AQUIFER NO.
COMPTICIENTS
G-HEIGHT 7.
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INITIAL W.L.
******* AQUIFER
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AQUIFER THICK
AQUIFER HEIGHT
SPEC. YIELD
INITIAL W.L.
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                                                                                                                                                                                                              (CASE 1) ******
                                                                  ****** SUB-BASIN NO.14
                                                                     | AREA = 37.800 SQ.KM |
| RAINFALL RATE = 1.00 |
| CONNECT TO D/S BASIN = 19 |
| NUMBER OF TANKS = 2 |
| RATE OF DRAFR = .00 |
| ADDITIONAL DRAFT = .00 CUM/DJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AREA = 66.742 SQ.KM

RAINFALL RATE = 1.00

CONNECT TO D/S BASIN = 21

NUMBER OF TANKS = 3

RATE OF DRAFE = 1.00

ADDITIONAL DRAFT = 1.00 CUM/DA
### ADDITIONAL DRAFT = ADDITIONA
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MAX. STORAGE
MAX. STORAGE
MAX. AQUIFER
COEFFICIENTS
AQUIFER THICK
AQUIFR HEIGHT
AQUICL. THICK
ACL. LEAKANCE
SPEC. YIELD
INITIAL W.L.
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AQUICL. TRICK
ACL. LEARANCE
SPEC. YIELD
INITIAL W.L.
******** AQUIFER
COEFFICIENTS
AQUIFER TRICK
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AQUIFER TRICK
SPEC. YIELD
INITIAL W.L.
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****** SUB-BASIN NO.17
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                                             AREA = 51
RAINFALL RATE = 30
CONNECT TO D/S BASIN = 30
NUMBER OF TANKS = 2
RATE OF DRAFF = ADDITIONAL DRAFT = VSIONS
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NO. 6 ***

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INITIAL W.L.
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COBFFICIENTS
AQUIFER THICK
AQUIFER HEIGHT
SPEC. YIELD
INITIAL W.L.
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                                                                                                                                                   (CASE
                                                                                                                                                                                                                                                                                                                          AREA
RAINFALL RATE
CONNECT TO D/S BASIN
NUMBER OF TANKS
RATE OF DRAFR
ADDITIONAL DRAFT
                                                   AREA = 44.648
RAINFALL RATE = 1.00
CONNECT TO D/S BASIN = 24
NUMBER OF TANKS = 2
RATE OF DRAFR = .00
ADDITIONAL DRAFT = .00
ISIONS
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= 26
= 2
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26
           ADDITIONAL
TANK DIMENSIONS
TANK NO. 1 COFFICIENTS
HEIGHTS
NOUT
INITIAL W.L.
RATE OF ET
TANK NO. 2 COFFICIENTS
HEIGHTS
NOUT
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TANK NO. 1 COEFFICIENTS
REIGHTS
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RATE OF ET
COEFFICIENTS
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(CASE 1) ******

***** SUB-BASIN NO.19

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(CASE 1) *******
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                                                   ****** SUB-BASIN NO.21
                                                                                                                                                                                  (CASE 1) *******
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   40.312 SQ.KY
       RAINFALL RATE =
CONNECT TO D/S BASIN = 27
NUMBER OF TANKS = 2
RATE OF DRAFF =
ADDITIONAL DRAFT =
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1.00 CUM/DAY
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TANK NO. 1 COEFFICIENTS
HEIGHTS
NOOT
INITIAL W.L.
RATE OF ET
TANK NO. 2 COEFFICIENTS
REIGHTS
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NITIAL W.L. 220.000
RATE OF ET .000
RATE OF ET .000

GW TANK INTERCONNECTION 16

COEFFICIENTS 20.000
GHEIGHT 52.000
AGDIFER THICK 30.00
AGDIFER HICK 30.00
AGDIFER HICK 8.00
AGUICL THICK 8.00
AGLL LEAKANCE 1.56E-02
SPEC. YIELD .02500
INITIAL W.L. 84.500
GROUND LEVEL 86.00
MAX. STORAGE 44735250.0

******* AQUIFER NO. 2 ********
COEFFICIENTS 2.000
AQUIFER HEIGHT 80.2 *******
COEFFICIENTS 1.000
AQUIFER HEIGHT 81.00
AQUIFER HEIGHT -44
AQUICL THICK
ACL, LEAKANCE
SPEC. YIELD
INITIAL W.T.

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INITIAL W.L.
RATE OF ET
GW TANK INTERCONECTION 21
******* AQUIFER NO.
COEFFICIENTS
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                                                                                                                                                                                                                                                                                              31
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.550
                                                                                                                                                                                                                                                                                            .8000
280.000
31
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                                                                                                                                                                                                                                                            .0000
                                                                                                                                                                                                                                              220.000
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65.000
34.00
66.00
14.00
2.68E-03
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                                                                                                                                                                                                                               31
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64.000
                                                                                                                                                                                                                                                    65.000
60.000
                                                                                                                                                                                                                                                                                                  1.500
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                                                                                                                                               .00050
87.000
3.3 ***
1.000
61.00
-44.00
64.00
692-05
.00050
89.000
0.4 ***
1.000
192.00
-300.00
.00250
91.100
                                                                                                                                                                                                        5.000
                                                                                                                                                                                                                                                    15.000
                                                                                                                                                                                                                                                                                                         2.000
                                                               AGUIFR HEIGHT
AQUICL. THICK
ACL, LEAKANCE
SPEC. YIELD
INITIAL W.L.
****** AQUIFER
COEFFICIENTS
AQUIFER THICK
AQUIFER THICK
AQUIFER HIGHT
SPEC. YIELD
INITIAL W.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.000
                                                                                                                                                                                                                                                                                                                                                                                                                          AQUIFER THICK
AQUIFER HEIGHT
SPEC. YIELD
INITIAL W.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        248.00
-300.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .00300
                                                                                                                                                                                                        5.000
                                                                                                                                                                                                                                                                                                                . 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (CASE 1)
                                                                                                                                                                                                                                                                                                                                                                                                            ****** SUB-BASIN NO.24
                                                                                                                                                                                                                                                                                                                                                            AREA = 5

RAINFALL RATE = 5

CONNECT TO D/S BASIN = 37

NUMBER OF TANKS = 2

RATE OF DRAFR = ADDITIONAL DRAFT = 100

TANK DIMENSIONS
TANK NO. 1 COEFFICIENTS 0300
HEIGHTS NOOT
                                                   ****** SUB-BASIN NO.22
                                                                                                                                                                                   (CASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .00 CUM/DAY
                                                       ARRA = 16.937 SQ.KM
RAINFALL RATE = 1.00
CONNECT TO D/S BASIN = 26
NUMBER OF TANKS = 2
RATE OF DRAFR = .00
ADDITIONAL DRAFT = .00 CUM/DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1000
15.000
37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3500
60.000
37
                                                                                                                                                                                                                                                                                                                                                                                                                         NOUT
INITIAL W.L.
RATE OF ET
COEFFICIENTS
                                                                                                                                                                                          100 CUM/DAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .700
.0001
.000
        TANK DIMENSIONS
TANK NO. 1 COE
                                                               COEPFICIENTS
HEIGHTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .6000
355.000
37
                                                                                                                                                                                                                                                                                                                                                                 TANK NO. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .0020
                                                                                                                                                        .0350
                                                                                                                                                                                                            1500
                                                                                                                                                                                                                                                              4500
                                                                                                                                                                                                                                                                                                           .0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        350.000
     HEIGHTS
NOUT
INITIAL W.L.
RATE OF ET
                                                                                                                                                              .000
                                                                                                                                                                                              15.000
26
                                                                                                                                                                                                                                                 30,000
26
                                                                                                                                                                                                                                                                                                               .000
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                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                  HOUT
                                                                                                                                                                                                                                                                                                                                                             ROUT
RATE W.L. 150.000
RATE OF ET .550

CW TANK INTERCONNECTION 18 3'
******* AQUIFER NO. 1 ****
COEFFICIENTS .20.000
G-HEIGHT .46.000
AQUIFER THICK .31.00
AQUIFER THICK .31.00
AQUIFER THICK .18.00
AQUIFER THICK .18.00
ACL. LEAKANCE .167E-04
SFEC. YIELD .02500
INITIAL W.L. .75.500
GROUND LEVEL .77.00
MAX. STORAGE .45624980.
******** AQUIFER NO. 2 ***
COEFFICIENTS .50.00
AQUIFER THICK .50.00
AQUIFER THICK .21.00
AQUIFER THICK .21.00
ACL. LEAKANCE .4.76E-05
SPEC. YIELD .00050
INITIAL W.L. .75.600
AQUIFER THICK .47.00
AQUIFER THICK .47.00
AQUIFER THICK .78.00
AQUIFER THICK .75.300
AQUIFER THICK .75.300
AQUIFER THICK .75.300
AQUIFER THICK .75.300
AQUIFER HICK .75.300
AQUIFER .75.300

                                                                                                                                                                                                                                                                                            ,6000
50,000
26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 550
                                                                                                                                                                                                        .0030
                                                                                                                                                                                                                                                      .0000
15.000
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                                                                  .003
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.500
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                                                                                                                                                                                                                                                                                                                                                                                                                            AQUIFER THICK
                                                                                                                                                                                                                                                                                                                                                                                                                            AGUIFR HRIGHT
SPEC. YIELD
INITIAL W.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -300.00
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75.000
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270.00
300.00
.00150
92.100
                                                                   AOUIFER THICK
AQUIFR HEIGHT
BPEC. YIELD
INITIAL W.L.
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(CASE 1) *******
                                                                                                                                                                                                                                                               ****** SUB-BASIN NO.27
                             ****** SUB-BASIN NO.25
                                                                                                                 (CASE 1) *******
                               RAINFALL RATE =
CONNECT TO D/S BASIN = 37
NUMBER OF TANKS = 3
RATE OF DRAFR =
                                                                                                                     .00 CUM/DAY
                                                                                                                                                                                                                                                                                                                                                  1.00
1.00 CUM/DAY
                                                                                                                                                                                                                                 TANK NO. 2 COFFICIENTS
HEIGHTS

TANK NO. 2 COFFICIENTS
HOUT
INITIAL W.L.
RATE OF ET

TANK NO. 3 COFFICIENTS
HEIGHTS
NOUT

TANK NO. 3 COFFICIENTS
HEIGHTS
NOUT

TANK NO. 3 COFFICIENTS
HEIGHTS
NOUT
                                                                                                                                                                                                                                                                               ADDITIONAL DRAFT
                                                                                                                                                     .3000
60.000
37
                                                                                                                                                                                                                                                                                                                                                      .0100
8.000
37
                                                                                                                                                                                                                                                                                                                                                                                      .0800
60.000
37
                                                                                                                                                                                                                                                                                                                                                                                                                     .3500
70.000
37
                                                                                          .0300
.000
                                                                                                                      .0100
15.000
37
TANK DIMENSIONS
                                                                                                                                                                                             .0000
                                                                                                                                                                                                                                                                                                                               .0400
                                      CORFFICIENTS
REIGHTS
                                                                                                                                                                                               .000
                                                                                                                                                                                                                                                                                                                                   .000
                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                      37
                                                                                                                                                                                                                                                                                                                                 .000
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.000
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30.000
37
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20.000
0
                                                                                                                               .0050
.000
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.550
.6000
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60.000
37
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5.000
000
37
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                                                                                                                                                                                                                                   NOUT
INITIAL W.L.
RATE OF ET
GW TANK INTERCONNECTION 23
                                                                                                                         20.000
                                                                                                                                                        100,000
                                                                                                                                                                                           50.000
40.000
                                                                                                                                                                                                                                                                                                                                                                               32
                                                                                                                                                                                                                                                                                                                                                                                                             26
                                                                                                                                                                                                                                                                   COEFFICIENTS
                                                                                                                                                                                                                                                                                                                                                                                                                          50.000
18.000
                                                                                                                                                                                                                                                                                                                      3.000
16.000
64.00
5.00
13.00
3.85E-03
                                                                                                                                                                                                                                                                                                                                                                                            60.000
-8.000
                                                                                                                                                                                                                                                                                                                                                            60.000
                                                                                                                                                                                                                                                                        COEFFICIENTS 3.000
G-HEIGHT 16.000
AQUIFER THICK
AQUIFER HEIGHT 5.00
ACL. LEAKANCE 3.885E-03
SPEC. YIELD 10.0050
ACL LEAKANCE 3.800
AQUIFER THICK 2.00
AXX. STORAGE 87443200.0
AXX. STORAGE 87443200.0
AXX. STORAGE 87443200.0
ACL LEAKANCE 3.33E-04
AQUIFER THICK 2.00
AQUIFER THICK 6.00
ACL LEAKANCE 3.33E-04
AQUIFER THICK 7.000
AQUIFER THICK 3.00050
INITIAL W.L. 64.00
ACL LEAKANCE 7.000
AQUIFER THICK 64.00
ACL LEAKANCE 7.50E-05
SPEC. YIELD 1.000
ACL LEAKANCE 7.50E-05
ACL LEAKANCE 7.50E-05
ACL LEAKANCE 7.50E-05
ACL LEAKANCE 7.000
ACL LEAKANCE 7.00
                                                                                                                                                                                                                                                                          G-HEIGHT
                                                                                        32224360.0
                                                                                              10.000
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                                                                                                                              15.000
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                                                                                                                                                                 2.000
                                                                                                                                                                                               1.000
                                           AQUIPER THICK
AQUIPER HEIGHT
SPEC. YIELD
INITIAL W.L.
                                                                                                                                                                                                                                                                         ACL. LEAKANCE
SPEC. YIELD
INITIAL W.L.
******* AQUIFER
COEFFICIENTS
AQUIFER THICK
AQUIFE HEIGHT
SPEC. YIELD
INITIAL W.L.
                                                                                                                                                                                                                                                                                                                        .00080
67.800
NO. 4 **
                                                                                                .00200
75.000
                                                                                                                                                                                                                                                                                                                                                               30.000
                                                                                                                                                                                                                                                                                                                                                                                             30.000
                                                                                                                                                                                                                                                                                                                                       100
                                                                                                                                                                                                                                                                                                                             166.00
                                                                                                                     (CASE 1) *******
                                   ****** SUB-BASIN NO.26
                                                                                                                                                                                                                                                                                                                               .00300
                                     RAINFALL RATE = 1.00

CONNECT TO D/S BASIN = 37

RUMBER OF TANKS = 2

RATE OF DRAFR = 1.00

ADDITIONAL DRAFT = 1.00 CUM/D/
                                                                                                                                                                                                                                  GW TANK INTERCONNECTION 0 0

******* AQUIFER NO. 1 ******

CORFFICIENTS .000

CORFFICIENTS .000

G-EKIGHT 490.000 1

AQUIFER THICK 27.00

INITIAL W.L. 175.000

GROUND LEVEL 183.00
                                                                                                                                                                                                                                                                  ******* SUB-BASIN NO.28
                                                                                                                                                                                                                                                                                                                                                    (CASE 1)
                                                                                                                      1.00 CUM/DAY
       TANK DIMENSIONS
TANK NO. 1 COEFFICIENTS
HEIGHTS
                                                                                                                                                         .0800
70.000
37
                                                                                                                                                                                                                                                                                                                                                                 5.000
                                                                                                                                                                                                                                                                                                                                                                                                1.500
                                                                                                                                                                                                                                                                                                                                                                                                                               1.500
                                                                                                    .0450
                                                                                                                               .0100
15.000
                                                                                                                                                                                                                                                                                                                                                          .300
110.000
                                                                                                                                                                                           200.000
37
                                                                                                .000
10.000
.700
.1000
                                                                                                                                                                                                                                                                                                                                                                                          156.000
                                                                                                                                                                                                                                                                                                                                                                                                                         156,000
                                           NOUT
INITIAL W.L.
RATE OF ET
COEFFICIENTS
HEIGHTS
                                                                                                                                                           .0000
170.000
0
                                                                                                                                    .0030
                                                                                                                                                                                           .6000
60.000
37
                                                                                                                                                                                                   6000
       TANK NO. 2
                                                                                                                                                                                                                                                                            COEFFICIENTS .000
                                                                                                                                                                                                                                                                                                                                                                                                                                  . 300
                                                                                                                                                                                                                                                                                                                                                                                                    .500
                                                                                               0
10.000
550
37
       NOUT 0
INITIAL W.L. 1
RATE OF ET
GW TANK INTERCONNECTION 20
****** AQUIFER NO.
CORPTICIENTS 3
G-HEIGHT 4
                                                                                                                              37
                                                                                                                                                                                                                                                                           COEFFICIENTS
AQUIFER THICK
175.000
10111AL W.L. 175.000
11111AL W.L. 175.000
11111AL W.L. 175.000
11111AL W.L. 175.000
                                                                                                                                                                                                                                                                                                                                   .000
                                                                                                                                                                                  25
                                                                                                                                                   27
                                           CORPTICIENTS 0.000
AQUIFER TRICK 25.00
AQUIFER TRICK 25.00
INITIAL W.L. 175.000
CORPTICIENTS 0.00
CORPTICIENTS 0.00
CORPTICIENTS 5.000
CORPTICIENTS 7.000
INITIAL W.L. 170.000
                                                                                                                                90.000
5.000
                                                                                                                                                                                                                                                                                                                                                                                                  1,000
                                                                                                                                                                                                                                                                                                                                                                                                                                   .300
                                                                                                                                                                                               50.000
30.000
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                                                                                                                                                                                                                                                                                                                                                                                                 1.500
                                                                                                                                                                                                                                                                    ****** SUB-BASIN NO.29
                                                                                                                                                                                                                                                                                                                                                      (CASE
                                                                                                                                                                                                                                                                                                                                                                         1)
                                                                                                                                  10.000
                                                                                                                                                                 10.000
                                                                                                                                                                                                                                       GW TANK INTERCONNECTION 0

******* AQUIFER NO.

COEFFICIENTS

COEFFICIENTS
                                                                                                                                                                                                                                                                                                                                                                                                                 12
                                                                                                                                                                                                                                                                            20.000
1.500
96.000
                                                                                                                                                                                                                                                                                                                                                                                                                                1.500
                                         20.000
                                                                                                                                                                                                                                                                                                                                                                                            106,000
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                                                                                                                                      5.000
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                                                                                                                                                                                                                                                                                                                                                                                                   1.500
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                                                                                                                                                                      6.000
                                                                                                                                                                                                    3.000
                                                                                                                                                                                                                                                                             COEFFICIENTS
AQUIPER THICK
INITIAL W.L.
****** AQUIPER
COEFFICIENTS
COEFFICIENTS
                                                                                                                                                                                                                                                                                                                           120.000
NO. 4 ***
.100
10.000
                                                                                                                                                                                                                                                                                                                                                                                                   1.500
                                                                                                                                                                                                                                                                                                                                                                  .200
17.000
                                                                                                                                                                                                                                                                               AGUIFER THICK
INITIAL W.L.
                                                                                                                                                                                                                                                                                                                               120.000
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******* SUB-BASI	R NO.30 ((CASE 1)	******			****** SUB-BASI	N NO.34	(CASE 1)	•	
ANK INTERCONNECTION	o (0 17	,	GW TANK I	NTERCONNECTION 3		5 1:	3 0	
****** AQUIPER	NO. 1 ****	.000	20.000	5.000		coefficients	15,000		5.000	1.000
CONFFICIENTS CONFFICIENTS	15.000 1.500	.000	30.000	5.000		COEFFICIENTS	.500	2.000		
G-REIGHT	95.000	62.000	78.000	78.000		G-KEIGHT	70.000	46.000	59.00 0	68.000
AQUIFER THICK	25.00					AQUIPER THICK INITIAL W.L.	41.00 95.000			
INITIAL W.L. GROUND LEVEL	80.000 103.00					GROUND LEVEL	100.00			
****** AQUIFER	NO. 2 ****	****				COEFFICIENTS	NO. 2 ***	2,000	2,000	1,000
COEFFICIENTS	1.500	.000	2.000	1.000		CORFFICIENTS	1.500	3.000	1.000	
COEFFICIENTS AQUIPER TRICK	1.000	.000				AQUIFER THICK	27.00			
INITIAL W.L.	90.000					INITIAL W.L.	90.000			
****** AQUIFER		****				COEFFICIENTS	NO. 3 ***	3.000	2.000	1.000
COEFFICIENTS COEFFICIENTS	1.000	.000	2,000	1.000		CORFFICIENTS	.100	5.000		
AQUIFER TRICK	28,00	.005	-		•	AQUIFER THICK	31.00			
INITIAL W.L.	100.000					INITIAL W.L.	93.000			
****** AQUIFER COEFFICIENTS	NO. 4 ****	.000	2.000	1.000		COEFFICIENTS	.100	5.000	1.000	1.000
COEFFICIENTS	10.000	40.000	2.000	1.500		CONFFICIENTS	5.000	20,000		
AQUIFER THICK	156.00	1 111				AQUIFER TRICK	143.00			
INITIAL W.L.	100.000					INITIAL W.L.	95.000			
			٠.							
****** SUB-BASI	N NO.31	(CASE 1)	******			****** SUB-BASI	X NO.35	(CASE 1)	******	
		_			CW WARK I	INTERCONNECTION 3	4 3	.6 1	8 . 0	
ANK INTERCONNECTION ******* AQUIFER			0 21		GW IMAK I	****** AQUIFER	NO. 1 ***	****		
COEFFICIENTS		5.000	65.000	1.500		CORFFICIENTS	20.000	60.000	1.000	1.000
COEPFICIENTS	2.000	5,000				COEFFICIENTS G-HEIGHT	2.000 45.000	5.000 38.000	47.000	50.000
G-HEIGHT AQUIFER THICK	62.000 22.00	2.000	60.000	60,000		AQUIPER THICK	41.00			
INITIAL W.L.	50.000					INITIAL W.L.	82,000	+ 1		
GROUND LEVEL	82.00	100				GROUND LEVEL	85.00 NO. 2	****		
******* AQUIFER CORPFICIENTS	NO. 2 **** 2.000	5.000	5.000	1.000		COEFFICIENTS	2.000	5.000	1.000	1.000
COEFFICIENTS	1.000	5.000	3,000	1.000		COEFFICIENTS	3.000	3.000		
AQUIFER THICK	18.00					AQUIFER THICK	47.00 80.000			
INITIAL W.L.	63.000					INITIAL W.L.		****		
****** AQUIFER COEFFICIENTS	1.000	5.000	15,000	2,000		CORFFICIENTS	3.000	3.000	.500	.100
CORFFICIENTS	1,000	5.000	20.000			COEFFICIENTS	2.000	3.000		
AQUIFER THICK	60.00					AQUIPER THICK INITIAL W.L.	30,00 80,000			
INITIAL W.L.	95.000					****** AQUIPER	NO. 4 ***	****	•	
COEFFICIENTS	1.000	5.000	15.000	.500		COEFFICIENTS	2.000	3.000	.500	.100
COEPFICIENTS	.000	.003		•		CORFFICIENTS AQUIFER TRICK	15.000 160.00	65.000		
AQUIFER TRICK INITIAL W.L.	180.00 95.000					INITIAL W.L.	80.000			
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,									
						sasasasa SUB-BASI	v xo 36	/CASE 11	*******	
****** SUB-BASI	N NO.32	(CASE 1)	*******			ERRESES OUD-DADI		(0,000 1)		
ANK INTERCONNECTION	0		0 27	7	GW TANK	INTERCONNECTION 3	5 3		4 0	
****** AQUIPER	NO. 1 ***	****				COEFFICIENTS	50 000	100 000	100.000	50.000
COEFFICIENTS COEFFICIENTS	.300	60.000 15.000	60.000	50.000		CONFFICIENTS	10.000	15.000	100.000	*****
G-HEIGHT	2.000	-20.000	-8.000	~8.000		G-KEIGHT	38.000	30.000	30,000	40.000
AQUIPER THICK	73.00					AQUIFER THICK	41.00 72.000			
INITIAL W.L. GROUND LEVEL	63.000					INITIAL W.L. GROUND LEVEL	75.00			
****** AQUIFE	65,00 NO. 2 ***	***				***** AQUIFER	HO, 2 ***	****		
COEFFICIENTS	.300	15.000	15.000	20.000		COEFFICIENTS	10.000	15.000 2.000	20.000	3.000
CONFFICIENTS	100	30.000				COEFFICIENTS ACTIFER THICK	5.000 41.00	2.000	100	
AQUIFER THICK INITIAL W.L.	24.00 65.000					INITIAL W.L.	72.000			
****** AQUIFER		***				martupa acces	NO. 3 941	*****	2.006	
COEFFICIENTS	.100	30.000	30.000	20.000		CORFFICIENTS CORFFICIENTS	5.000 5.000	2.000 2.000	2.000	5.000
COEFFICIENTS AQUIFER TRICK	.100 59.00	30.000				AQUIPER THICK	34.00	2.000		•
INITIAL W.L.	70.000					INITIAL W.L.	75.000		**	
****** AQUIFER						******* AQUIFER		2,000	2.000	1.000
Coepficients Coepficients	.100	30.000	30.000	20.000		COEFFICIENTS COEFFICIENTS	5.000 30.000	90.000	2.000	1.000
AQUIFER TRICK	150.00	.000		•		ACCIPER THICK	145.00	4		
INITIAL W.L.	73.000					initial W.L.	80.000			
						•				
****** SUB-BASI	N NO.33	(CASE 1)	*****			****** SUB-BASI	N NO.37	(CASE 1)	******	
		(40.00								
ANK INTERCONNECTION		34"	8	0	GW TANK	INTERCONNECTION 3			37	
****** AQUIFER COEFFICIENTS	5,000		1.500	5.000		CORFFICIENTS	50.000	100.000	100.000	50.000
COEFFICIENTS	.100	2.000				CORFFICIENTS	10.000	15.000		
G~HEIGHT	130.000	70.000	98.000	90.000		G-BEIGHT AGUIFER THICK	.000 64.00	.000	.000	.000
AQUIFER THICK INITIAL W.L.	22.00 112.000					INITIAL W.L.	58.000			
GROUND LEVEL	115.00					GROUND LEVEL	60.00		4 4	
**** AQUIFE	R NO. 2 ***					****** AQUIFE	R NO. 2 ** 10.000	15.000	20.000	3.000
CORPFICIENTS	.100	2.000 1.000		.100		COEFFICIENTS COEFFICIENTS	5.000		20,000	3.000
COEFFICIENTS AQUIFER THICK	30.00					AQUIFER THICK	34 :00			
initial W.L.	93.000					INITIAL W.L.	60.000			
****** AQUIPEI			1 000	100		COEFFICIENTS	R NO. 3 ★# 5.000		2,000	5.000
COEFFICIENTS COEFFICIENTS	.200	1.000 100		.100		COEFFICIENTS	5.000	2.000		
AQUIPER THICK	25.00					ADUITER THICK	33.00			
INITIAL W.L.	92.000					INITIAL W.L.	60.000 ** \$0. 4			
COEFFICIENTS	.100		.500	.300		COEFFICIENTS	5.000	2.000	2.000	1.000
COEFFICIENTS	.000	10.000				CORFFICIENTS	30.000			
AQUIFER TRICK INITIAL W.L.	90.00					AQUIFER THICK INITIAL W.L.	150.00 62.000			
	30.000		*				-2.000			
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