

2-1 IAP事業について

Q IAP事業は有益でしたか

	大変有益	有益	効果なし
0 1	23 (68)	11 (32)	0
1 2	15 (65)	8 (35)	0
2 3	10 (43)	13 (57)	0
3 4	6 (50)	6 (50)	0
4 5	1 (20)	4 (80)	0
5 10	3 (75)	1 (25)	0
全体	58 (57)	43 (43)	0

Q かんがい問題は解消されましたか

	100% 解 消	50% 解 消	解消 されず
0 1	23 (68)	10 (29)	1 (3)
1 2	11 (48)	11 (48)	1 (4)
2 3	9 (39)	12 (52)	2 (9)
3 4	8 (67)	4 (33)	0
4 5	3 (60)	2 (40)	0
5 10	3 (75)	1 (20)	0
全体	57 (56)	40 (40)	4 (4)

Q No.5の方式はどう思いますか

	水が公平 に配水	増水した	水が 不自由	売水に対 する不満
0 1	33 (97)	8 (24)	3 (9)	9 (26)
1 2	21 (91)	9 (39)	5 (22)	3 (13)
2 3	22 (96)	13 (57)	2 (9)	0
3 4	11 (92)	8 (67)	0	0
4 5	5 (100)	3 (60)	0	0
5 10	4 (100)	0	0	0
全体	96 (95)	41 (41)	10 (10)	12 (12)

Q 生活は以前より良くなりましたか

	良くなった	変化なし	悪くなった
0 1	33 (97)	0	1 (3)
1 2	22 (96)	0	1 (4)
2 3	22 (96)	0	1 (4)
3 4	12 (100)	0	0
4 5	5 (100)	0	0
5 10	4 (100)	0	0
全体	98 (97)	0	3 (3)

2-2 S. T. W. P. について

ポンプ、井戸の所有状況

水 量

S T W P に対する農家の意見

($\text{l}/\text{秒}$)

(農家数に対する割合)

	1 農家 当りの 井戸の 本数	一農家当りの ポンプ所有数		井戸よりの 平均水量 (農家の 推測)		極めて 効果 有り	効果 有り	効果 なし
		インド製	日本製					
0 1	1.0		1.0	25 $\text{l}/\text{秒}$	0 1	0 %	0	100
1 2	1.0		0.8	19.0	1 2	40 %	40	20
2 3	1.0	0.5	0.3	17.0	2 3	33 %	17	50
3 4	1.1	0.3	0.5	11.4	3 4	25 %	63	12
4 5	1.3	0.2	0.9	16.4	4 5	38 %	62	0
5 10	1.5	0.3	0.9	17.2	5 10	39 %	50	11
10 15	1.5	0.5	0.7	13.7	10 15	45 %	55	0
15 20	1.75	0.0	1.0	11.8	15 20	0 %	100	0
20	1.7	1.2	1.5	17.6	20	83 %	17	0
全体	1.42	0.4	0.8	16.6	全体	40 %	51	9

ポンプの故障回数及びその修理方法

水 の 販 売

(農家数に対する割合)

	1 台当り 故障 回数	修 理 方 法				全農家 数に対 する販 売農家 数の割 合	1 戸当り 年間 合計販 売時間	1 時間 当り平 均料金	合計 料金
		自分にて	JADP にて	研修を 受けた 村人	研修を 受けて いない 村人				
0 1	1.0	0 %	100	0	0	0	0	0	
1 2	1.3	0 %	25	75	0	25	25HR	Rs 15.0	Rs 375
2 3	1.0	29 %	36	29	6	17	6.7	15.0	100.5
3 4	1.0	13 %	40	34	13	25	9.0	15.3	137.7
4 5	0.8	20 %	45	35	0	38	86.5	15.5	1,340.8
5 10	1.1	13 %	33	33	21	29	26.6	19.3	513.4
10 15	2.5	8 %	41	39	12	25	15.5	17.9	277.5
15 20	2.5	40 %	0	0	60	0	0	0	0
20	1.2	5 %	90	5	0	0	0	0	0
全体	1.7	14 %	42	31	13	25	28.1	16.3	458.0

2-3 STWPによる作物別かんがい状況

	早期作水稲						雨期作水稲						小 麦							
	A (Ha)	B (回)	C (hr)	D (hr)	E (hr)	F (ha)	A	B	C	D	E	F	A	B	C	D	E	F	G	H
0 1	0.34	4.0	3.0	12.0	12.0	0.34	0.85	2.0	7.5	15.0	17.6	0.85	0.85	4.0	3.0	12.0	14.1	0.85	2.68	69.0
1 2	0.65	6.0	6.9	41.4	42.1	0.65	0.76	2.5	14.1	35.3	46.4	0.76	0.51	2.8	10.5	29.4	57.6	0.51	1.92	106.1
2 3	0.60	3.2	10.3	33.0	55.0	0.60	0.91	1.7	24.1	41.0	45.1	0.91	0.49	2.7	8.8	23.8	48.6	0.49	2.46	117.4
3 4	1.40	2.0	20.4	40.8	29.1	1.27	1.23	1.3	32.7	42.5	34.5	1.12	0.74	2.6	16.6	43.2	58.4	0.67	3.85	169.6
4 5	1.29	2.8	30.4	85.1	66.0	0.99	1.22	1.8	33.9	61.0	50.0	0.94	0.71	2.4	18.7	44.9	64.1	0.54	3.70	223.6
5 10	2.14	2.3	30.3	69.7	32.6	1.43	3.22	1.8	61.6	110.9	34.4	2.15	1.35	2.3	28.9	66.5	49.3	0.90	7.71	302.7
10 15	2.72	2.5	45.6	114.0	41.9	1.81	2.89	2.0	54.8	109.6	37.9	1.93	2.10	2.8	36.6	102.5	48.8	1.40	8.35	364.9
15 20	3.57	2.5	41.3	144.6	40.5	1.75	2.38	1.5	85.0	127.5	53.6	1.36	3.40	2.8	73.6	206.1	60.6	1.94	13.24	628.7
20	4.00	2.3	94.3	216.9	54.2	2.35	4.80	1.8	114.1	205.4	42.8	2.82	3.18	2.2	77.4	170.3	53.6	1.87	13.96	695.9
全体	2.43	2.6	32.6	84.8	34.9	1.71	2.53	1.8	53.5	96.3	38.1	1.78	1.44	2.5	30.3	75.8	52.6	1.01	7.26	307.8

A = 1戸当りかんがい面積 (Ha)

B = 1作当りかんがい回数

C = 1回のかんがい時間

D = 1作の合計かんがい時間

E = Ha当りかんがい時間

F = 井戸1本のかんがい面積

G = 1戸当り年間かんがい合計面積

H = 1戸当り年間かんがい合計時間

I = 井戸1本当り年間かんがい合計面積

J = 井戸1本当り年間かんがい合計時間

	トーモロシ						たばこ						その他の							
	A	B	C	D	E	F	A	B	C	D	E	F	A	B	C	D	E	F	I	J
0 1	0.51	4.0	7.0	28.0	54.9	0.51	0.13	1.0	2.0	2.0	15.4	0.13	0.00	0.0	0.0	0.0	0.0	0.00	2.68	69.0
1 2	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	1.92	106.1
2 3	0.41	1.8	10.2	18.4	44.9	0.41	0.05	0.2	6.0	1.2	24.0	0.05	0.00	0.0	0.0	0.0	0.0	0.00	2.46	117.4
3 4	0.45	1.9	22.4	42.6	94.7	0.41	0.03	0.1	5.0	0.5	16.7	0.03	0.00	0.0	0.0	0.0	0.0	0.00	3.50	154.2
4 5	0.25	1.2	19.9	23.9	95.6	0.19	0.22	0.4	19.0	7.6	34.5	0.20	0.02	0.5	2.1	1.1	55.0	0.02	2.85	172.0
5 10	0.49	1.7	23.9	40.5	82.9	0.33	0.42	0.4	27.5	11.0	26.2	0.28	0.09	0.1	20.0	4.0	44.4	0.07	5.14	201.8
10 15	0.24	0.8	27.5	22.0	91.7	0.16	0.37	0.6	26.3	15.8	42.7	0.25	0.03	0.2	5.0	1.0	33.3	0.02	5.57	243.3
15 20	1.70	1.8	64.2	115.5	67.9	1.00	1.19	0.5	70.0	35.0	29.4	0.68	0.00	0.0	0.0	0.0	0.0	0.00	6.99	359.3
20	1.30	1.0	80.0	80.0	61.5	0.77	0.68	1.3	17.9	23.3	34.3	0.40	0.00	0.0	0.0	0.0	0.0	0.00	8.20	409.3
全体	0.46	1.4	26.5	37.1	80.7	0.32	0.36	0.5	24.9	12.5	34.7	0.25	0.04	0.16	8.4	1.3	32.5	0.03	5.11	216.8

2-4 研修について (A, Aの回答)

Q 今後希望する研修

	作物	園芸	土壌	病虫害	農業機械	かんがい	その他
76 77	25 (74)	14 (41)	15 (44)	24 (71)	12 (35)	13 (38)	0
77 78	18 (78)	10 (43)	12 (52)	18 (78)	7 (30)	8 (35)	0
78 79	10 (91)	4 (36)	5 (45)	8 (73)	3 (27)	3 (27)	0
79 80	1 (25)	1 (25)	3 (75)	2 (25)	0	0	0
80 81	11 (79)	11 (79)	7 (50)	11 (79)	86 (57)	0 (43)	0
81 82	2 (100)	2 (100)	2 (100)	2 (100)	1 (50)	1 (50)	0
82 83	6 (75)	3 (38)	3 (38)	4 (50)	2 (25)	0	0
全体	73 (76)	45 (47)	47 (49)	69 (72)	33 (34)	31 (32)	0

Q 研修は、営農に役に立ったと思いますか。

	大変役に立つ	役に立つ	変化なし
76 77	28 (82)	6 (18)	0
77 78	22 (96)	1 (4)	0
78 79	9 (82)	2 (18)	0
79 80	4 (100)	0	0
80 81	13 (93)	1 (7)	0
81 82	1 (50)	1 (50)	0
82 83	7 (88)	1 (12)	0
全体	84 (88)	12 (12)	

2-5 J. A. D. P. の認識

Q J. A. D. Pを知っていますか。また、その事業内容は、

対 照 地 区

(「知っている」と答えた農家数に対する割合)

	知っている	知らない	事 業 内 容					
			ボーリング	かんがい施	普 及	研 修	種子生産	その他
0 1	78 %	22 %	89 %	17 %	39 %	6 %	17 %	0 %
1 2	93	7	88	48	48	16	28	0.4
2 3	100	0	96	35	73	50	54	0
3 4	100	0	88	25	88	13	34	0
4 5	100	0	100	29	57	29	29	0
5 10	100	0	100	24	53	47	41	0
10 15	100	0	100	50	50	50	50	0
全体	93 %	7 %	93	32	57	29	36	1

Q J. A. D. Pの事業は、あなたの村にとって必要ですか。

(全農家数に対する割合)

	必 要	必要でなし
0 1	91 %	8 %
1 2	100	0
2 3	96	4
3 4	100	0
4 5	100	0
5 10	100	0
10 15	100	0
15 20	100	0
20	100	0
全体	96 %	4 %

COMARIWG OF BEFORE & AFTER IMF IN HASINAPUR

Year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	C B	N B	T C	G G N	N B
1980/81 Before IMF	N. paddy	7.2	1.60	1,167	3,200	2,033	8,403	23,043	14,637
	Wheat	0.5	1.00	1,317	1,750	433	658	875	217
	Beans	4.5	0.15	447	825	378	2,012	2,012	1,701
	Total	12.2	--	--	--	--	11,073	27,631	16,555
	cropping intensity	170 %							
1981/82 1st. year after IMF	E. paddy	2.39	1.59	1,774	3,188	1,414	4,290	7,619	3,379
	N. paddy	7.16	2.77	1,939	5,540	3,601	13,883	39,666	25,783
	Wheat	6.81	1.88	1,854	4,701	2,848	12,626	12,625	2,014
	Beans	3.73	G,manure	447	--	-447	1,667	--	-1,667
	Total	20.09	--	--	--	--	32,416	79,299	46,883
cropping intensity	279 %					46,883 - 3,377 = 43,506			

- (1) T C; total cost. (Rs) G B; grand benefit N B; net benefit
- (2) production cost & selling price; at present in year
- (3) pump's durable years; 8 years
- (4) ex.; expenditure
- (5) 3,377; annual capital cost

COMPARING OF INSIDE & OUT OF IMF IN HASINAPUR

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G B	N B
1982/83 2nd year inside IMF (7.2 ha)	E. paddy	3.96	2.57	2,736	6,925	3,689	10,834	25,443	14,609
	N. paddy	7.00	3.14	2,598	7,850	5,252	18,186	54,950	36,764
	Wheat	6.97	2.13	2,475	6,390	3,915	17,250	44,538	27,268
	Millet	0.45	2.22	2,527	4,440	1,913	1,137	1,993	861
	Maize	0.20	1.80	3,003	4,500	1,498	600	900	300
	Pulses	0.47	0.40	1,199	2,200	1,001	564	1,034	470
	Total	19.05	--	--	--	--	48,571	128,863	80,292
cropping intensity	265 %					80,292 - 3,377 = 76,912			
1982/83 Out of IMF (13.57 ha)	E. paddy	2.32	2.22	2,317	5,539	3,222	5,380	12,855	7,475
	N. paddy	7.63	1.58	2,226	3,938	1,713	16,924	31,341	14,417
	Wheat	1.36	1.68	2,505	5,025	2,520	3,520	7,021	3,501
	Millet	0.65	1.30	2,465	2,595	130	1,688	1,730	42
	W. pulses	1.60	0.70	429	2,256	1,827	594	2,800	2,206
	Potato	0.27	9.00	5,186	9,000	3,814	1,385	2,403	1,013
	Oil seed	0.67	0.25	1,094	2,000	706	697	1,128	431
	Oat	0.16	0.54	1,049	1,620	576	167	259	92
	Onion	0.03	12.00	3,901	15,000	11,099	117	450	333
Total	14.74	--	--	--	--	30,472	59,987	29,515	
cropping intensity	109 %					(7.2 ha = 15,550)			

- (1) T C; total cost (Rs) G B; grand benefit N B; net benefit
- (2) pump's durable years; 8 years
- (3) production cost & selling price; at present in year
- (4) ex.; expenditure
- (5) 3,377; annual capital cost

COMPARING OF INSIDE & OUT OF IMF IN HASINAPUR

Year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G B	N B
1983/84 3rd year inside of IMF (7.2ha)	E. paddy	3.28	2.02	2,985	5,050	2,065	9,790	16,564	6,773
	N. paddy	6.78	2.55	2,520	7,012	4,492	17,085	47,541	30,456
	Wheat	5.56	1.94	2,788	4,850	2,062	15,502	26,966	11,464
	Millet	0.65	0.97	2,973	1,940	-1,033	1,932	1,261	-671
	Total	16.27	-	-	-	-	44,309	92,332	48,023
cropping intensity 226 %							48,023 - 3,377 = 44,646		
1983/84 Out of IMF (13.57 ha)	E. paddy	3.54	1.77	2,470	4,425	1,955	8,743	15,664	6,920
	N. paddy	11.20	2.02	2,715	5,555	2,840	30,408	62,216	31,808
	Wheat	3.76	1.64	2,543	4,100	1,557	9,562	15,416	5,854
	Linseed	3.93	0.31	402	1,860	1,458	1,579	7,309	5,730
	Khesari	0.34	1.20	807	4,800	3,993	275	1,632	1,357
	Millet	0.16	1.01	2,274	2,020	-254	364	324	-40
	B. gram	0.16	1.20	1,497	7,200	5,702	240	1,152	912
	Total	23.09	-	-	-	-	51,171	103,713	52,541
cropping intensity 170 %							(7.2 ha = 27,877		

COMPARING OF BEFOR & AFTER IMF IN SAPHI

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G B	T C
1980/81 Before IMF (4.4ha)	N. paddy	4.4	1.50	1,154	3,000	1,846	5,078	13,200	8,123
	Wheat	0.5	0.60	1,074	1,500	428	536	750	214
	W. pulses	4.1	0.10	447	550	103	1,833	2,255	422
	Total	9.0	-	-	-	-	7,447	16,205	8,758
cropping intensity 205 %									
1981/82 1st year inside of IMF (4.4 ha)	N. paddy	4.4	2.84	1,798	5,680	3,882	7,912	24,992	17,080
	Wheat	3.63	1.60	1,764	4,000	2,236	6,403	14,520	8,117
	Moong	3.55	0.07	447	335	-112	1,587	1,189	-398
	Total	11.58	-	-	-	-	15,902	40,701	24,799
cropping intensity 263 %							24,799 - 3,377 = 21,422		

- (1) TC : total cost (Rs), CB : grand benefit, NB : net benefit.
- (2) production cost & selling price : at present in year
- (3) pump's durable year : 8 years
- (4) ex. : expenditure
- (5) 3,377 : annual capital cost

COMPARING OF INSIDE & OUT OF IMF IN SAPHI

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. income Rs/total area		
				T C	G B	N B	T C	G B	N B
1982/83 2nd year inside of IMF (4.4ha)	E. paddy	2.43	2.26	2,954	5,650	2,696	7,178	13,750	6,552
	N. paddy	3.73	2.44	2,392	6,100	3,708	8,946	22,814	13,868
	Wheat	4.25	1.81	2,571	5,430	2,857	10,927	23,078	12,151
	Millet	0.18	1.23	2,313	2,460	147	416	443	27
	S. Beans	0.53	0.50	1,257	2,750	1,475	626	1,458	832
	Total	11.13	-	-	-	-	28,093	61,523	33,430
	cropping intensity 253 %				33,430 - 3,377 = 30,053				
1982/83 Out of IMF (21.52ha)	E. paddy	1.20	1.27	2,414	3,163	749	2,864	3,479	615
	N. paddy	10.82	2.00	2,469	5,000	2,577	26,722	54,613	27,841
	Wheat	4.70	1.47	2,660	4,415	1,755	13,425	21,529	8,140
	Millet	0.39	1.10	1,781	2,200	419	659	858	163
	W. pulses	3.81	0.52	739	2,860	2,121	2,816	10,896	8,080
	S. Beans	0.59	0.46	1,258	2,530	1,272	742	1,493	751
	Patato	0.20	7.00	5,792	7,000	1,208	1,158	1,400	242
	Total	21.71	-	-	-	-	45,426	92,720	47,294
cropping intensity 101 %				(4.4ha = 9,670)					

COMPARING OF INSIDE & OUT OF IMF IN SAPHI

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G B	N B
1983/84 3rd year Inside of IMF (4.4ha)	E. paddy	1.16	2.15	2,092	5,375	3,283	2,479	6,235	3,756
	N. paddy	4.37	2.99	3,159	8,222	5,063	13,805	35,930	22,125
	Wheat	3.89	1.72	2,064	4,300	2,236	8,029	16,728	8,699
	Moong	0.10	0.30	847	1,800	953	85	180	95
	Total	9.52	-	-	-	-	24,398	59,073	34,675
cropping intensity 216 %				34,675 - 3,377 = 31,298					
1983/84 Out of IMF (12.54ha)	E. paddy	1.48	2.30	1,628	5,750	4,123	2,409	8,510	6,101
	N. paddy	11.54	2.05	2,015	5,637	3,622	23,252	65,050	41,798
	Wheat	6.03	0.91	1,535	2,275	740	9,256	13,718	4,462
	Millet	0.58	0.72	1,525	1,440	-85	884	835	-49
	Moong	0.52	0.30	1,051	1,800	749	546	935	389
	Lentil	4.13	0.34	486	2,040	1,554	2,007	8,425	6,418
	Khesari	0.69	0.28	782	1,120	338	538	772	234
	Potato	0.86	10.93	7,808	10,930	3,122	6,715	9,399	2,684
Total	25.83	-	-	-	-	45,607	107,644	62,037	
cropping intensity 206 %				(4.4ha = 21,767)					

COMPARING OF BEFORE & AFTER IMF IN GOUSHALA

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G N	N B
1980/81 Before IMF (4.1ha)	M. paddy	4.1	1.50	1,200	3,000	1,800	4,920	12,300	7,380
	Tobacco	2.4	0.86	3,000	8,600	5,630	7,200	20,688	13,488
	S. potato	0.33	6.00	1,050	1,500	450	346	495	149
	Millet	0.33	1.20	1,250	1,800	550	412	594	182
	Total	7.16	-	-	-	-	12,878	34,077	21,199
cropping intensity 175 %									
1981/82 1st year after IMF (4.1ha)	E. paddy	0.12	2.4	3,662	4,800	1,138	440	576	136
	N. paddy	4.1	3.62	2,400	7,240	4,840	9,340	29,684	19,844
	Wheat	3.67	2.89	1,902	7,225	5,321	6,988	26,516	19,528
	Total	7.89	-	-	-	-	17,268	56,776	39,508
	cropping intensity 192 %								
							39,508 - 3,377 = 36,131		

COMPARING OF INSIDE & OUT SIDE OF TMF IN GOUSHALA

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G B	N B
1982/83 2nd year Inside of IMF (4.1ha)	E. paddy	0.27	2.75	2,266	6,875	4,609	612	1,856	1,244
	N. paddy	4.1	2.05	3,014	5,638	2,624	12,357	23,114	10,758
	Wheat	3.86	3.49	2,970	10,470	7,500	11,464	40,414	28,950
	Moong	0.27	0.30	920	1,650	730	248	446	198
	Total	8.50	-	-	-	-	21,893	63,728	41,150
cropping intensity 207 %									
							41,150 - 3,377 = 37,773		
1982/83 Out of IMF (8.01ha)	N. paddy	3.04	0.80	2,476	2,000	-476	7,527	6,080	-1,447
	Oil seed	1.34	0.60	861	4,800	3,439	1,154	6,432	5,278
	Pulses	2.68	0.25	429	1,375	946	1,150	3,685	2,535
	S. potato	0.50	6.60	3,229	3,300	71	1,615	1,656	36
	Sugarcane	1.34	6.00	16,974	21,600	4,026	22,745	28,140	5,395
Total	8.90	-	-	-	-	34,191	45,993	11,802	
cropping intensity 111 %									
							(4.1ha = 6,041)		

- (1) TC : total cost, GB : grand benefit, NB : net benefit.
- (2) ex : expenditure
- (3) Pump durable year : 8 year
- (4) 3,377 : annual capital cost

COMPARING OF INSIDE & OUT OF IMF IN GOUSHALA

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G B	N B
1983/84 3rd year Inside of IMF (4.1ha)	E. paddy	0.33	2.47	2,968	6,175	3,207	979	2,037	1,058
	N. paddy	3.63	2.40	3,057	6,600	3,543	11,097	23,958	12,861
	Wheat	2.35	2.66	2,602	6,650	4,048	6,114	15,627	9,512
	Tobacco	1.26	0.60	3,418	8,400	4,982	4,306	10,584	6,277
	Mustard	0.33	0.45	1,760	3,600	1,839	580	1,188	667
	S. potato	0.16	6.00	2,548	3,000	452	407	480	72
	Total	8.06	-	-	-	-	-	23,483	53,874
cropping intensity 197 %							30,447 - 3,377 = 27,070		
1983/84 Out of IMF (8.01ha)	E. paddy	1.00	2.10	2,663	5,250	2,587	2,663	5,250	2,587
	N. paddy	4.00	1.20	2,592	3,300	707	10,371	13,200	2,828
	Wheat	0.33	1.80	2,274	4,500	2,225	750	1,485	734
	Mustard	4.10	0.60	962	4,800	3,838	3,945	19,680	15,735
	Total	9.43	-	-	-	-	-	17,729	39,615
cropping intensity 118 %							(4.1ha = 11,206)		

COMPARING OF BEFORS & AFTER IMF IN ISWARPUR

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G N	N B
1980/81 Before IMF (5.6ha)	E. paddy	0.50	2.40	1,505	4,764	3,259	753	2,382	1,629
	N. paddy	5.60	2.30	1,416	4,600	3,184	7,930	25,760	17,830
	Wheat	1.00	0.80	1,339	2,000	661	1,339	2,000	661
	Maize	4.00	1.00	1,317	1,750	433	5,268	7,000	1,732
	Pulses	0.60	0.20	447	1,000	653	269	660	391
	Total	11.70	-	-	-	-	-	15,559	37,802
cropping intensity 209 %									
1981/82 1st year Inside of IMF	E. paddy	0.10	2.40	5,722	4,800	-922	572	480	-92
	N. paddy	5.60	3.73	2,354	7,460	5,106	13,183	41,776	28,593
	Wheat	1.57	3.17	3,374	7,925	4,551	5,297	12,422	7,145
	W. maize	3.80	0.90	1,317	1,575	258	5,044	6,032	988
	Pulses	0.50	0.2	447	1,100	653	223	550	327
	Total	11.60	-	-	-	-	-	24,319	61,280
cropping intensity 207 %							36,961 - 3,377 = 33,584		

- (1) T C : total cost, G B : grand benefit, N B : net benefit.
- (2) ex : expenditure
- (3) Pump durable year : 8 years
- (4) 3,377 : annual capital cost

COMPARING OF INSIDE & OUT OF IMF IN ISWARPUR

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G B	N B
1982/83 2nd year inside of IMF (5.6ha)	E. paddy	2.04	2.93	2,927	7,325	4,398	5,971	14,943	8,972
	N. paddy	5.60	3.16	2,531	7,900	5,369	14,173	44,240	30,067
	Wheat	1.61	3.30	4,119	9,900	5,781	6,632	15,939	9,307
	Maize	0.90	2.70	2,536	5,400	2,864	2,282	4,860	2,578
	Moong	0.17	0.54	1,279	2,970	1,691	217	505	288
	Pulses	1.04	0.60	431	3,300	2,819	500	3,432	2,932
	Pulses	1.48	0.36	578	1,980	1,402	855	2,930	2,075
	Oil seed	0.68	0.18	331	1,440	1,089	239	979	740
	Total	13.52	-	-	-	-	-	30,869	87,828
cropping intensity 241 %				56,959 - 3,377 = 53,580					
1982/83 Out of IMF (1.67ha)	M. paddy	1.34	2.40	2,382	6,000	3,618	3,192	8,040	4,848
	Maize	0.33	1.92	1,793	4,800	3,007	591	1,584	992
	Tobacco	1.34	0.67	4,536	10,080	5,544	6,078	13,507	7,429
	Total	3.01	-	-	-	-	-	9,861	23,131
cropping intensity 180 %				(5.6ha = 44,498)					

COMPARING OF INSIDE & OUT OF IMF IN ISWARPUR

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G B	N B
1983/84 3rd year inside of IMF (5.6ha)	E. paddy	5.33	2.40	2,390	6,000	3,610	12,743	31,980	19,237
	N. paddy	4.67	3.10	2,391	8,525	6,134	11,166	39,811	28,845
	Wheat	1.16	3.13	2,265	7,825	5,560	2,628	9,077	6,449
	Moong	0.06	0.80	1,639	4,800	3,160	98	288	190
	Lentil	2.66	0.66	475	3,300	2,824	1,263	7,980	6,717
	Total	13.88	-	-	-	-	-	27,898	89,136
cropping intensity 248 %				61,238 - 3,377 = 57,861					
1983/83 Out of IMF (1.67ha)	M. paddy	1.00	2.40	2,026	7,562	5,536	2,026	7,562	5,536
	W. maize	0.67	2.10	1,915	5,250	3,334	1,283	3,517	2,234
	Tobacco	0.66	0.65	4,638	9,100	4,462	3,062	6,006	2,944
	Lentil	1.00	0.61	540	3,050	2,510	540	3,050	2,510
Total	3.33	-	-	-	-	-	6,911	20,135	13,224
cropping intensity 199 %				(5.6ha = 44,343)					

COMPARING OF BEFORE & AFTER IMF IN IAP NO,5

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G B	N B
1979/80 Artesin Irrigation (45.6ha)	E. paddy	10.5	1.99	1,100	2,978	1,885	11,550	31,343	19,793
	N. paddy	45.0	2.08	1,093	3,120	2,027	140,400	231,615	90,215
	Wheat	12.0	1.33	1,180	2,394	1,214	14,160	29,728	15,568
	Maize	4.2	2.00	1,152	2,600	1,448	4,838	10,920	6,082
	Pulses	9.0	0.20	420	1,000	580	3,780	9,000	5,220
	Total	80.7	--	--	--	--	--	312,600	137,878
	cropping intensity 179 %								
1982/83	E. paddy	12.60	2.10	2,469	5,250	2,783	31,074	66,129	35,055
	N. paddy	42.57	2.53	2,724	6,958	4,234	115,961	296,202	180,241
	Wheat	18.32	1.92	2,727	5,760	3,033	49,959	105,523	55,564
	Pulses	8.60	0.59	1,253	2,950	1,697	10,776	25,370	14,594
	Pulses	3.40	0.60	994	2,400	1,406	3,380	8,160	4,780
	Oil seed	0.86	0.65	1,364	5,200	3,836	1,173	44,472	3,229
	Total	86.35	--	--	--	--	212,323	505,856	293,533
	cropping intensity 192 %							293,533 - 3,377 =	288,468

AFTER IMF IN IAP NO,5

year	crops	cultivated area ha	yield t/ha	expenditure & income Rs/ha			ex. & income Rs/total area		
				T C	G B	N B	T C	G B	N B
1983/84 2 nd year inside of IMF(IAP 5)	E. paddy	17.4	2.20	2,584	5,770	3,180	44,962	100,398	55,436
	N. paddy	40.73	2.66	2,828	7,315	4,487	115,184	297,940	182,756
	Wheat	29.96	2.23	2,368	5,575	3,207	70,945	167,027	96,082
	Millet	3.15	1.20	2,123	3,000	877	6,687	9,450	2,763
	Chickpea	3.07	0.69	1,055	4,197	3,216	3,239	12,185	9,646
	Linseed	4.53	0.25	718	1,521	875	3,253	6,890	3,637
	other pulses	7.90	0.88	961	4,484	3,369	7,592	35,424	27,832
	Total	106.74	--	--	--	--	251,862	630,014	378,152
cropping intensity 234 %							378,152 - 3,377 =	374,775	

- (1) T C : total cost, G B : grand benefit, N B : net benefit
- (2) ex : expenditure
- (3) Pump durable year : 8 years
- (4) 3,377 : annual capital cost

3-6 主要三作物の年間総収量 (t/ha)

IMFかんがい区

年度 \ 区名	Hasimapur	Saphi	Goushala	Iswarpur
IMF 1年目 1981/82	5.06	4.16	6.21	5.27
IMF 2年目 1982/83	6.57	5.08	5.52	5.61
平均	5.82	4.62	5.87	5.44

改良技術の実証、展示

年度 \ 区名	Hasimapur	Saphi	Goushala	Iswarpur
IMF 1年目 1981/82	2.76	5.48	7.55	8.26
IMF 2年目 1982/83	6.50	5.46	6.00	8.10
平均	4.63	5.47	6.78	8.18

非かんがい区

年度 \ 区名	Hasimapur	Saphi	Goushala	Iswarpur
IMF導入前 1980/81	2.60	2.10	1.50	3.36
IMF外地区 1982/83	3.26	3.43	0.80	4.32
平均	2.93	2.77	1.15	3.84

3-7-a 輪作体系の變化

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Hasinapur	I.M.F 導入前	Pulses							Normal paddy			Fallow	
			wheat	Fallow					Normal paddy			wheat	
	作付計画	Maize		Mung Bean					Normal paddy				Maize
			wheat		Early paddy Mung Bean				Normal paddy				wheat
	導入後 第1年目		wheat			Early paddy Mung Bean			Normal paddy				wheat
			wheat			Early paddy Maize wheat Bean			Normal paddy				wheat
Sapht	I.M.F 導入前	Pulses							Normal paddy			Pulses wheat	
		wheat			Fallow				Normal paddy			wheat	
	作付計画				Early paddy Millet				Normal paddy				wheat
						Mung Bean			Normal paddy				wheat
	導入後 第1年目					Mung Bean			Normal paddy				wheat
						Early paddy Millet Bean			Normal paddy				wheat
IAPNO.5	I.M.F 導入前	Pulses							Normal paddy			Pulses wheat Maize	
		wheat				Fallow			Normal paddy			wheat	
	作付計画	Maize			Early paddy				Normal paddy				
		wheat			Early paddy Mung Bean				Normal Paddy				wheat
	導入後 第2年目	Maize				Mung Bean			Normal Paddy				Maize
		wheat				Early paddy Millet Beans			Normal Paddy				wheat
I.M.F 導入後 82/83	Beans				Early paddy			Normal paddy					
	Fallow					Early paddy		Normal paddy					

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Peral plan	Present	Pulses wheat			Fallow			Normal Paddy	Normal Paddy			Pulses wheat	
	Produced	wheat			E, paddy Mung bean			Normal paddy	Normal paddy			wheat	
	I M F 導入前	wheat											wheat
		Pulses				early paddy							Pulses
	作付計画	Maize				Fallow			Normal paddy	Normal paddy			Maize
			wheat			Early paddy			Normal paddy	Normal paddy			wheat
			Maize			Mung Beans							Maize
			wheat			Early paddy Mung Beans			Normal paddy	Normal paddy			wheat
	導入後 第1年目		Maize			Mung Beans							Maize
			wheat			Early paddy							wheat
		Maize			Mung Beans							Maize	
		wheat			Early paddy							wheat	
導入後 第2年目		Maize			Mung Beans							Maize	
		wheat			Early paddy							wheat	
		Maize			Mung Beans							Maize	
		pulses										pulses	
I M F 導入前	Tabacco				Fallow			Middle paddy			Tabacco		
作付計画	Tabacco				Maize			Middle paddy			Tabacco		
					Mung Bean							Pulses	
導入後 第1年目		wheat			Early paddy Mung Bean			Normal paddy	Normal paddy			wheat	
導入後 第2年目		wheat			Early paddy Dhairicha			Normal paddy	Normal paddy			wheat	
川水利用 のかんが い地域 82/83		wheat						Normal paddy	Normal paddy			wheat	
		Maize			Beans			Normal paddy	Normal paddy			Maize	
		Mustard			Early paddy							Mustard	

3-8 工事概要一覧表

地区名	Isuwarupur	Goshala	Saphi	Hasinapur	I A P No 5
郡名	Sarlahi	Mahottari	Dhanusha	Dhanusha	Dhanusha
受益面積 (ha)	5.6	4.1	4.6	7.2	45.6
受益者 (人)	2	2	2.0	17	122
水源	浅井戸 39.7	浅井戸 27.2	浅井戸 31.3	浅井戸 27.9	深井戸 130
揚水量 ¹ (m)	2,200 6	2,200 14	2,200 20	2,200 23	2,200 50
r p m l/s	1,600 5	1,700 12	1,600 18	1,600 20	1,800 43
工事タイプ	general	ganeral	general	Intensive	general
用水路 (m)	幹 135 支 470	幹 142 支 370	幹 249 支 550	幹 498	幹・新 1,406 幹・改 328
農道 (m)	135	142	249	498	1,734
揚水機場 (m)	3×2	3×2	3×2	3×2	4.5×3.0
ポンプセット	横軸・渦巻型 4", 8HP	横軸・渦巻型 4", 8HP	横軸・渦巻型 4", 8HP	横軸・渦巻型 4", 8HP	横軸・渦巻型 6", 11HP
付帯構造物					
分水工	4	6	6	15	32
落差工	1	—	—	5	3
静水工	1	—	2	2	—
吐出槽	1	1	1	1	1
交換分合	無	無	無	有	無
均平	無	無	無	有	無
工費 (人/RS) ²	66,100	62,500	82,000	146,700	370,800

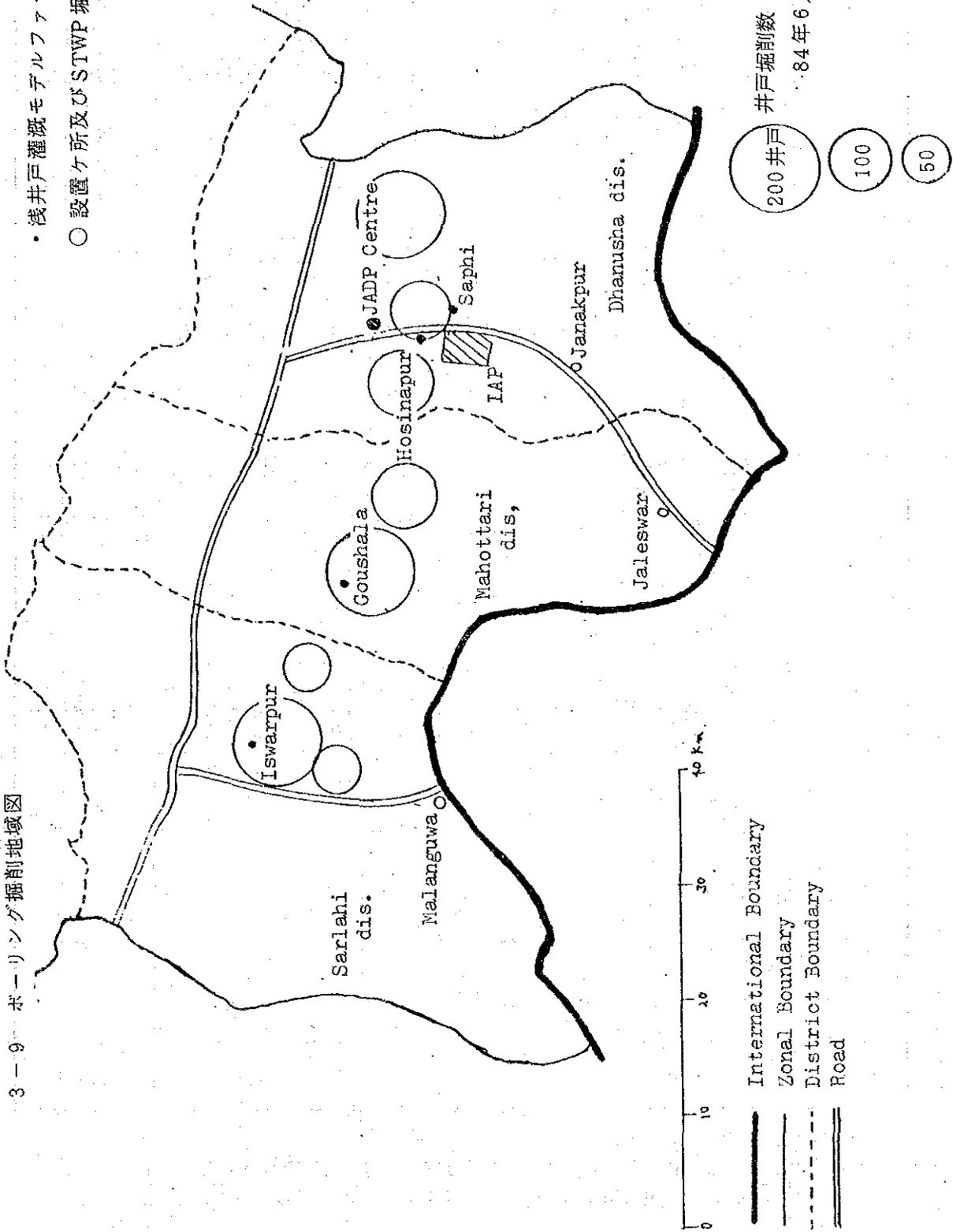
1 : 揚水量測定は1982年9月

2 工費は直営分、請負分、ポンプセット及び据付工費の合計の概算である。

3 Isuwarupur 区の揚水量は1983年4月より15ℓ/秒になっている。

3-9 ボーリング掘削地域図

- ・浅井戸灌漑モデルファーム
- 設置ヶ所及びSTWP掘削ヶ所



COST OF PRODUCTION AND EXPECTED PRODUCTION INCREASE FOR
SHALLOW TUBE-WELL DEVELOPMENT PROGRAMME IN TERAI PLAIN
OF JANAKPUR ZONE

3-10

(Per ha. base)

Crops Items	Paddy		Wheat	Maize			Mung bean	Tobacco
	Normal	Early		Winter	Spring	Summer		
Duration(days)	120	100	120	150	120/90	120/90	75	120
Days/Times of irrigation	105	85	4times	5times	4times	4times	2times	5times
Required water (mm/day or time)	6.28 mm/day	6.28 mm/day	60mm/ time	60mm/ time	60mm/ time	60mm/ time	60mm/ time	60mm/ time
Water for field preparation	100mm	100mm	-	-	-	-	-	-
Total water required(m /ha.)	7,600	6,340	2,400	3,000	2,400	2,400	1,200	3,000
Expected effective rainfall(m /ha.)	5,600 6/15- 11/30	2,670 4/15- 7/15	-	-	640 2/1- 5/30	4,390 4/15- 8/15	1,050 4/15- 6/30	-
Water to be irrigated (m /ha.)	2,000	3,670	2,400	3,000	1,760	-	150	3,000
Pump operation (hrs./ha/)	77	141	92	115	68	-	6	115
Pump operation/ running cost (fuel lubricant) A. (RS/ha.)	716	1,311	855	1,070	632	-	56	1,070
Fertilizer cost (RS/ha.)	472	472	782	722	722	722	193	903
Seed (RS/ha.)	70	70	318	40	40	40	100	45
B.fertilizer seed	542	542	1,100	762	762	762	293	948
Labour/operation cost(RS./ha.)								
Present	850	850	630	650	650	650	450	3,500
C. Programme	950	950	680	720	720	720	500	4,000
Total cost(RS.) A B C	2,208	2,803	2,635	2,552	2,114	1,482	849	6,018
Expected yield (t/ha.)	3.5	3.0	2.5	3.0	2.8	2.8	0.5	1.0
Expected unit price of product(RS/kg)	1.5	1.5	1.8	1.3	1.3	1.3	5.0	13.2
Gross output D. (RS/ha.)	5,250	4,500	4,500	3,900	3,640	3,640	2,500	13,200
Net benefit(RS/ha.) D - (A B C)	3,042	1,697	1,865	1,348	1,526	2,158	1,651	7,182

Note : *Effective rainfall recorded in 1981 at Hardinath Agriculture Farm, counted on daily rainfall base with 80% of more than 5mm and less than 80mm.

**Pump operation hours and running cost are calculated based on the assumption of 10 l/sec(discharge), 28% losses and fuel consumption of 1.5 litre/hour.

Unit price of inputs are assumed as follows:

Fuel/diesel : RS.5.65/l., Lubricant: 10% of fuel cost,

Fertilizer Urea: RS.3.10/kg,

Triple Super Phosphate(TSP): RS.2.73/kg.

Labour: RS.6.0/day (7 hours/day)

ネパールジャナカプール農業開発計画

Janakpur Zone Agricultural Development Project in Nepal

国際協力事業団、農業開発協力部→名札

浅井戸かんがい計画

Shallow Tube - Well Programme

参 考 文 献

Benchmark Cum Evaluation on Janakpur Aanchal
Agricultural Development Project -1977-
Agricultural Projects Services Centre

Nepal District Profile -1982-
National Reseach Associates

Statistical Pocket Book -1982-
Central Baream of Statistics

ネパール、ジャナカプール県タライ平野の浅井戸かんがいの経済分析-昭和56年-
国際協力事業団、農業開発協力部

ジャナカプール農業開発計画浅井戸かんがい計画 -昭和55年-
同 上

ネパール・ジャナカプール農業開発計画エバリュエーション調査報告書-昭和58年-
同 上

ネパール農業開発計画総合報告書(15) -昭和58年-
同 上

Summary of Field Studies Concerning Irrigation Cum Crops Cultivation
with some Recommendations At Janakpur Zone in Nepal -昭和59年-

