2．クエスチョネア

To Ministry of Agriculture:
From: Basic Study Team (JICA)

QUESTIONNAIRE FOR BASIC STUDY FOR AGRICULTURAL DEVELOPMENT

(September 1997)

This questionnaire has been made for the purpose of collecting basic information and data on current situation of land consolidation, rice cultivation, and so on.

A Current situation of land consolidation for paddy field

A-1 How many acreage of total paddy field, and in which how many acres has been already consolidated by land consolidation project?
Do you have any standard when you judge the field consolidated or not? Do you have any standard shape and/or space in your judge?

A-2 Please prepare a list of land consolidation projects operated or under operating your country in which includes information;

1) name of project,
2) name of region,
3) project period,
4) total acreage,
5) total amount of construction cost and in which shared by national budget,
6) operating organization and
7) average farmers share (rial/ha) of each consolidation project.

Please describe all projects operated by CAPIC, SWESC, local governments and private sector in this list.

A-3 Please show the current situation of national budget for operating land consolidation project, at least since 1992.

A-4 Do you have any plan for implementation on land consolidation in national level or regional level? If any, target area and year?

A-5 Do you have any data which shows effect of land consolidation, in crop productivity or unit labor productivity? If any, please show us.

B Procedures and organizations of land consolidation.

B-1 How do you obtain farmer's agreement for participating to land consolidation project?
Do you have any support by law or act for stimulating land consolidation project?
Do you have any subsidies or financial support for farmers who join to land consolidation project?
Do you have any difference in subsidy rate or amount of subsidy according to project scale?
Do you have any financial support for farmers such as low interest loan? If any, please describe details such as rate and duration?

B-2 Who have responsibility to plan and design whole land consolidation project? CAPIC or SWESC or Local Government or any other public sector or private sector?
Who approve the total plan?

B-3 Who have responsibility to implement the land consolidation project?
Who have responsibility to pay the cost for the project.
Do you have any regal organization to implement each project?

B-4 Who have responsibility to maintain land consolidated area, especially public space such as irrigation canals or roads or reservoirs? Do you have any farmers group for maintains such facilities?

B-5 How many planners and designers who can plan land consolidation projects in public sectors.

B-6 How many private consulting company which can design land consolidation? How many designers in this sectors?

B-7 Please prepare a list on employed technical personnel for land consolidation in which includes

information on;

1) number of employees,

2) employed section,

3) academic carrier of employees (bachelor, diploma or high school graduate),

4) speciality of employees.

Please describe for all employees adapted by the Government (CAPIC, SWESC, Local Government) and private sector (consultant and construction company) since 1994.

B-8 Please prepare list of plan on recruiting technical personnel for land consolidation in which includes information on;

1) number of recruits,

2) recruiting section,

3) academic carrier of recruits (bachelor, diploma or high school graduate),

4) speciality of recruits.

Please describe for all recruits employing by Ministry of Agriculture, CAPIC, SWESC, or other national organizations on 1997 or further.

C Situation and function of CAPIC

C-1 Please describe details on current situation and function of CAPIC. Which section in headquarters is CAPIC belong to? Is CAPIC characterized as training organization? How CAPIC to obtain budget?

D Situation of rice production or rice growing farmers

D-1 Please describe statistical data on current situation of rice production including total rice production area, number of rice production farmers and average paddy acreage of rice farmer at least since 1992.

D-2 Please describe statistical data on farmers' possession rate of agricultural machinery including common tractor, hand tractor, manual transplanter, powered transplanter, combing harvester, binder (harvester), drier and thresher at least since 1992.

D-3 Please describe average labour input for rice production per acreage (ha) and per production (metric ton). Do rice farmers hire labours? If any, please show how many labors and cost per one person.

D-4 Please describe statistic data on rice price on farmers' gate and on market at least since 1992.

D-5 What kind of agricultural extension organizations are there?
What are their roles?
How many staffs are working there?

D-6 What kind of test and research institute is there?
What are their roles?
Where are they located?
How many researchers are working there?

D-7 How the seed is planted on nursery and how the seedling is distributed?

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Who approve the total plan?

6 Who have responsibility to implement the land consolidation project?
Who have responsibility to pay the cost for the project.
Do you have any regal organization to implement each project?

7 By who the construction is ordered?

8 Who will operate construction work? Public sector or private sector?

9 Is there any contract between the implementing organization and constructor?

10 Please describe standard cost and period for land consolidation.

12 Who have responsibility to maintain land consolidated area, especially public space such as irrigation canals or roads or reservoirs? Do you have any farmers group for maintains such facilities?

13 How many private consulting company which can design land consolidation? How many designers in this sectors?

14 Please prepare a list on employed technical personnel for land consolidation in which includes information on;

1) number of employees,

2) employed section,

3) academic carrier of employees (bachelor, diploma or high school graduate),

4) speciality of employees.

Please describe for all employees adapted by CAPIC since 1994.

15 Please prepare list of plan on recruiting technical personnel for land consolidation in which includes information on;

1) number of recruits,

2) recruiting section,

3) academic carrier of recruits (bachelor, diploma or high school graduate),

4) speciality of recruits.

Please describe for all recruits employing by CAPIC on 1997 or further.

C Situation and function of CAPIC

16 Please describe details on current situation and function of CAPIC. Which section in headquarters is CAPIC belong to? Is CAPIC characterized as training organization? How CAPIC to obtain budget?

17 Do you have experiences to train technical person in CAPIC? If any, please prepare a list on training courses in which includes information on;

1) name and contents of training courses,

2) number of trainees,

3) competence for application,

4) adapted section after finished courses.

18 Do you have any plan to train technical person in CAPIC?

If any, please prepare a list on training courses in which includes information on;

1) name and contents of training courses,

2) number of trainees,

3) competence for application,

4) adapted section after finished courses.

19 Who teach trainees in CAPIC? Are the lectures belong to CAPIC? Do CAPIC invite the lectures? Who organize curricula or prepare texts or materials for training courses in CAPIC?

20 Who have responsibility to pay expenditure for training course in CAPIC (texts and materials, meals, travel expenses or allowances)?

21 Do you have any plan to train extension workers or farmers in CAPIC? If any, please describe what kind of training courses do you plan.

22 Please describe crop production situation in the pilot farm in CAPIC such as yield, gross/net income and production cost in each crop.

23 Do you have any plan to develop agricultural machinery suitable to consolidated paddy field in CAPIC? Do you have any organization responsible to develop agricultural machineries in your country.

3．収集資料

(1) ＣＡＰＩＣ宛クエスチョネアに対する回答文書

1- The total area of paddy field in 1996 was 600329 ha.

Soil , and water

Section or Infrastructural Section in each Agricultural Organization or each ASTSC in each province is the responsible for plan and designing on land consolidation work.This section is also the supervisor of implementation work.

In Iran local government has no meaning , budget is approved by government and is spent by local relevent organization.

The model work of land consolidation for paddy has been carried out at three pilot farm,and two other area.according to this new technolgy of land consolidation work as a base activity ,has developed whole of country.

Role of SEWDC is called as a contractor .

Private section has no responsibility for plan and design.

Note : Soil and Water Section is different by SEWDC.

SEWDC is contractor,Soil and Water Section is one part of Office, who is responsible for plan and design and supervising.

1) At all land consolidation project the length is equal to 100 m,the reson why is the water management and efficency of ma chine.In Capic we have different size of width.

a) In Katch posht and Ejbar kola pilot farms the models of high land ,slope is more than 1.5% and because of the impact of soil volume,the width was selected as 30 m,of course the owner area also effected and determine width of plot.

b) In Eslam abad the model of middle land ,because of low soil volume,the width of plot was choosed 40 m.

c) In Sutch pilot farm the model of low land and also unconsid-erable soil volume for moving ,and the result of study for present size of plot located on irrigation block,the width was 50 m.

d) In CAPIC for standardization and study of plot shape,we have different size of width and length.

e) In EF(East field of Capic),because of this field is belongs to ministry then , we must try our best for good and beautiful shape and make better water management and with more efficiency of machine and with consideration of slope,the width was selected 60 m.

meanwhile,some other point has mentioned on attached paper,please refer.

2 :

a) About the area those were execute by capic,please refer to attached maps.

b) About the other area those has been already operated by

answered later.

3 :

For study and determine of rice water requirement,please refer to some attached paper.

1-1 Decision of the standard plot size

Generally, we have to consider the present natural land slope, present ownership, condition of the farming and efficiency of the execution etc., to decide a standard plot size of the project area sufficiently. Fortunately, we have a experience of the implementation in CAPIC. Therefore, when we dicide the standard plot size on the Sutch, we considered not only above mentioned items but also the experience in CAPIC, and we have decided it. The results of the examination based on the exsisting data on the Sutch are as follows.

1-1-1 Condition of the natural land slope

The natural land slope is 1/800 from south to north, and 1/3,700 from east to west. Accordingly, we can consider that the moving soil volume is not almost influenced by the length of the short part.

1-1-2 Condition of the present ownership

According to the existing date of the ownership, the average land hold ing area per an owner is approximately 1.0 ha, and the average area per one farm block consist of some plots is approximately 0.57 ha. These data are Annex.

1-1-3 Condition of the forming

As for the condition of the forming, we can consider following items.

a) The exsisting various kinds of transplanting machine (walking type and riding type) usually set two seedling mats on the each seedling mat tray and carry one seedling mat as the reserve. In this case, we can transplant only a round trip at the plot which long side is 100m.

b) When we consider the land leveling efficiency of the hand tractor, and tractor which are generally used in Iran, it is difficult that a famer level the plot which long side is more than 100m.

c) In the plot which long part is so long, the water management is difficult because the farmer take a lot of time for the irrigation and drainage.

1-1-4 Experience in the CAPIC

There are three types standard lots (30m×100m, 60m×100m, 60m×150m) in the CAPIC. I asked on the situation of the standard lot to the expert of the cultivation. The results of the hear are as s.

a) 30m × 100m : This type is no problem. They can do the water management and land leveling by a tractor well.

b) 60m × 100m: This type is no problem. They can do the water management and land leveling by a tractor. But in this type, the water management time is longer than a) type.

c) 60m × 150m: They can do the land leveling by a tractor to 100m of the plot, but they can not do it at the rest of area, because the long side is too long. Therefore, they are troubled by poor drainage and poor water management at the rest of area in the plot.

1-1-5 Efficiency of the execution

We can consider that the land leveling is difficult at the plot which long side is 150m by the common bulldozer through the experience of the execution in the CAPIC. Recently, a large scale standard lot which long side is more than 100m length, is introduced in Japan. In this execution, usually, the laser plane bulldozer shall be utilized because the execution is demanded ±5cm accuracy of land leveling. Accordingly, the above situation tell that this execution by the common bulldozer is difficult even the Japanese operator who have a lot of experience of land consolidation. Therefore, when we consider the above situation, we can find that it is so difficult to execute the large scale lot which long side is more than 100m length to Iran. Because there is not a lazer plane bulldozer and expert operator for the land consolidation in Iran.

Conclusion

In view of above mentiond condition, we consider it is best that long side length of the plot shouled be 100m. As for the short side of the plot, there is not condition which is limited due to the condition of land slope and farming. However, in consideration of present land holding situation, we would like to decide to sellect 5000m² plot as a standard plot on the Sutch pilot farm area with the view of collecting the present awkward-look ing farm block consist of some plots to one plot and dividing two standard plots to the standard owner. In short, the standard lot size on the Sutch pilot farm area is 50m × 100m (5000m²).

2) Standard Plot

standard plot measures 30 meters by 100 meters resulting in 3000 sq.meters.
The reduction of 10 meters in short side length from the standard plot in Eslam-Abad was made in order to lessen earth movement volume.

(note)
An average unit earth volume required for a 40 meter plot was found to be 1690 cu.meter in the Case study as compared with 1530 cu.meter in this design (a 30 meter plot).

In peripheral area, although plots are not rectangular they are plotted approximating 3000 sq.meters avoiding the long side exceeding 130 meters.

4-1 Determination of design criterin on irrigation Plan

4-1-1 Variety of rice in the project area

The main variety of rice is the tarom in the Sutch pilot farm area according to the agricultural rural centre.

4-1-2 Reference Crop Evapotranspiration and cultivation period

Month	Feb.	Mar.	Apr.	May	June	Jul.	Aug.	Sep.	Oct.
ETo mm	1.4	2.0	3.1	4.4	5.5	5.3	4.7	3.5	2.4
Period		N.P	T.P	Growthing P.			Harvesting		

Note:This data are referenced from FS report.
N.P=Nusery Period, T.P=Tranplanting Period

4-1-3 Puddling Period

According to FS report, puddling period for early and medium matured varieties are 40 days and puddling period fortate matured variety is 20 days in general. But we have to use actual datu in the project area. So we asked it to the agricultural rural centre. Acerding to their explanation, peak puddling period is 15 days in the project area. Therefore, we use this actual data to design the irrigation plan.

4-1-4 Crop Evapotranspiration(ETcrop) and Percolation

According to FS report, Crop evapotranspiration (ETcrop) and percolation areas as follows;

(1) Crop Evapotranspiration(ETcrop)

ETcrop = Eto × Kc

ETo: Reference crop evapotranspiration (mm)

Kc : Crop coefficient

Crop coefficiet

Crop	Crop coefficient	Growing stage
Tarom	1.1	Transplanting - 35th day
	1.2	36th day - 65th day
	0.95	66th day - 95th day

(2) Percolation

Puddling period

:5 mm/day for first 3 days, and 3 mm/day subsequently.

Growing period

:2 mm/day at present, and 3 mm/day for future

Where: 2 mm/day : deep percolation

1 mm/day : lateral percolation due to drainage

4-1-5 Puddling water requirement

Evapotranspiraiton is estimated in April because most of the field in the area is puddled in April. And we calculate the puddling water requierment including evaptranspiration and percolation for 3 days in consideration of the mechanized system because we should wait 3 days to prepare a field. Results of the calculation are as follow.

Water by purposes	Results
Water to saturate soil of 30 cm depth	75 mm
Standing water	50 mm
Percolation	
First 3 days: 5 mm/day × 3 days	15 mm
Evapotranspiration (ETo × Kc × 3 days)	
3.1 mm/day × 1.1 × 3 days	10 mm
Total	150 mm

4-1-6 Water consumption

We calculate water consumption in puddling period and peak water consumption in cultivating period without puddling based on following formula.

Water consumption (mm/day) =

ETcrop (mm/day) + Percolation (mm/day)

1) Water consumption in puddling period

3.1 mm/day × 1.1 + 3.0 mm/day ≒ 6.4 mm/day

2) Water consumption in caltivating period without puddling

5.5 mm/day × 1.2 + 3.0 mm/day ≒ 9.6 mm/day

4-1-7 Irrigation efficiency

Irrigation efficiency is mentioned in FS report. There is not main and secondry canal in the project area. Therefore, we selected Field canal efficiency (Eb) and Field applicaiton efficiency (Ea) without considering Conveyance efficiency(Ec) as mentioned in FS report.

Field Canal Efficiency (Eb) = 0.91
Field Application Efficiency (Ea) = 0.87
Project Efficiency (Ep) = (Eb) × (Ea) = 0.79

4-1-8 Peak water requirement

Although the peak water requirement almost equal to the water requirement for puddling in general, we should calculate the peak water requirement during cultivating period without puddling to confirm. And we should determine the peak water requirement after comparing both results.

1) Water requirement for puddling

$$Q = \left(q1 \times \frac{A}{N} + q2 \times \left(A - \frac{A}{N} \right) \right) \times \frac{1}{8640} \times \frac{1}{Ep}$$

Where:

Q : Water requirement for puddling (m^3/s)
A : Irrigated area (ha)
q1: Puddling water requirement = 150 (mm/day)
q2: Water consumption in puddling period = 6.4 (mm/day)
N : Puddling days = 15 (days)
Ep: Project efficiency = 0.79

In short, the formula will be as follow.

$$Q = \left(150 \times \frac{A}{15} + 6.4 \times \left(A - \frac{A}{15} \right) \right) \times \frac{1}{8640} \times \frac{1}{0.79}$$

Unit Water Requirement

$$Q = \left(150 \times \frac{1}{15} + 6.4 \times \left(1 - \frac{1}{15} \right) \right) \times \frac{1}{8640} \times \frac{1}{0.79}$$

$= 0.00234\ m^3/s/ha$

2) Peak water requirement during cultivating period without puddling

$$Q = A \times q3 \times \frac{1}{8640} \times \frac{1}{Ep}$$

Where:

Q : Peak water requirement during cultivating period without puddling (m^3/s)

A : Irrigated area (ha)

q3: Water consumption in cultivating period = 9.6 (mm/day)

Ep: Project efficiency = 0.79

In short, the formula will be as follow.

$$Q = A \times 9.6 \times \frac{1}{8640} \times \frac{1}{0.79}$$

Unit Water Requirement

$$Q = 1 \times 9.6 \times \frac{1}{8640} \times \frac{1}{0.79}$$

$$= 0.00141 \ m^3/s/ha$$

2: For answer of question number 2 we will answer later through Embassy

4- One extension worker familiar to the project become resident at objective village . Then he try to explain the story of project for the farmers more and more . In this case he show some video films and slides about land consolidation for them also he arange visit tour for farmers to seeing some villages that land consolidation emplymented at those faster.

Yes . about 40 % of land constidation expenditure pay by govrnement throgh agricaltural bank . The bank will pay 40% project cost as a agricultural loan to the farmers and farmers ought to retern it during five years in five share (one share/ year)

☆ soil and water

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Role of SEWDC is called as a contractor .

Private section has no responsibility for plan and design.
sector for those imagines.

As usual,Soil and Water Section who has planned and designed the map,on which all farmers have agreed with entitled and given area,in this case these maps will approve by farmers,kind of getting agreement of farmers is different in Iran,some place,the first land replotting plan is the final map,so farmers must accept and the designer or extension expert must find their way to have all acceptance and agreement.

some place attraction of key farmers and greybeard men are very important after implementation they will select farmers own plot.

In some place,after construction that each farmer has the same amount of land by lottery,they will get their own land.

Please indicate your ability in reading , writing and

Existing building and facility in CAPIC

NO	ITEM	AREA M²
1	Main building	1000
2	Dormitory	400
3	labratory for rice mill and rice cultivation	200
4	T.V. room	60
5	Library	50
6	Farming building	450
7	Hangar	360
8	Rice mill	360
9	Work shop	60
10	Micanical room	160
11	Watch guard house	25
12	Depot for heavy machin	400
TOTAL		3525
Remainder		1352

6,7,8,9,10

Principally, construction of land consolidation work is making a contract between agricultural organization for each province or ASTSC for each city , based on the approved budget for these region ,here agriculture organization or ASTSC calls the employer and private sector that has registered or SEWDC calls the con tractor.

In this case employer is the responsible of implementation and also for payment the construction costs.

Soil and Water Section or Infrastructural Section of employer has responsibility for plan and designing of land consolidation only. and will be appointed by the employer as a supervisor.

principally on the all construction works same as dam,road,canal,and so on,implementation,the estimation of costs ,payment,or advice and guide for supervising of implementation works is based on the unit cost base, applied and approved by plan and budget organization.in land consolidation projects, the urveying activity such as cadastral and topographical map prepa ration cost will estimate on the above method.other activity such as soil work is calculated based on total soil volume and then the necessity time work will be clear,so correctly judgment of the workhour by heavy equipment,based on the rental price of machine per hour,the construction cost will be estimate.

such other works ,same as road pavement or necessity structure are done by unit cost base system.

Standard cost for land consolidation differs region by region,some point such as slope or soil volume will govern on the mass of costs.

The costs will not increase more than 6 million Rials per hectar,and not decrease less than 2.5 million Rials per hectar.

principally, duration of construction work is after the harvesting time and before transplanting,the implemented land will hand over to beneficial farmers.

13,14,15

Answer of these question, we will send them through the embassy of Japan later.

Ans question 16

What is the present condition of CAPIC. What is it a duty What is the activity after cooperation at 6years.

The purpose of CAPIC is establish one center for training man power and support and desigh for implementation at 100000 ha in this case after termination of cooperation with JICA , CAPIC continue to some research and study in sone field and stabilish group farming at pilot farm level.

At present the Roles of CAPIC is control and guide - sáince subject in mechanization and land consolidation and etc....

CAPIC belong to support and plunning deputy of M.O.A

We will change the CAPIC characterized in futher to training center.

The budger of capic as a project will obtum of M.O.A

21-20 rice farming farmers (key farmers) have paticipated rice mechanization planting training course in CAPIC during three years ago . About extension workers it is trouth other than two persons that they have cooperation with capic directly no more trained and this is big necessity in the area for future

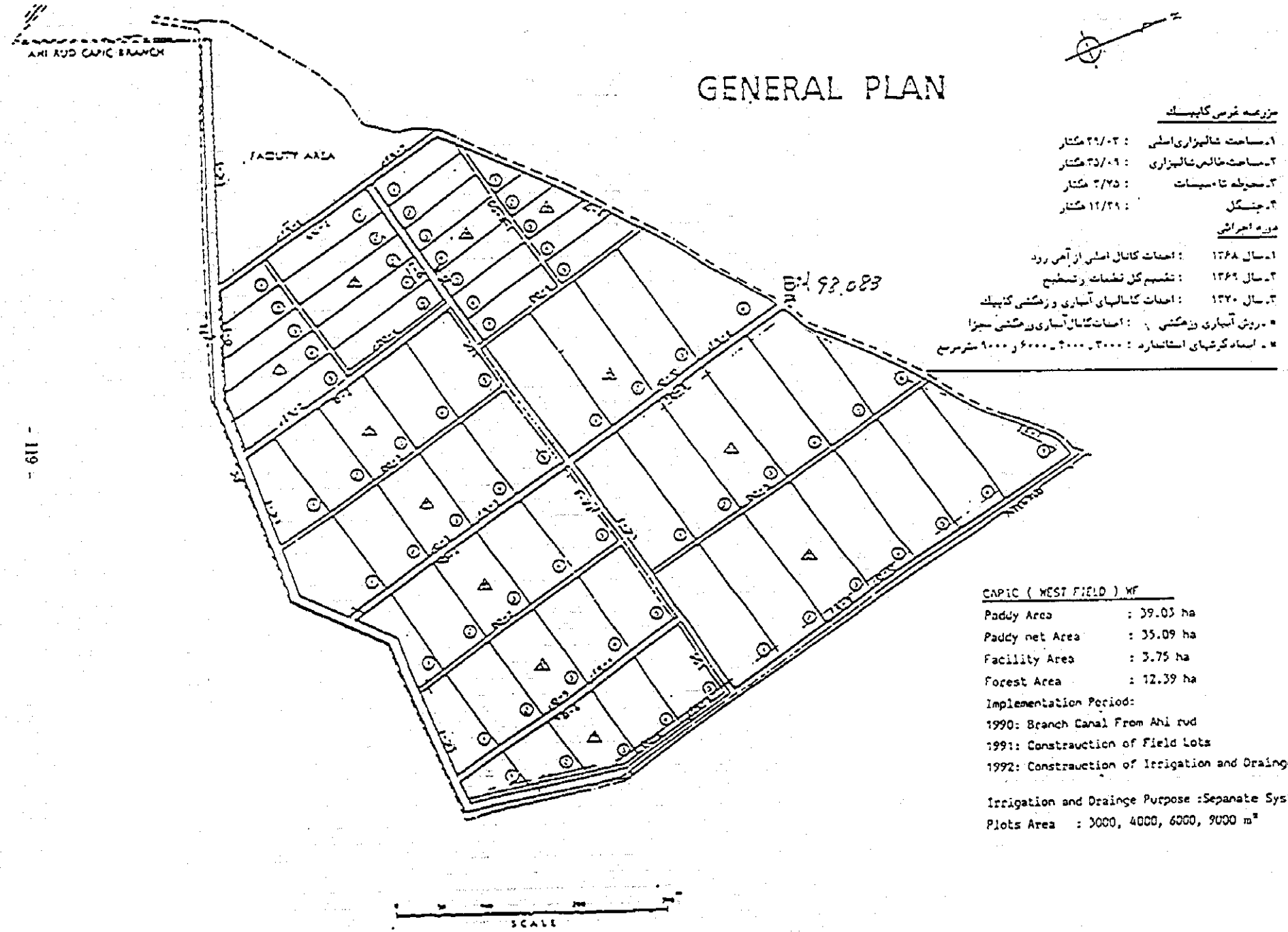
22 -

Varity	Paddy Kg/hec	White rice Kg/ hec	grass income Rials	cost Rials	netincome Rials
Tarom	4000	2400	7200000	1500000	5700000
Khazar	5000	3000	6600000	1500000	5100000

23- After getting more knowledgment in training prriod on machinery adaptation and other related matter every thing will be ready for - providing master plan for future.

At peresent we have an organization which has general duty for all crop to introduce machinery to farmers not for rice only.

(2) 圃場整備4地区の地図



مزرعه غرس کاپیک

۱ـ مساحت شالیزاری اصلی : ۳۹/۰۳ هکتار
۲ـ مساحت خالص شالیزاری : ۳۵/۰۹ هکتار
۳ـ محوطه تاسیسات : ۳/۷۵ هکتار
۴ـ جنگل : ۱۲/۳۹ هکتار

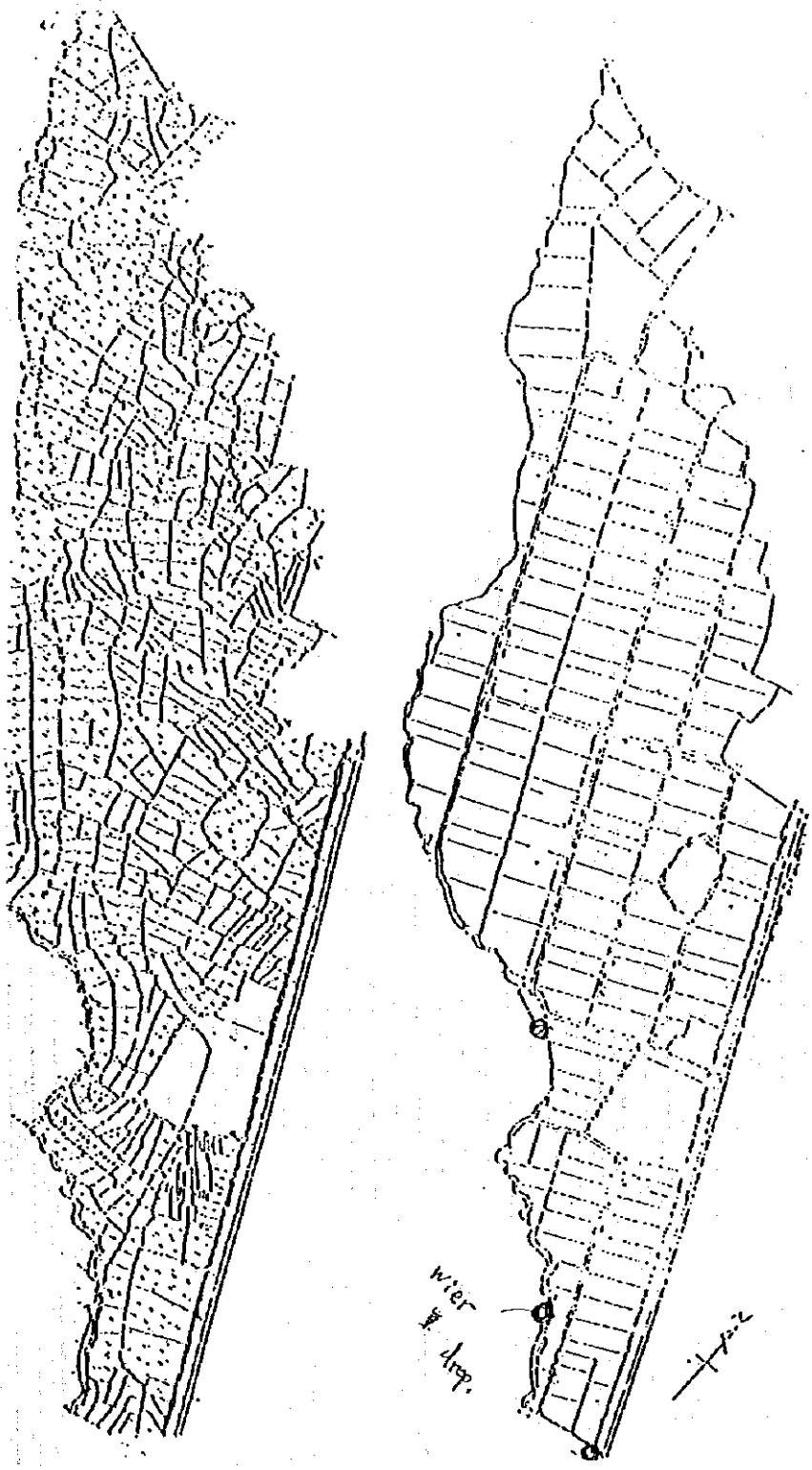
دوره اجرائی

۱ـ سال ۱۳۶۸ : احداث کانال اصلی از آهی رود
۲ـ سال ۱۳۶۹ : تقسیم کل قطعات و تسطیح
۳ـ سال ۱۳۷۰ : احداث کانالهای آبیاری و زهکشی کاپیک
* ـ روش آبیاری و زهکشی : احداث کانال آبیاری و زهکشی مجزا
* ـ ابعاد کرتهای استاندارد : ۳۰۰۰ ، ۴۰۰۰ ، ۶۰۰۰ و ۹۰۰۰ مترمربع

CAPIC (WEST FIELD) MF

Paddy Area : 39.03 ha
Paddy net Area : 35.09 ha
Facility Area : 3.75 ha
Forest Area : 12.39 ha
Implementation Period:
1990: Branch Canal From Ahi rud
1991: Construction of Field Lots
1992: Construction of Irrigation and Drainge

Irrigation and Drainge Purpose :Sepanate System
Plots Area : 3000, 4000, 6000, 9000 m²



پایلوت اسلام آباد

مدل اراضی میانسط

مساحت پایلوت : ۶۳هکتار

تعدادکشاورزان : ۵۲نفر

اجرای عملیات :

سال ۱۳۷۰ : ۸/۳ هکتار

سال ۱۳۷۱ : ۵۴/۷ هکتار

حجم خاک جابجائی باشیب ۰/۷٪ :

۱۲۰۰ مترمکعب درهکتار

روش آبیاری وزهکشی : مجزا

Eslam Abad Pilot Farm

MODEL OF MIDDEL LAND

Area : 63 ha

Farmers Number : 52

Implementation Period:

1992 : 46.8 ha

1993 : 46.3 ha

IrrigationDrainage System:

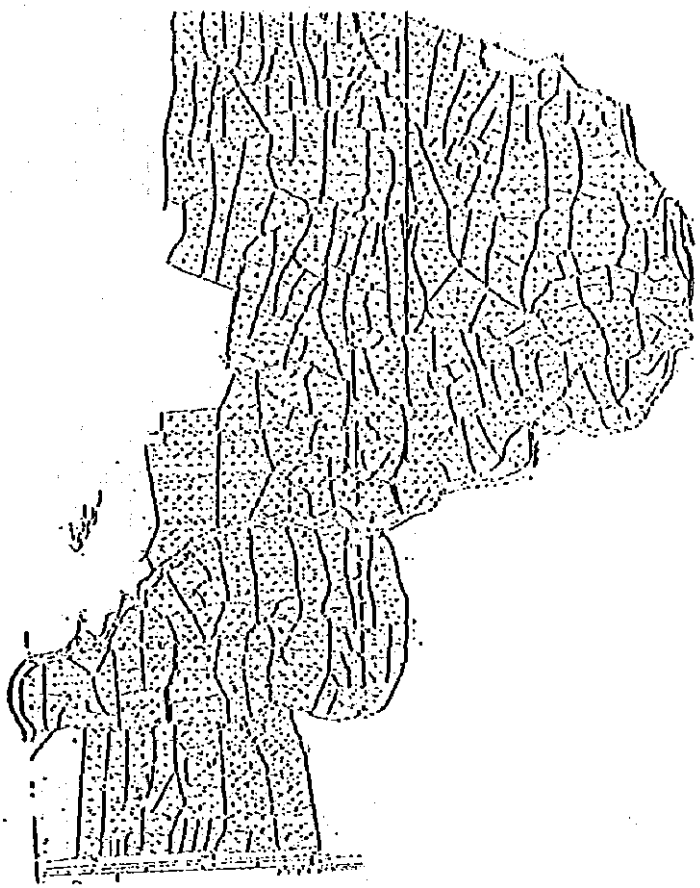
Seperate Purpose

Generally Slope 0.7%.0

soil Volume : 1200m³/ha

پایلوت اسلام آباد ـ قبل و بعـداز اجراء مدل اراضی میـانسط

Eslam Abad Pilot Farm (Before and After Construction): Model of Middel Land



پایلوت اجـــوارکـــــــلا

مـدل اراضی بالادست

مساحت پایلوت : ۹۳/۱ هکتار

تعدادکشاورزان ذینفع : ۹۳ نفر

اجرای عملیات :

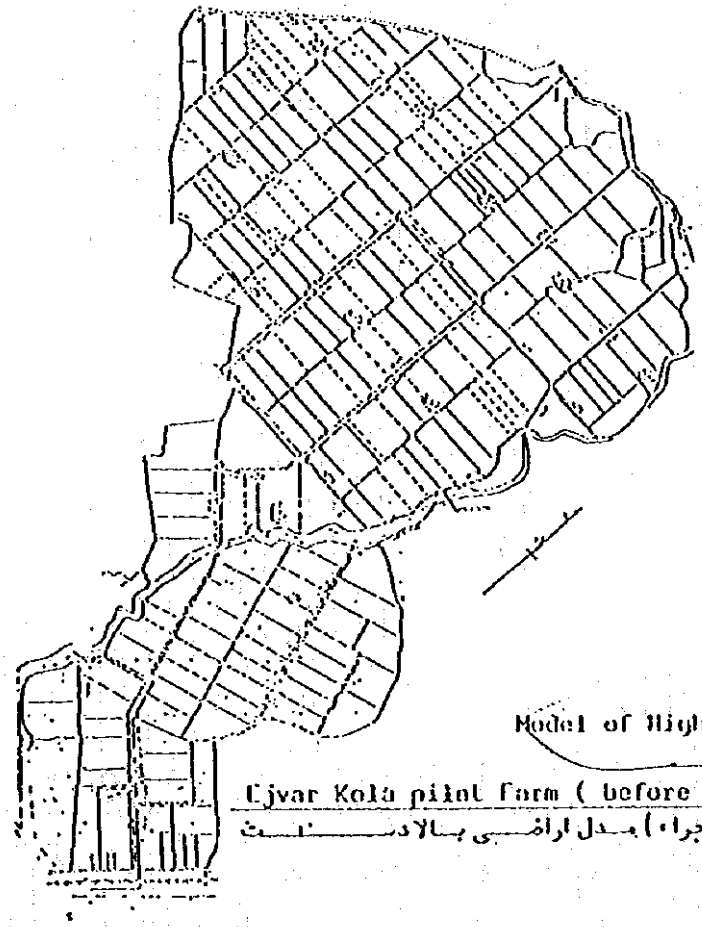
سال ۷۱ : ۴۶/۸ هکتار

سال ۷۲ : ۴۶/۳ هکتار

حجم خاک جابجائی باشیب ۱٪ :

۲۰۰۰ مترمکعب درهکتار

روش آبیاری وزهکشی : توامان



Model of High Land

Ejvar Kola pilot Farm (before and after Construction)

پایلوت اجوارکـلا (قبل وبعدازاجراء) مـدل اراضـی بـالادســـــت

Ejvar kola Pilot Farm

Model of High Land

Area : 93.1 ha

Farmers Number : 93

Implementation Period:

1992 46.8 ha

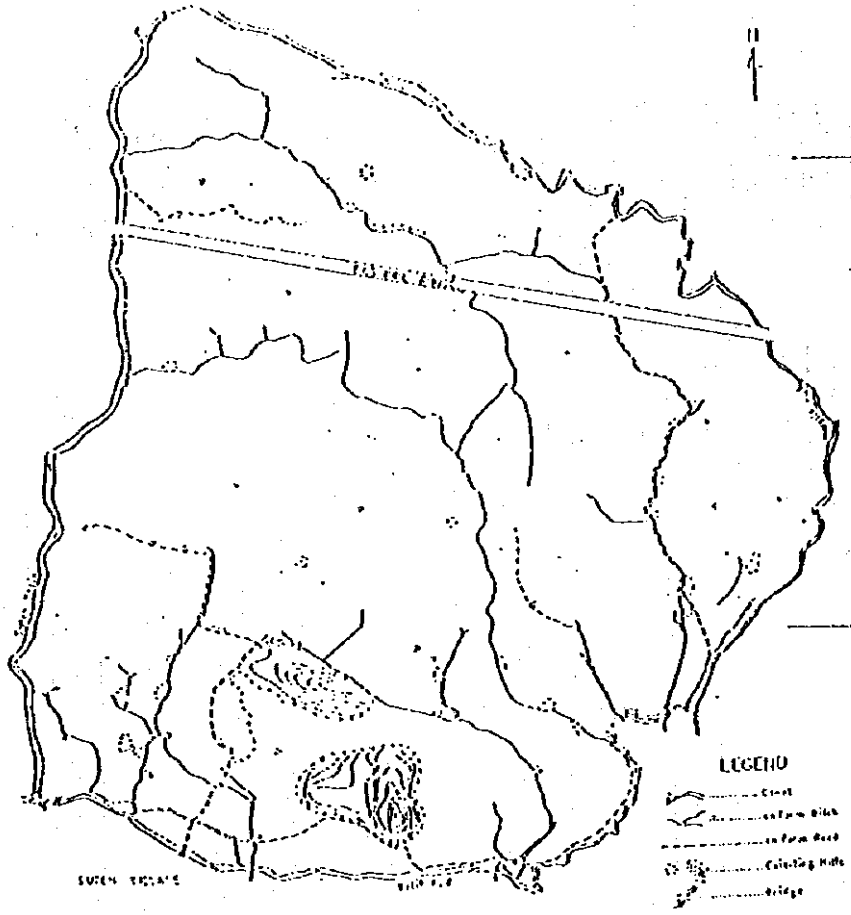
1993 46.3 ha

Irrigation Drainage System:

Dual Purpose

Generally Slope: 1%0

Soil Volume . : 2000 m^3/ha



پـــایلـــوت سوتـــــــه

مدل اراضی پائیـــن دســـت

مساحت : ۱۲۵/۴ هکتار

تعدادکشاورزان : ۱۱۹ نفر

اجرای عملیات :

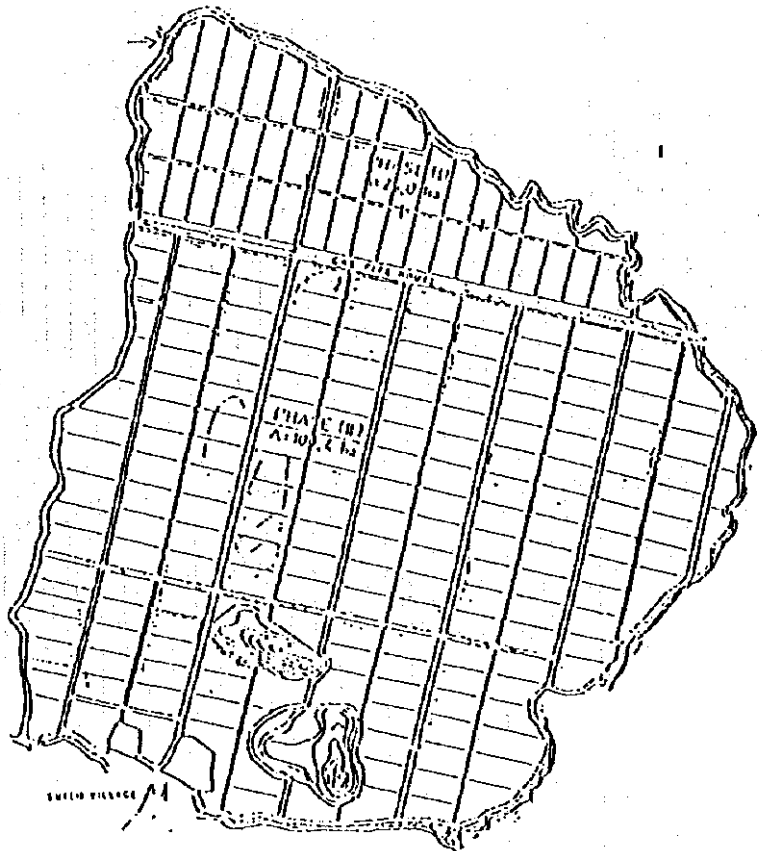
سال۱۳۷۲ : ۲۵ هکتار

سال۱۳۷۳ : ۱۰۰/۴هکتار

روش‌آبیاری‌وزهکشی : مجزا

حجم‌خاک‌جابجائی‌باشیب ۰٪ ۰/۵ :

۶۶۰مترمکعب درهکتار



Suteh Pilot Farm

MODL OF LOW LAND

Area : 125.4 ha

Farmers Number: 119

Implementation period:

1993 : 25 ha

1994 : 100.4 ha

Irrigation ,Drainage System

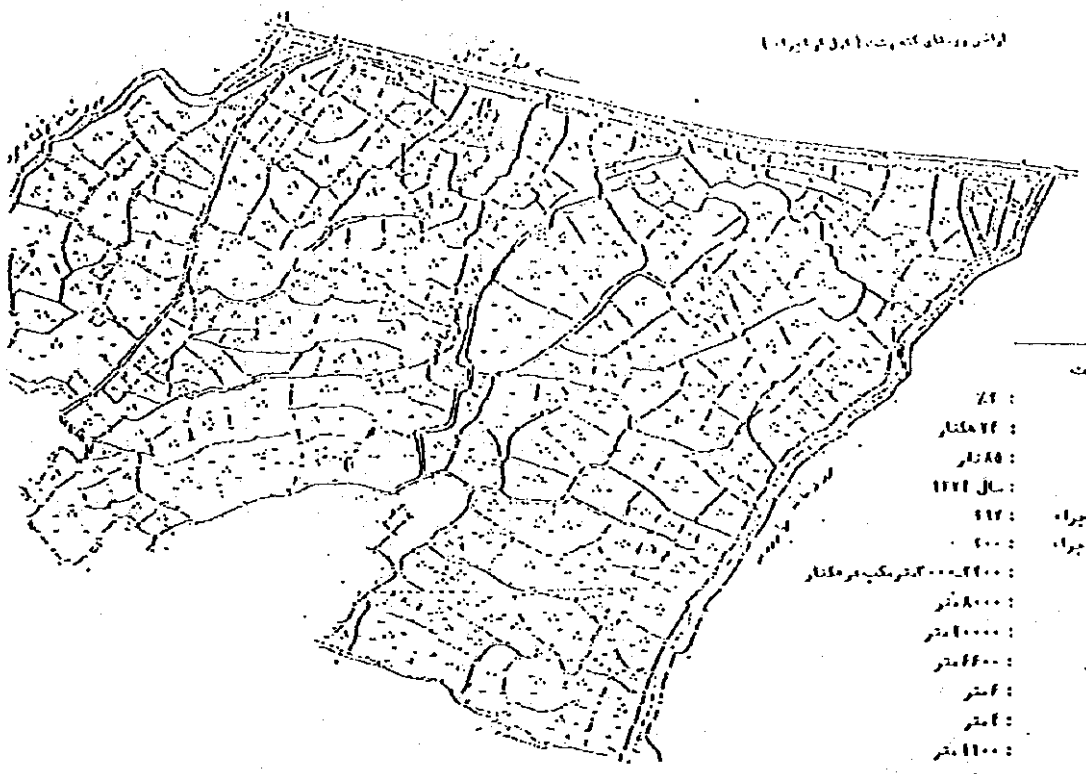
Seperate Purpose

Generally Slope 0.5%0

Soil Volume : 660 m³/ ha

پایلوت سوته ، قبل وبعداز اجراء ، مـــدل اراضـــی پائیـــن دســـــــــت

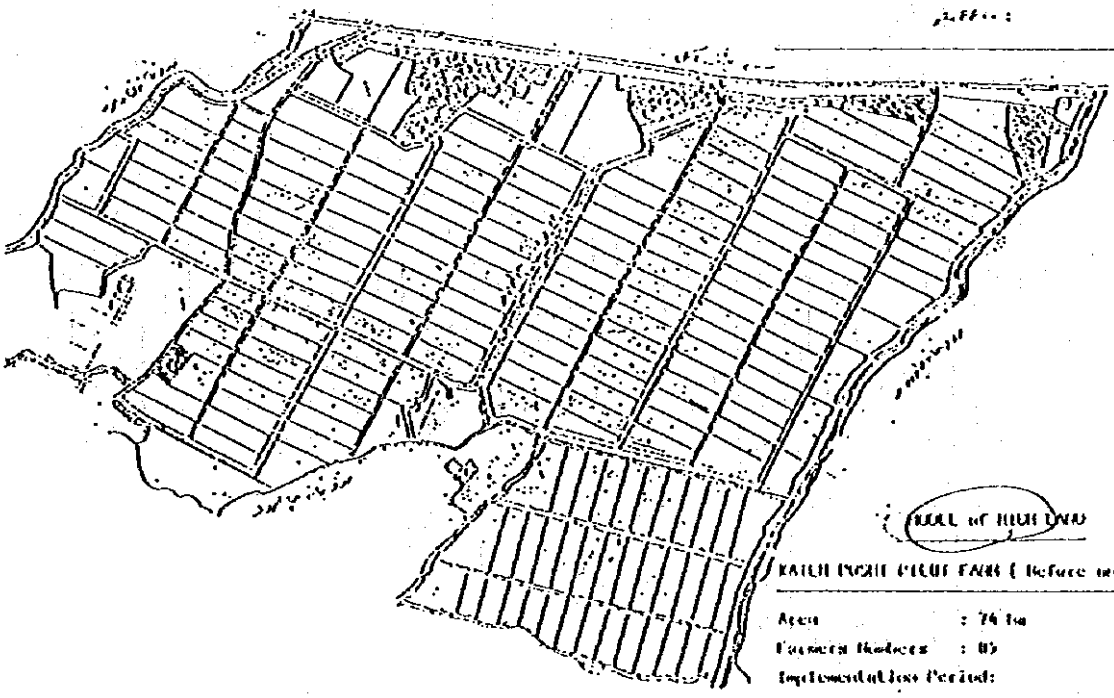
Suteh pilot Farm (Before and After Constraction):MODEL OF LOW LAND



پارامترهای طرح پشت

مدل اراضی بالادست

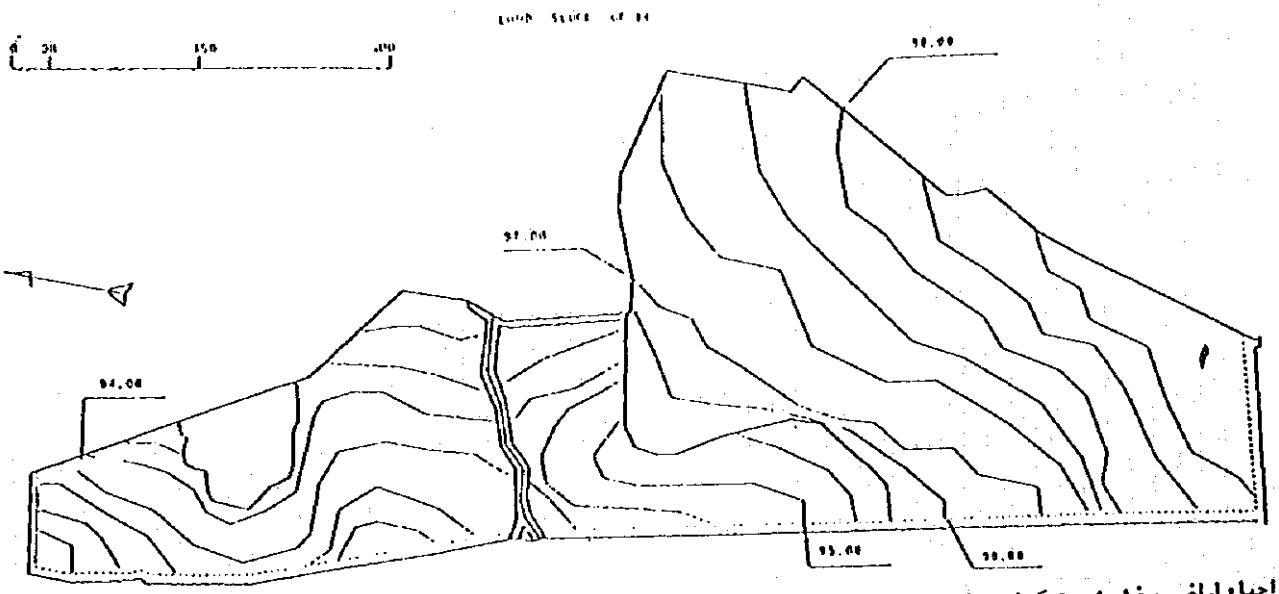
۱-تیپ عمومی منطقه	: ۲۱
۲-مساحت منطقه	: ۷۴ هکتار
۳-تعداد کشاورزان	: ۸۵ نفر
۴-تاریخ اجرای عملیات	: سال ۱۳۷۱
۵-تعداد کرتهای قبل از اجراء	: ۲۱۲
۶-تعداد کرتهای بعد از اجراء	: ۲۰۰
۷-حجم خاکریزی	: ۲۲۰۰-۳۰۰۰ متر مکعب در هکتار
۸-طول کانال آبیاری	: ۸۰۰۰ متر
۹-طول کل مرز	: ۱۰۰۰۰ متر
۱۰-طول کل کانال زهکش	: ۶۶۰۰ متر
۱۱-عرض جاده اصلی	: ۶ متر
۱۲-عرض جاده فرعی	: ۴ متر
۱۳-طول جاده اصلی	: ۱۱۰۰ متر
۱۴-طول جاده فرعی	: ۵۵۰۰ متر
۱۵-طول کل جاده	: ۶۶۰۰ متر



TOOL of HIGHLAND

RAIN FED PILOT FARM (Before and after Construction)

Area : 74 ha
Farmers Nubers : 85
Implementation Period:
1992 : 74 ha
Plot Number Before Implementation : 277
Plot Number after Implementation : 200
Irrigation Canal Length : 8000 m
Levee Length : 20000 m
Drainage Canal Length : 6600 m
Main Road Width : 6 m
Farm Road Width : 4 m
Main Road Length : 1100 m
Farm road length : 5500 m



طرح احیاء اراضی بخش شرق کاپیک

مساحت کل : ۲۱/۹ هکتار

مساحت خشکه‌زار : ۰/۸۴ هکتار

مساحت آبهندان : ۱/۱ هکتار

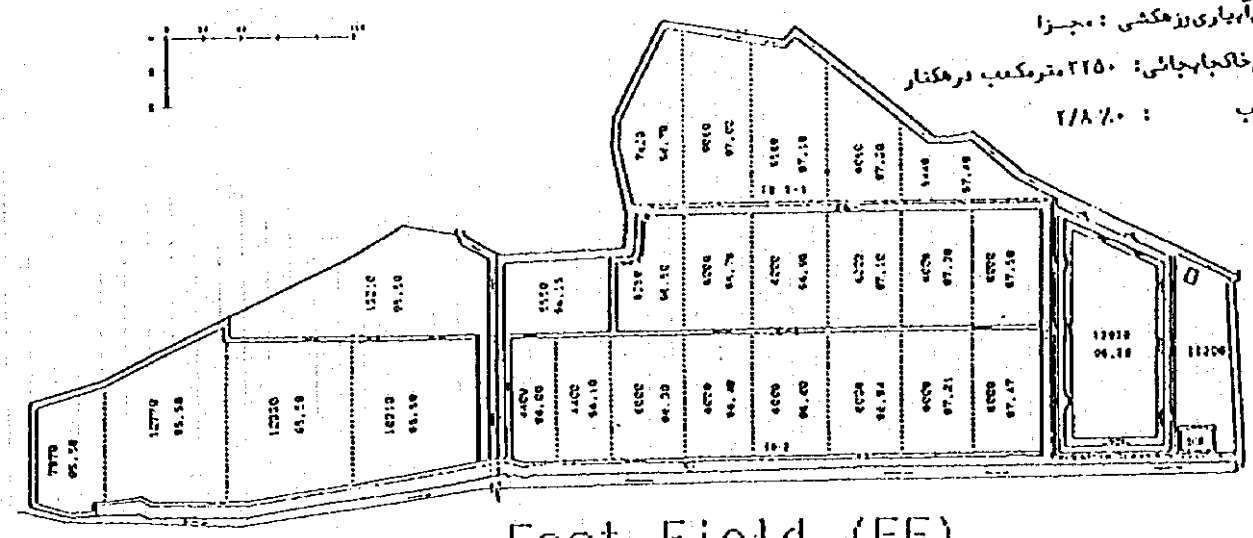
حجم آبهندان : ۲۵۰۰ مترمکعب

مساحت شالیزار : ۱۷/۷۱ هکتار

روش آبیاری زهکشی : مجزا

حجم خاکجابجائی: ۲۲۵۰ مترمکعب درهکتار

شیب : ۲/۸ ٪



East Field (EF)

Cupic East Field Land Reclamation Project

Total Area	: 21.9 ha
Upton Area	: 0.84 ha
Reservoir Area	: 1.1 ha
Reservoir Volume	: 3500 m³
Podday Area	: 17.71 ha

Irrigation and Drainage System:Seperate

Purpose.

Soil Volume	: 3250 m³/ha
Slope	: 2.8 %0

(3) 圃場整備の効果に関する資料

1- Name of farmers

2- The years that landconsolidation finished in it

1= 1 year past & 2= 2 years past

3- 1= Only farmer & 2= also has another job

4- Full time

5- Part time

6- The acrage of land cultivate by him self / hec

7- " " " " give to tenant farmer / hec

8- " " " " get as " " / "

9- Cow

10-Sheep & goat

11-Hen & duck

12-Tractor

13-Power tiller

14- Tresher

15- Pikup - or - car

16-Sprayes

17-Before land consolidation

18-After land consolidation

19-Acrage of plots before land consolidation/m^2

20- " " " After " " " "

21- Before land consolidation to Rial/m^2 x 100 For example

20= 2000 Rials X10000 m^2 = 20000000Rial/hec

22- After land consolidation to Rial/m^2 x100 〃 〃 ～～～

23- Are you s atisfied of project implementation 1(yes)

2(nearly) 3(no)

24- Are you satisfied of land replotting or changed the shape

of land 1 (yes) 2(nearly) 3(no)

25-Every plot has farm road (1)

26- The size of plots became bigger (2)

27- Land dispersion became less (3)

28- Irrigation became easier (4)

29- Drainage condition became good (5)

30- Do plugh by big tractor 1(yes) 2(no)

31- Do you make your rice nursery by nilon tonel 1(yes) 2 (no)

32- Do you tresh your production by big combine 1(yes) 2(no)

33- Do you plant your rice seedling by transplanter 1(yes) 2 (no)

34- Do you plant second crop 1(yes) 2 (no)

35- Did come down your working hours 1(yes) 2(no)

36- Did become easier your cultivation 1(yes) 2(no)

37- Do you plant second crop 1(yes) 2(no)

38- Do you use of planter 1(yes) 2(no)

39- Do you increase your animals 1(yes) 2(no)

40-Do you plugh by big tractor 1(yes) 2(no)

41- Do you tresh by big combine 1(yes) 2 (no)

Ejborcalo

P-2

FARMER NUMBER	NAME	YEAR FINISH	TYPE OF FARMER	FARM LABOR		CULTIVATION AREA				LIVE STOCK			FARM MACHINERY					NUMBER OF PLOT		AREA OF PLOT		PRICE OF FIELD		CON.	REP.	PRIORITY OF IMPROVEMENT						CHANGED AFTER LAND CONSOLIDATION				
1		2	3	4	5	6	7	8		9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
45	ZEINAB GHARIB	2	1	1	1	0.20						20						1	1	2,000	2,000	20	23	3	2	1	4	5				2	1	2	2	
47	HOSAIN SALIMY	2	2	1	2	0.54		0.30		2		15	1					2	1	2,700	5,400	18	21	3	3	5						1	1	2	1	
48	MORTEZA SALIMY	2	2	1	1	0.54				2		10						4	1	1,400	5,400	22	27	1	1	1	4	5	3	2		2	1	2	1	
49	ABASS ZADEH	2	2	1		0.40		0.25				10	1			1		2	1	2,000	4,000	18	22	1	1	1	4	5	3			2	1	2	2	
50	BAHRAM ZADEH	3	2	1	1	0.45						10				1		2	1	2,200	4,500	18	20	1	3											
51	ASADOLLA RAMAZAY	2	2	3	1	0.19		0.20										1	1	2,000	1400	18	20	3	3	1	4	5				2	1	2	2	
52	KHALIL KHALILY	2	1				1.70			1		20						10	5	1,700	3200	20	25	3	2	1	4	3	5			2	1	2	1	
53	SHAFY DARYABARY	3	2	1		1.00						10						5	2	2,000	5000	20	25	1	1	1	4	5	3	2		2	1	2	2	
54	HORMAT DARYABARY	3	2	1		0.50						20						1	1	5,000	5000	20	25	1	1	1	4	5				2	1	2	2	
55	NEMDY DARYABARY	3	1	1	1	0.37						120						1	1	3,700	3700	15	20	1	1	1	4	5				2	1	2	2	
56	FATOLLA TAKYASBY	2	2		1	0.30												2	1	1,500	3000	20	25	1	1	1	4	5	2			2	1	2	2	
57	ZARGHAM ZADEH	3	2	1	1	0.71				4		20						1	2	3,500	3600	19	21	1	2	1						1	1	2	1	
58	AHMAD DARYABARY	2	2	1	1	0.60				1		120						1	2	6000	3000	22	22	1	2	1	4					2	1	2	2	
59	RAMAZAN RAMAZANY	3	1		3	2.00						20						3	4	4000	5000	22	25	1	1	1	2	4				1	2	2	2	
60	ABOLHASAN ROSTANY	3	2	1		0.30				2	11	40						2	1	2500	5000	25	30	1	1	1	2	4				2	1	2	2	
61	ASSAR JAMERY	2	2	1	3	1.30						50						3	4	2500	5000	25	30	1	1	1	2					2	2	2	1	
62	MAMMOD TAMERY	3	2	1	3	0.03						40						1	1	300	300	7	10	1	1	1	4					2	1	2	2	
63	HOSAINJAN KHALILY	3	2	2		0.50				2		20						3	1	1700	5000	22	25	1	1	1	2	4				2	1	2	1	
64	YAR ALI KHODAIE	2	2	1	1	1.00						30				1		3	3	3000	3000	22	25	1	1	1	4					2	1	2	2	
65	AHMAD KHORASANI	2	2	1	1	2.00						40	1					4	6	5000	5000	25	30	2	3	4						2	1	2	1	
66	SHAFI DARYABARY	2	2	1	2	1.00						20						1	2	2500	5000	22	25	1	1	1	2	4				2	1	2	2	
67	NOROLLA BARZEHGAR	3	1	3	2	2.00				1		30	1					8	5	2500	4000	22	30	1	1	1	2	4				2	1	2	2	
68	M.H.SHA BABAZADEH	3	1				2.00					10		1		1		5	4	4000	5000	15	20	3	3	1	2	4				2	2	2	2	
69	K.KAMAR LOIE	3	2	1	2	1.20	0.70			30		200						6	3	3000	6000	15	100	1	1	1	2	4				2	1	2	2	
70	ESMAIEL GHOLAMY	2	2			0.50						20						3	1	1700	5000	22	25	1	1	1	2	4				1	2	2	2	
71	RAHMAN SALIMY	3	2	1	2	0.93				3		30						1	1	5000	5000	20	25	1	3	1	4					2	1	2	1	
72	MOHSEN SALIMI	3	2	1	2	0.75						30						1	1	7500	7500	30	30	2	3	1	4					2	1	2	1	
73	AKBAR GOMY	3	2	2	1	0.36				1		30						1	1	3600	3600	25	25	3	3	1	4					1	2	2	2	
74	B.J.BABA GOLSHOB	2	2	3		0.70			1			70	1			1		2	1	7000	3500	25	25	1	2	1						2	1	2	2	
75	A. KOSTANY	3	2	1	2	0.46				1		30						1	1	4000	4000	25	30	1	1	1	4					2	1	2	1	
76	KAMRA BARZEGAR	3	2	1		0.80						20						4	1	2000	6000	22	30	1	1	1	2	4				2	1	2	2	
77	SH.MOHAMAD NEJAD	3	2	1	3	1.00				2		20	1	1	1	1		3	3	3000	3000	22	25	2	3	1	4					2	1	2	1	
78	ESFANDIAR KHORASANI	2	2	1	1	1.50						50						4	4	3600	3600	25	30	1	2	1	4	3				2	1	2	1	
79	ESMAIEL KHALILI	3	2	1		0.50				2		30						2	2	2500	2500	22	25	2	2	1	4	6				2	1	2	1	
80	NABIOLLA BAZRKAR	2	2	1		0.25												2	1	1250	1250	14	20	1	1	1	4					2	1	2	2	
81	BIGOM DARYABARY	2	1		4	0.60						20		1		1		1	1	6000	6000	20	25	1	1	1	4	2				2	2	2	2	
82	RAMAZAN DARYABARY	2	2	1	1	0.40						10						2	1	2000	4000	25	25	1	1	1	4	1	2			1	2	1	2	
83	MOHAMAD ABDOLLAZADEH	3	1			0.28												1	1	2000	2000	20	25	DOLLAZADEH											
	TOTAL					0.86	0.90	0.23	4.11	2.11	26.74	2.13	0.76	0.67	0.90	0.91	3.77	2.50	2713.37	3824.40	19.46	25.23														

LIVE STOCK							FARM MACHINERY		NUMBER OF PLOT		AREA OF PLOT		PRICE OF FIELD		CON.	REP.	PRIORITY OF IMPROVEMENT					CHANGED AFTER LAND CONSOLIDATION							FUTURE PROPOSAL OF FARMERS							REMARKS
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
	20						1	1	2,000	2,000	20	23	3	2	1	4	5				1	2	1	2	2	1	1	2		1	2				PLOT SHAPE IS BAD
	15		1				2	1	2,700	5,400	18	21	3	3	5						1	2	1	2	1	2	2	1	1	2	1	1	1	PLOT IS DIFFERENT ELEVATION
	10						4	1	1,400	5,400	22	27	1	1	1	4	5	3	2		1	2	1	2	1	1	1	1	2	1	2	1		
	10		1		1		2	1	2,000	4,000	18	22	1	1	1	4	5	3			1	2	1	2	2	1	1	2			2	1		PLOT SHAPE IS BAD
	10				1		2	1	2,200	4,500	18	20	1	3																				FARM ROAD IS VERY HIGH
							1	1	2,000	1400	18	20	3	3	1	4	5				1	2	1	2	2	1	1	2		2	2	1		
	20						10	5	1,700	3200	20	25	3	2	1	4	3	5			1	2	1	2	1	1	1	1	2	2	2	2			
	10						5	2	2,000	3000	20	25	1	1	1	4	5	3	2		1	2	1	2	2	1	1	2		1	2	2			
	20						1	1	3,000	3000	20	25	1	1	1	4	5				1	2	1	2	2	1	1	2			2	2			
	120						1	1	3,700	3700	15	20	1	1	1	4	1	5			1	2	1	2	2	1	1	2		3	2	2			
							2	1	1,500	3000	20	25	1	1	1	4	5	2		1	1	2	1	2	2	1	1	2			2	2			
	20						1	2	3,300	3600	19	21	1	1	2						1	2	1	2	2	1	1	2		2	1	2			
	120						1	2	6000	3000	22	22	1	1	2		4				1	2	1	2	2	1	1	2		2	1	1	1		
	20		1				3	1	4000	3000	22	25	1	1	1		2	4			1	1	2	2	2	1	1	2			1	2			
11	40						2	1	2500	3000	25	30	1	1	1		2	4			1	2	1	2	2	1	1	2			1	2			
	30		1				3	1	2500	3000	25	30	1	1	1		2				2	2	1	2	1	1	1	1		3	2	2		2	
	40		1		1		1	1	300	300	7	10	1	1	1		4				2	2	2	2	2	1	1	2			2	2		2	
	20		1				3	1	1700	3000	22	25	1	1	1		2	4			1	2	1	2	2	1	1	2		3	1	2			
	30					1	3	3	3000	3000	22	25	1	1	1		4				1	2	1	2	2	1	1	2			2	2			
	40	1					4	6	3000	3000	25	30	2	3	4						1	2	1	2	1	1	1	2			2	1	1		FARM ROAD IS VERY HIGH
	20						1	2	3300	3000	22	25	1	1	1		2	4			1	2	1	2	2	1	1	2		3	1	2			
	30		1				8	3	2500	3000	22	30	1	1	1		2	4			1	2	1	2	2	1	1	2		3	1	2		2	
	10		1		1		5	4	4000	3000	15	20	3	3	1		2	4			2	2	1	2	2	1	1	2			2	2		2	LAND AND YIELD REDUCED
	200						6	3	9000	6000	15	100	1	1	1	1	2	4			1	2		2	1	1	1	1	2	1	1	1			(BLTCHER)
	20						3	1	1700	3000	22	25	1	1	1		2	4			1	2		2	2	1	1	2			2	1			
	30						1	1	3000	3000	20	25	1	1	3		4				1	2		2	1	1	1	2		2	1	2			LEVELING WAS POOR
	30						1	1	7500	7500	30	30	2	3			4				1	2		2	1	1	1	2		2	1	2			
	30						1	1	3600	3600	25	25	3	3			4				1	2		2	2	1	1	2			2	2			REDUCED AREA
	70		1			1	1	2	7000	3500	25	25	1	2							2	1	2	2	1	1	1	3	1	2		2		
	30					1	1	1	4000	4000	25	30	1	1			4				1	2	1	2	2	1	1	2		2	1	1			
	20						4	1	2000	6000	22	30	1	1			2	4			1	2	1	2	2	1	1	2			2	1			
	20		1	1	1		3	2	3000	3000	22	25	2	3			4				2	1	2	2	1	1	1	2		3	1	2		2	LEVEE IS NO GOOD SHAPE
	50						4	4	3600	3600	25	30	1	2	1		4	3			1	2	1	2	1	1	1	2		2	1	2			
	30		1				2	2	2500	2500	22	25	2	2	1		4	6			2	1	1	2	1	1	1	2		2	1	1			
							2	1	1250	1250	14	20	1	1	1		4				1	2	2	2	2	1	1	2			1	2			
	20		1		1		1	1	6000	6000	20	25	1	1	1		4	2			2	2	1	2	1	1	1	1	3	2	2	2			
	10						2	1	2000	4000	25	25	1	1	1	4	1	2			1	2	1	2	1	1	1	1	3	1	2	1			
							1	1	2000	2000	20	25	DOLLAZADEH																						
2.11	28.74	0.43	0.76	0.67	0.90	0.9	3.77	2.50	2713.37	3823.40	19.48	25.22																						

Ejbarcola

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FARMER NUMBER	NAME	YEAR TYPE OF FINISH	FARMER	FARM LABOR	CULTIVATION AREA			LIVE STOCK		FARM MACHINERY					NUMBER OF PLOT		AREA OF PLOT		PRICE OF FIELD		CON.	REP.	PRIORITY OF IMPROVEMENT					CHANGED AFTER LAND CONSOLIDATION				
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
1	HEMMAT DARYABARY	2	2			0.50					15						3	2	2,000	2,000	15	20	1	1		2	4	5			2	1	2	2
2	SHOKORE KHODAIE	3	1			0.20											1	1	2,000	2,000	15	20	1	1		2	4	5			1	1	2	2
3	SALTMEH KHODAIE	3	1			0.20											1	1	2,000	2,000	15	20	1	1		4	5				2	1	2	1
4	SAFIEH KHODAIE	3	1			0.20											1	1	2,000	2,000	15	20	1	1		4	5				2	1	2	1
5	MEDAYT DARDARYABARY	3	2	1		1.40					20						3	3	4,000	5,000	15	21	1	1	2	1	4	5			2	1	2	2
6	HASAN DARYABARY	3	2	1	2	1.10					20	1			1		3	3	3,000	4,000	15	22	1	1	1	2	4	5			1	1	2	2
7	HOSAIN DARYABARY	3	2	1	2	2.00					15	1					44	4	2,000	4,000	15	20	1	1	1	2	4	5			1	1	2	2
8	ABAS DRYABARY	3	2	1		1.20					15						2	2	4,000	6,000	15	22	1	1	1	4	5	2			2	1	2	2
9	KARIM DARYABARY	3	1	2	2	1.50			2		20		1	1			4	4	2,000	5,000	14	20	1	1	1	2	4	5			2	1	1	2
10	GHASEM DARYABARY	2	1	1		0.60			40		20				1		1	1	2,000	6,000	15	22	1	1	1	2	4	5			1	2	2	2
11	J.A.KHRASANI	2	1	1	2	1.00					20				1	1	12	12	5,000	4,000	20	20	3	2										
12	SAMAD DARYABARY	2	2	1		0.40			3		10						1	1	2,000	4,000	20	25	1	1	4	1	3	5			1	2	2	2
13	M.A.KHODAIE	2	1	3		1.20			1		20		1	1			4	4	1,500	4,000	20	20	3	2	4	1					1	2	2	2
14	A.KHODAIE	3	2	1		1.50					20					1	3	3	3,000	4,000	20	18	3	2							1	2	2	1
15	HASAN SALIVI	2	1	4	1	2.00					10		1				5	5	1,500	5,000	22	25	3	1			4	3	5		1	2	2	2
16	RAHMAT KHODAIE	2	2	2		1.00					20		1	1			3	3	3,000	3,000	40	50	2	2	1	4					2	1	2	1
17	M.A.KHORASANI	2	1	1		1.50					50		1	1	1	1	2	2	6,000	8,000	25	30	1	1	3	1	4				1	1	2	1
18	M.A.KHODAIE	2	1	2		0.36											1	1	3,000	3,000	40	50	2	2	1	4					2	2	2	1
19	M.A.REZAZADEH	3	2	1	1	0.21					10						1	1	2,000	2,000	23	23	2	1	1	4					2	1	2	2
20	M.J.KHALILI	3	2	1		0.60			2		20		1				2	2	2,500	2,500	15	20	1	1							2	1	2	1
21	GH.H.KHALILI	3	1	1	1	0.70			1		20						3	3	2,000	3,000	15	20	1	2							2	1	2	1
22	EBRAHIM KHALILI	3	2	1		0.50		0.30			20						2	2	3,000	4,000	50	50	1	2	1	4	5	6			2	2	2	2
23	BABOLLA JAVANI	2	1	1	2	1.60					10		1	1			5	4	3,000	4,000	20	25	1	1			4	3	5		2	1	2	2
24	ASGHAR ZADEH	3	2	2	4	2.50			6		20			1	1		6	6	5,000	4,000	22	25	2	3			4	5			2	1	2	2
25	JOME FATAHI	3	1	2		0.36											1	1	1,000	3,000	20	20	3	1			2	4			2	1	2	1
26	SABZALI NADERY	3	1	1		0.20					4						2	1	1,000	2,000	15	18	1	1			4	3			2	1	2	2
27	AZIZOLLA KHODAIE	2	1	1	4	3.00			1		10		1			1	17	9	2,000	4,000	23	25	1	1			2	4			1	1	2	1
28	ZABIOLLA SEIFY	3	2	1	4	0.50					20						2	1	2,500	3,000	35	40	1	1			4	3			1	2	2	2
29	A.ABDOLLAZADEH	2	1	4		3.60					8		1	1			14	10	2,000	4,000	22	25	1	1			4	2	3		2	1	1	1
30	M.A.GHASEMZADEH	3	2	2	2	0.80			5		100						1	1	1,000	6,000	22	25	3	1			4	2			2	1	2	1
31	NADERY ZAMAN	3	2			0.18					20						1	1	1,800	1,800	15	20	1	1			4	5			2	2	2	2
32	ALIJAN JOKAR	3	1	5	4	5.00			5	6	10	1	1	1	1	1	10	10	5,000	5,000	18	23	1	1			4	5			1	1	2	2
33	M.B.MOHAMMADY	3	1			0.41											2	2	4,000	4,000	10	15	1	1	1	1	4	5			2	1	2	2
34	ASGHAR NIKPOOR	2	2	1		0.80	1.00				20		1		1		6	5	3,000	3,500	20	25	1	1			4	5	3		2	1	2	2
35	ABAS TEIMORY	2		1	2	0.50					10						5	2	1,000	2,500	15	20	1	1			4	2	3		1	2	2	2
36	AYAT ZAMANY	2	2	1	4	0.34				2	20						1	1	3,400	3,400	20	20	1	1	4	5	1				2	1	2	2
37	KHAIROLLA ZAMANY	3	1			0.10					20	1	1				1	1	1,000	1,000	15	20	1	2	1	4	5				1	2	1	1
38	GHOLAM SALEHNIA	3	2	1	3	0.80					40		1	1			2	1	4,000	8,000	15	20	1	1	4	5	1	2			2	2	2	2
39	ALIREZA GHASEMZADEH	2	1	4		1.30			1		30		1	1			10	4	1,300	3,000	10	30	2	1	4	1	5	3			1	2	2	2
40	PARVENEH GHARIB	2				0.28			3								1	1	2,600	2,600	18	22	3	2		4	5				2	1	2	2
41	GHASEM TEIMORY	2	2				0.50				20						3	3	1,200	5,000	18	23	1	1	1	4	5	2	3		2	2	2	2
42	HOSAIN TEIMORY	2	2	1	1	0.70					20						3	3	1,200	2,300	18	23	1	1	1	1	4	5	2		1	2	2	2
43	ALIAKBAR MOSLEMY	2	1				1.30				20		1				6	5	2,000	2,200	20	22	2	1	1	4					1	2	2	2
44	KHADIGEH GHASEMZADEH	2	2	1	1	0.20					20		1				1	1	2,000	2,000	18	20	1	2	1	4					1	1	2	2
45	GHEDAALI GHARIB	2	1	1	2	1.80				2	10		1				7	3	3,000	6,000	18	22	1	1			5	3	2		1	1	2	1

LIVE STOCK	FARM MACHINERY	NUMBER OF PLOT	AREA OF PLOT	PRICE OF FIELD	CON.	REP.	PRIORITY OF IMPROVEMENT	CHANGED AFTER LAND CONSOLIDATION	FUTURE PROPOSAL OF FARMERS	REMARKS
10 11 12 13 14 15 16	17 18	19 20	21 22	23 24	25 26 27 28 29	30 31 32 33 34 35 36	37 38 39 40 41 42 43	44
15	3 2	2,000 2,000	15 20		2 4 5	2 2 2 1	3 2	
		2,000 2,000	15 20		2 4 5	2 2 1	1 2	
	1 1	2,000 2,000	15 20		4 5	2 2 1	3 2	
	1 1	2,000 2,000	15 20		4 5	2 2 1	3 2	
20	3 3	4,000 5,000	15 21		2 1 4 5	2 2 2 1	2 2	(TEACHER)
20 1	3 3	3,000 4,000	15 22		2 4 5	2 2 1	2	
15 1	44 5	2,000 4,000	15 20		2 4 5	2 2 1	2 2	
15	2 2	4,000 6,000	15 22		4 5 2	2 2 1	1 2	(RICE MILL)
20 1 1 1	4 4	2,000 5,000	14 20		2 4 5	2 1 2 1	2 2	
20 1	1 1	2,000 6,000	15 22		2 4 5	2 2 2 1	2 2	
20 1 1 1	12 12	3,000 4,000	20 20	3 2		2 1 2 2	2 1 2 2	NO BENEFIT
10	1 1	2,000 4,000	20 25	1 1 4 1 3 5		2 2 2 1	2 2	
20 1	4 4	1,500 4,000	20 20	3 2 4 1		2 2 2 1	2 2 1 2	
20 1	3 3	3,000 4,000	20 16	3 2		2 2 1 2 2	2 2 1	NO BENEFIT
10 1	5 5	1,500 5,000	22 25	3 1 1 4 3 5		2 2 2 1	2 2 1	FARM ROAD IS VERY HIGH
20 1 1	3 3	3,000 3,000	40 30	2 2 1 4		2 2 1	2 1	
50 1 1 1	2 2	6,000 6,000	25 30	1 1 3 1 4 1		2 1 1 1	2 1	
	1 1	3,000 3,000	30 30	2 2 1 4		2 2 1	2 2	
10	1 1	2,000 2,000	23 25	2 1 1 4		2 1 2 2	2 2	
20 1	2 2	2,500 2,500	15 20	1		2 1 2 1	2 2	
20	3 3	2,000 3,000	15 20	2		2 2	2 1	
20	2 2	3,000 4,000	30 30	1 2 1 4 3 6		2 2 2	2 1 2	
10 1 1	3 4	3,000 4,000	20 25	1 1 1 4 3 5		2 2 2 1	3 2	
20 1 1	6 6	3,000 4,000	22 25	2 3 4 3 1		2 1 2 2 2	3 1 1	LOCATION BECOME FAR
	4	1,000 3,000	20 20	3 1 2 4		2 2	2 1 2	MORE AREA IS REDUCED
3	2	1,000 2,000	15 18	1 1 4 3		2 2 2	2 2	
10 1 1	17 9	2,000 4,000	23 25	1 1 2 4		1 2 1	2 1 2	
20	2 1	2,500 5,000	35 40	1 1 4 3		1 2 2 2	3 2	
8 1 1	13 10	2,000 4,000	22 25	1 1 4 2 3		2 1 2	2	
100	4 1	1,000 6,000	22 25	3 1 1 4 2		2 2 1	2 1 2	AREA REDUCED FOR 1000M2
20	1 1	1,800 1,800	15 20	1 1 1 4 3		2 2 2	2 2	
5 10 1 1 1	10 10	3,000 3,000	18 23	1 1 1 4 3		2 2 2 1	2 1 1	
	2 2	4,000 4,000	10 15	1 1 1 4 5		2 1 2 2 1	2 2 2	
20 1 1	6 5	3,000 3,500	20 25	1 1 1 4 5 3		2 1 2 1	2 2	
10	3 2	1,000 2,500	15 20	1 1 4 2 3		2 2 2	2 2	
20	1 1	3,400 3,400	20 20	1 4 3 1		2 2 2 1	2 2	
20 1 1	1 1	1,000 1,000	15 20	1 2 1 4 3		1 2 2 1	1 2 2 2	
40 1 1	2 1	4,000 8,000	15 20	1 1 4 3 1 2		2 2 2 2	2 2 2	
50	10 4	1,300 3,000	10 30	2 1 4 3 3		2 2 1 2 2	2 2	
	1 1	2,600 2,600	18 22	3 2 1 4 3		2 1 2 2	2 1 1	1000M2 LESS THAN SHARE
20	4 1	1,200 3,000	18 23	1 1 4 3 2 3		2 1 2	2 2	
20	3 3	1,200 2,300	18 23	1 1 4 3 2		2 1 2 2	2 2	
20 1	6 5	2,000 2,200	20 22	2 1 1 4		2 1 2 2	2 1 2	
20	1 1	2,000 2,000	18 20	1 2 1 4		2 2	2 1 2	
2 10 1	7 3	3,000 6,000	18 22	1 1 3 2 2		1 1 2	3 2	

Eslamabad

FARMER NUMBER	NAME	YEAR TYPE OF FINISHFARMER	FARM LABOR	CULTIVATION AREA				LIVE STOCK				FARM MACHINERY				NUMBER OF PLOT	AREA OF PLOT		PRICE OF FIELD		CUR.	REP.	PRIORITY OF IMPROVEMENT						CHANGED PRACTICE AFT LAND CONSOLIDATION				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1	AHMAD MAZLOM	1	1	1	1	1.65					20		2				13	5	1,500	3,000	20	25	2	1	1	3	2				1	2	2	1	2
2	ROKOLLA NOROZI	1	1	1	5	2.20			1		30		1				4	6	6,000	4,000	20	20	3	3							2	1	2	2	2
3	ESA NOROZI	1	2	1	5	0.70			1		50		1				7	2	1,000	3,500	30	30	2	2	1	2					2	1	2	2	2
4	NARGES MAHMODY	1	2	1	2		0.10										1	1	1,000	1,000	60	100	1	1	1	4	6				2	1	1	2	1
5	ALI MAHMODY	1	2	1	2		0.10	2.00	1		50						1	1	1,000	1,000	60	100	1	1	1	4	6				2	1	1	2	1
6	GHODRATOLLA KIANPOOR	1	2		2	2.10	0.80				20				1	1	30	9	1,000	3,000	15	50	1	1	1	2	3	4	5		1	1	2	2	1
7	G.ASADI MOGADAM	2	1	3	1	1.30			1		20		1				15	4	1,000	3,800			1	1	1	4	3	2			2	1	2	2	2
8	R.MOHAMMAD SEJAD	2	2	1	1	1.20							1				4	3	3,000	4,000	150	150	1	1							2	2	2	2	2
9	RAHMAT AHMADY	2	1	1	5	2.30					50	1					9	6	2,500	3,000	20	40	1	1	1	3	2	4	5		2	1	2	2	2
10	AHMAD AHMADY	2	1	1	1	0.30			1		5		1				3	1	1,000	3,000	50	100	2	2	1	2	4				2	2	2	2	2
11	GHORBAN FALLAH	2	1	4	1	0.50			4		30				1		16	2	800	2,500	15	30	1	1	1	4	2	3			2	1	2	2	2
12	ASHAR SAFAIE	2	2	1	1	0.40											3	2	1,300	2,000	15	20	1	1	2	4	3	1	5		2	2	2	2	2
13	TAHIA MIRZAIE	2	2	1	4	0.35					10						1	1	2,500	2,500	40	40	2	2	2	1	2				2	2	1	2	1
14	M.HEIDARZADEH	2	2				2.00			2	20			1	1		8	5	2,500	4,000	15	20	1	1	1	2	3	4	5		2	1	2	2	1
15	A.G.HASANZADEH	1	1		5	1.60					50						9	4	2,000	4,200	10	20	2	1	1	4	2	3			2	1	2	2	2
16	M.J.MAHMODI	1	1		5	1.30					10						26	5	500	2,500	40	50	1	2	1	2	4	5	6		2	1	1	2	2
17	NADER JOKAR	2	1	1		0.30					20		1				3	1	1,600	3,000	13	15	1	1	1	3	2	4			2	1	2	1	2
18	GORAIM JOKAR	2	1	1	2	0.70			1		15						3	1	1,500	4,700			2	2	1	3	1				2	2	2	2	2
19	NASHEM SAFAIE	2	2	1		0.30					5						3	1	1,000	3,000	13	30	1	1	2	3	1	4			2	2	2	2	2
20	RAHMAT JOKAR	2	1	1		3.00					20		1				3	7	10,000	4,000	18	18	2	2	1	4					1	1	2	2	2
21	NASER JOKAR	2	1	1	2	1.00			3		10						4	3	2,500	4,000	10	20	2	2	1	3	4				2	2	2	2	2
22	M.HASAN ZADEH	2	1	1		0.90					5						13	2	1,000	4,000	13	20	2	2	1	3	2				2	1	2	1	2
23	R.SADEGHI	2	1	1	2	2.30			2		20		1				3	5	7,000	4,000	30	70	1	1	1	4	1				2	1	2	1	1
24	V.HEIDARZADEH	2	1	1		0.10			1		15						2	1	500	1,000	25		1	1	1	2					2	1	2	2	2
25	M.ROSAVI	2	2	2	3	0.35			20		40						4	3	1,000	2,000	15	20	1	1	1	4	2	3			2	2	2	2	2
26	ALI ALAVI	2	1	2	2	0.35			8		10						2	1	1,800	3,500	20	20	1	1	1	2	3				2	2	2	2	2
27	ASGAR ASASGHARI	2	1			0.60					30		1				5	2	1,000	3,000	20	20	1	1	2	3	4	1			2	1	2	2	2
28	KARIM JOKAR	2	1	1	4	2.16			4		20						2	7	13,000	3,000	13	15	3	2	1	4	3				2	1	2	2	2
29	YOSEF SAFAIE	2	2				1.10										10	3	1,100	3,800	10	20	1	1	1	4	1	5	3	5	2	1	2	1	2
30	ABASS JOKAR	2	1	1	2	1.70					40				1		18	4	1,000	4,000	8	15	2	2	2	3					2	2	2	2	2
31	AHMAD ALAVI	2	2	1	1	0.65			7		40						6	4	2,000	4,000	15	18	1	1	1	2	4	3			2	1	2	2	2
32	GHORBAN HASSANZADEH	2	1	2	1	0.60					15					1	4	2	2,000	4,000	15	20	3	2	1	4	1				2	1	2	2	2
33	MAHMOD FALLAH	2	1	2		2.10		1.00			50		1				11	5	1,000	4,000	10	20	1	1	1	4	1	3	2		2	1	2	2	2
34	F.NIKKAH	2	1	1		2.80			3		50		1				25	7	1,000	4,000	300	300	3	1	1	2	3				2	2	2	2	2
35	A.HEIDARZADEH	2	2	2	1	1.30					50		1		1		8	4	2,000	3,700	10	15	1	1	1	3	2				2	1	2	2	2
36	H.J.MAHMODI	2	1	1	1	1.90			2		20		1		1		10	4	1,000	4,000	50	70	1	1	1	4	1	3	2		2	1	2	2	2
37	M.FALLAH	2	1	2	1	1.00					7						10	3	1,000	3,200	15	20	1	1	1	4	1	5	2		2	1	2	2	2
38	SHABAN FALLAH	2	1	1		1.00					2						10	2	1,000	5,000	15	20	1	1	1	4	3	2			2	1	2	2	2
39	A.AMANI	2	1	1	1	1.40					10						10	2	1,000	5,000	13	18	1	1	1	2	4	5	6		2	2	2	2	2
40	M.A.JOKAR	2	2	1		0.75					30		1		1		4	2	1,700	3,500	13	15	1	1	1	4	5	3	2		2	1	2	2	2
41	YOSEF SHOKRI	2	1	1	2	3.40			3		50						9	4	4,000	4,000			3	3							2	1	2	2	2
42	M.SHOKURI	1	1	3	1	1.20			2								12	4	1,000	3,000	15	20	1	2	2	1	4				2	1	2	2	2
43	NARGAR MAHMODY	1	2	1	2		0.10										1	1	1,000	1,000	60	100	1	1	1	4	6				2	1	1	2	1
44	NAGAR MAHMODY	2	2				0.20								1		1	1	2,000	2,000	15	15	1	1	1	4					2	1	2	2	2
45	M.NAIEJY	1	2				0.30								1		1	1	3,000	3,000	30	50	3	2	4	1	5	4			2	1	2	2	2
46	M. KIANPOOR	2	1	1	3	0.70					10		1	1			7	2	1,000	1,000	12	20	2	2	1	2					2	1	2	1	2
47	ESMAIEL POOR	2	2	6		1.10							1	1	1		6	3	1,900	1,900	10	20	1	1	4	1	5	3	2		2	1	1	2	2

VE STOCK			FARM MACHINERY				NUMBER OF PLOT	AREA OF PLOT		PRICE OF FIELD		CON.	REP.	PRIORITY OF IMPROVEMENT						CHANGED PRACTICE AFTER LAND CONSOLIDATION							FUTURE PROPOSAL OF FARMERS							REMARKS
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
	20		2				13	5	1,500	3,000	20	25	2		1		3	2			1	2	2	1	2	2	1	2		2	2		1	1	
	30		1				5	8	6,000	4,000	20	20	3		3						2	1	2	2	2	2	2	2		1	2		2	2	LAND REDUCED
	50		1	1			7	2	1,000	6,500	30	30	2	2	1	2					2	1	2	2	2			1	3	2	1		2	2	(SHOP)
							1	1	1,000	1,000	60	100	1	1	1	4	6				2	1	1	2	1			1	2	1	1		1	1	(BAKER SHOP)
	50						1	1	1,000	1,000	60	100	1	1	1	4	6				2	1	1	2	1			1	2	1	1	1	1	1	(BAKER SHOP)
	20		1			1	30	8	1,000	3,000	15	50	1	1	1	2	3	4	5		2	1	1	2	2		2		1	2	1	1		
	20		1				15	4	1,000	3,800			1	1	1	4	3	2			2	1	1	2	2		2		1		1	1	2	
			1				4	3	3,000	4,000	150	150	1	1	1						2	2	2	2	2		2		1	2	1	1		(CAR REPAIRE SHOP)
	30		1				9	6	2,500	3,000	20	40	1		1	3	2	4	5		2	1	2	2	2		2		2	2		2	2	
	5						3	1	1,000	3,000	50	100	2	2	1	2	4				2	1	2	2	2		2		1	1		2	2	
	30					1	16	2	300	2,500	15	30	1	1	1	4	2	3			2	1	2	2	2	2	1		2	1	1		2	1	
			1				3	2	1,300	2,000	15	20	1	1	2	4	3	1	5		2	2	2	2	2		1		3	1	2		1	1	
	10						1	1	2,500	2,500	40	40	2	2	1	2	3				2	1	1	2	1		1			1	2		1	1	(OFFICER)
2	20		1	1	1		8	5	2,300	4,000	15	20	1	1	1	2	3	4	5		2	1	1	2	2		1		2	2	1	2	1	1	(RICE MILL)
	50						9	4	2,000	4,200	10	20	2	1	1	4	2	3			2	1	2	2	1		1		2	1	2		1	1	
	10						26	5	300	2,500	40	50	1	2	1	2	4	5	6		2	1	1	2	2		2	2	2	1	1		2	1	
	20		1	1			3	1	1,600	3,000	13	15	1	1	1	5	3	2	4		2	1	2	2	1		2	3	1	2	1		1	1	
	15						3	1	1,500	3,700			2	1	2	3	4	1			2	2	2	2	2		2		2	2		2	2	
	3		1				3	1	1,000	3,000	13	30	1	2	1	3	1	4			1	1	1	2	1		2	3	1	2	1		1	1	(TEACHER)
	20		1				3	7	10,000	4,000	18	18	2	2	1	4					2	1	2	2	2		2		2	2		2	2	
	10						4	3	2,300	4,000	10	20	2	1	1	3	2				2	2	2	2	2		2		1	2		2	2	
	6						13	2	1,000	4,000	13	20	1	1	1	3	2				2	1	2	1	1		1		2	1		1	1	
	20		1				3	5	7,000	4,000	50	70	1	1	1	4					2	1	2	1	1		1	2	1	2		2	2	
	15						2	1	500	1,000	25		1	1	1	2					2	1	2	2	2		2		1	2		1	2	
	40		1				4	3	1,000	2,000	15	20	2	2	1	4	2	5			2	2	1	2	2		2		2	1		2	1	(LIVE STOCK)
	10		1				2	1	1,600	3,500	20	20	1	1	1	2	3				2	2	2	2	2		2		2	1	2		1	1	
	30		1				5	2	1,000	3,000	20	20	1	1	2	3	4	1			2	1	2	2	2		2		2	1		2	2	
	20						2	1	13,000	3,000	13	15	3	2	1	4	5				2	1	2	2	1		2	2	1	1	1		2	2	FIELD NUMBER IS INCREASED
			1				10	3	1,100	3,800	10	20	1	1	1	4	1	5	3	5	2	1	1	2	1	2	1	2	1	2	1	1	1	(OFFICER)
	40			1	1		19	4	1,000	4,000	8	15	2	2	2	3					1	1	2	2	2	2	2	1	2	1	2	1	2	
	30		1				6	4	2,000	4,000	15	18	1	1	1	2	4	3			2	1	1	2	1		1	2	1	1	1	1	1	(LIVE STOCK)
	15		1			1	4	2	2,000	4,000	15	20	3	2	4	1					2	1	2	2	2	1	1	1	3	2	2	1	2	LAND BECOME LESS,ROAD&CANAL
	50		1				11	5	1,000	4,000	10	20	1	1	1	4	1	3	2		2	1	2	1	2	1	1	1	2	1	2	1	1		
1	50		1		1		25	7	1,000	4,000	300	300	3	1	1	2	3				2	2	2	2	2	1	1	1	2	1	1	2	2	CAN'T SELL,SWAMPY
	50		1		1		8	4	2,000	3,700	10	15	1	1	1	3	2				1	1	2	1	2	1	1	1	2	1	1	1	1	(COW PRODUCT SELLER)
	20		1		1		10	4	1,000	4,000	50	70	1	1	1	4	1	5	2		1	2	1	2	2	1	1	1	3	1	2	1	1	
	7						10	3	1,000	3,200	15	20	2	1	1	4	1	5	2		2	1	2	2	2	1	1	1	2	2	2	1	2	2	
	8						10	2	1,000	5,000	15	20	1	1	1	4	3	5	2		2	1	1	2	1	1	1	1	3	1	1	1	1	1	
	10						10	2	1,000	5,000	13	18	1	1	1	2	4	5	8		2	2	2	2	2	1	1	2		1	1				
	30		1	1	1		4	2	1,700	3,500	13	15	1	1	1	4	5	3	2		2	1	1	1	2	1	1	2		1	1				(TEACHER)
	50		1	1			9	9	4,000	4,000			3	3							2	1	2	2	2	2	2	1	2	1	1				LAND BECOME LESS,IRRIGATION
			1	1			12	4	1,000	3,000	15	20	1	2	2	1	4				2	1	2	2	2	1	1	1		1	1				(BAKER)
							1	1	1,000	1,000	60	100	1	1	1	4	6				2	1	1	2	1	1	1	1	2	1	1				(BAKER)
						1	1	1	2,000	2,000	15	15	1	1	1	4					2	1	2	2	2	1	1	2		2	2				(RICE MILL)
						1	1	1	3,000	3,000	30	50	3	2	4	1	5	4			1	1	2	2	2	1	1	2		1	1				(BUTCHER),LAND BECOME LESS
	10		1				7	2	1,000	1,000	12	20	2	2	1	2					2	1	2	1	2	1	1	2		2	2				
			1	1	1		6	3	1,900	1,900	10	20	1	1	4	1	5	3	2		2	1	1	2	2	1	1	2		1	1				(RICE SELLER)

(4) ＣＡＰＩＣの将来像に関する資料

شماره .....

تاریخ .....

پیوست .....

بسمه تعالی

جمهوری اسلامی ایران
وزارت کشاورزی

Future CAPIC

1- CAPIC will be changed from Caspian Sea Costal Area Agricultural Development Project Pilot Implementation Center to Caspian Sea Coastal Area Agricultural Development progject Implementation Center.

2- New CAPIC has two functions as:

A- In executian of project (providing of needs, cooperation in organizing of implementation system, supervision of construction.)

B- National Agricultural Development training center for rice (for land conso lidation, agricultural mechanization and related technologies).

3- New CAPIC will be orgaized by the enough and qualified staff to perform objective.

4- New CAPIC has following activities under 5 sectors:

4-1- Land consolidation:

- Study and standarization of land consolidation
- Execution of land consolidation inculding detail design on large scale.
- Training of engineers and technicians who are working at goverment and company for planning, designing, land replotting and supervision of construction.
- Training of farmers for water management and aftercare of consolidated land and related facilities.
- Coordination with other organizations such as ministry of Energy, Plan Organization, soil and water organization, Rural service centers, and so on.

4-2- Agricultural mechanization.

- Examination for economical and technical mechanizaton and study for setting suitable techniques for mechanization.

- Training of extension officers and key formers.

- Collaboration with Amol rice institute to introduce improved variety for mechanization.

4-3- Agronomy

- Improvement of seedling growth techniques, preparation of soil, and cultivation techniques for mechanization.

- Training of extansion officers and key farmers for new techniques of mechanized rice cultivation.

- Collaboration with Amol rice institite to research, modernized rice cultivation.

4-4- Post harvest

- Improvement of local rice mill.

- Study to reduce the ratio of broken rice.

4-5- Extension

- Promotion to the farmers on land cosolidation and mechanization.

- Communication with farmers in cooperation with rural service centers.

- Establishment of agricultural cooperatives for organizing farmers as mechanization or aftercare groups for water management and maintenance of cosolidated land and related facilities.

(5) ポストハーベストに関する研究資料

CONTENT

POST HARVESTING IMPROVEMENT PROJECT

Post harvesting improvement project recommended to Reduce of losses and increase of milling recovery by Adequate investigation and study and improvement of - Losses factor in the , harvesting , drying , husking , whitening , storing and consumption stages.

OBJECTIVE:

-To lower the present milling loss by improveing the Existing rice mills

- To provide required facilities for introducing - Advanced farming practices such as paddy drying system Required to apply mechanized harvesting with combine - And to avaid effective use of paddy by - products such As rice bran, husk , small broken.

- Increase of farmers income by adequate of rice qulitative improve and increasing of milling recovery .

* * * * *

We have 500 rice mill factory in the project area. That the majority of their equipment is old .

Drying svstem is completly tridition.al and have flat Bed type dryer that the paddy is canstant in the dryer.

The height of paddy is between 60 to 150 cm and the temperature of heated air is more than $50^{\circ}C$.

In this condition ; The final moisture content for - Milling is 5 to 7 percent .

In the husking stage use englberg machine .sometime

This machine used both husking and whitening process.

Temperature of rice in the whitening stage is high

This temperature will causedincreas of crack kernel Ratio.

However , we belived due to using of this equipments , the losses is high (in the local) and to keeping of rice quility.

We should change this methode . to keeping of rice Quility , reduce of broken ratio and optimaizaltion - Utilize of energy , we should change of this methods.

Recognition of losses and measuring of crack kernel Ratio circumstance of drying , maximum temperature to cansider of rice quality, final moisture content, circumstance of seperation of Brown rice ,whitening ,storage losses and how to using of by product , can be as a Important of training programs.

Therefore ; Post harvest activity in the last years is following:

A: Investigation of present condition in the local ricemills.

B: How to drying of paddy

C: Study about crack kernel ratio

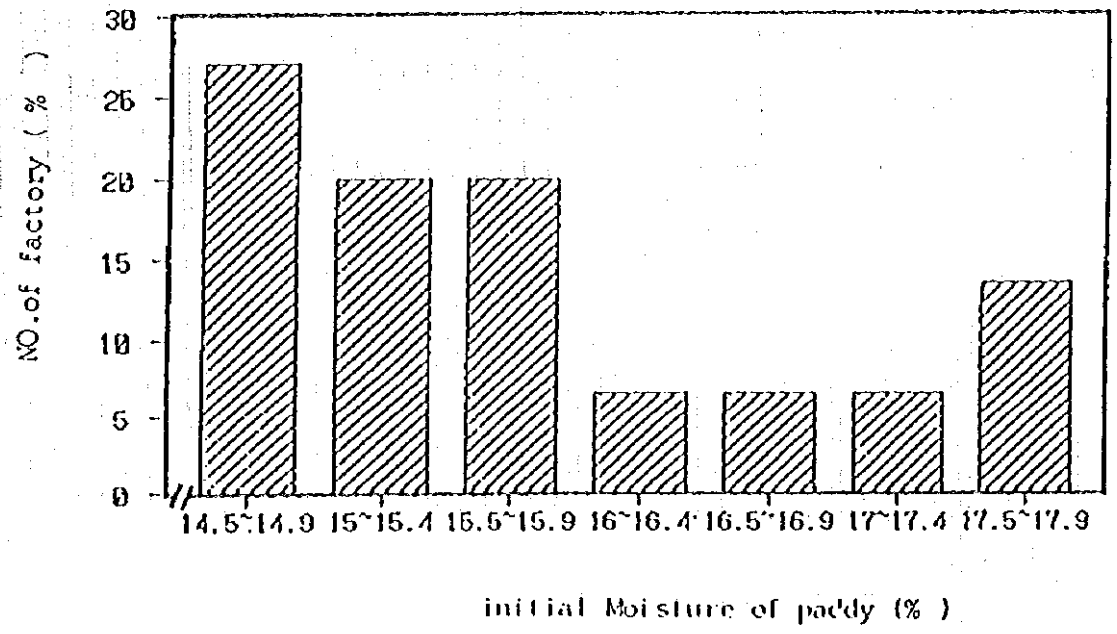
D: Joint activity of IRANIAN and JAPANESS experts

A: INVESTIGATION OF PRESENT CONDITION IN THE LOCAL RICE MILLS.

A-1) investigation of Initial moisture content.

the kNowledge of initial moisture content is very Necessary . the factars can affected on this Item is following:

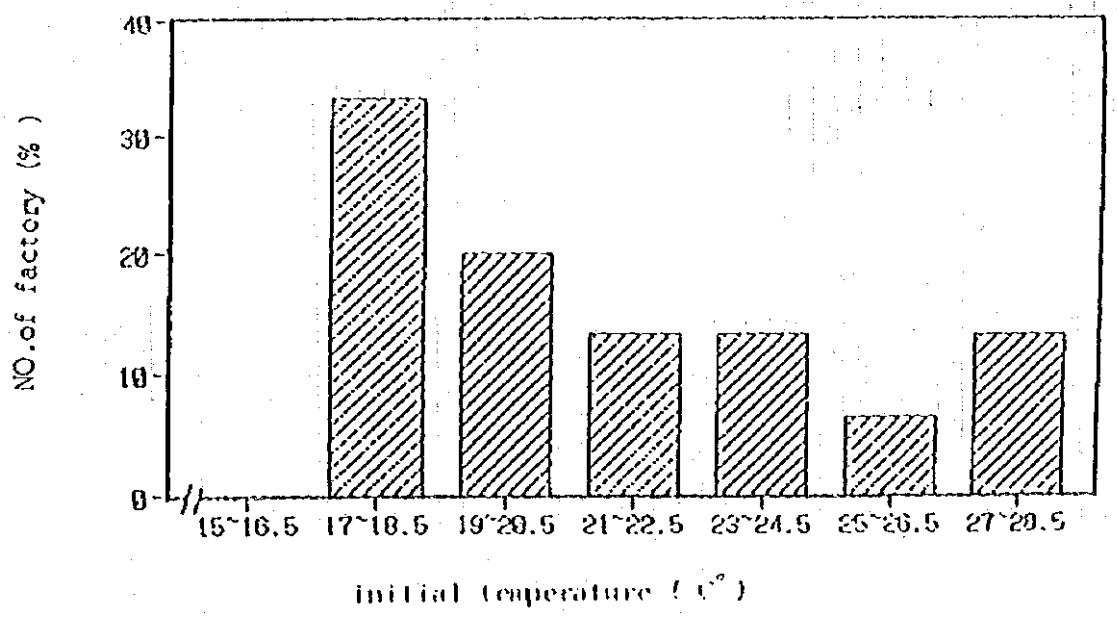
Data of harvesting , time of harvesting, method of - harvesting , Maturity of paddy and time of storing - (befor dring)• with regard to fig(1),initial moisture content of paddy in 65 percent of rice mills was - between 14 to 16 percent .20 percent of rice mills was between 16 to 17 percent. low moisture is due to of - hand harvesting.



fig(1) : Moisture content of paddy befor drying in the local factory

A-2) : INVESTIGATION OF INITIAL TEMPERATURE :

Initial temperature of heated air to prevent of stress on paddy is very important. minimum temperature in the local dryers was 17 °C. that to consideration of envirement temperature is suitable. fig(2) increas of temperature from 17 °C to (50 -60) °C is very fast, in result difference between initial temperature and find temperature cause create of losses.



fig(2): investigation of initial Temperature of heated air

A-3): investigation of Maximum temperature of heated air.

The other parameter of investigated is - Maximum temperture of heated air . Maximum - temperature shouldnt decrease rice quility. with regard to fig(3) , temperature of 20 percent of rice mills was 40^{oc} , 25 percent rice mills was $(40 - 50)^{oc}$ and 50 percent of rice mills was - $(50 - 60)^{oc}$.

Drying speed is 0.16 percent perhour in the - local , that this speed is different in the difference layers.

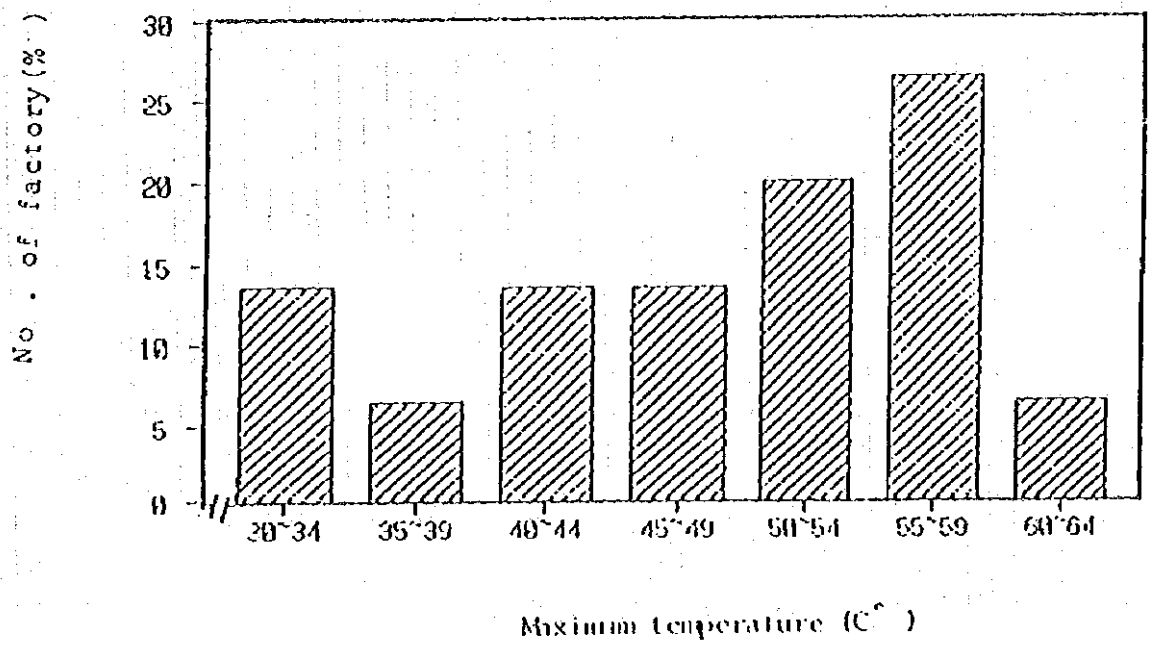


fig (3) :investigationof maximum temperature of heated air in the local factory

A-4): Investigation of drying time.

Dring time is very important because total of rice mills havent moisture meter and measuring - of moisture is done by expereance .

In the most countries, drying time is (14-18) hour.but in the IRAN sometime , drying time - will reach to 50 hour, with regard to fig(4) drying time in 30 percent of rice mills is - more than 45 hour , that from economic point of View isn't Acceptable.

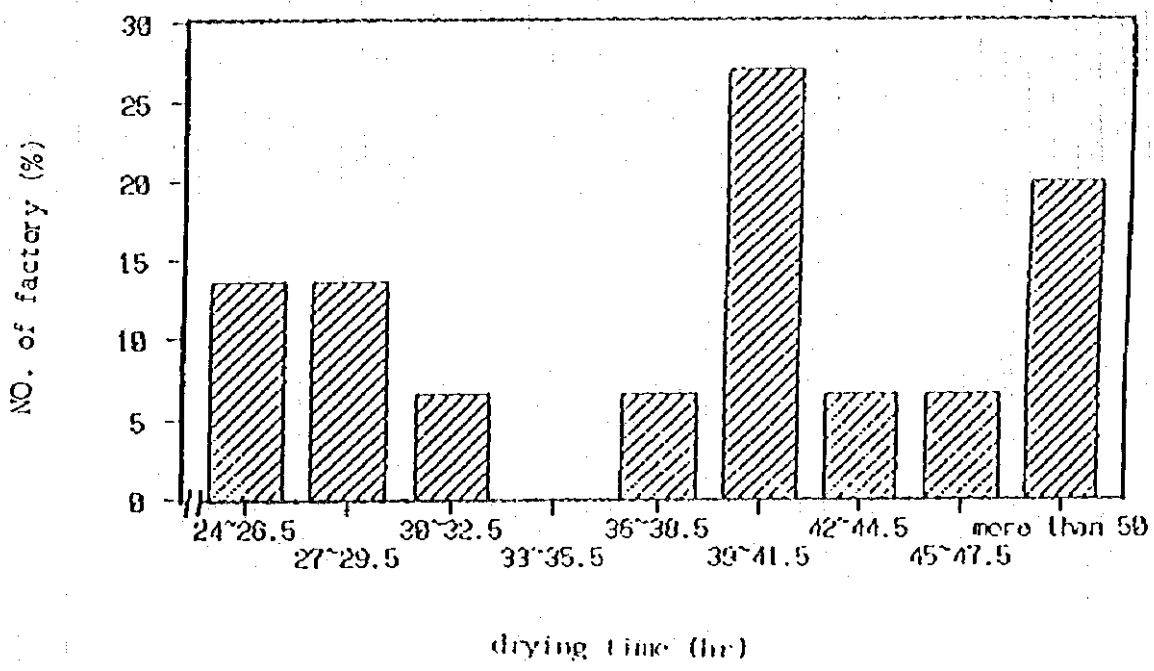


fig (4) : requirement time for drying of paddy in the local rice mills

B: HOW TO DRYING OF PADDY

The most important parameter in the flat bed type dryers is hegiht of paddy inside of dryer.

Accordingly , We investigated on this dryer.

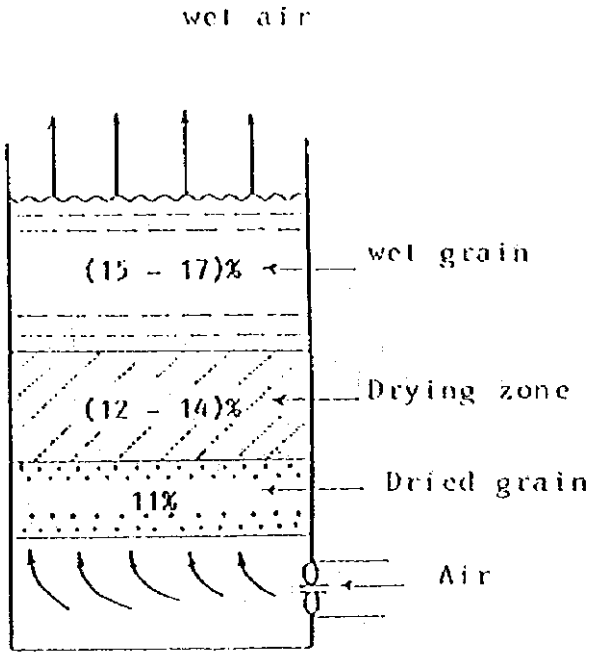
The results of the test are shown in fig (5) initial Moisture content of paddy was 20 percent . And between-(10-20) (hr) after starting of drying process ; We will Have maximum of moisture difference . In this time , top Layer moisture will reduce slowly , whereas , moisture Of bottom layer is approximat suitable for milling.

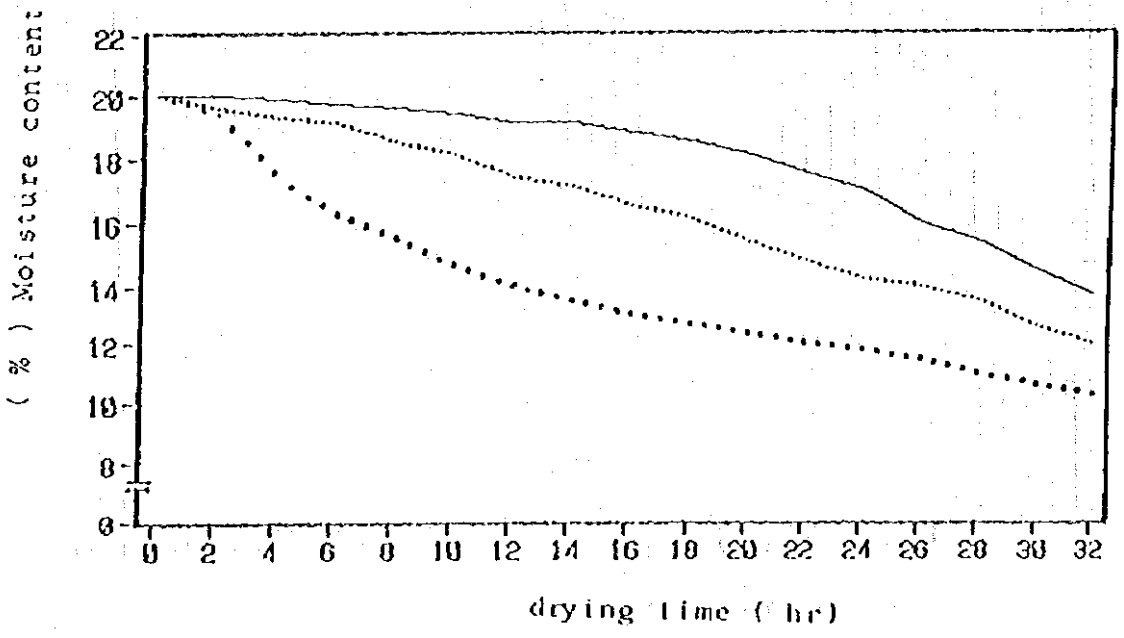
After this period , drying speed is slower in the - Bottom layer .

And moisture difference by passing time will be lower.

In the fact that , moisture difference to increase of Height of paddy will increase . For solving of this - Problem , final moisture should reduce until (5 - 6)% That this moisture is no good for milling .

	different layer		
		Med	Bottom
0	20	20	20
2	20	19.6	19.4
4	19.9	19.3	18.4
6	19.7	19.1	16.2
8	19.6	18.6	15.6
10	19.4	18.1	14.6
12	19.1	17.4	14
14	19.1	17.1	13.6
16	18.8	15.6	13
18	18.6	15.1	12.7
20	18.1	15.4	12.4
22	17.6	14.8	12
24	17	14.2	11.8
26	16	14	11.5
28	15.4	13.6	11
30	14.6	12.6	10.6
32	13.7	12	10.2





Bottom layer..... Med.layer ..... Top layer ——

fig (5) : Deep bed drying characteristics at different depths.

C: STUDY ABOUT CRACK KERNEL RATIO

C- 1- Relation between reduce of moisture and crack ratio

The result of the test is show in fig (6) .

To reduce of moisture , crack ratio will increase .

Angle of graph until 9 percent is monotonous .

After 9 percent of moisture , crack kernel increased.

This condition show to us that , Suitable moisture - For milling to considration of markability , is between 8.5 to 9.5.

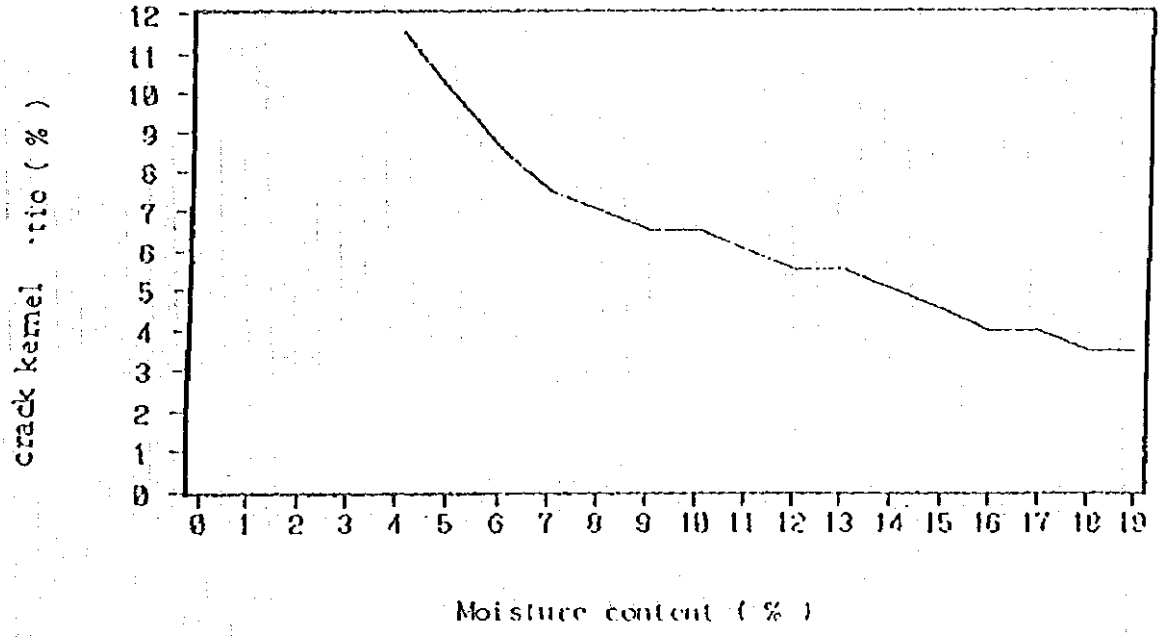


fig (6) : indicator of relation between decrease Moisture content and crack kernel ratio.

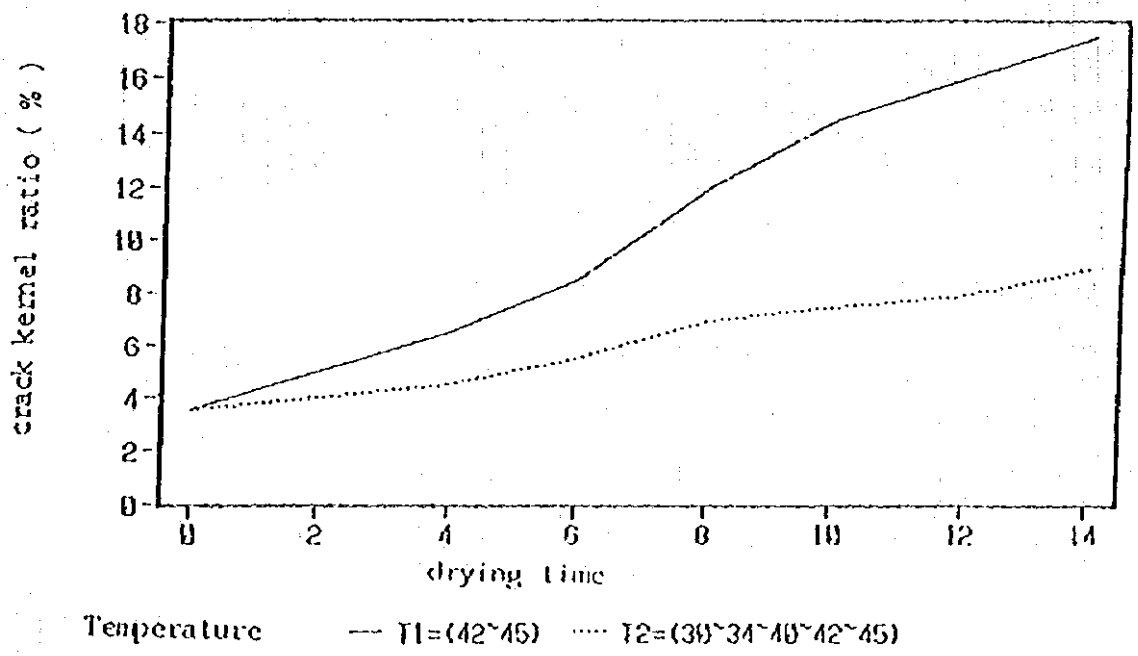
C-2- Relation between crack ratio and drying time;method

Of introduce of heated air is important in this investigation the reasons how and why crackby entrance, of heated Air is appear has been investigated.

with regard to fig (7) ,two method of heating of air did Investigat.

First stage , dryer temperature is constant (between 42 to 45°c) and second stage , temperature of heated air willincreas slowly .

The fig show to us that , crack ratio after 5 hour - Will reach . to 8.5 percent in the first method and 5 Percent in the second method . By passing of drying - Time , difference of crack ratio will reach from 3 Percent to 8 percent therefore , increase of tempera- turegradual cause of decrease of crack kernel ratio.



fig(7): relation between crack kernel ratio and drying time by two method of heated air

JOINT ACTIVITY OF IRANIAN AND JAPANESS EXPERTS

Main task of team was the transferring technical methodology on the post harvest technology with investigation of Losses and how to reduce it , for improvements of rice milling system in the future .

The most of important Items did investigate namely :

1- Observation survey

The purpose of this survey was to gain a broad understanding of actual patterns of post harvest practices.

1-1- Rice mills for the observation survey were selected To considration of Items for example rice mill must located Inside the project area and having combination of diverse - Machines we did investigate in the drying ,husking whitening stages.

2- Training of laberatory equipment

CAPIC have advanced laberatory equipment . how to - Using of these equipement for study on losses trained by Japaness experts .

3- Comparative milling test

This is a test conducted for the purpose of examining The influence on a generation of quatitative losses by - Milling machine types and their combinations used in The survey area and difference in drying time of the paddy.

The results of this survey and test is provided as a final Report of team.

PROBLEMS OF PRESENT AT THE POST HARVEST IN THE CAPIC AREA

Post harvest is means; total of processing for milling of paddy include of ; drying ,husking , whitening ,storing And consumption stages.

The most of important problems of present in the every Section is afollowing .

1- Drying section

* - Temperature of heated air is high , that paddy isn't su-itable.

*- The paddy inside of dryers is constant.so , we will need To more time for drying. therefore , the cost of energy con-sumption will increase.

*- The final moisture of paddy is low .(Oproximately(5-6)%) That ; This parameter will caused to increase of crack ratio, ,Increase of energy consumption, reduce of rice mill recovery And change of rice quality.

*- Cost of labour is high , because paddy charge ard disch-arge from dryers is done by hand.

2- Husker section

*- Almost from whitener machine (Engelberg modle) is use As a husker.That will be cause increas of pressure on the Paddy.

*-Rice mill factories haven't seperator machine (for sepera-Tionof Brown rice from paddy) in result , mix of paddy and Brown rice will go to whitener machine.

*- In case of using rubber roll husker,husking ratio is -

Low (about 18 to 30 percent) because the operator hasn't Enough knowledge to adjust the distance of rolls.

3- Whitening section

*- Whitening machine is engelberg type

*- Somtime one machine is use for both husking and whitening (havent Brown rice)

*- White rice temperature is high(After whitening) and - is about (70-85)^{oc} that will caused to increas of crack - Ratio.

4- Rice mill factories building section

*- We haven't any modified modle as a factory, store of Paddy and rice in the area.also storage losses is much - In the local because the building is old.

In additional, losses ratio is high in the area. Milling recovety is between (58-60) percent in the rice Mill local wheares, milling recovery is between (66-68) Percent in the capic center.

JICA