

11m
631.7.1 hydrology / canal regulation / irrigation canals / data analysis

9730
GUD

Pakistan / Sindh Province

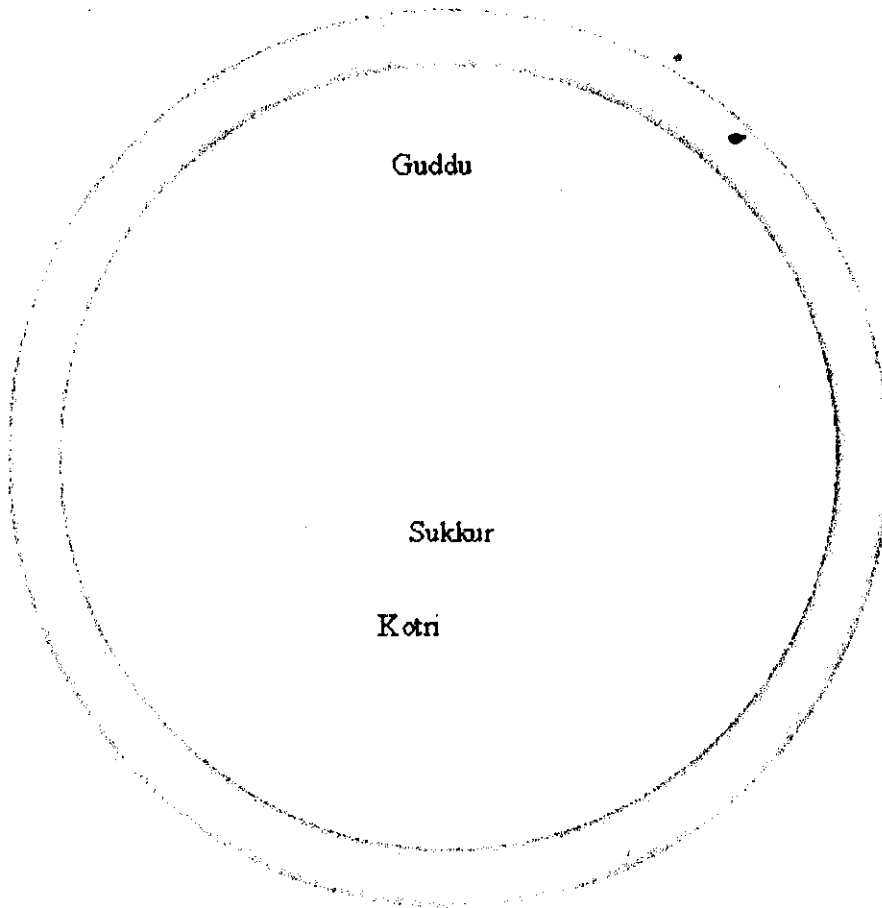
Report No. R-70.1

WATERLOGGING AND SALINITY MANAGEMENT IN THE SINDH PROVINCE

Volume One

The Irrigated Landscape:
Resource Availability across the Hydrological Divides

ANNEXES



DECEMBER 1998
PAKISTAN NATIONAL PROGRAM
INTERNATIONAL IRRIGATION MANAGEMENT INSTITUTE
LAHORE

H 24975 - C1

ANNEX-I

Information Matrix for the Sindh Hydrological Divides

ANNEX-II

Canal Head Diversions During 1994-96

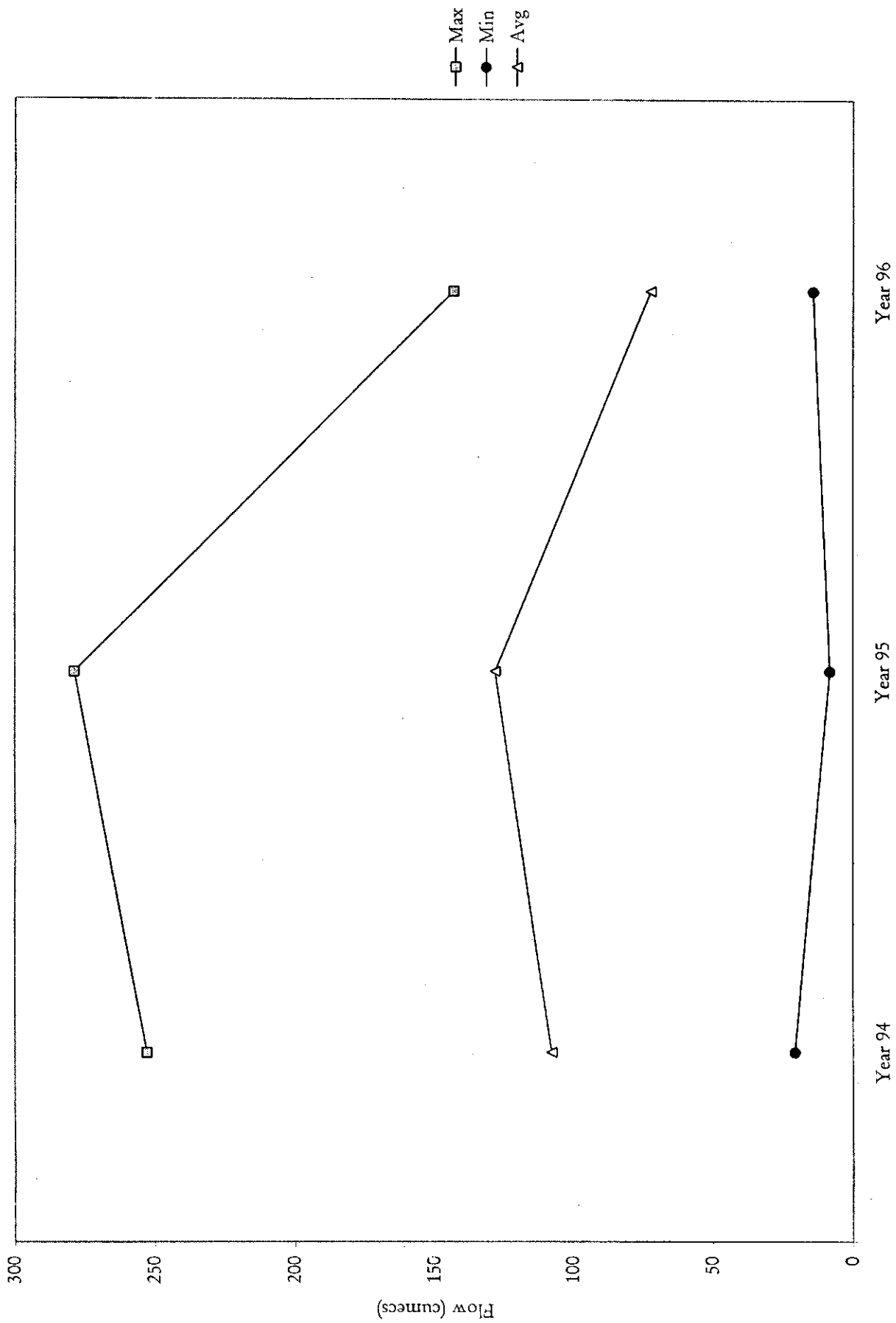


Figure II.1 Temporal Distribution of Yearly Flows in the Ghotki Canal.

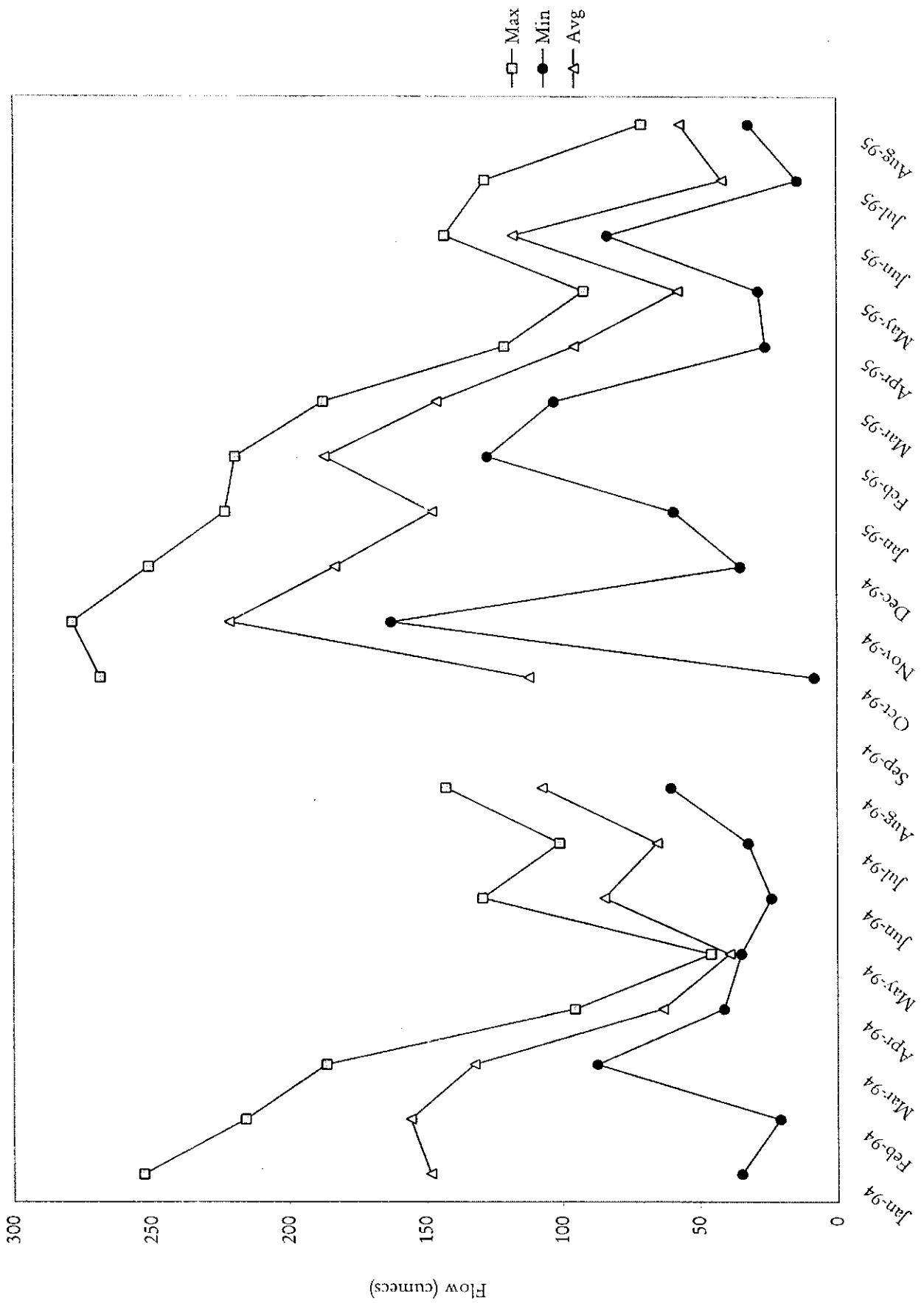


Figure II.2 Temporal Distribution of Monthly Flows in the Ghotki Canal.

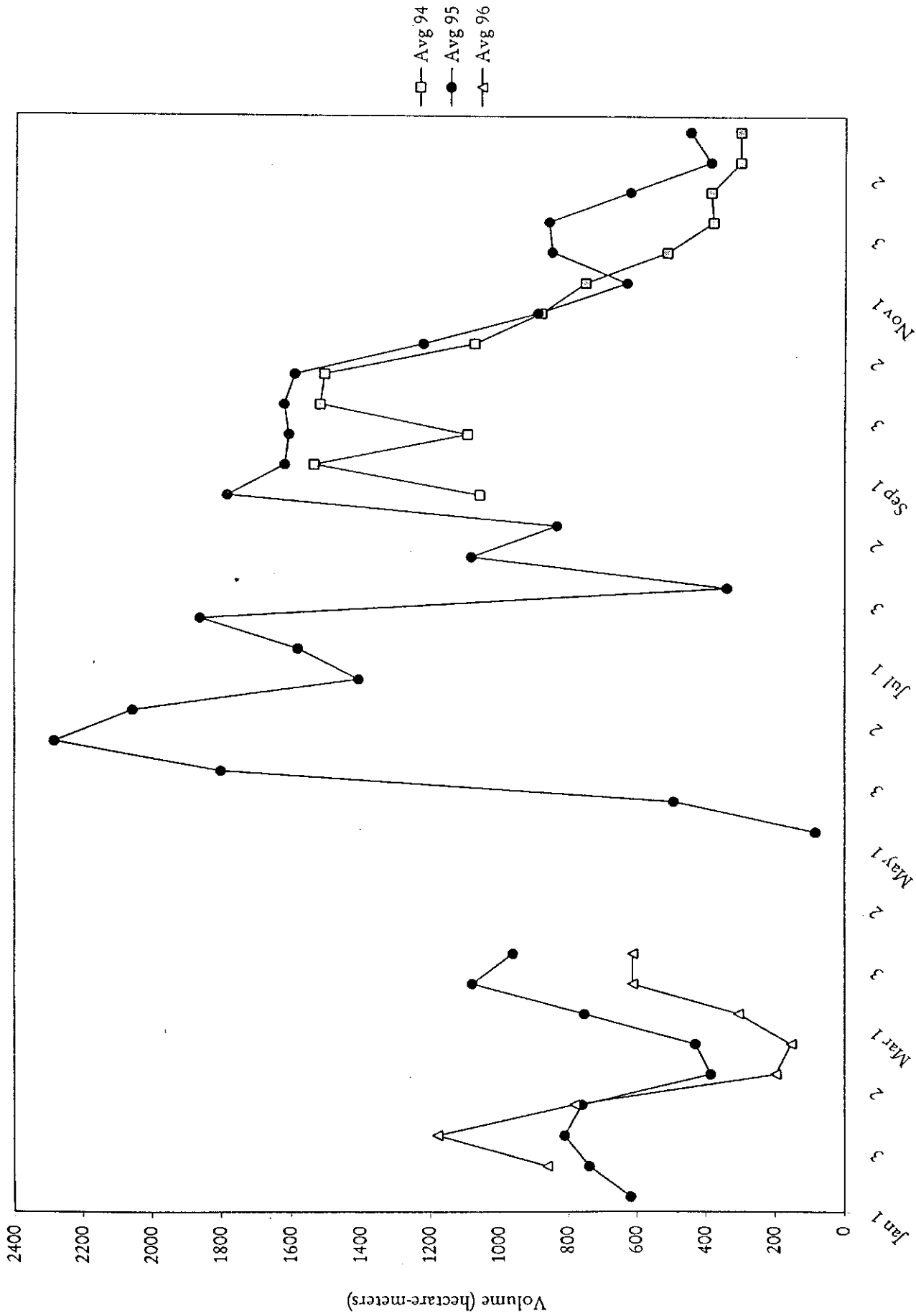


Figure II.3 Ten Daily Volumes of Surface Flows for the Ghotki Canal.

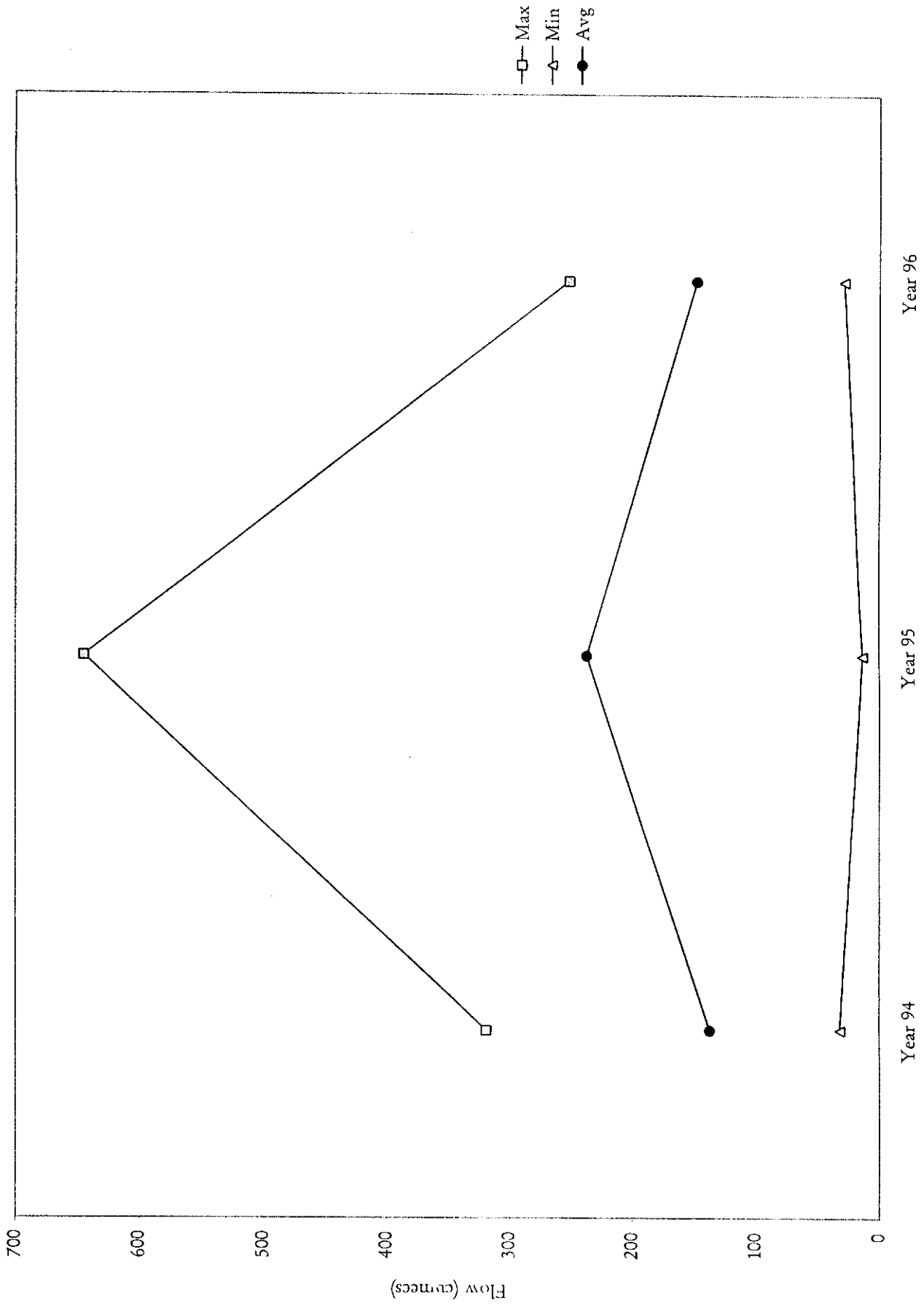


Figure II.4 Temporal Distribution of Yearly Flows in the Begari Canal.

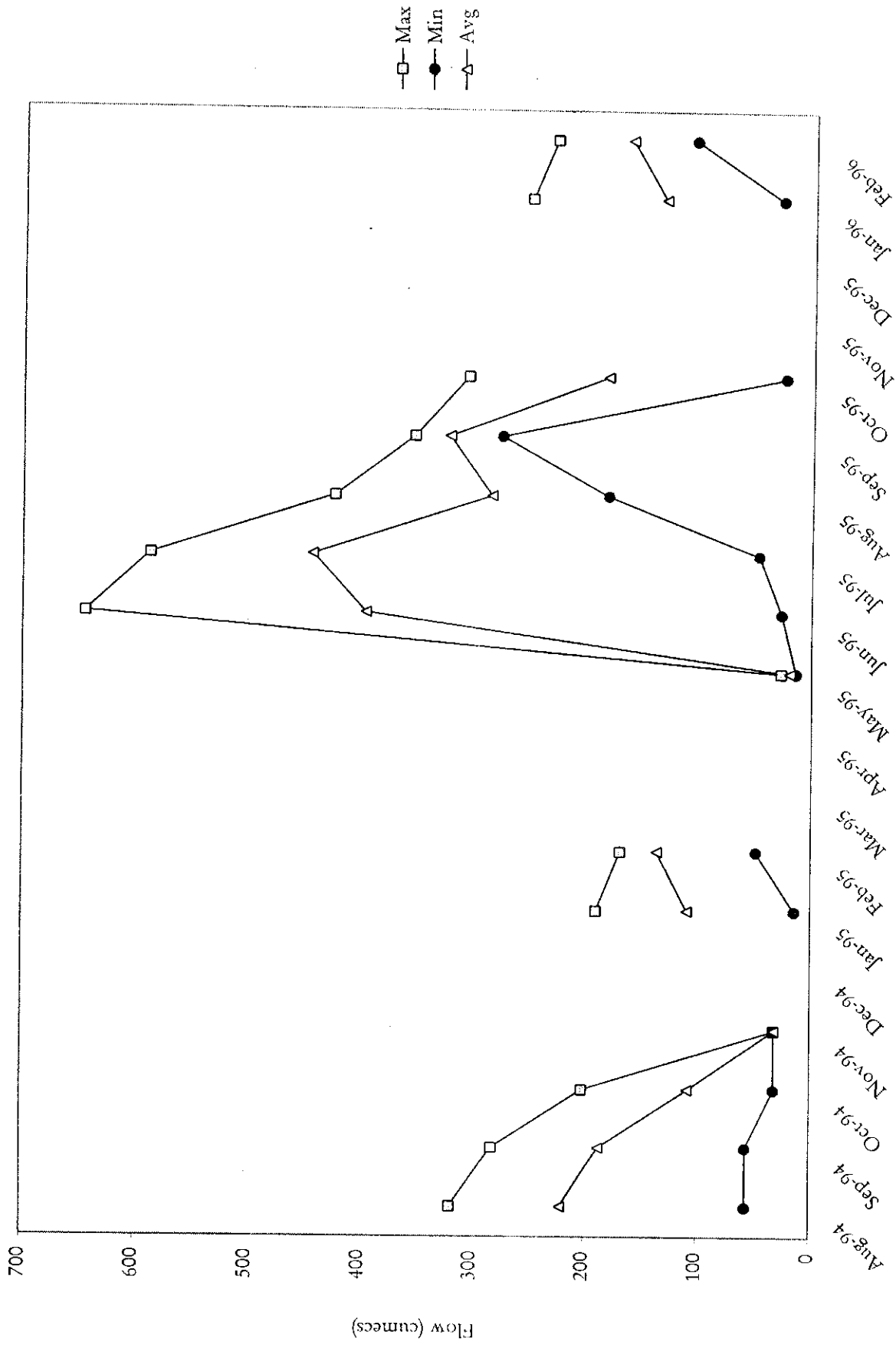


Figure II.5 Temporal Distribution of Monthly Flows in the Begari Canal.

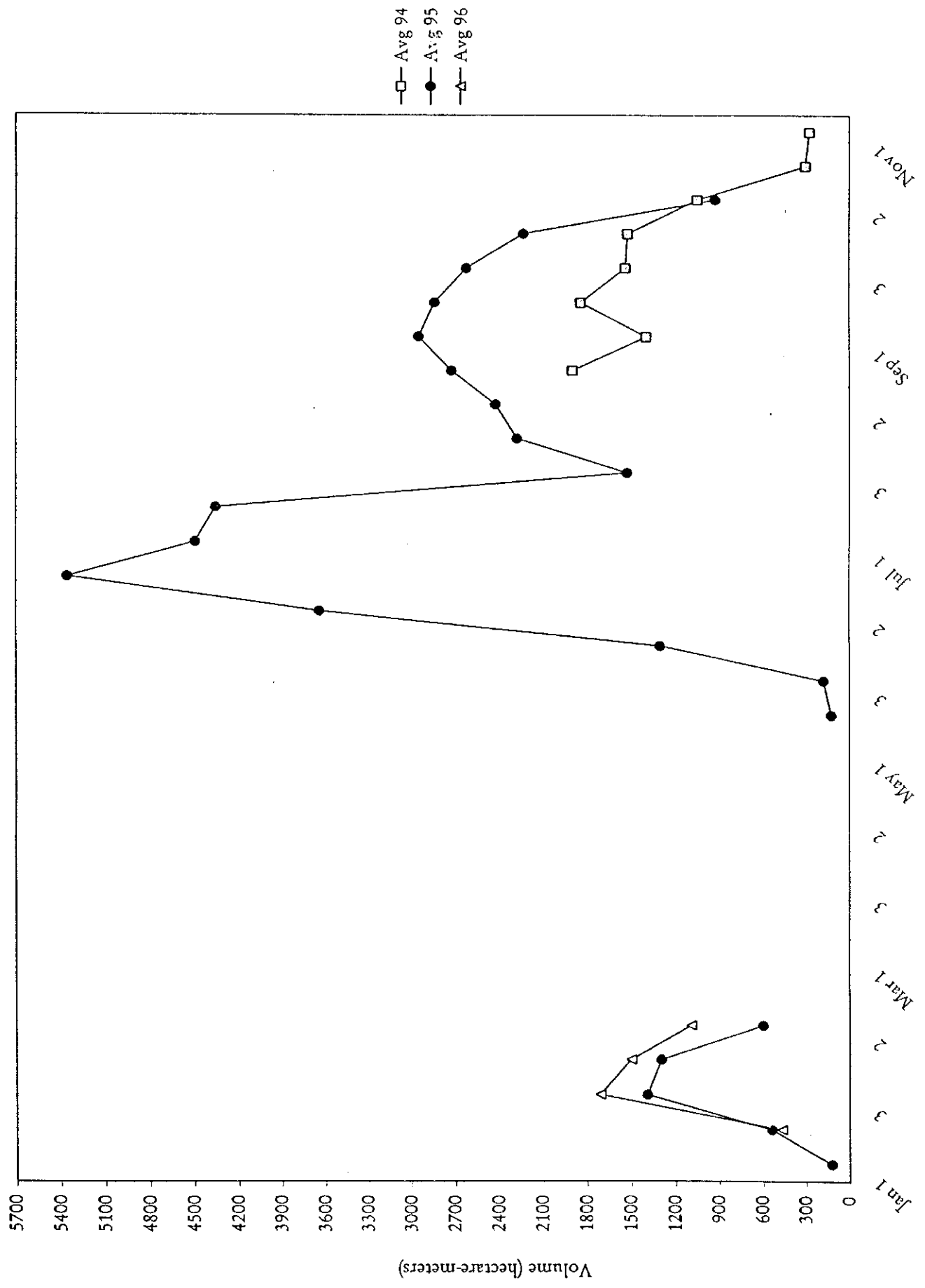


Figure II.6 Ten Daily Volumes of Surface Flows for the Begari Canal.

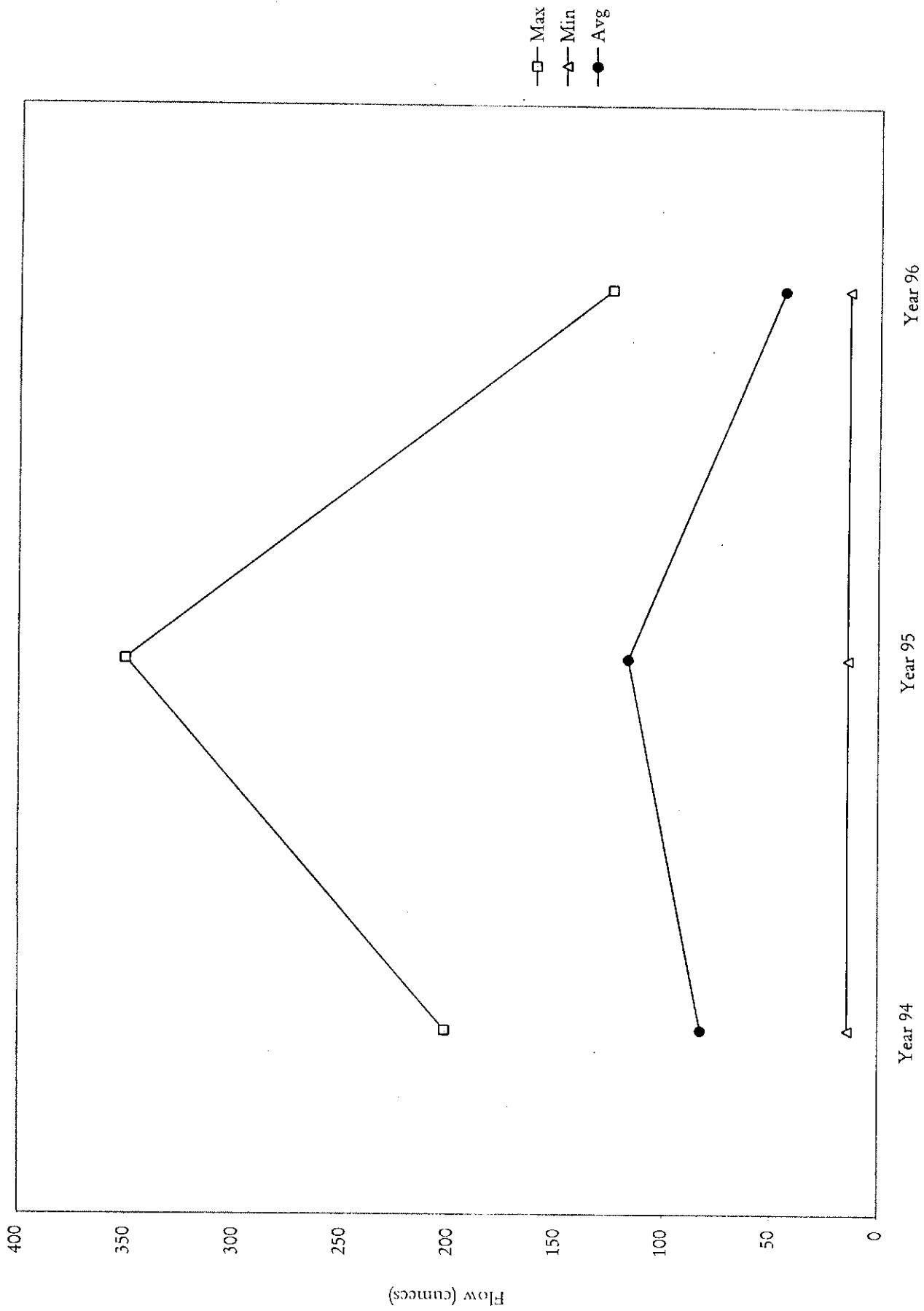


Figure II.7 Temporal Distribution of Yearly Flows in the Desert Canal.

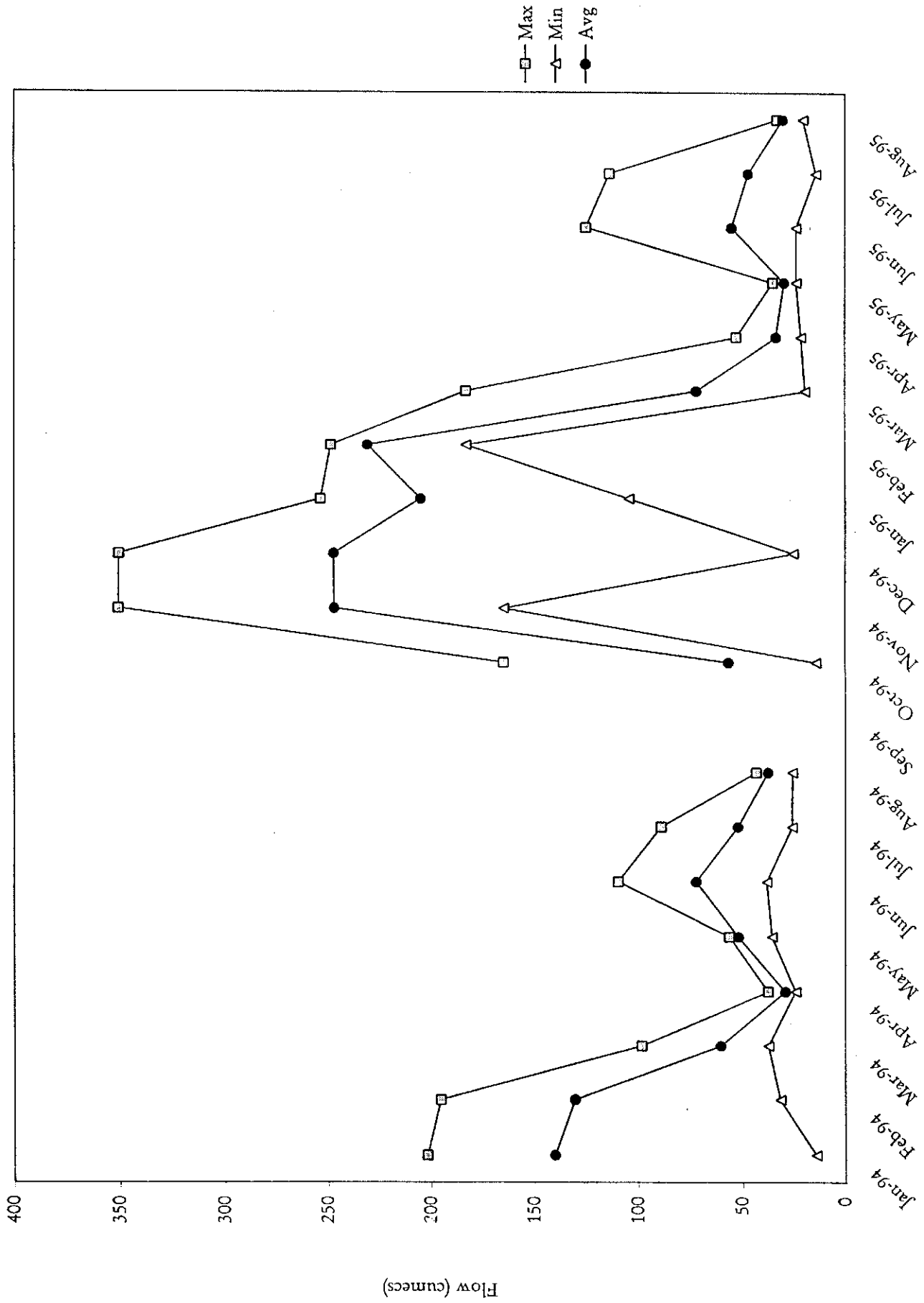


Figure II.8 . Temporal Distribution of Monthly Flows in the Desert Canal.

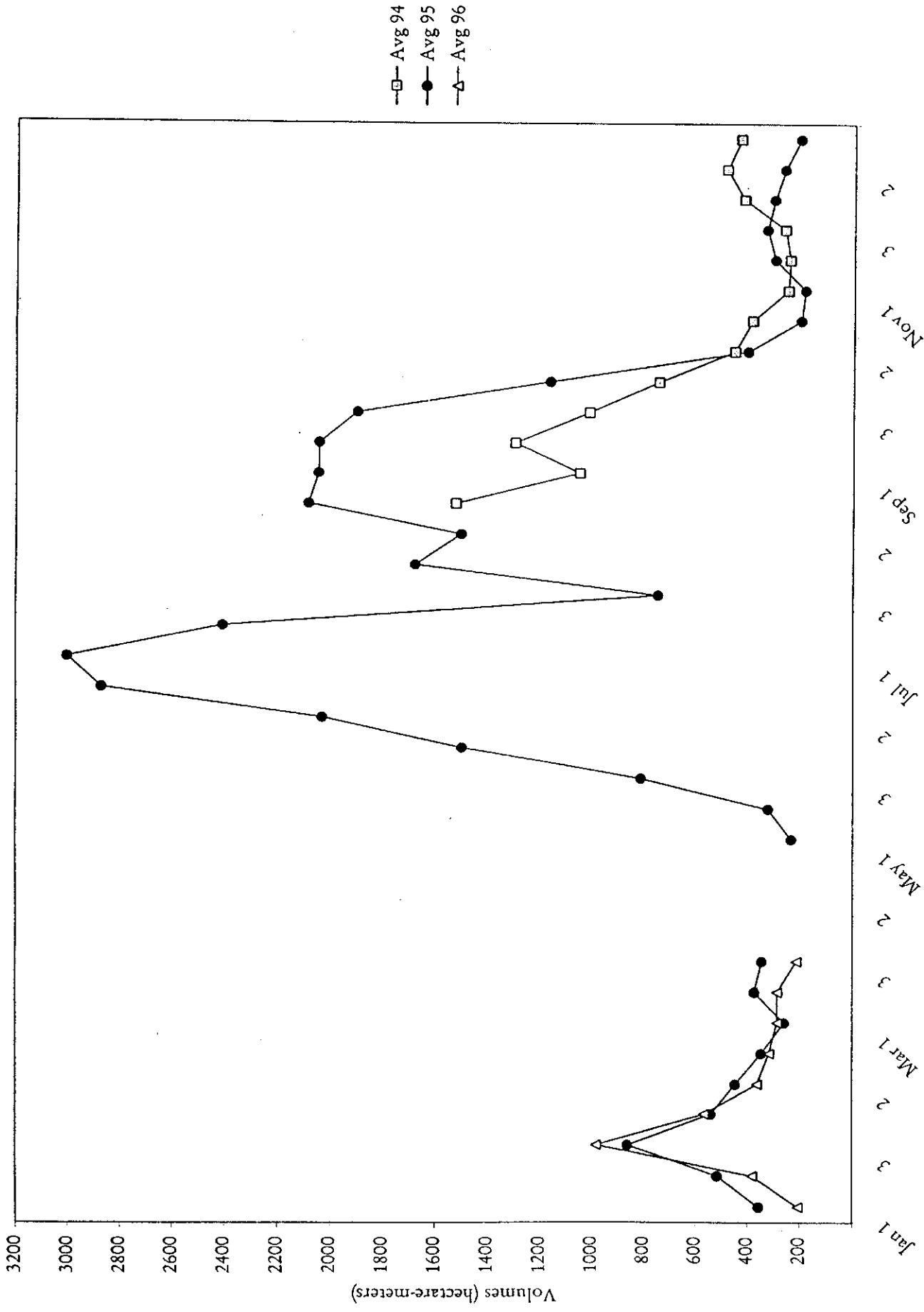


Figure II. 9 Ten Daily Volumes of Surface Flows for the Desert Canal.

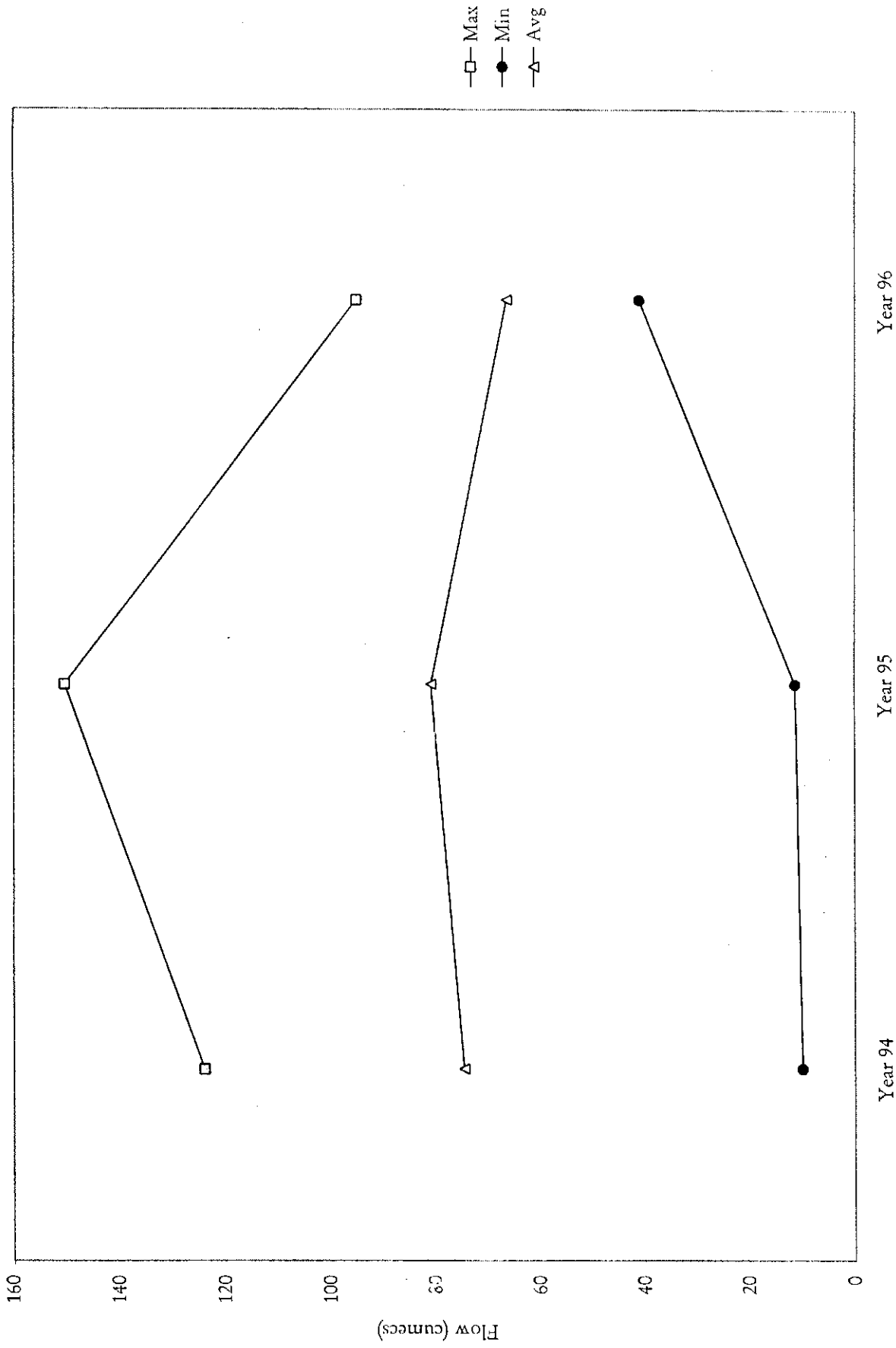


Figure II.10 Temporal Distribution of Yearly Flows in the Dadu Canal.

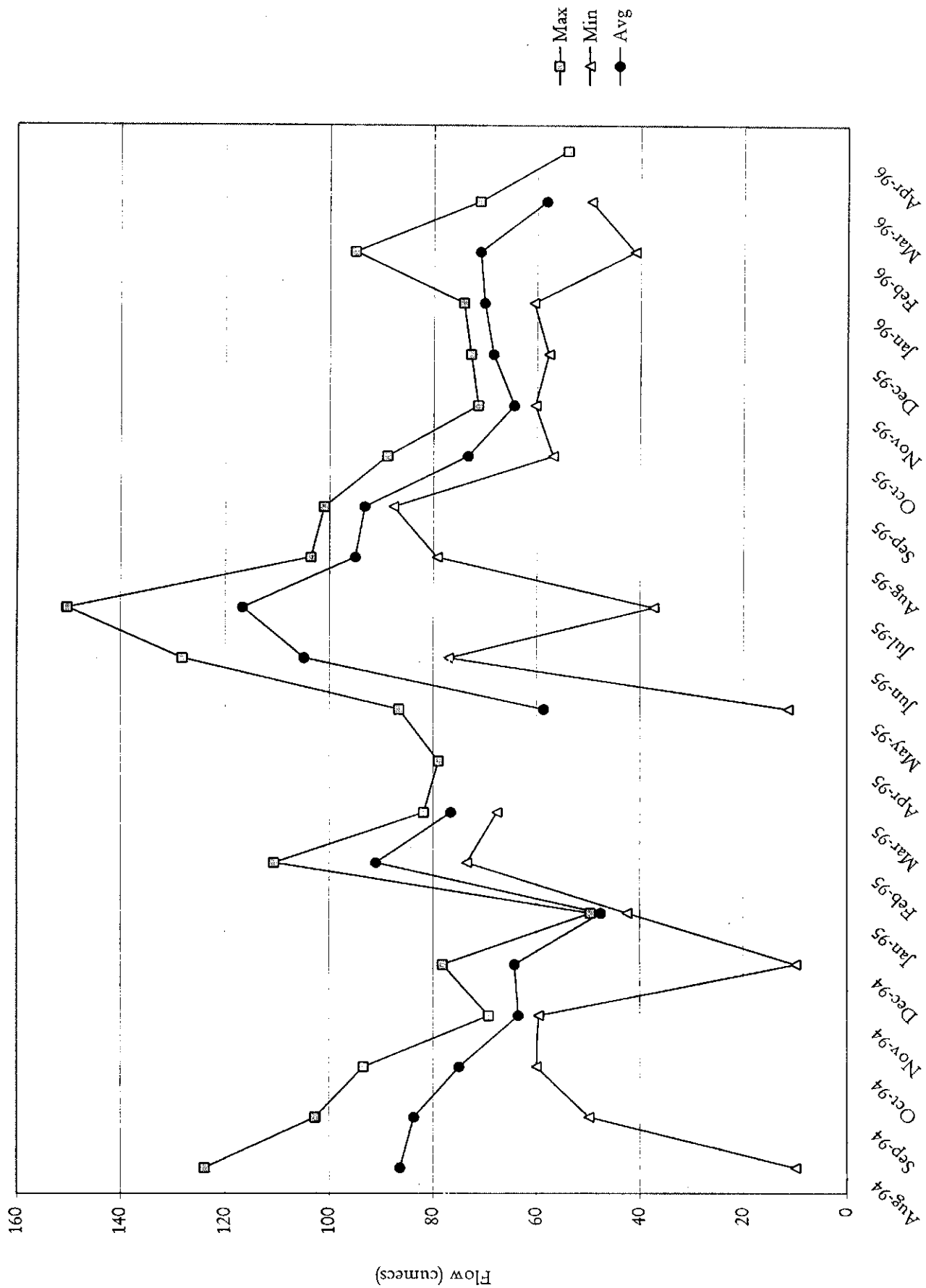


Figure II.11 Temporal Distribution of Monthly Flows in the Dadu Canal.

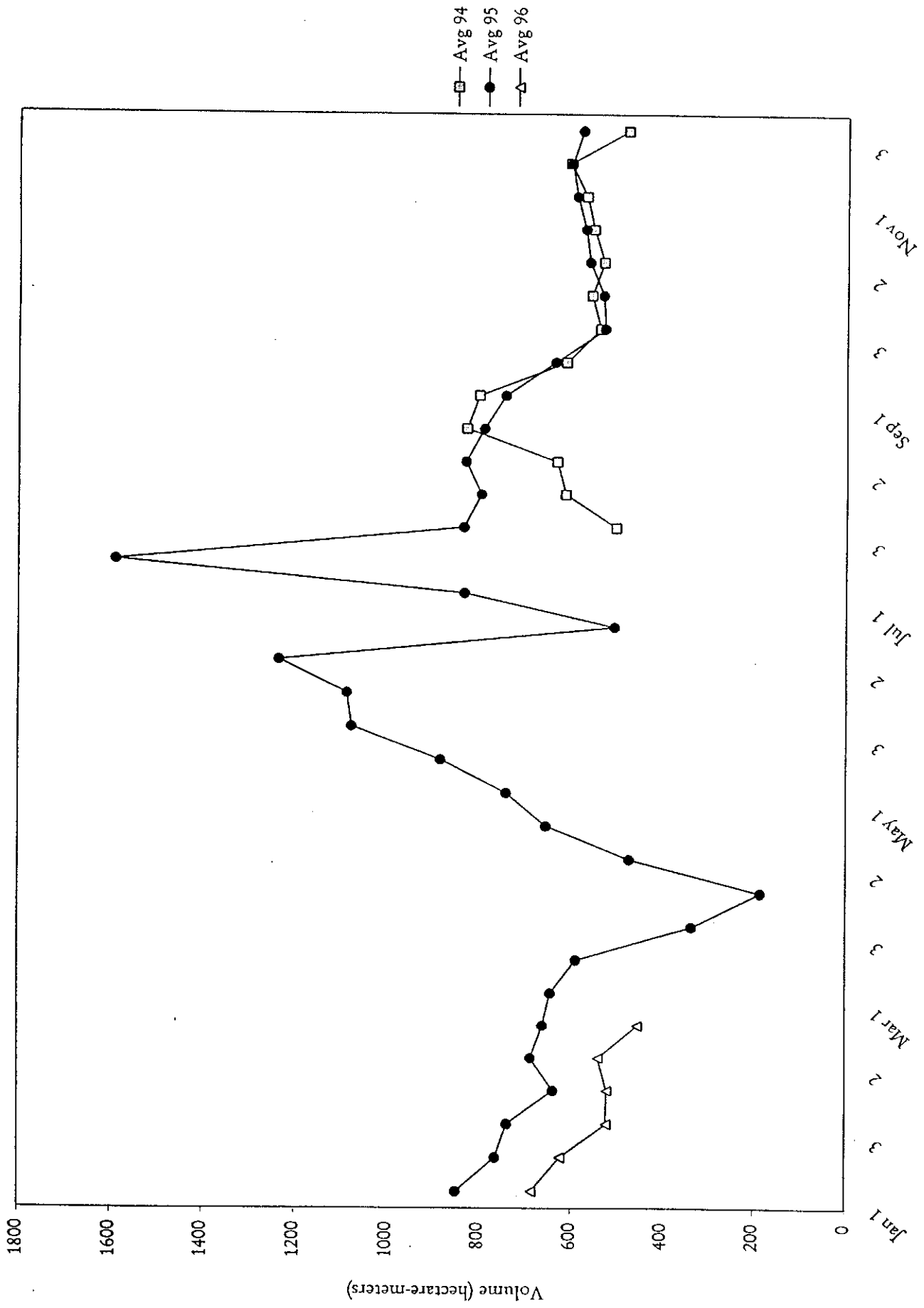


Figure II.12 Ten Daily Volumes of Surface Flows for the Dadu Canal.

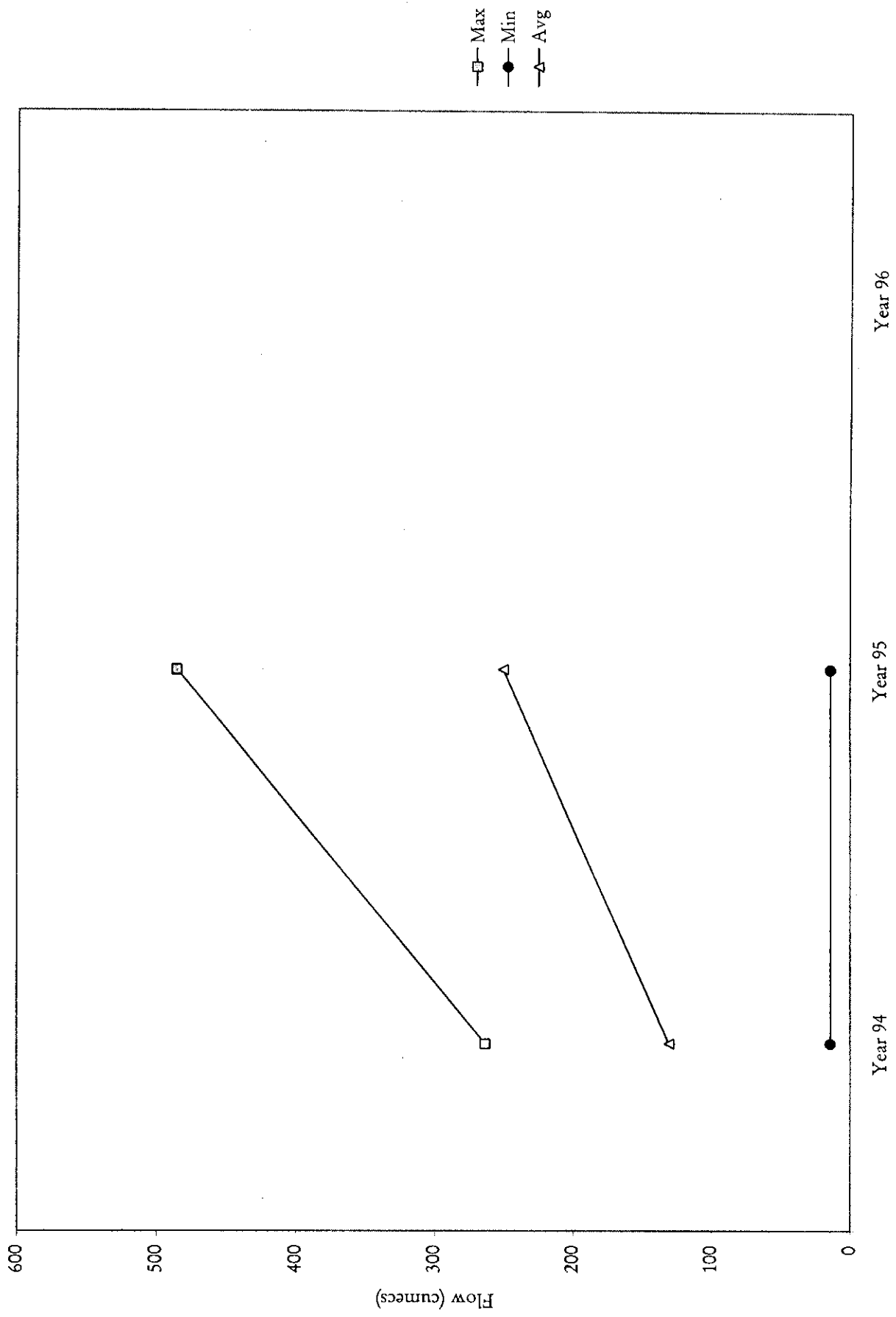


Figure II.13 Temporal Distribution of Yearly Flows in the Rice Canal.

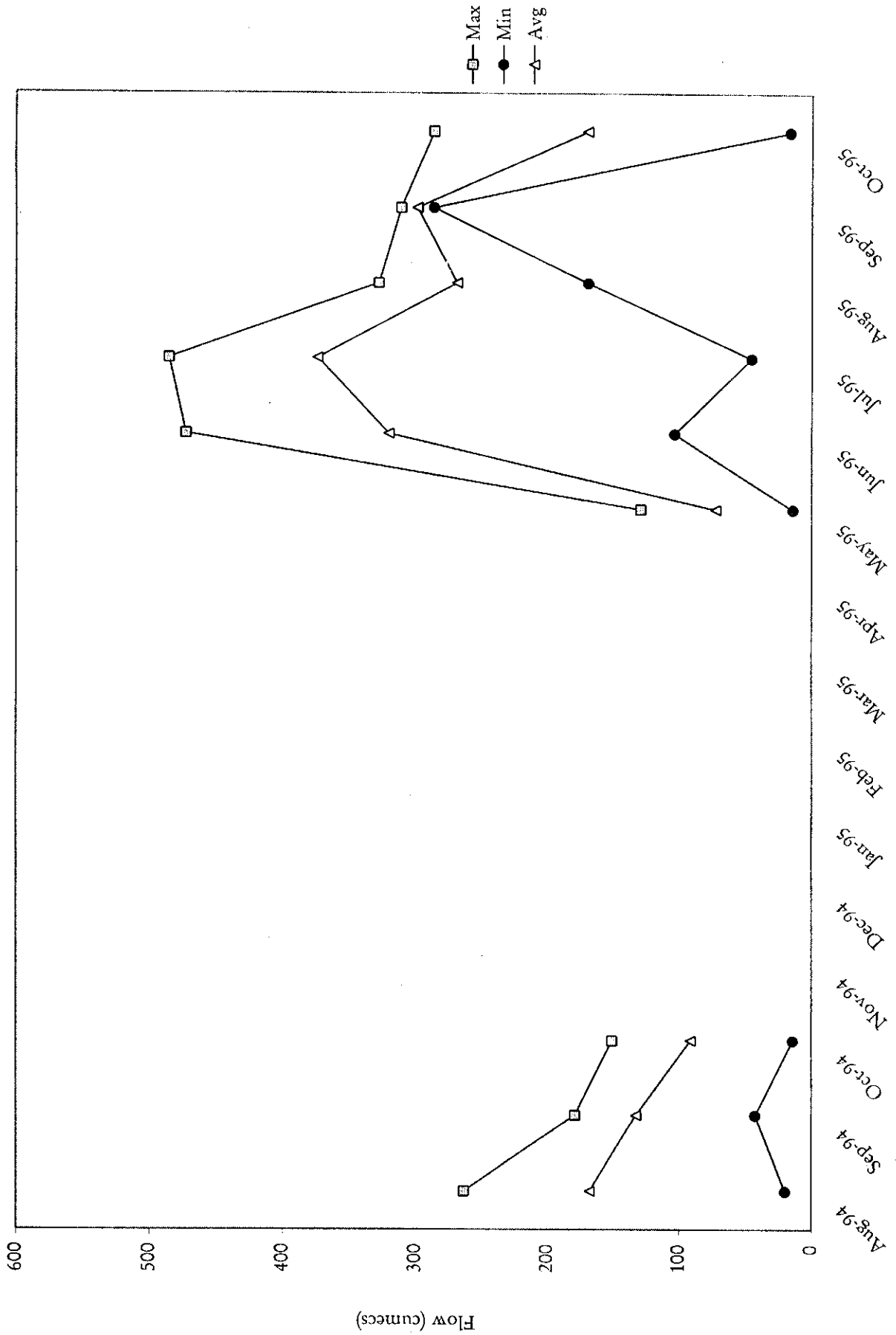


Figure II.14 Temporal Distribution of Monthly Flows in the Rice Canal.

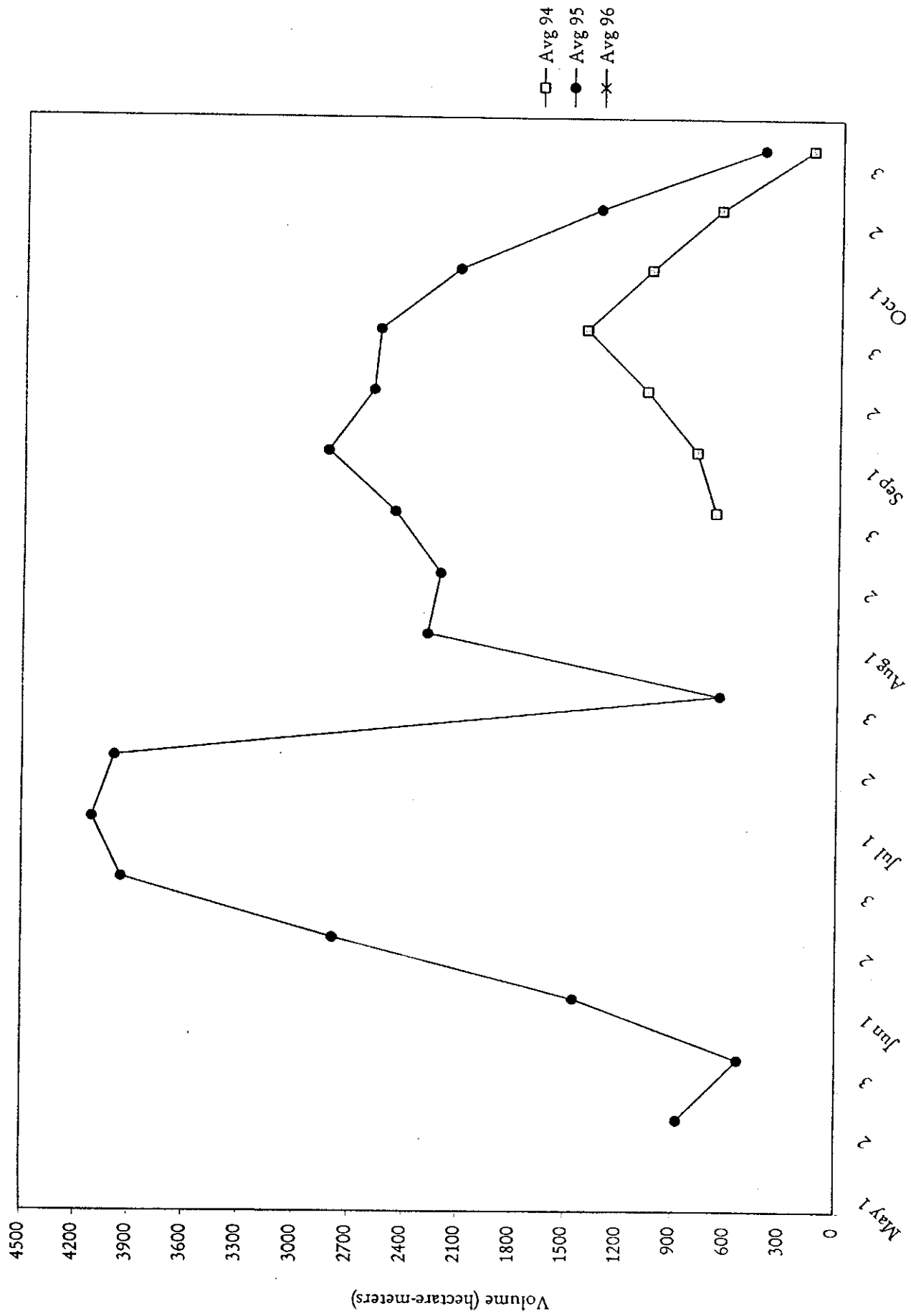


Figure II.15 Ten Daily Volumes of Surface Flows for the Rice Canal.

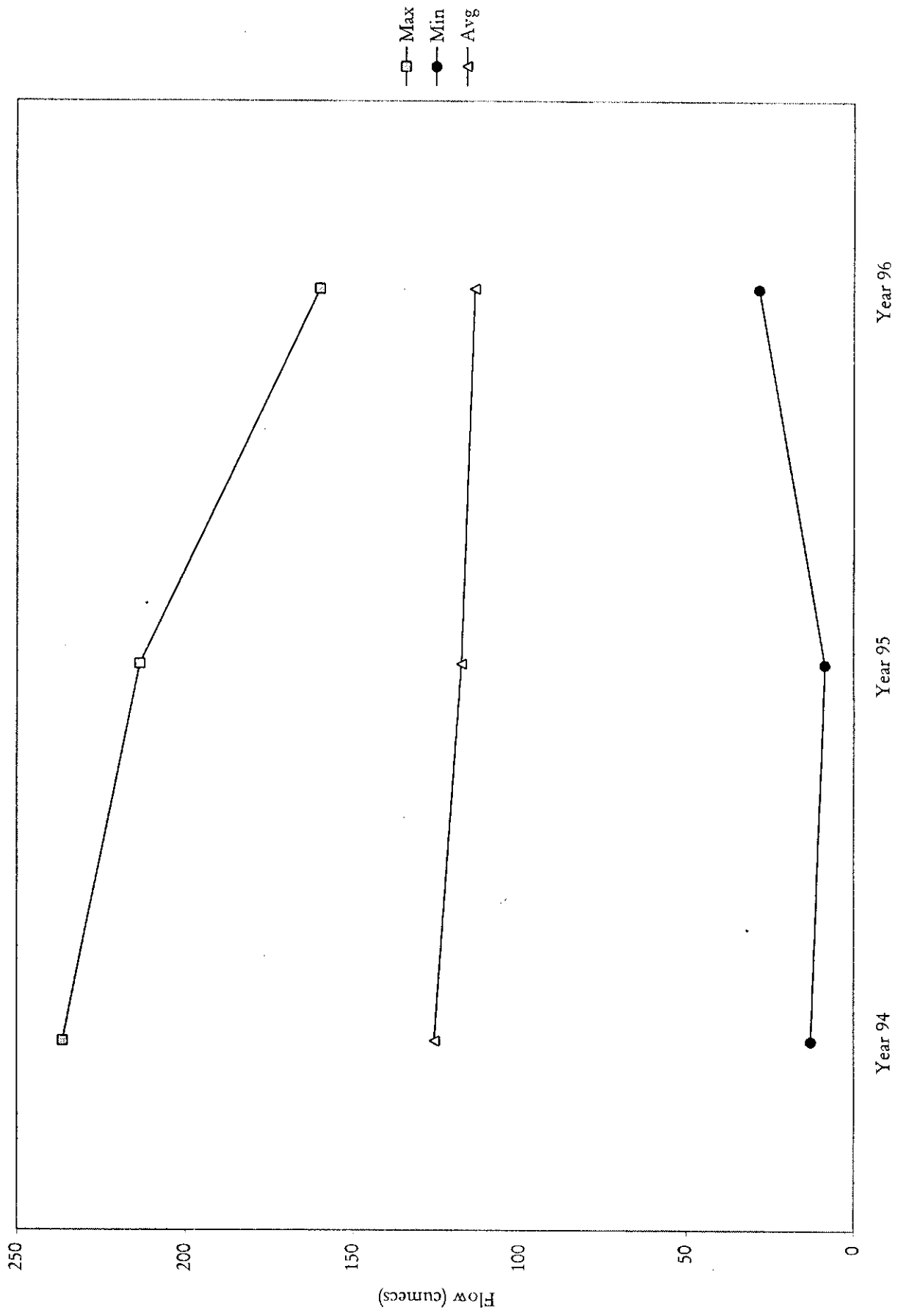


Figure II.16 Temporal Distribution of Yearly Flows in the North West Canal.

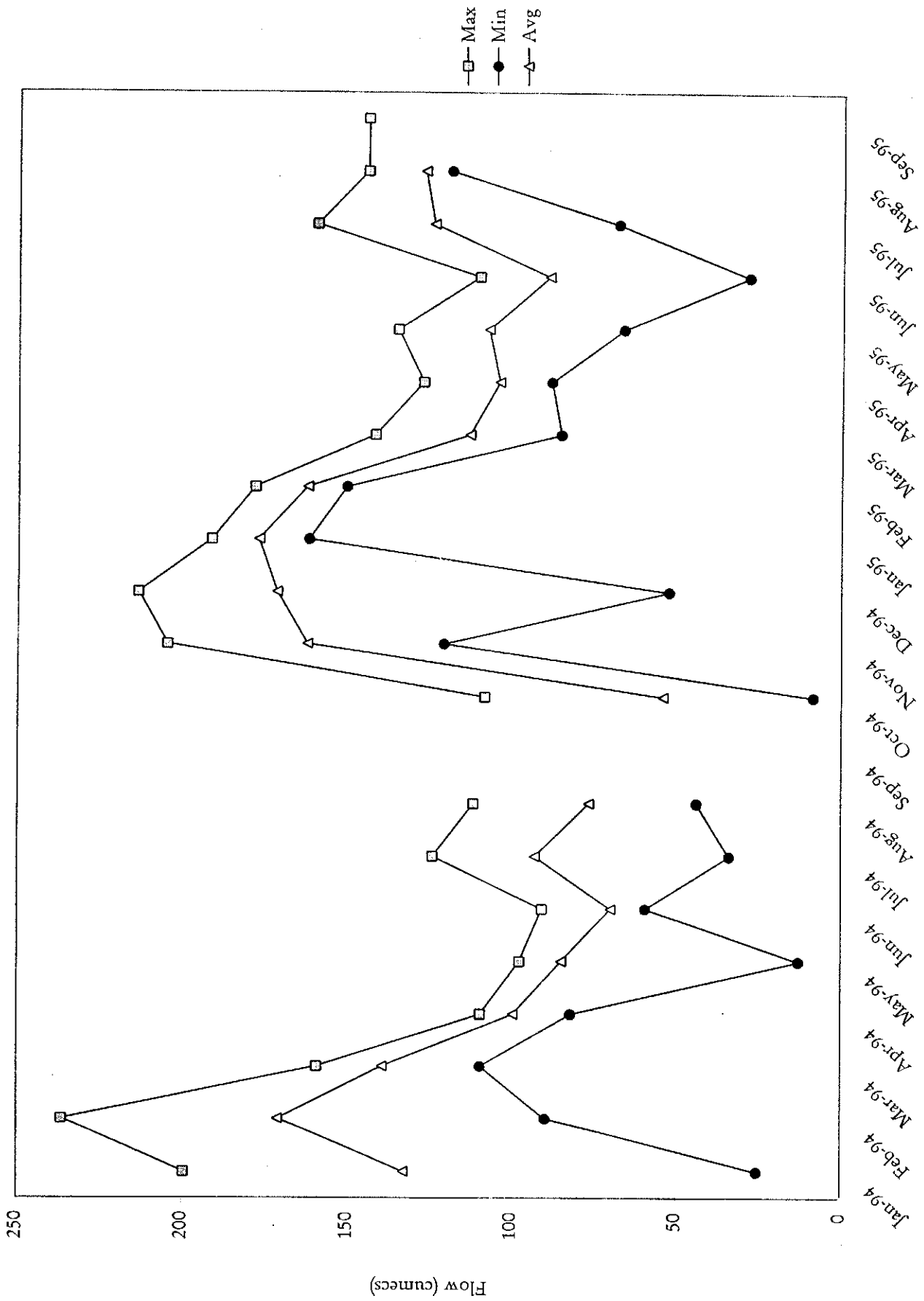


Figure II.17 Temporal Distribution of Monthly Flows in the North West Canal.

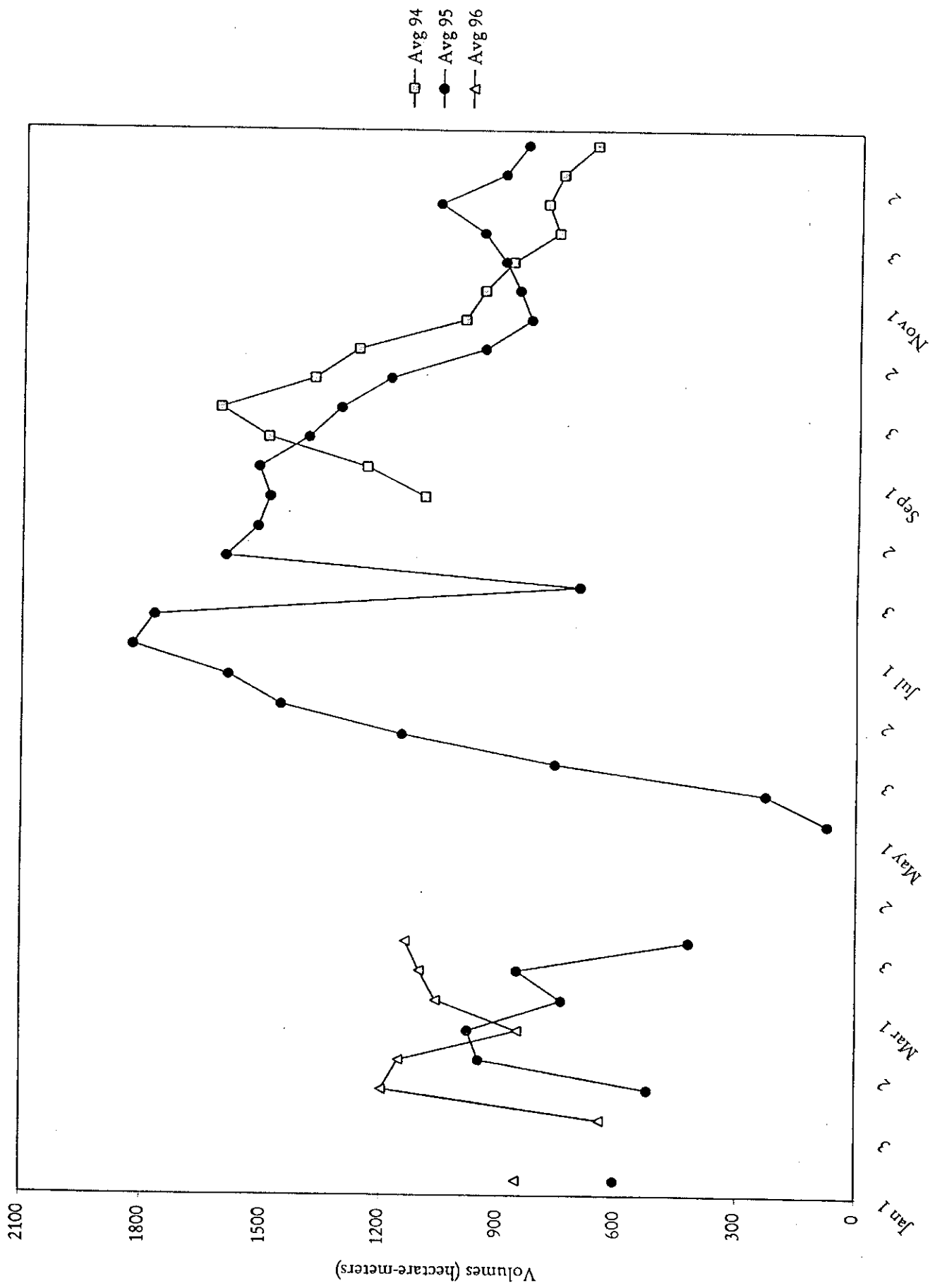


Figure II.18 Ten Daily Volumes of Surface Flows for the North West Canal.

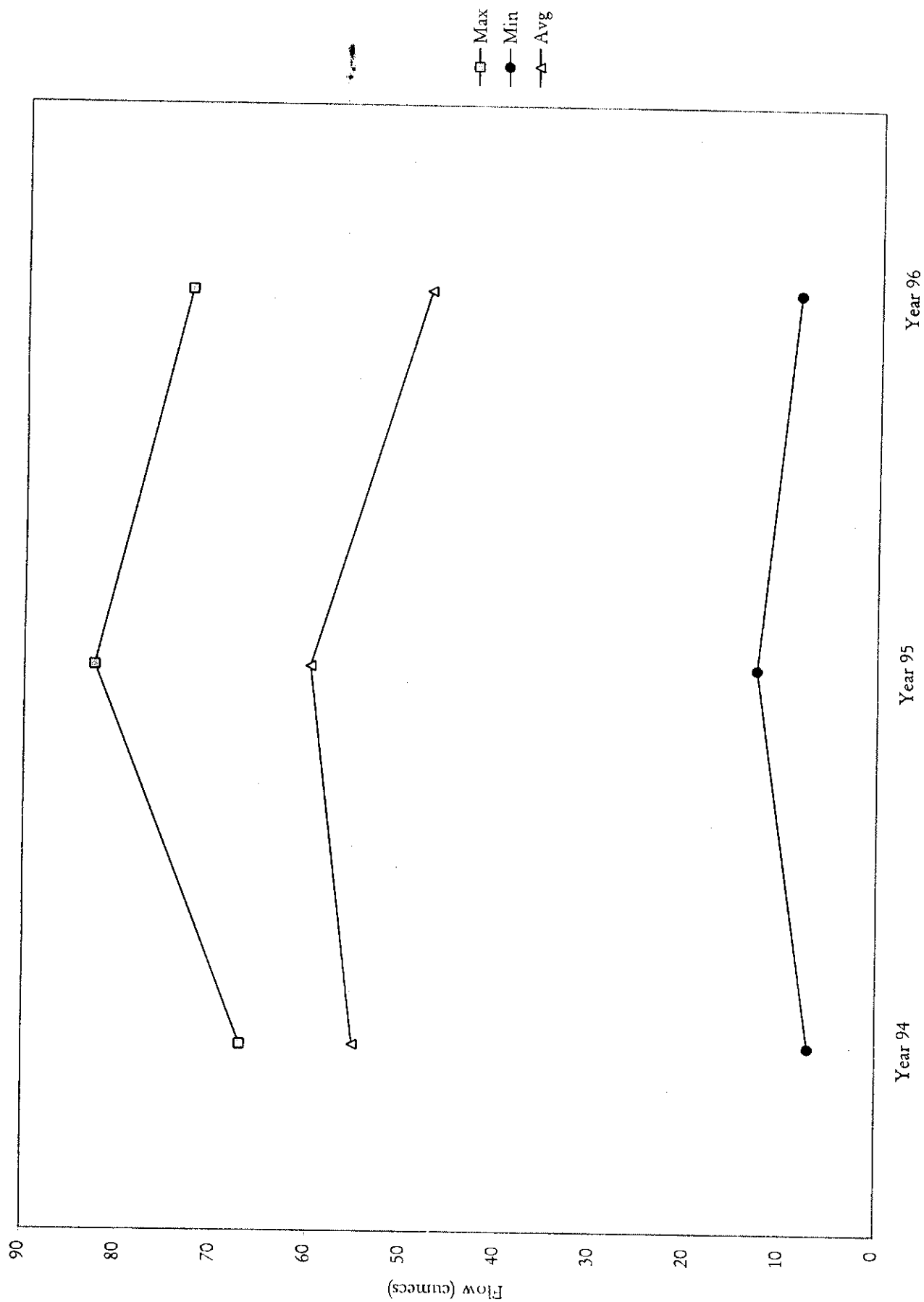


Figure II.19 Temporal Distribution of Yearly Flows in the Khairpur East Canal.

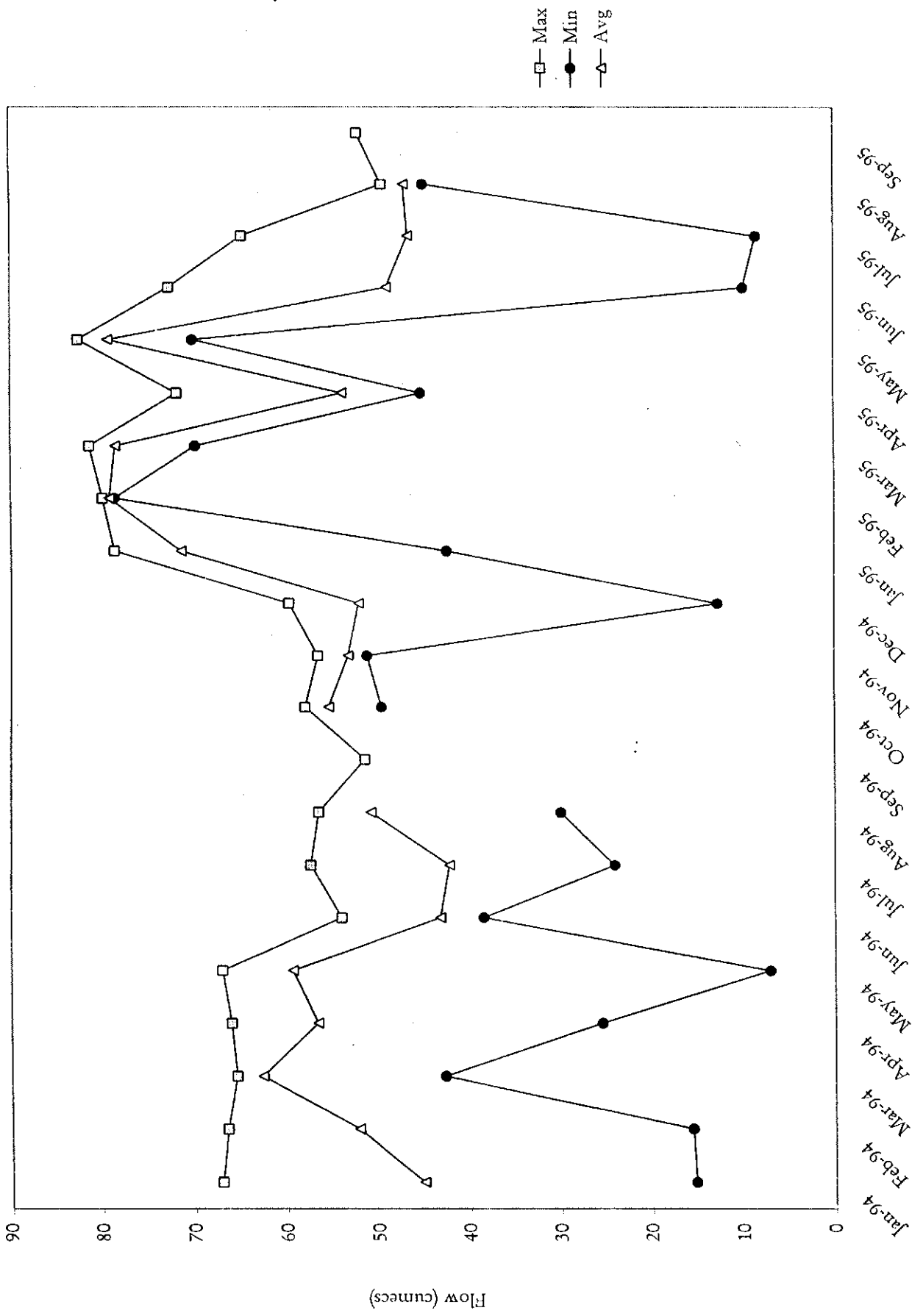


Figure II.20 Temporal Distribution of Monthly Flows in the Khairpur East Canal.

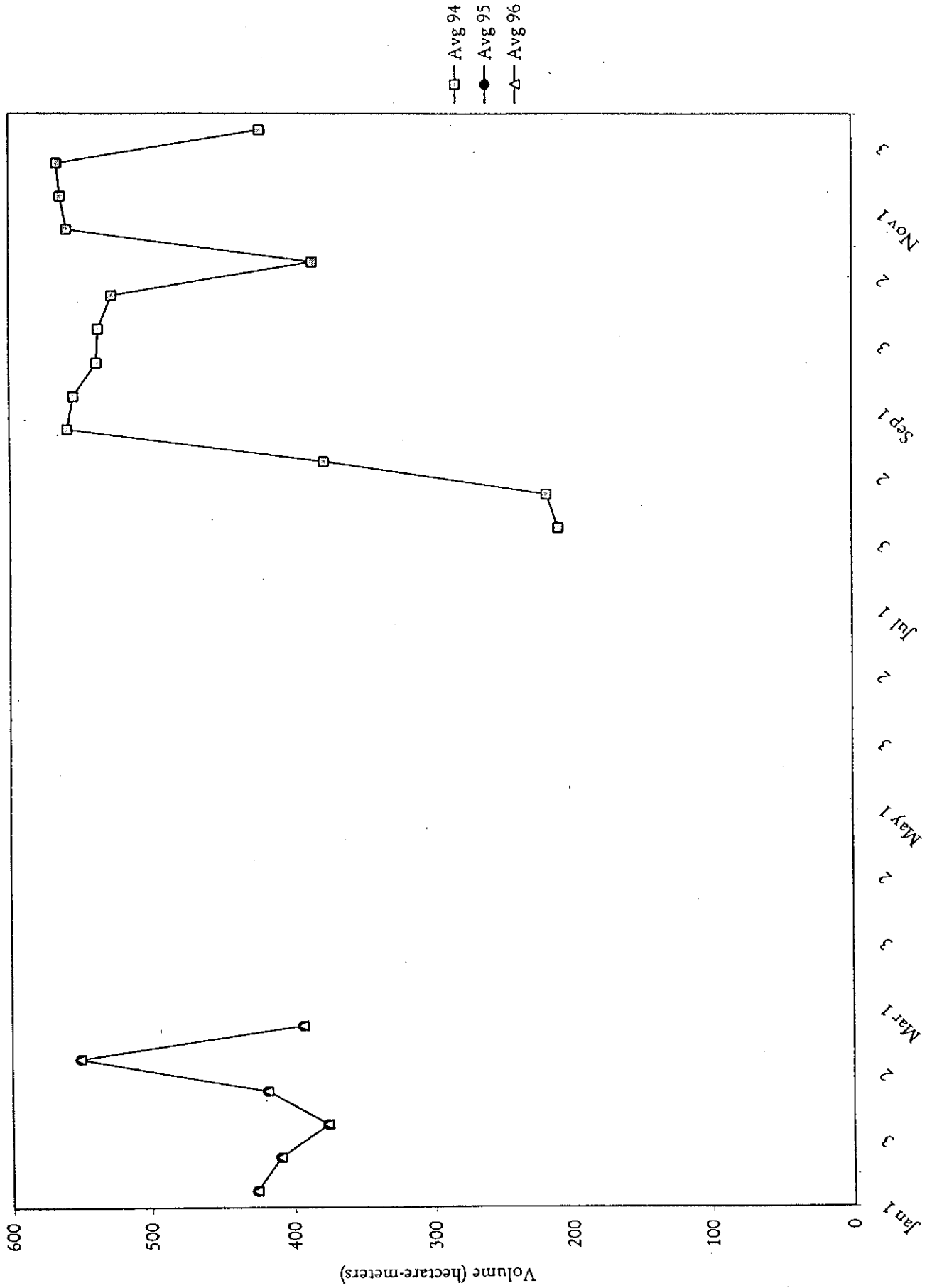


Figure II.21 Ten Daily Volumes of Surface Flows for the Khairpur East Canal.

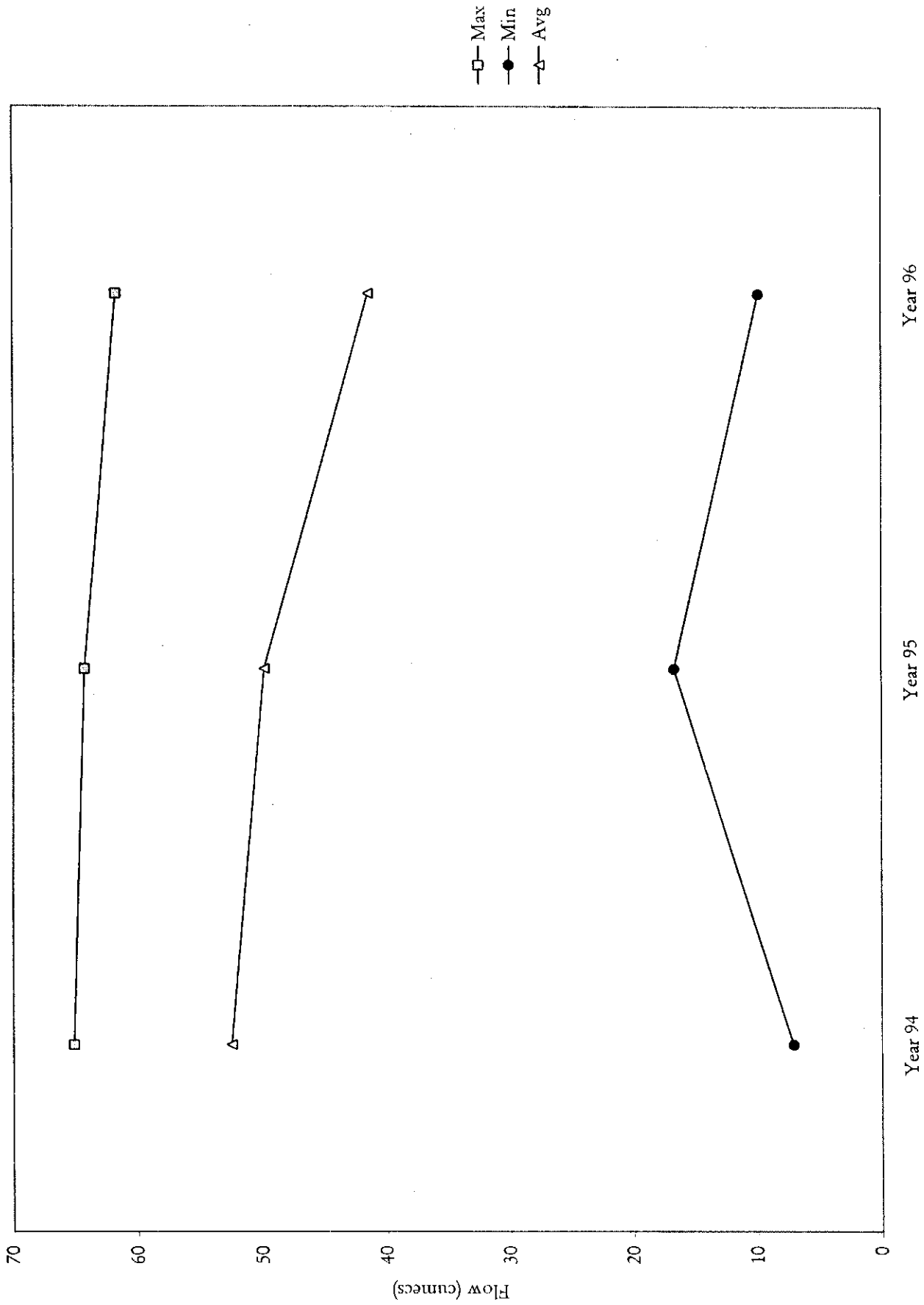


Figure II.22 Temporal Distribution of Yearly Flows in the Khairpur West Canal.

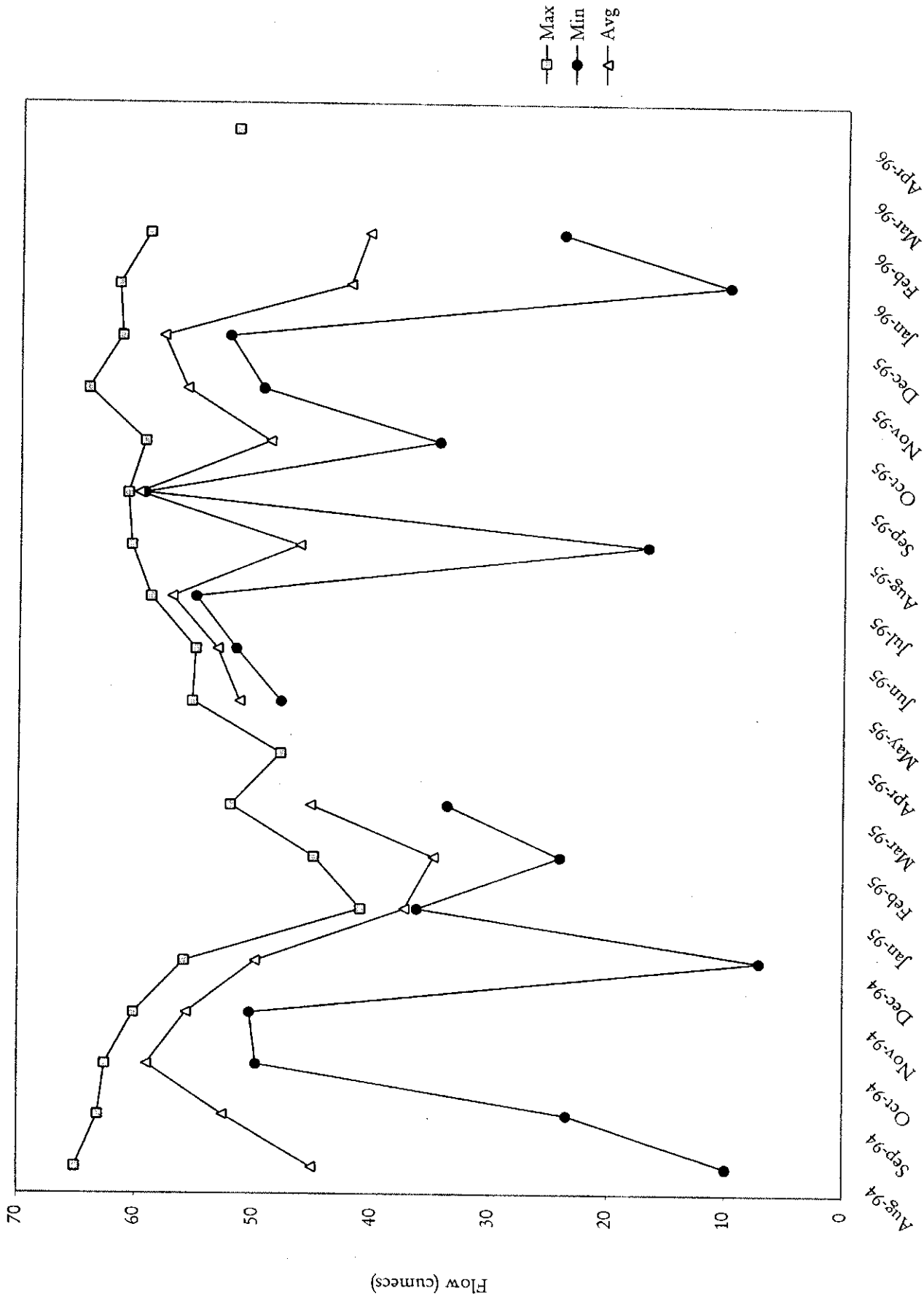


Figure II.23 Temporal Distribution of Monthly Flows in the Khairpur West Canal.

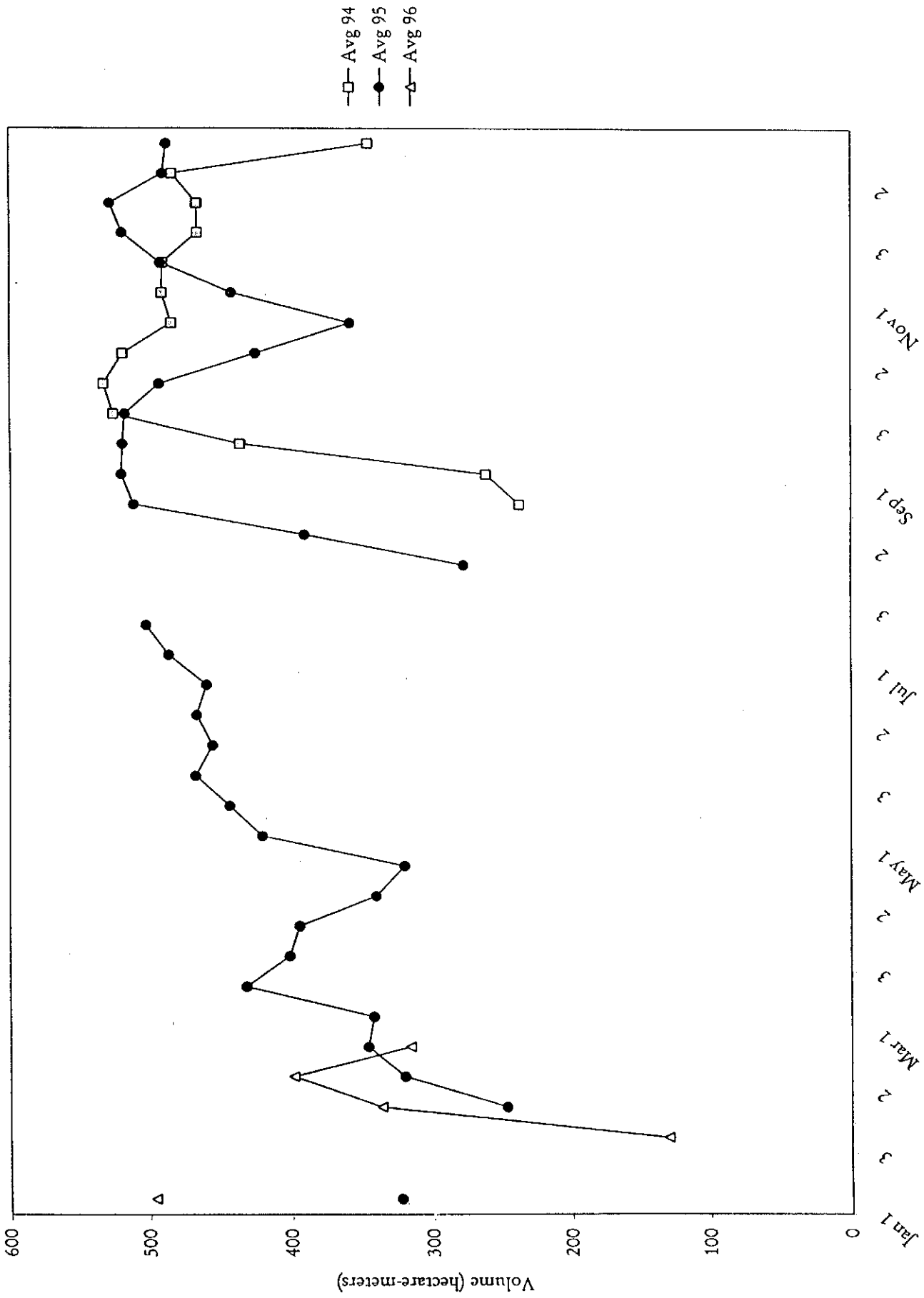


Figure II.24 Ten Daily Volumes of Surface Flows for the Khairpur West Canal.

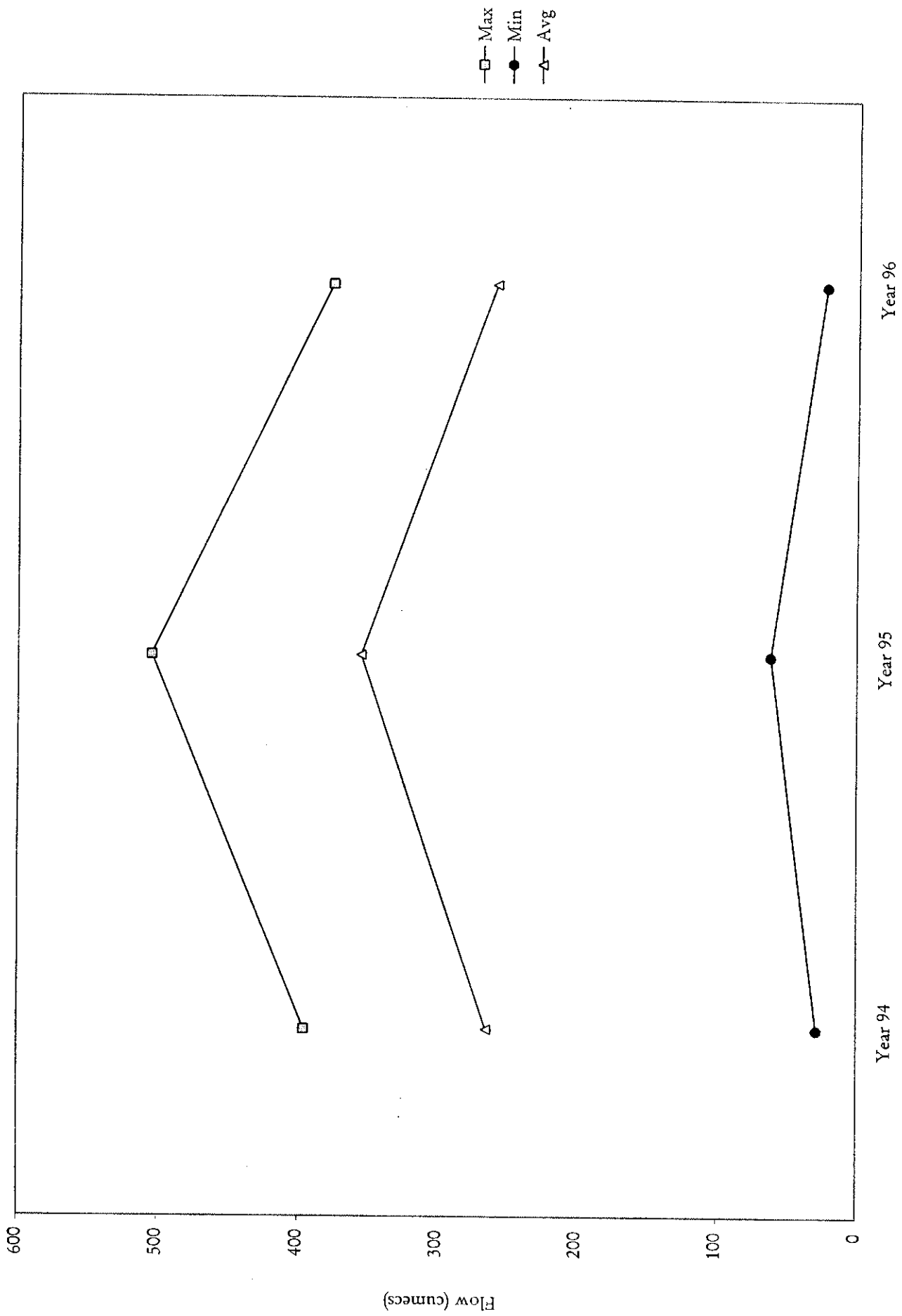


Figure II.25 Temporal Distribution of Yearly Flows in the Rohri Canal.

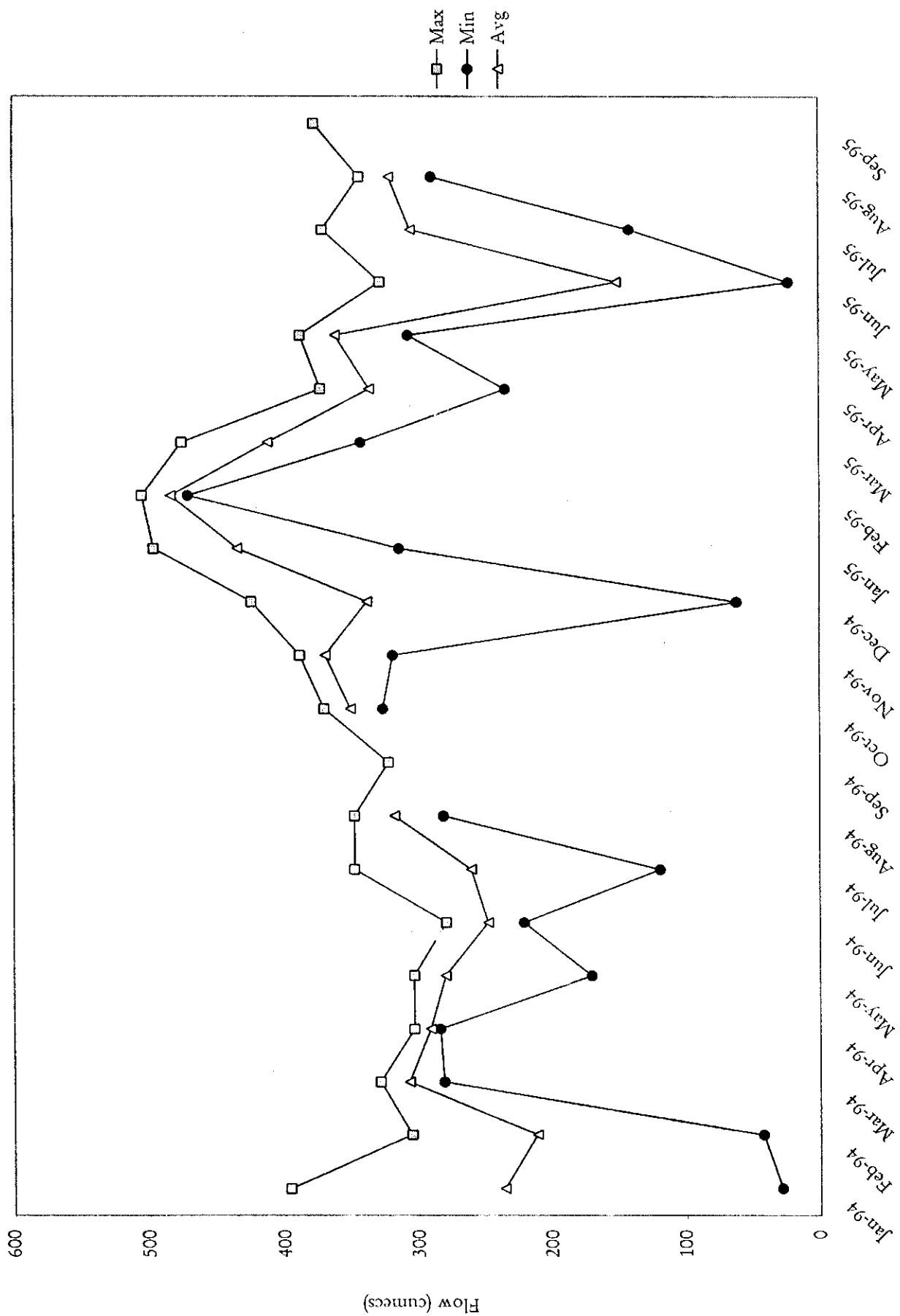


Figure II.26 Temporal Distribution of Monthly Flows in the Rohri Canal.

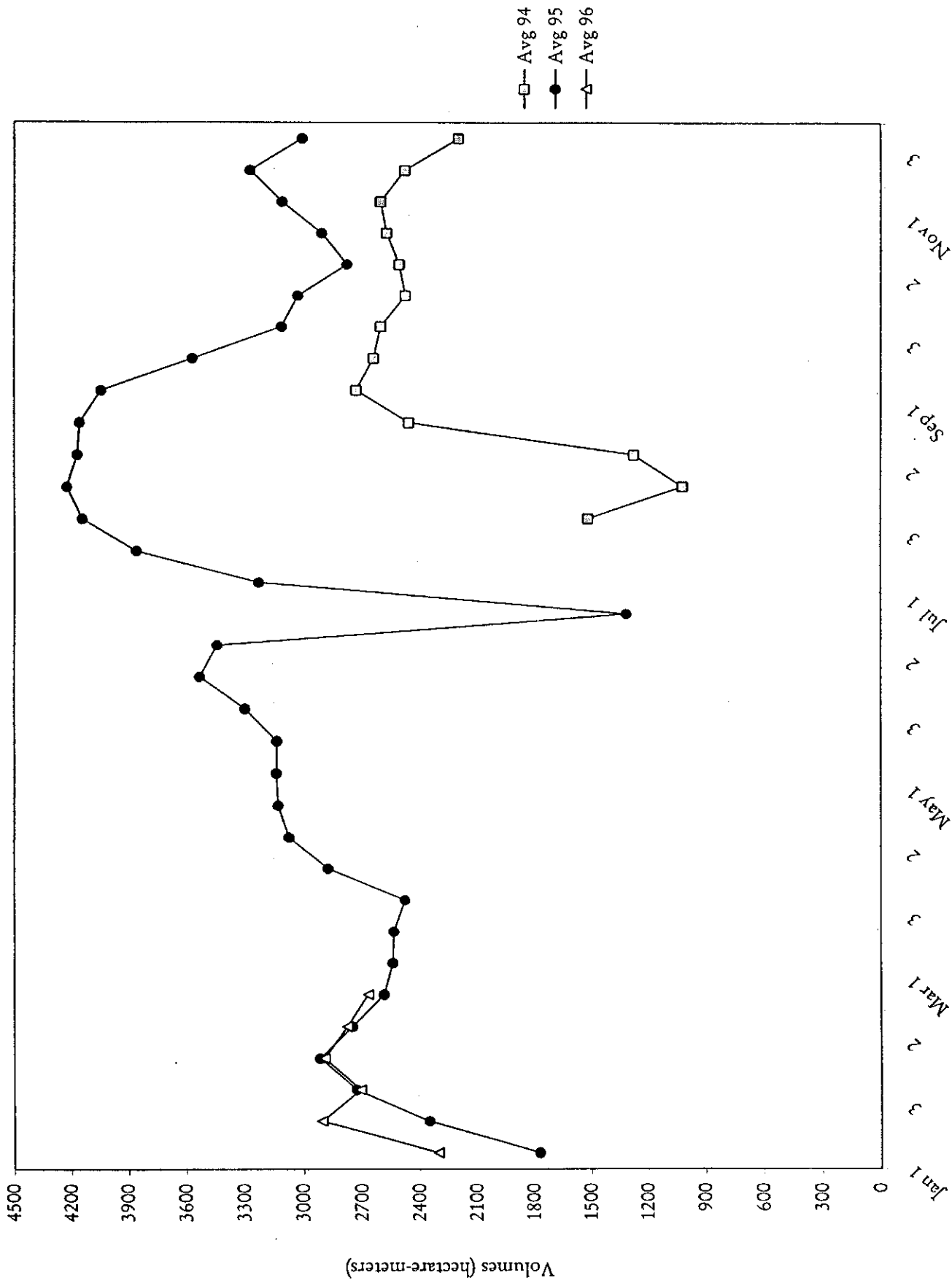


Figure II.27 Ten Daily Volumes of Surface Flows for the Rohri Canal.

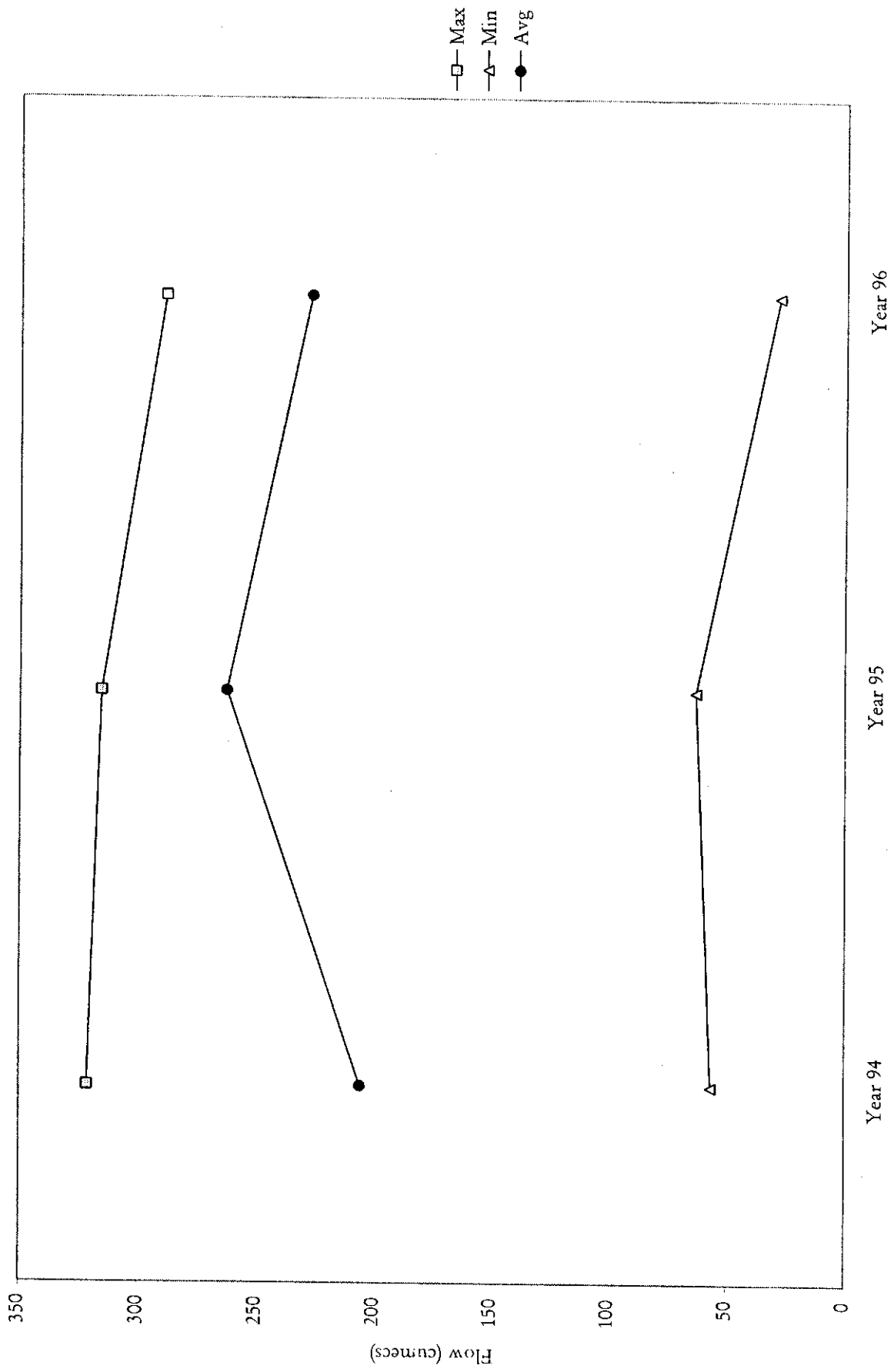


Figure II.28 Temporal Distribution of Yearly Flows in the Nara Canal.

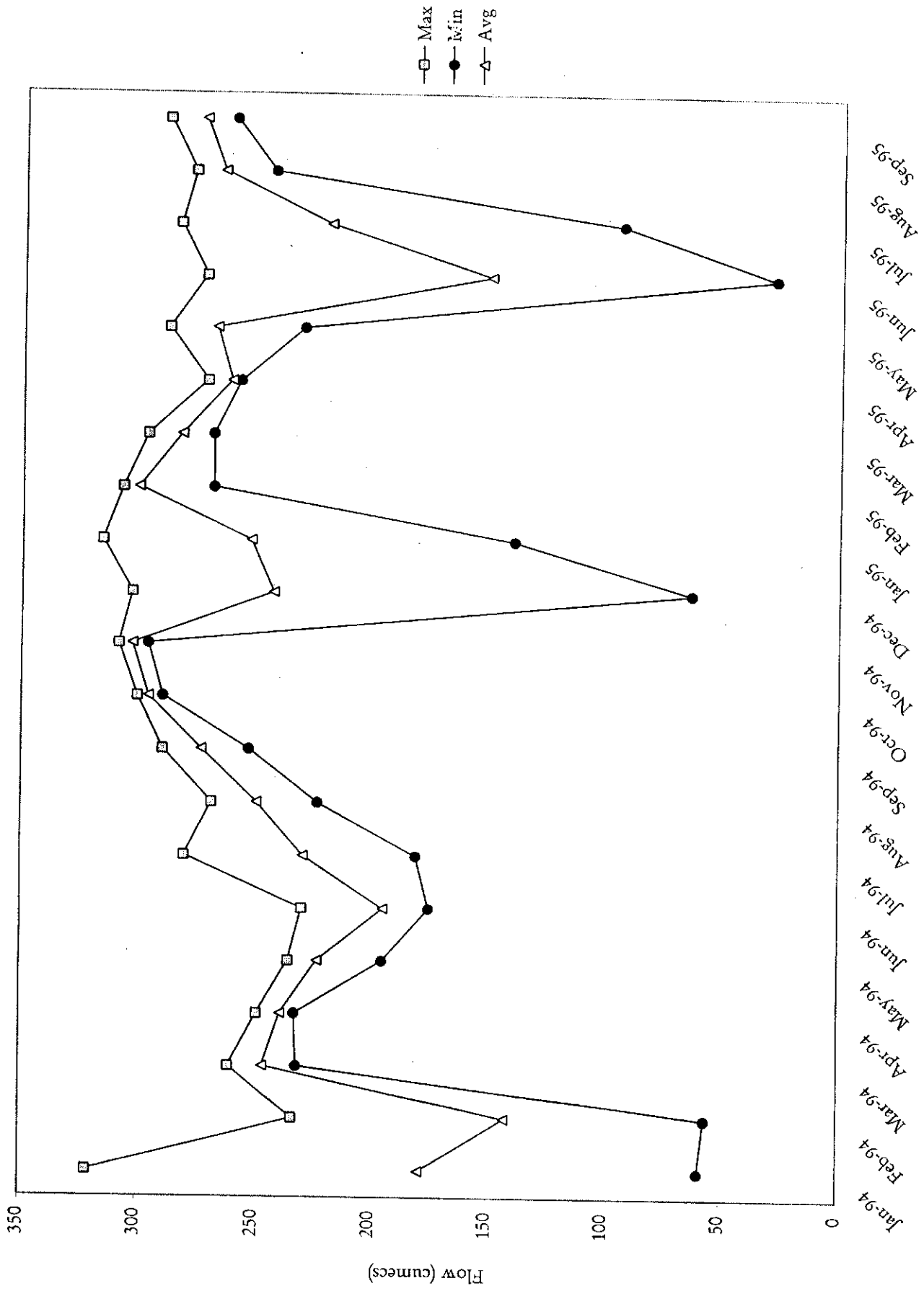


Figure II.29 Temporal Distribution of Monthly Flows in the Nara Canal.

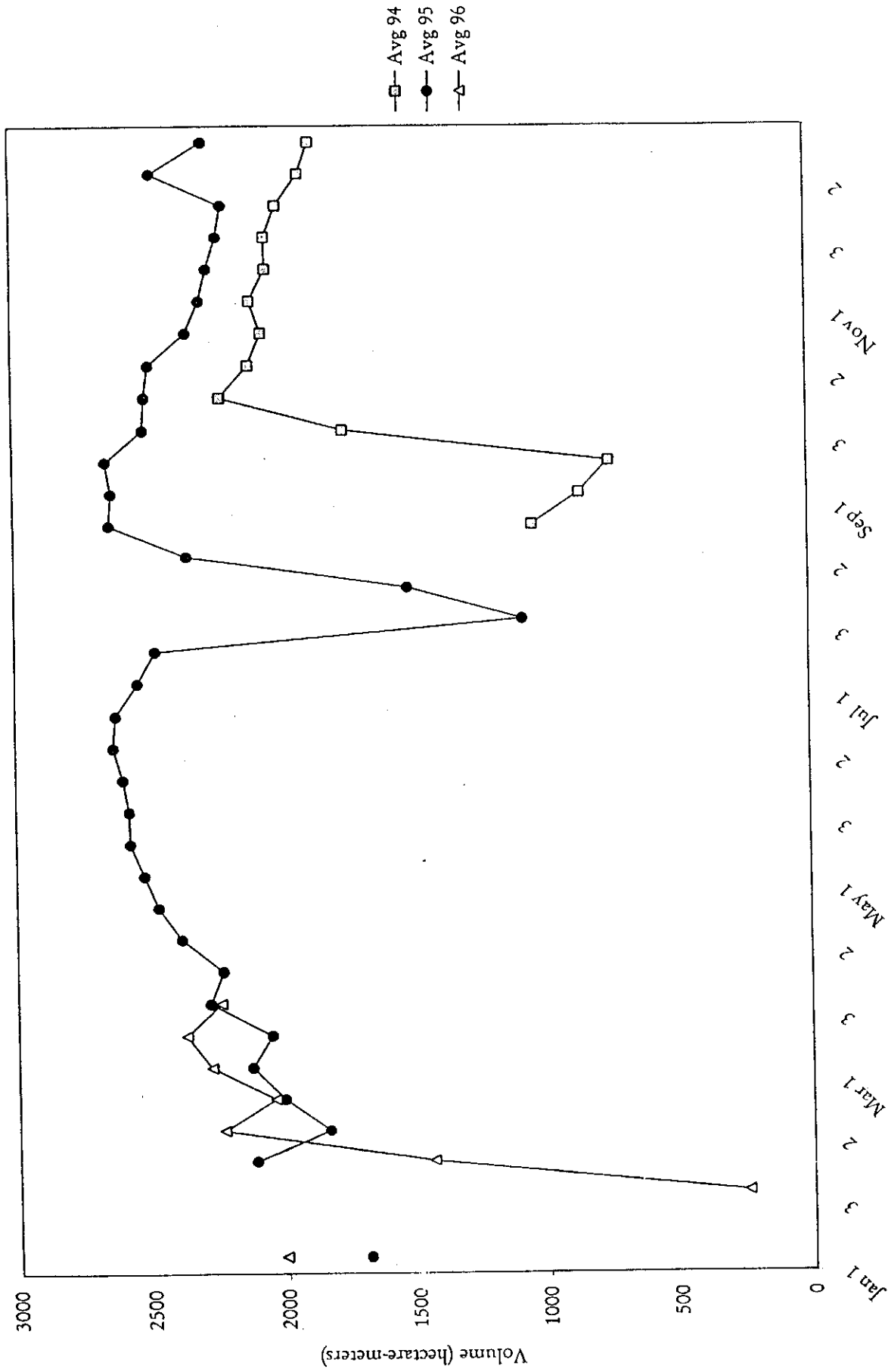


Figure II.30 Ten Daily Volumes of Surface Flows for the Nara Canal.

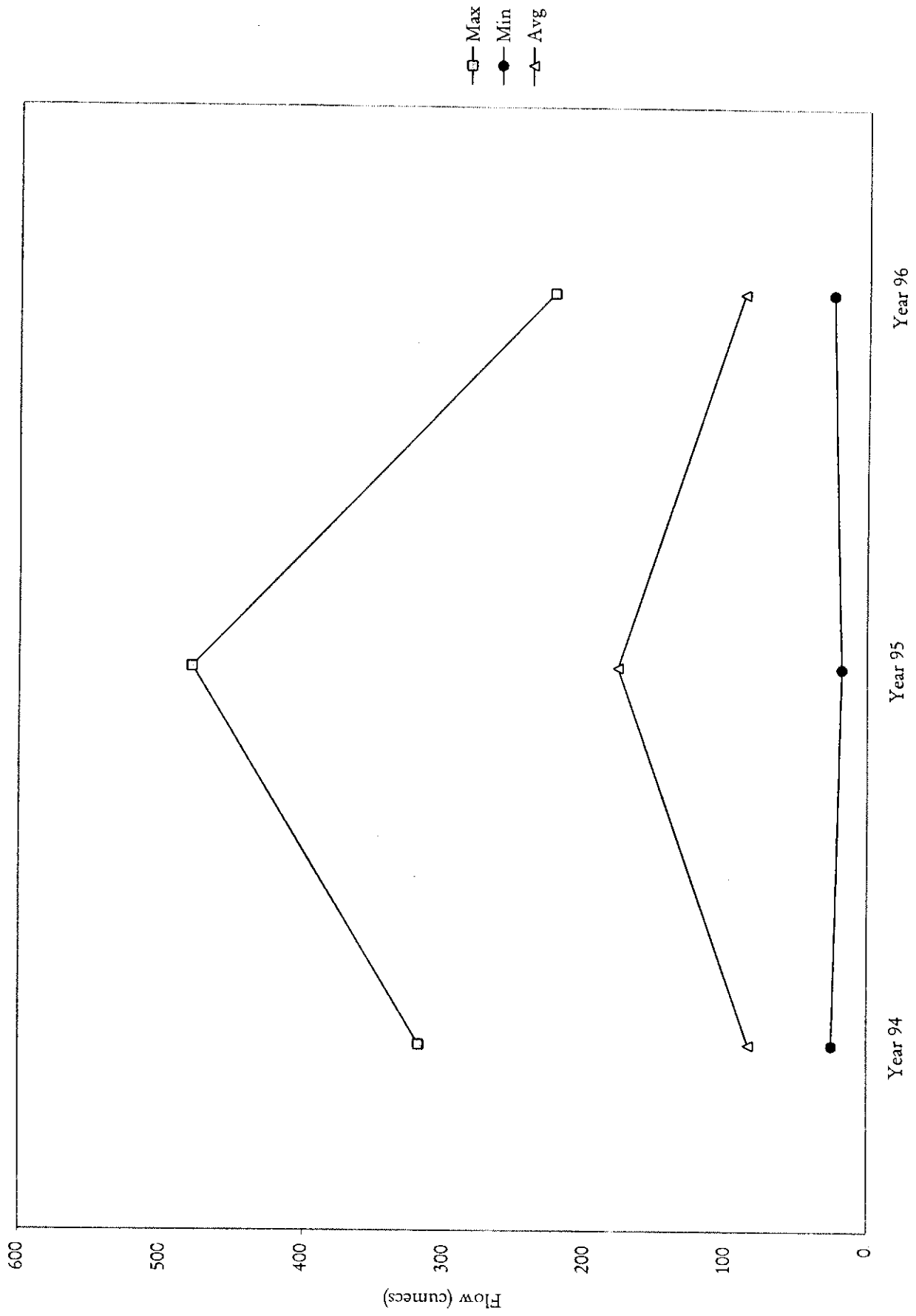


Figure II.31 Temporal Distribution of Yearly Flows in the Fuleli Canal.

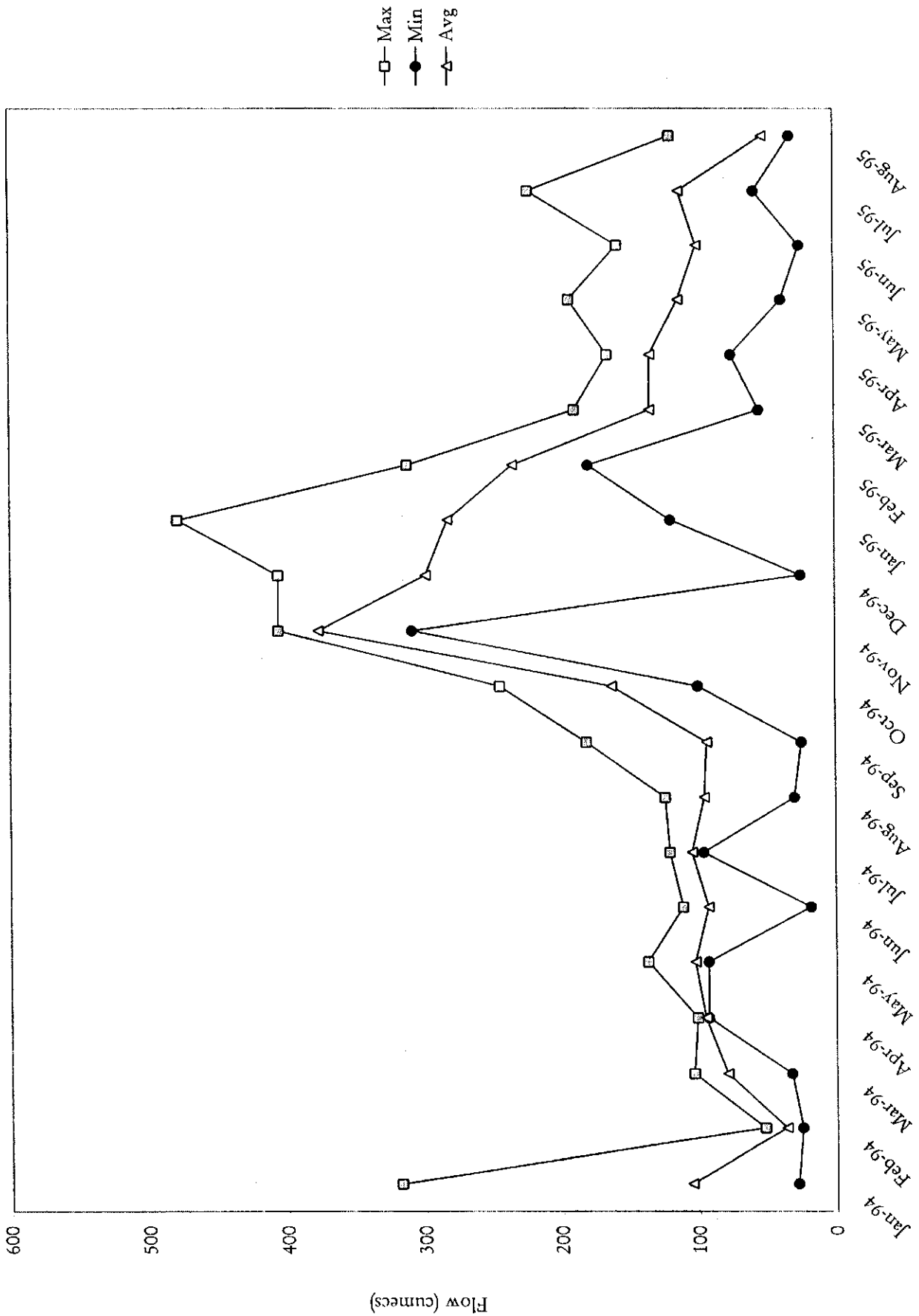


Figure II.32 Temporal Distribution of Monthly Flows in the Fuleli Canal.

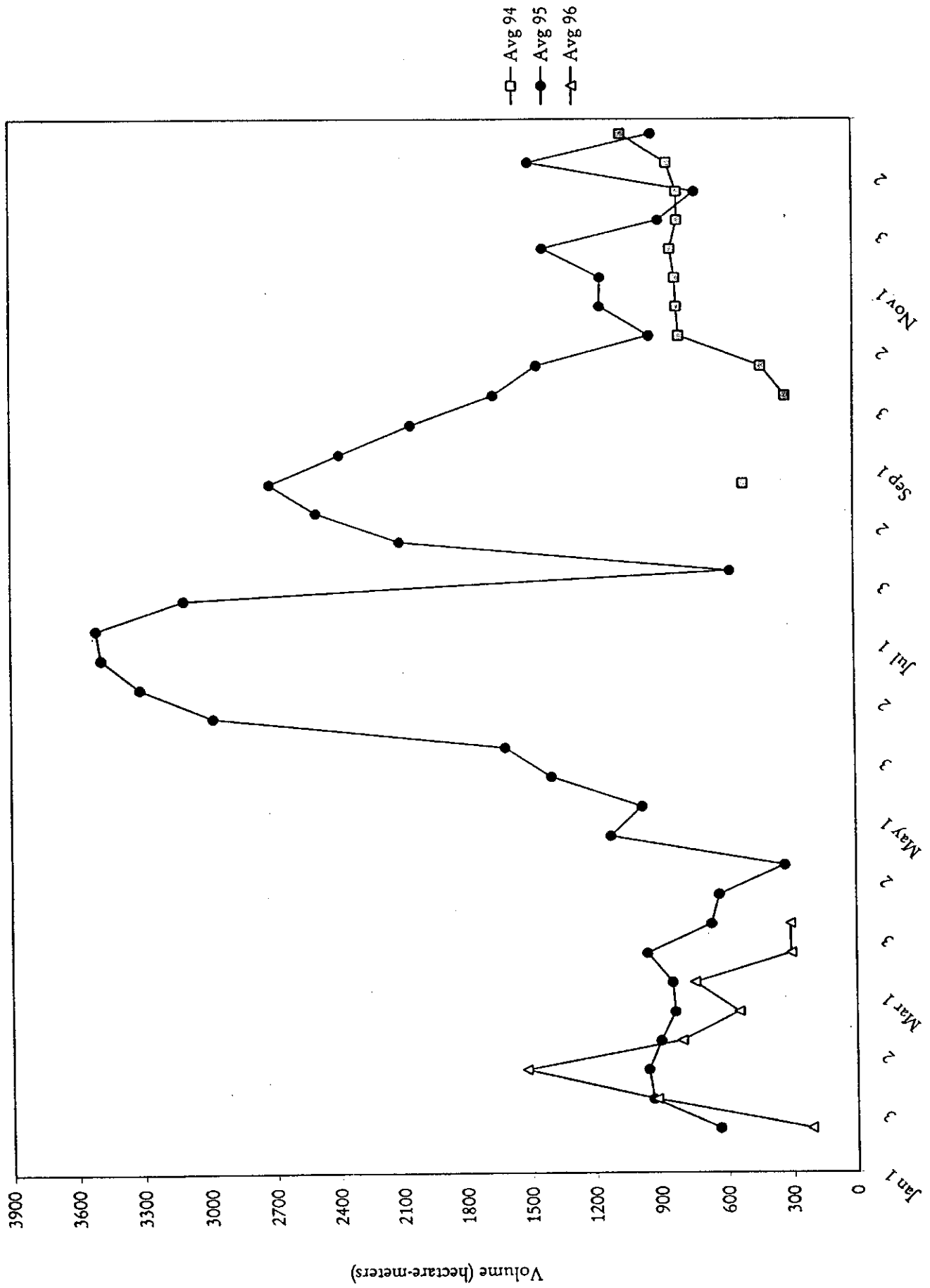


Figure II.33 Ten Daily Volumes of Surface Flows for the Fuleli Canal.

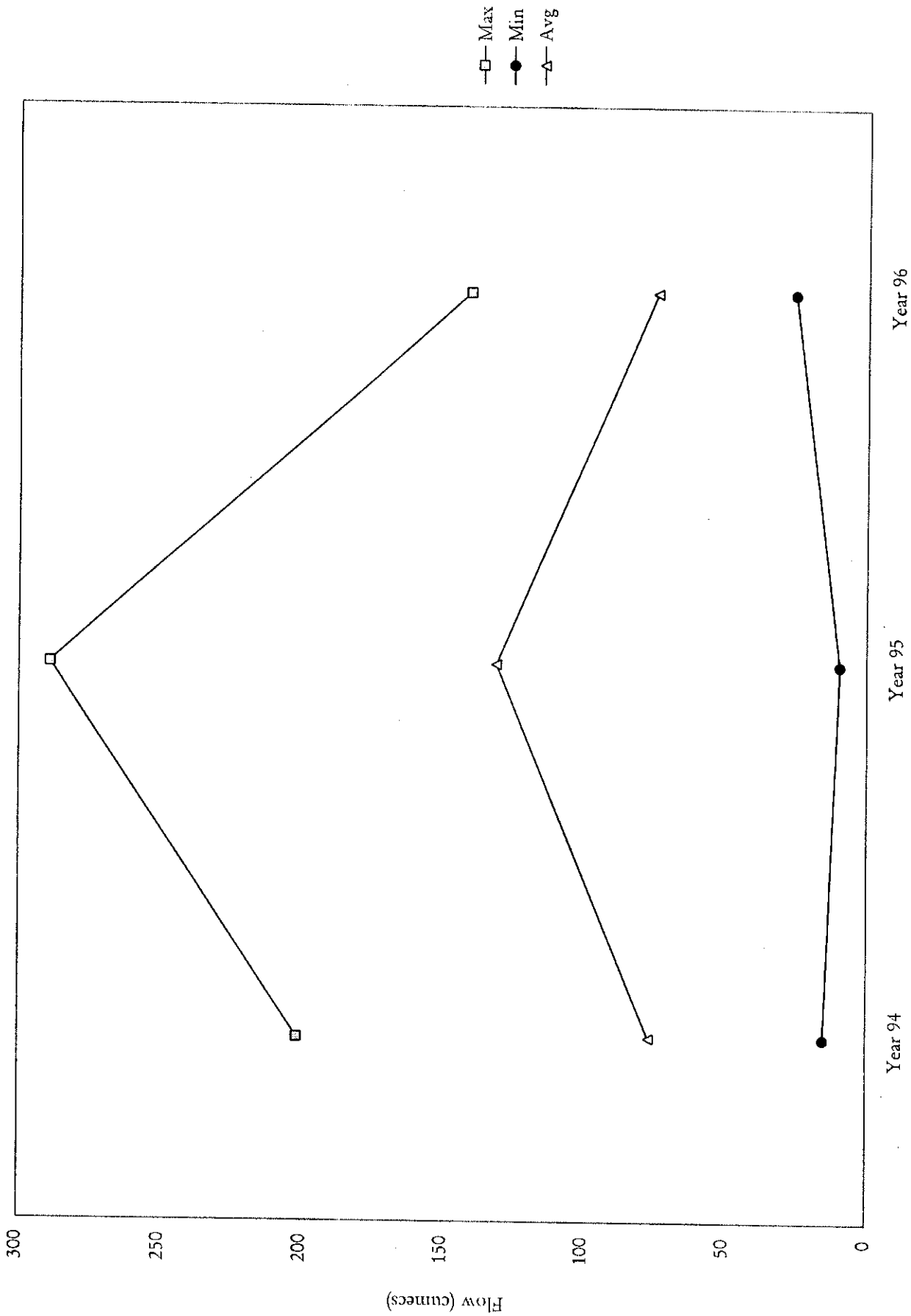


Figure II.34 Temporal Distribution of Yearly Flows in the Pinyari Canal.

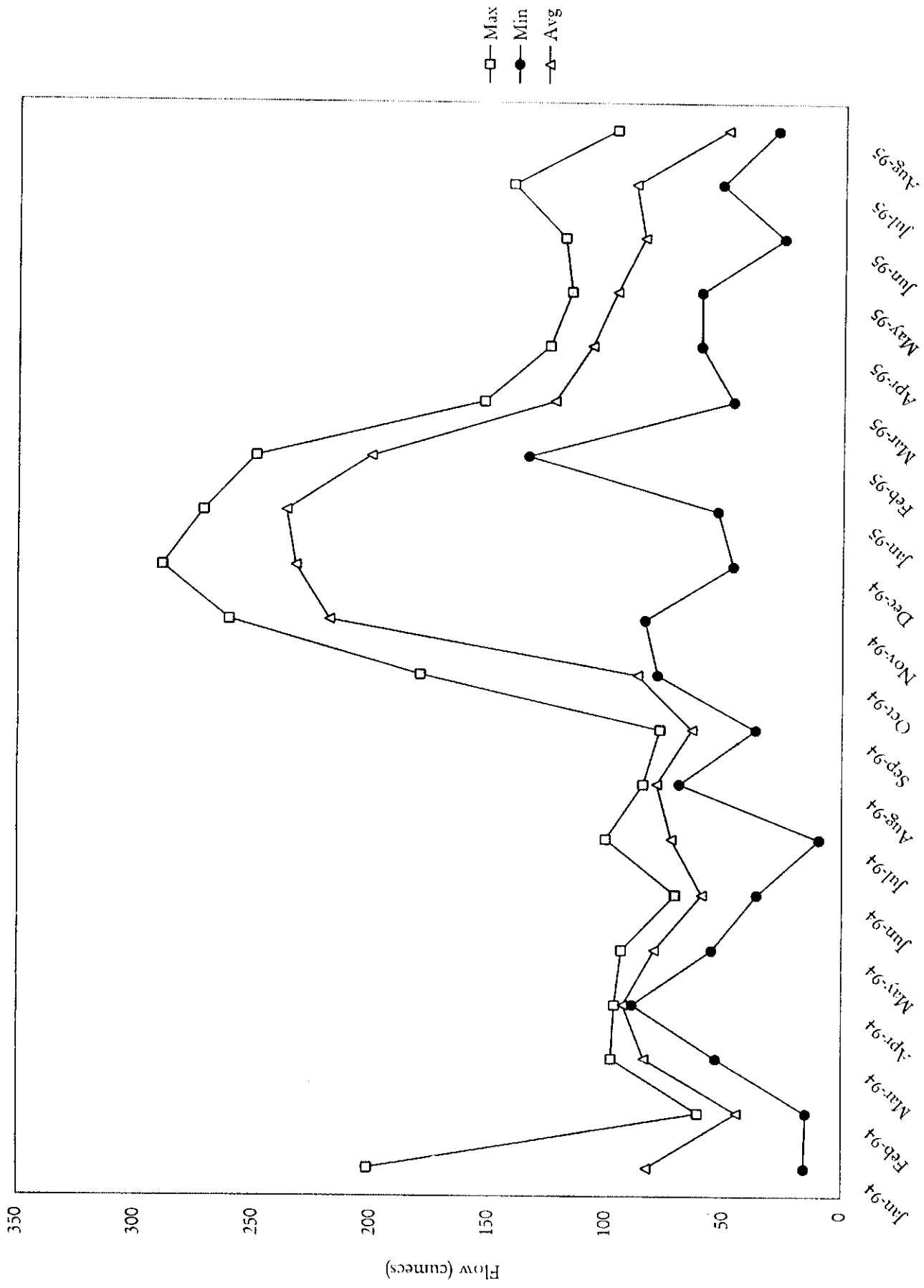


Figure II.35 Temporal Distribution of Monthly Flow in the Pinyari Canal.

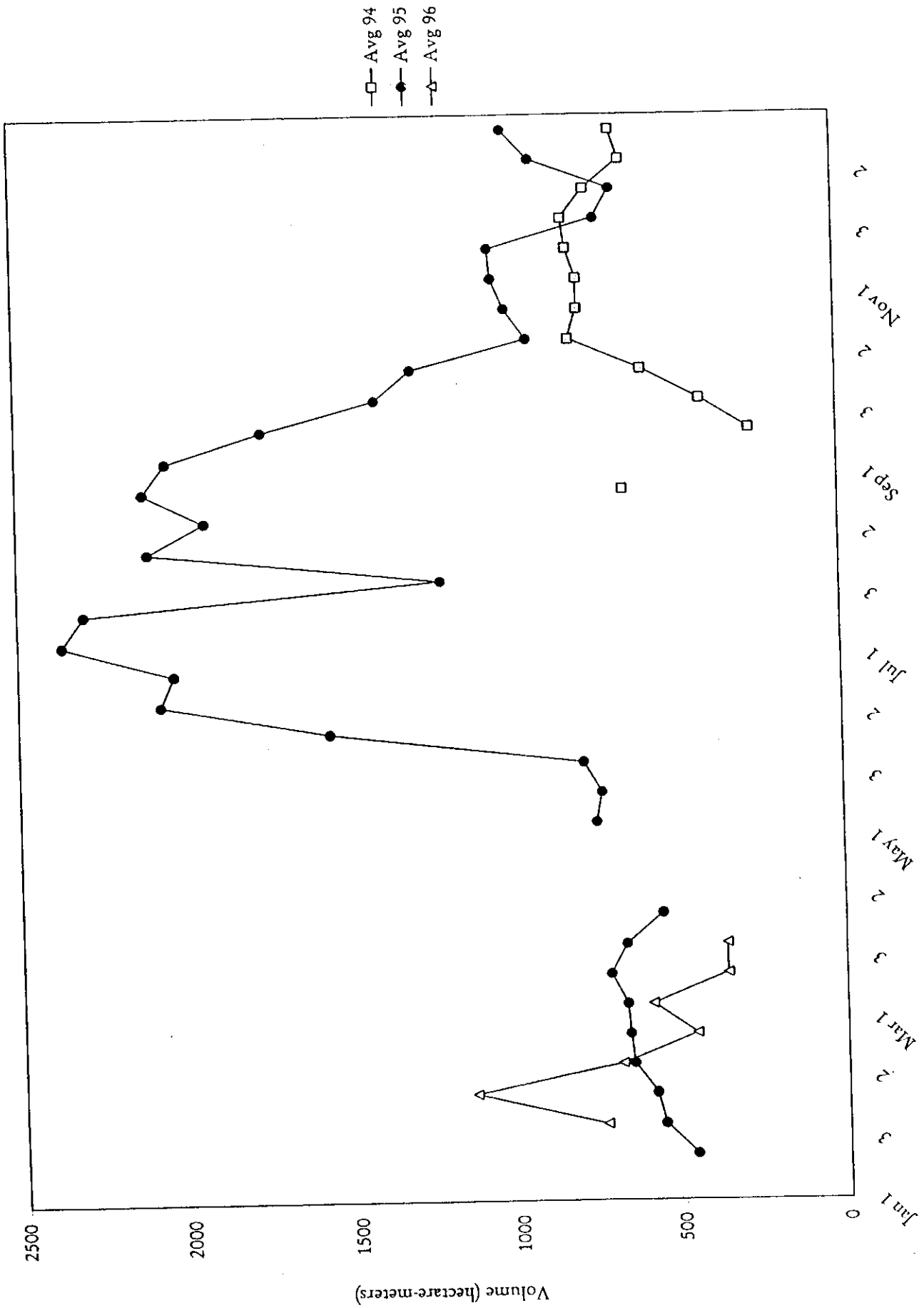


Figure II.36 Ten Daily Volumes of Surface Flows for the Pinyari Canal.

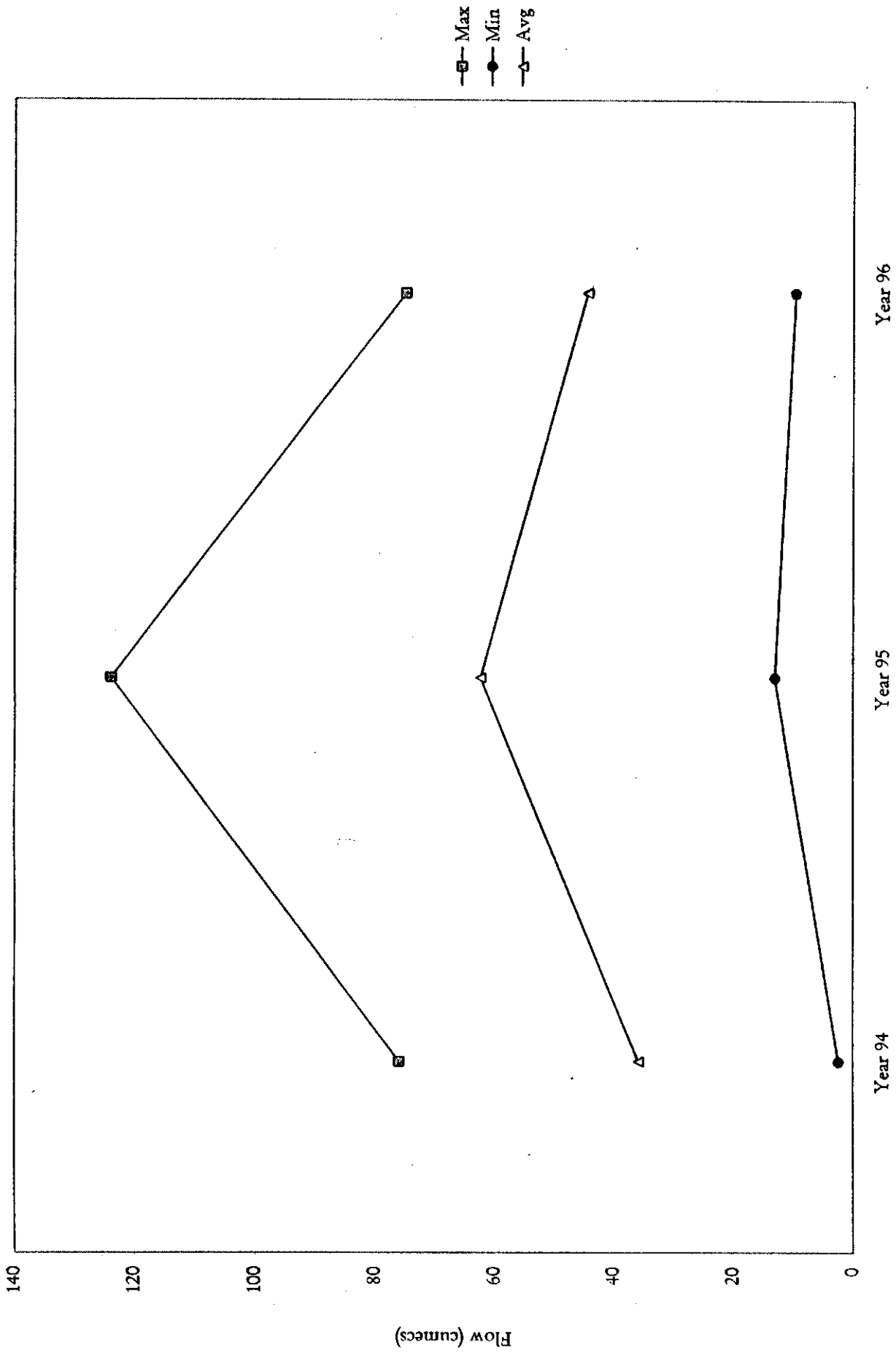


Figure II.37 Temporal Distribution of Yearly Flows in the Lined Channel.

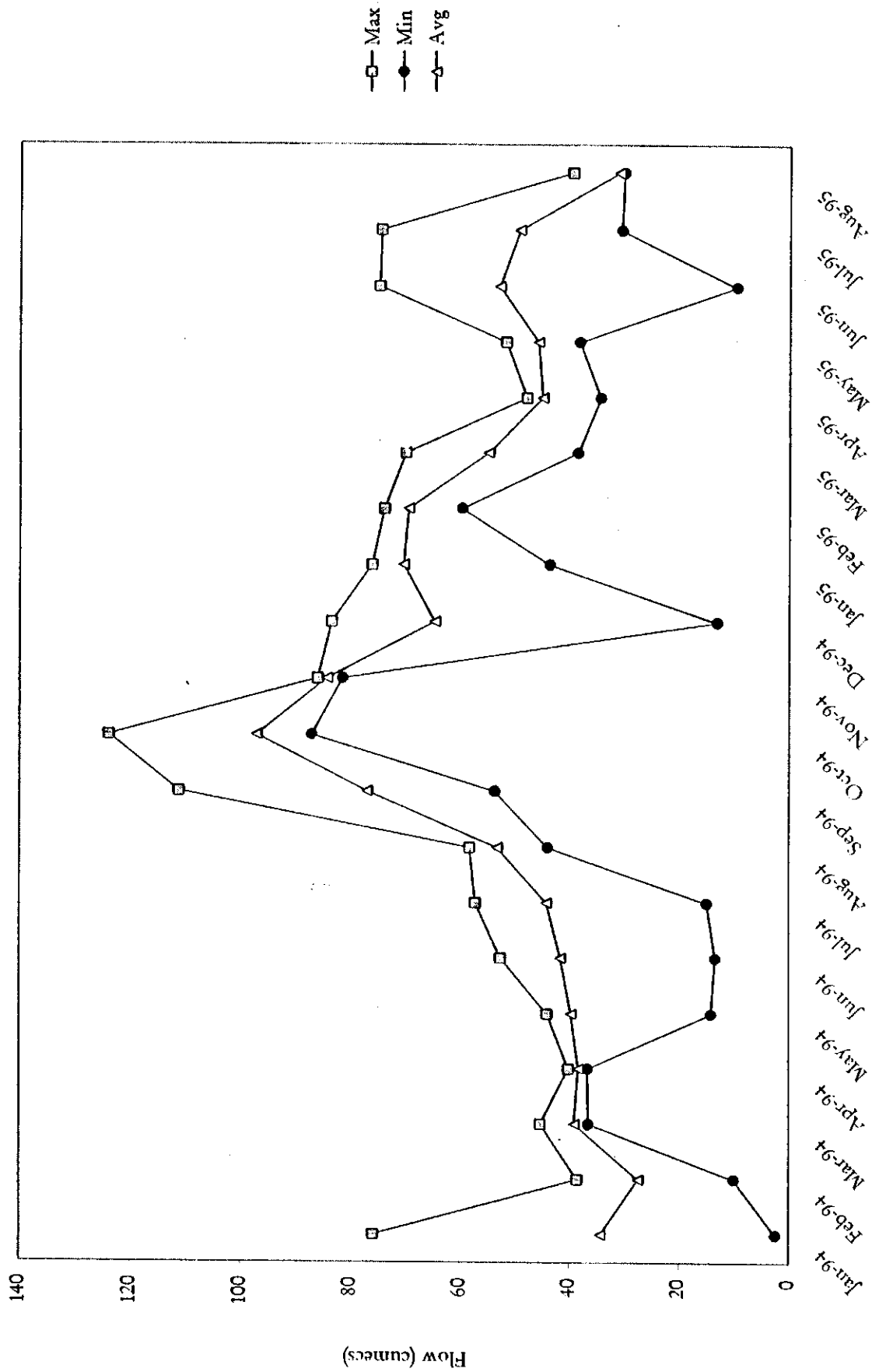


Figure II.38 Temporal Distribution of Monthly Flows in the Lined Channel.

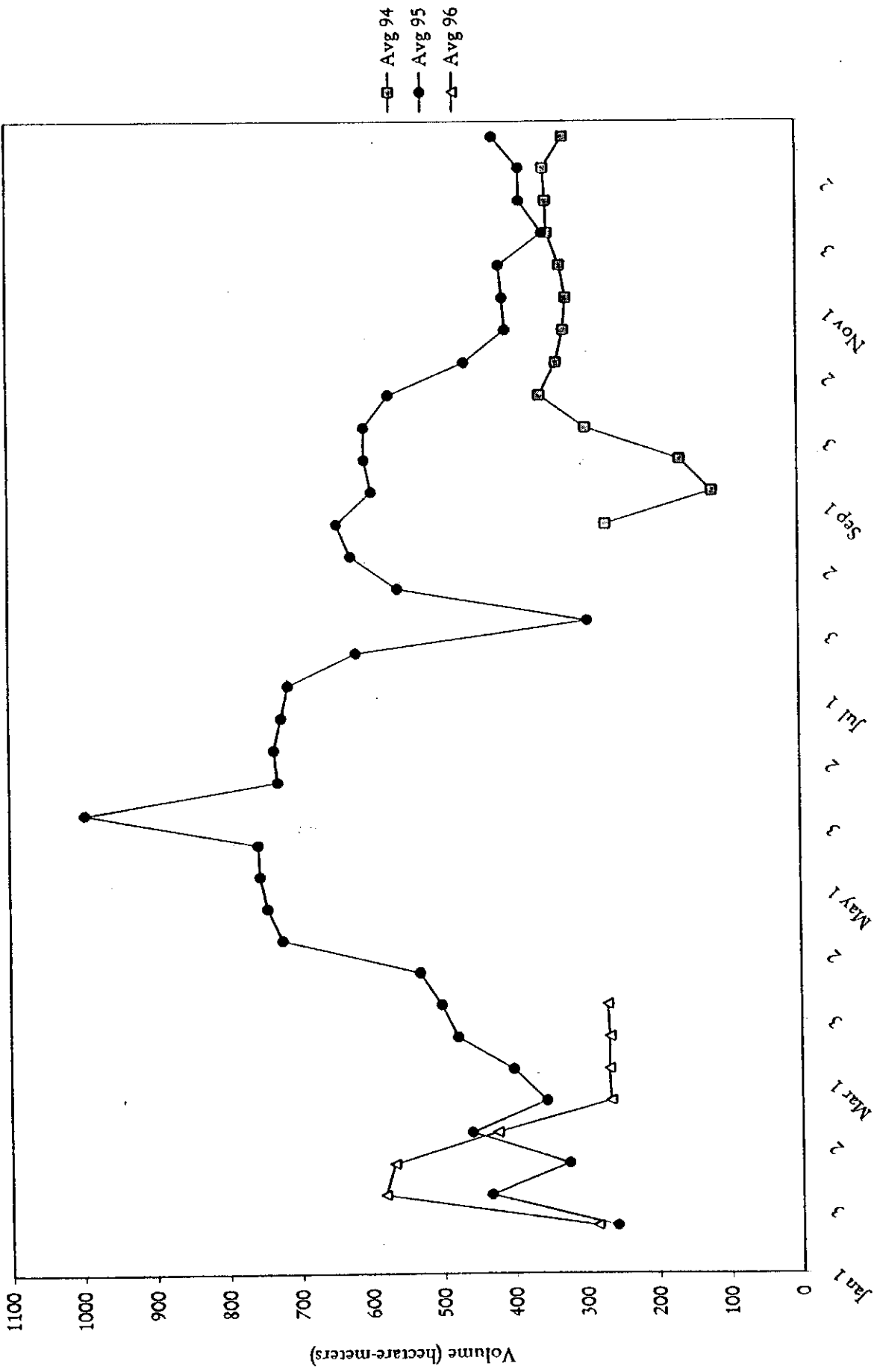


Figure II.39 Ten Daily Volumes of Surface flows for the Lined Channel.

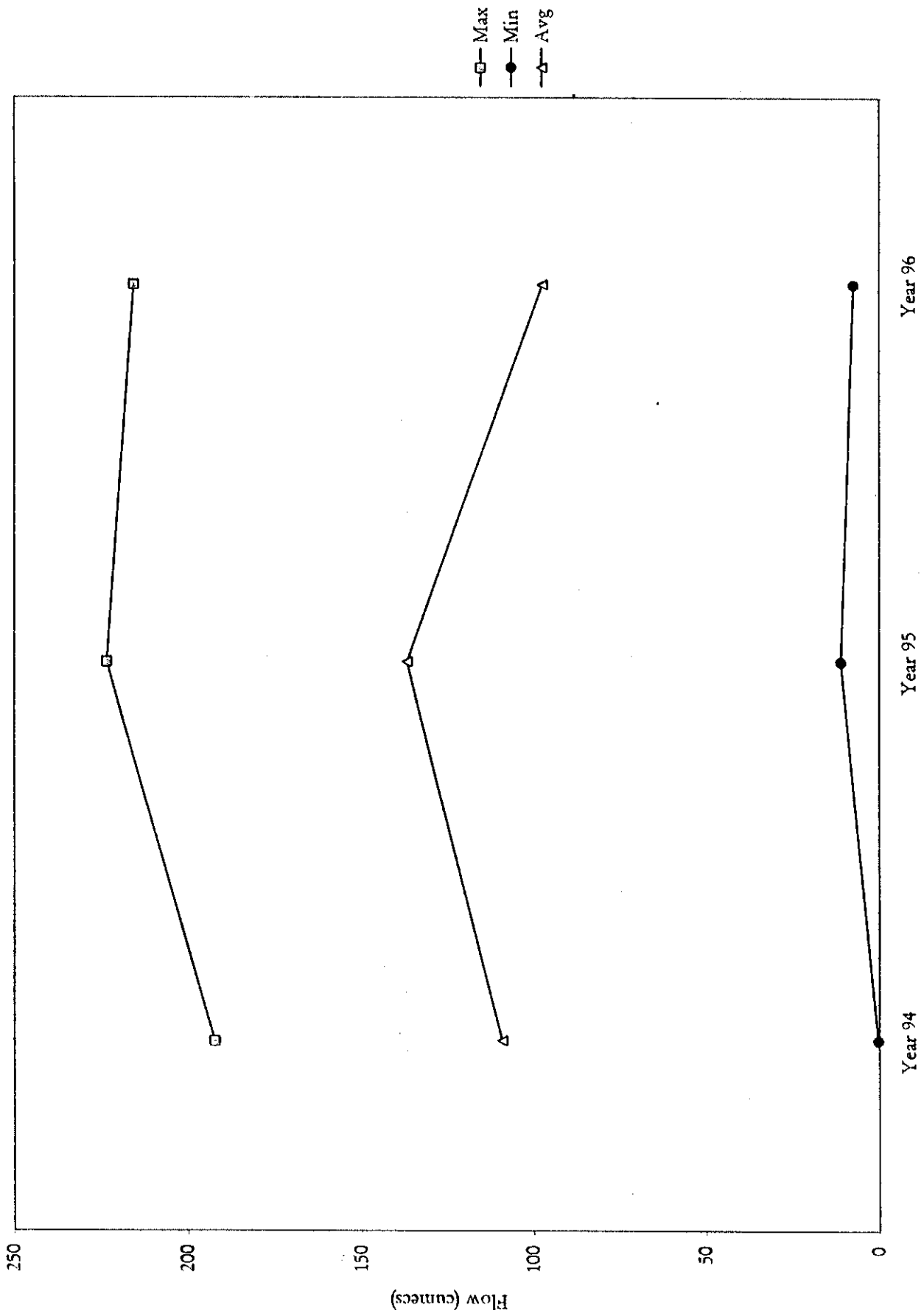


Figure II.40 Temporal Distribution of Yearly Flows in the Kalri Canal.

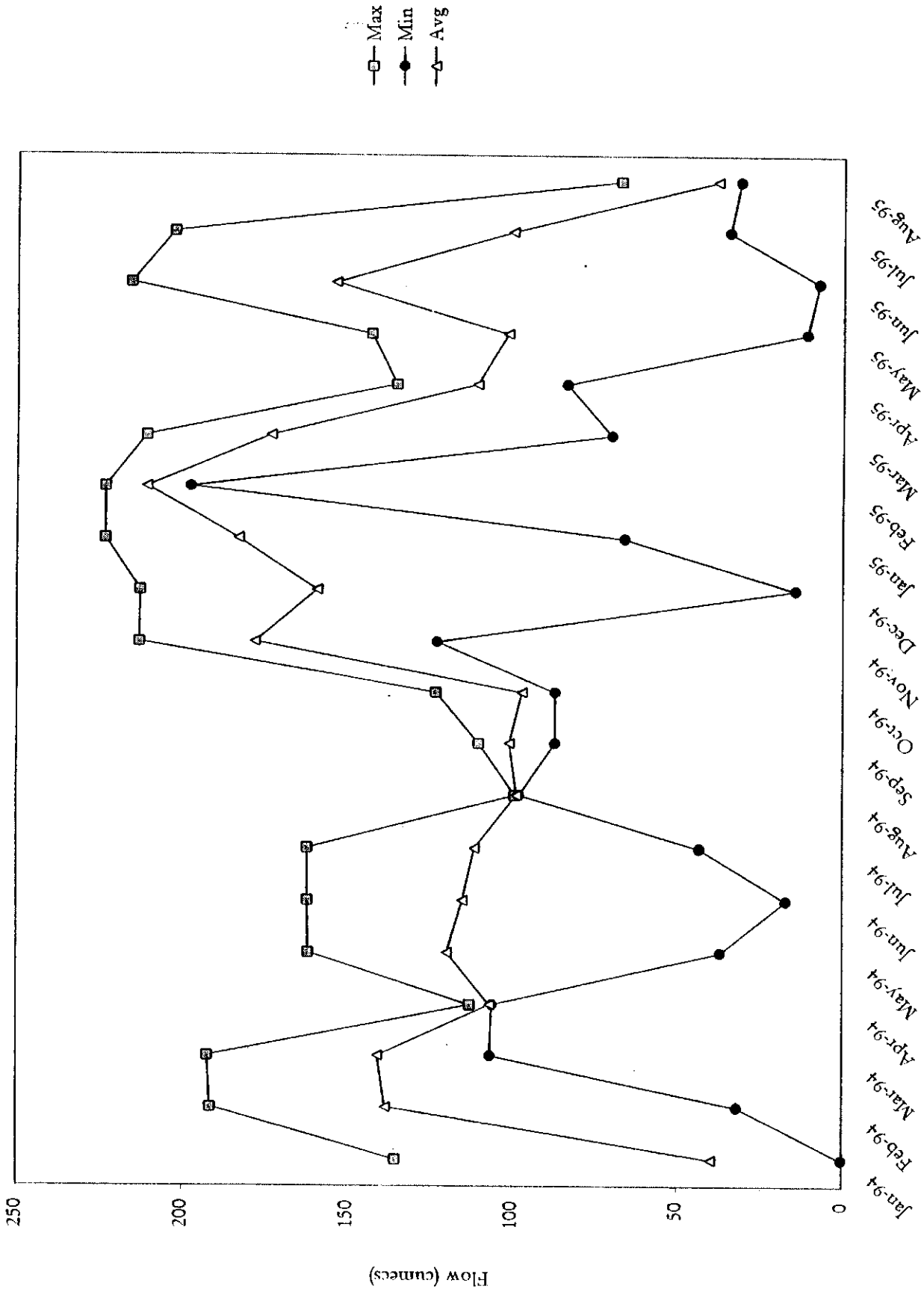


Figure II.41 Temporal Distribution of Monthly Flows in the Kalri Canal.

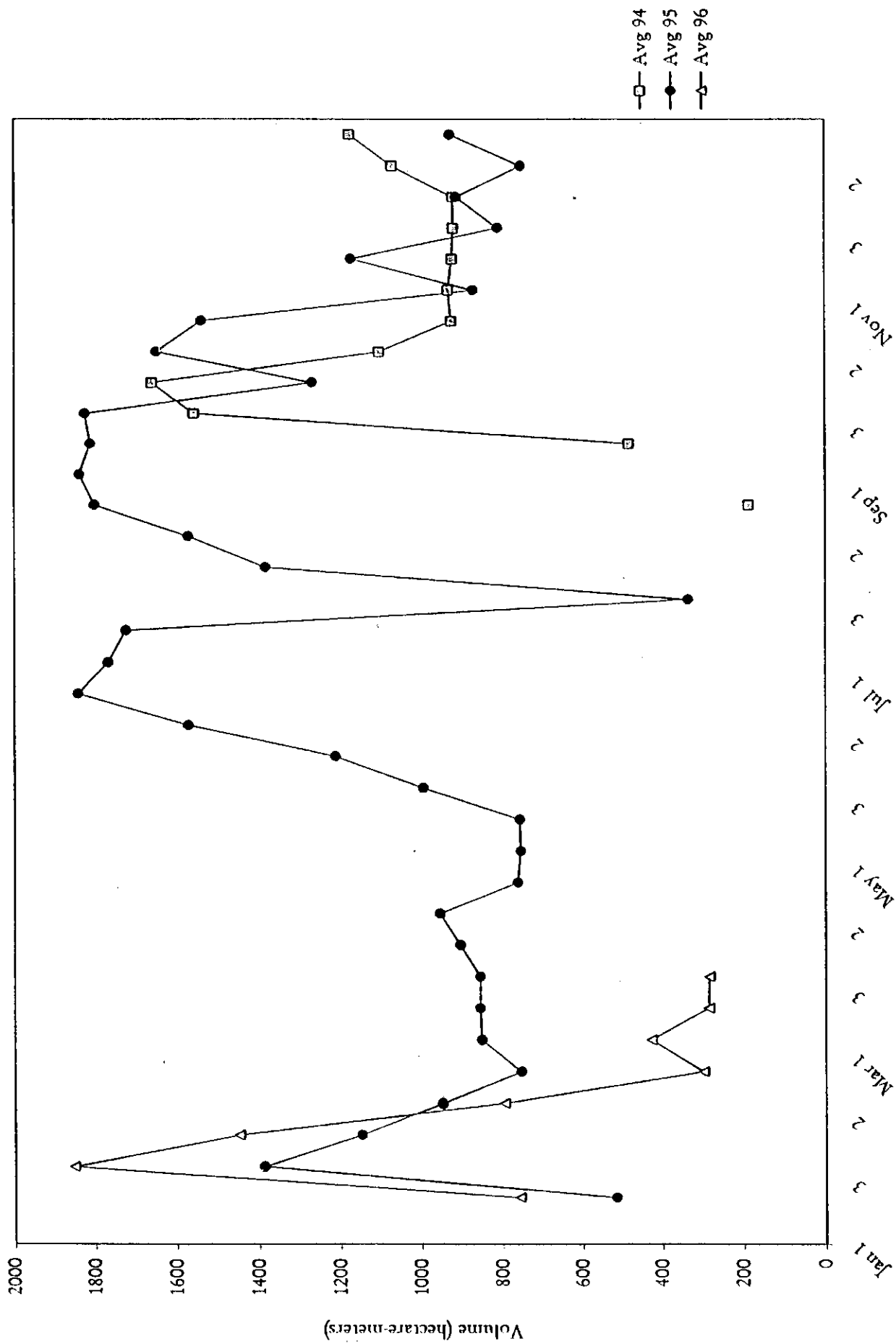


Figure II.42 Ten Daily Volumes of Surface Flows for the Kalri Canal.

ANNEX-III .

Volume of Canal Head Diversions During 1990-96

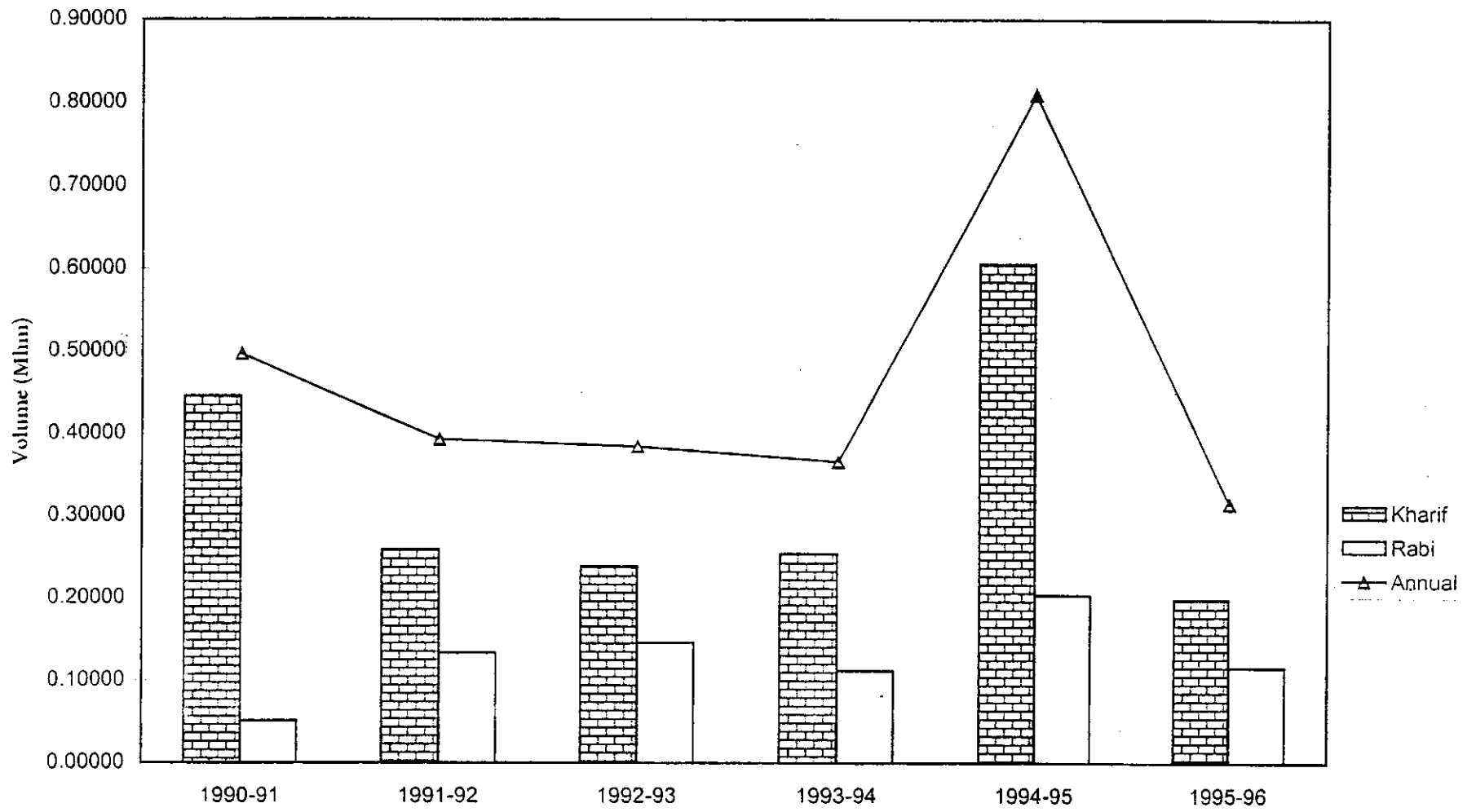


Figure III.1 Temporal Comparison of Average Canal Diversions at Canal Head for the Ghotki Canal.

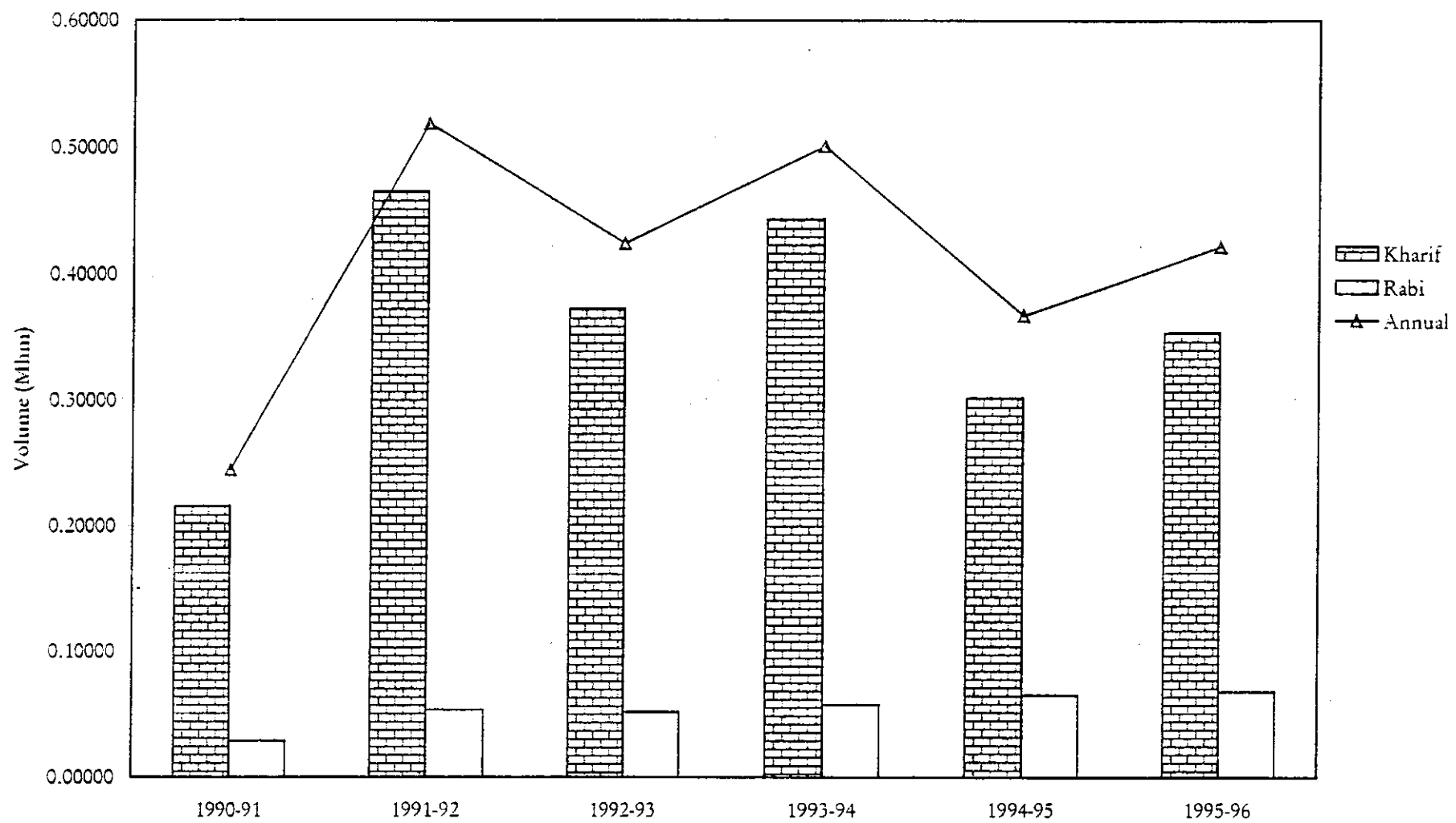


Figure III.2 Temporal Comparison of Average Canal Diversions at Canal Head for the Begari Canal.

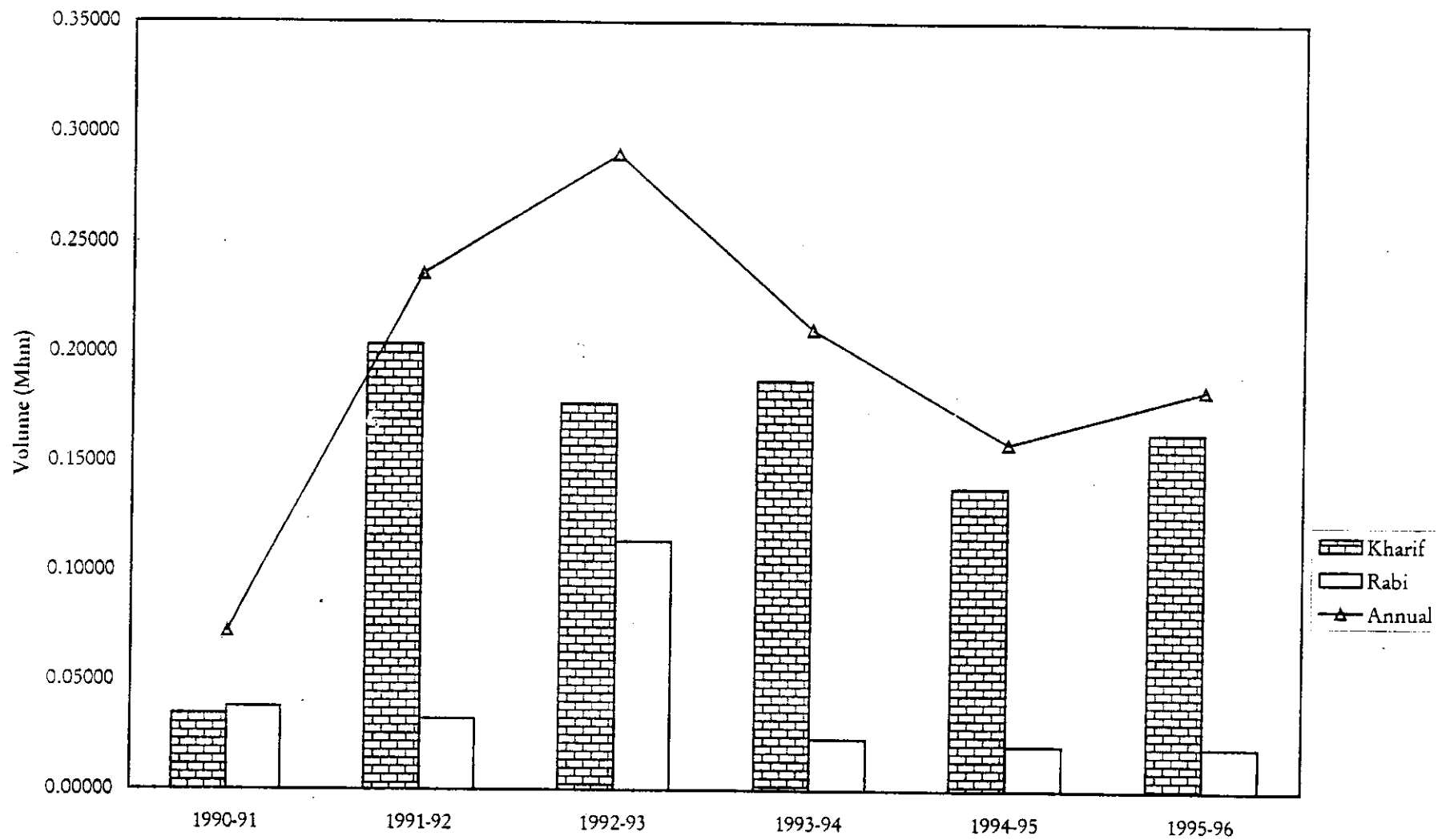


Figure III.3 Temporal Comparison of Average Canal Diversions at Canal Head for the Desert Canal.

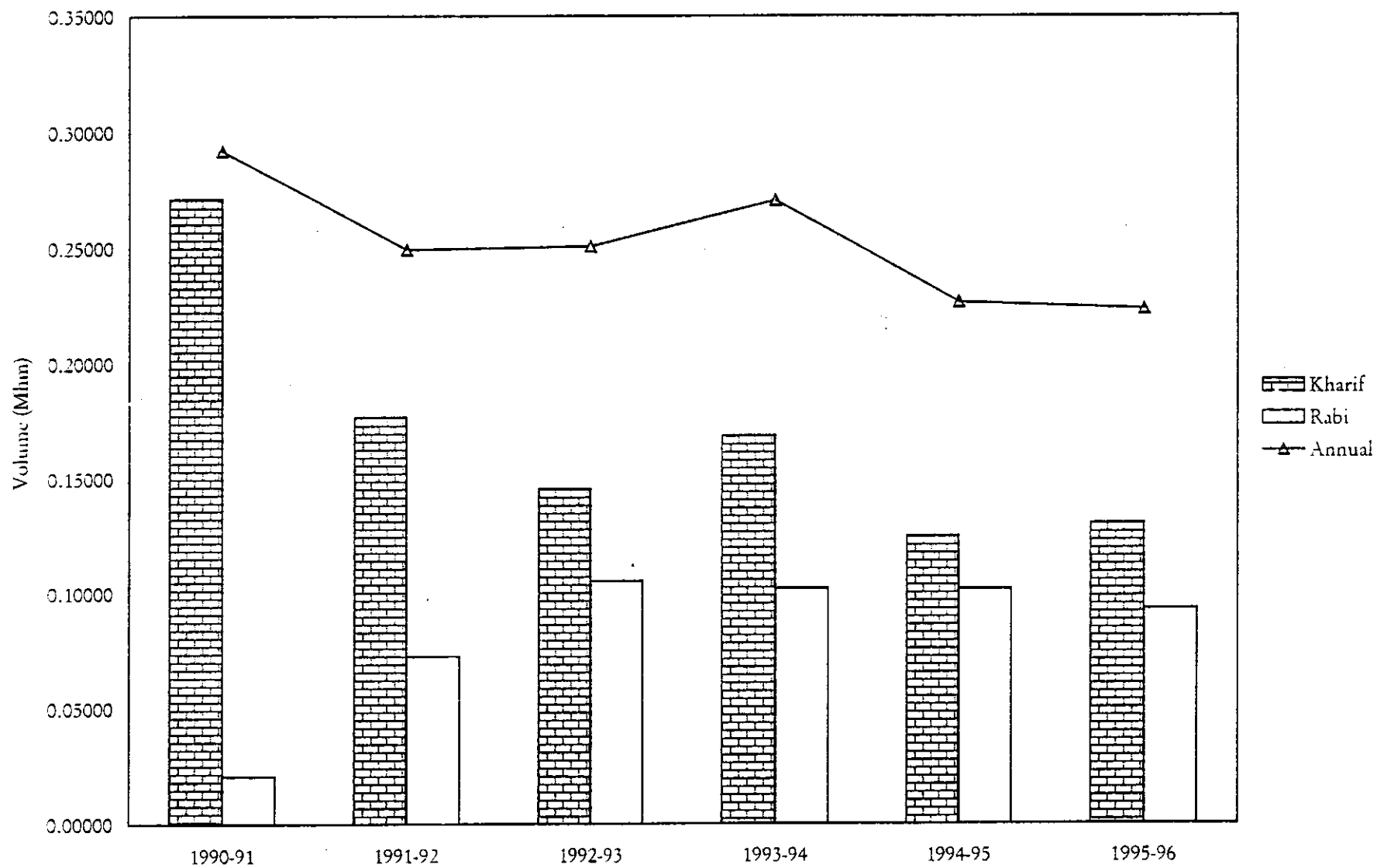


Figure III.4 Temporal Comparison of Average Canal Diversion at Canal Head for the Dadu Canal.

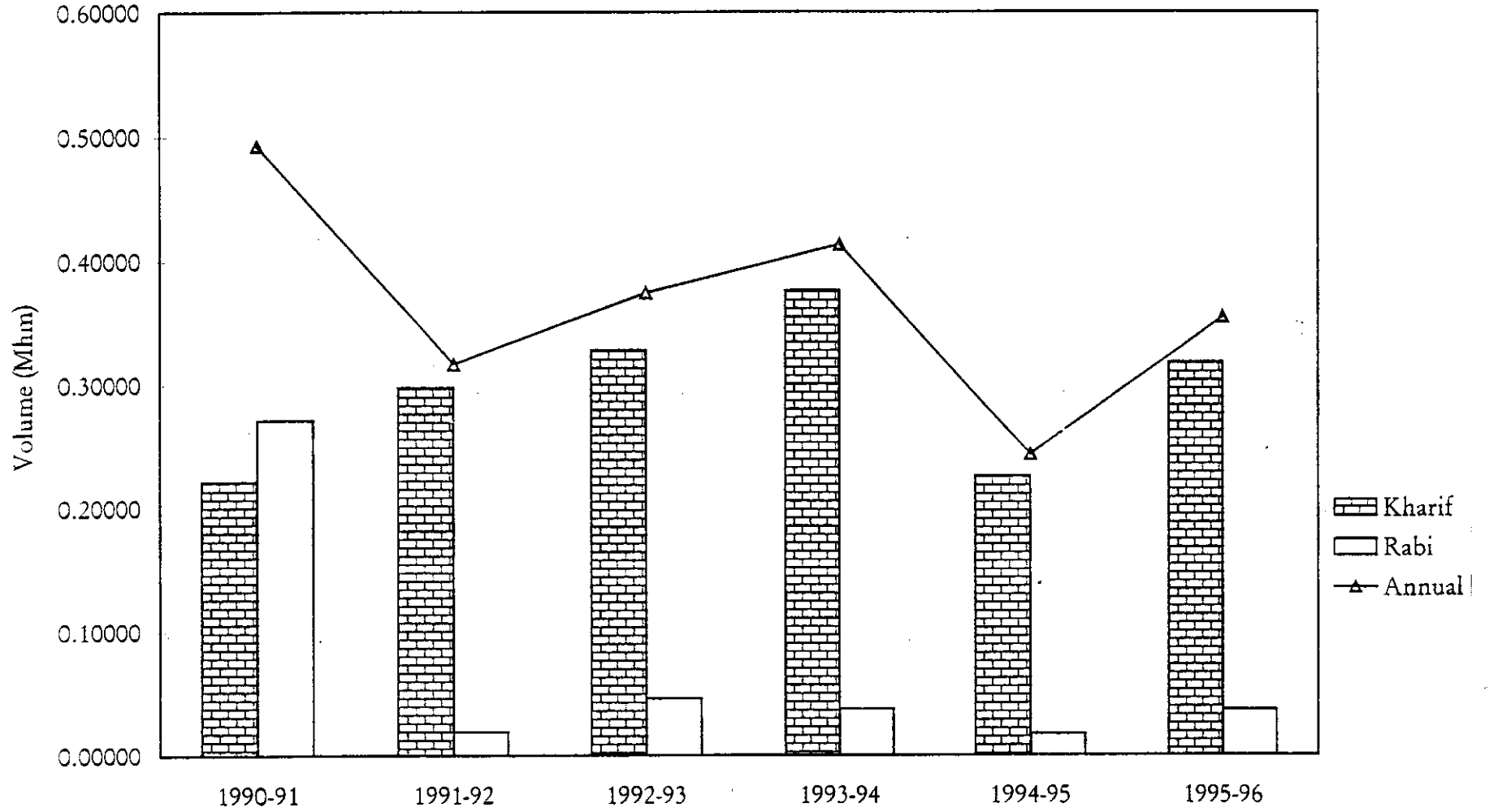


Figure III.5 Temporal Comparison of Average Canal Diversions at Canal Head for the Rice Canal.

Next >>

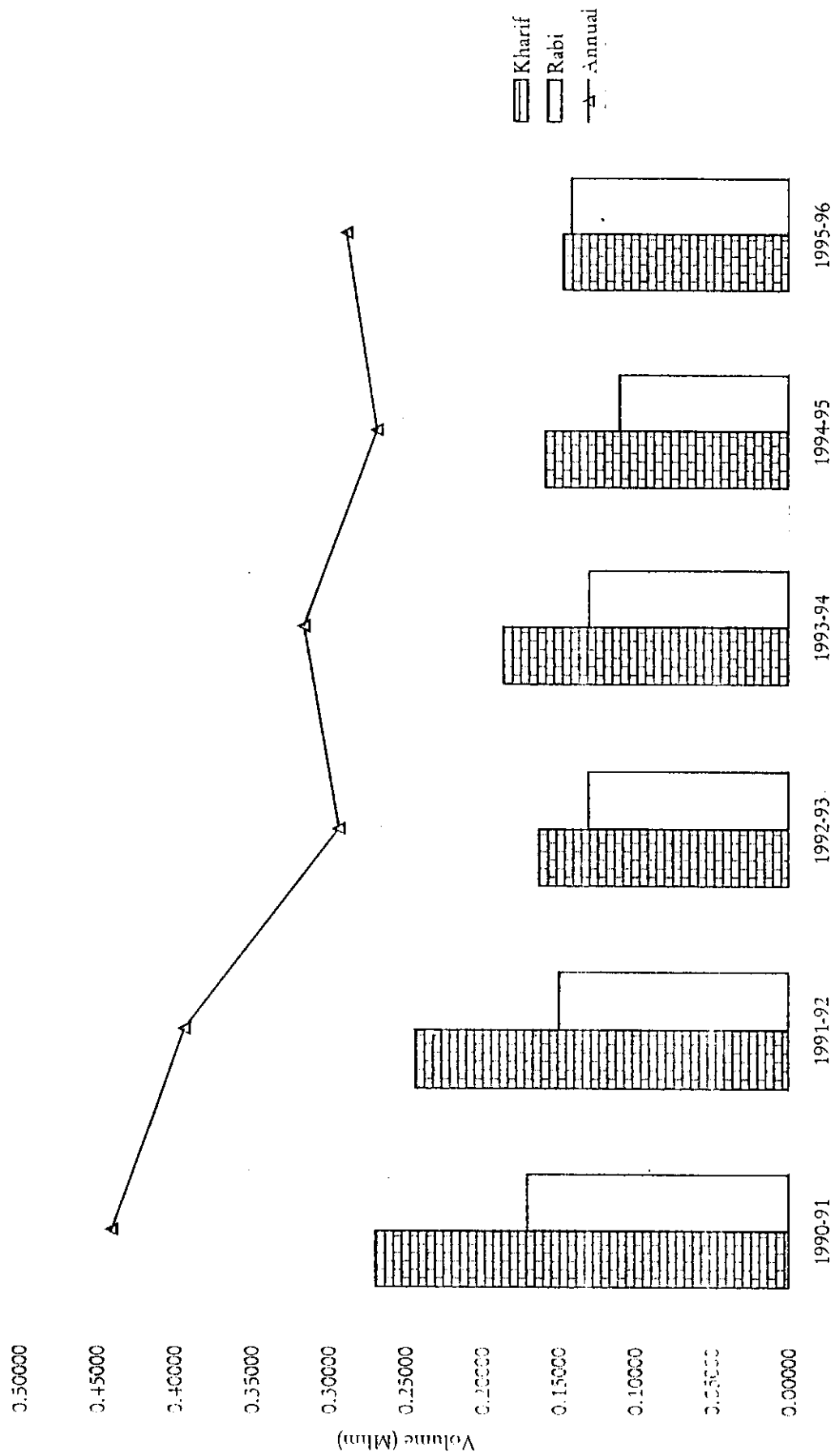


Figure III.6 Temporal Comparison of Average Canal Diversions at Canal Head for the North West Canal.

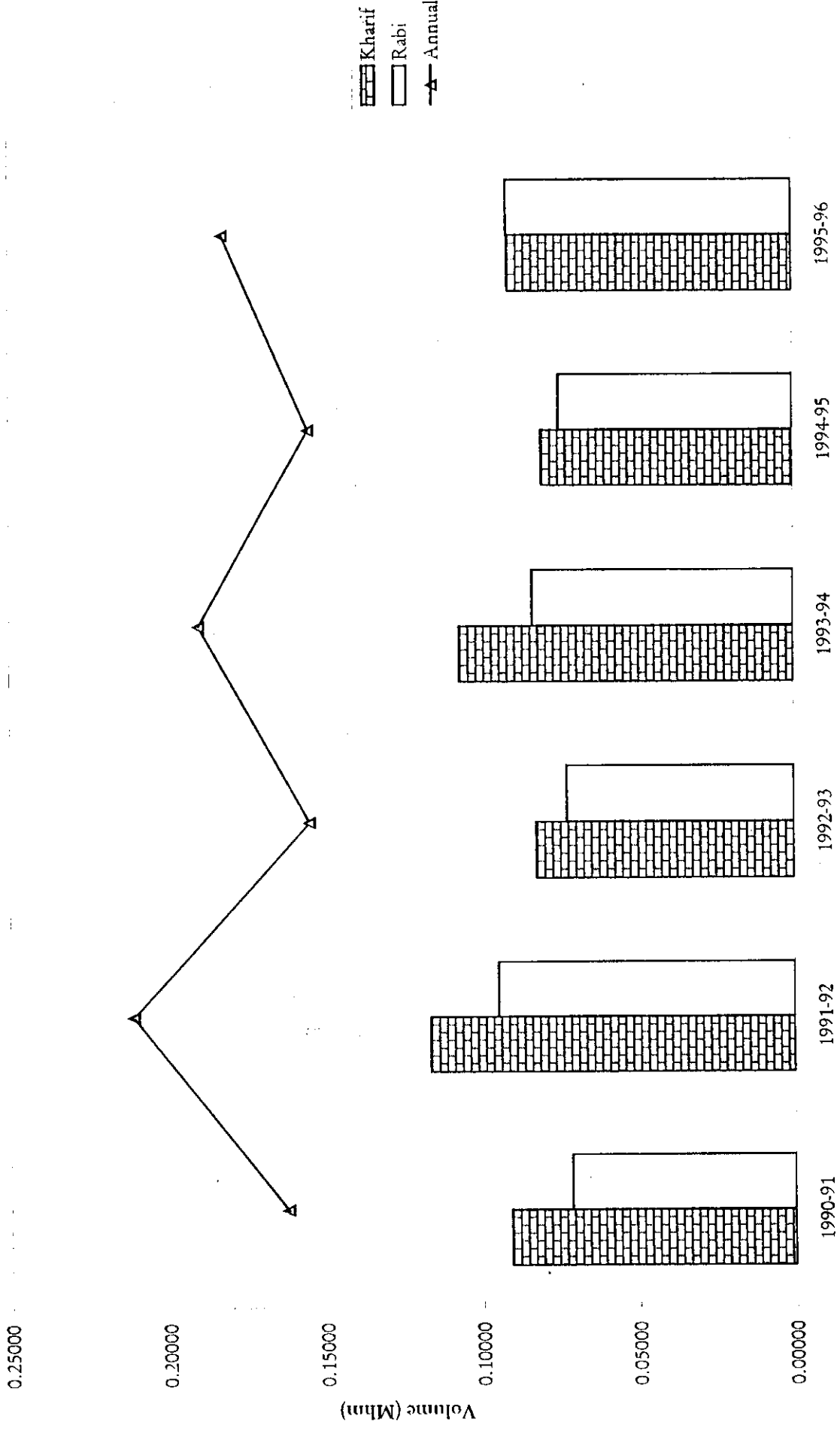


Figure III.7 Temporal Comparison of Average Canal Diversions at Canal Head for the Khairpur East Canal.

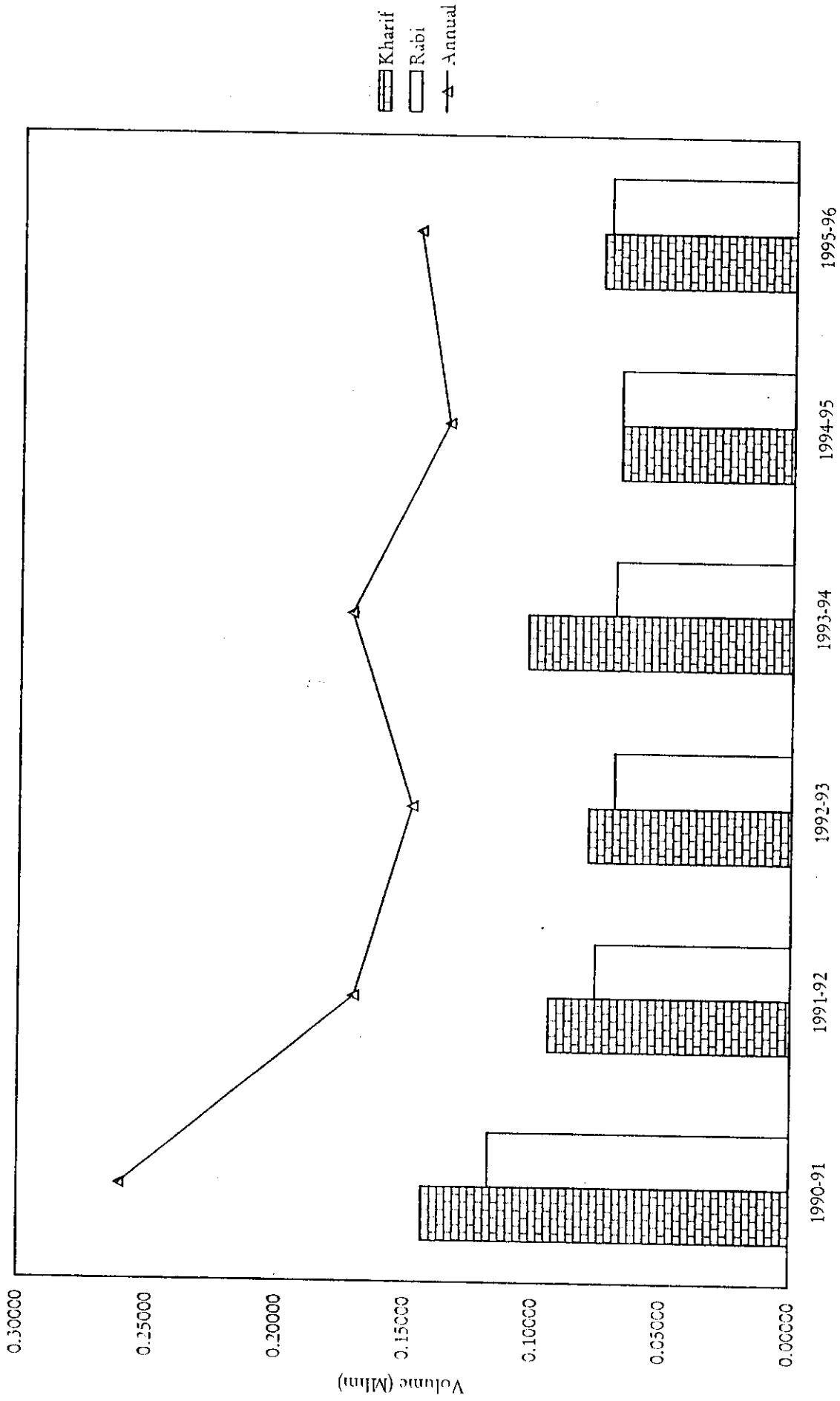


Figure III.8 Temporal Comparison of Average Canal Diversions at Canal Head for the Khairpur West Canal.

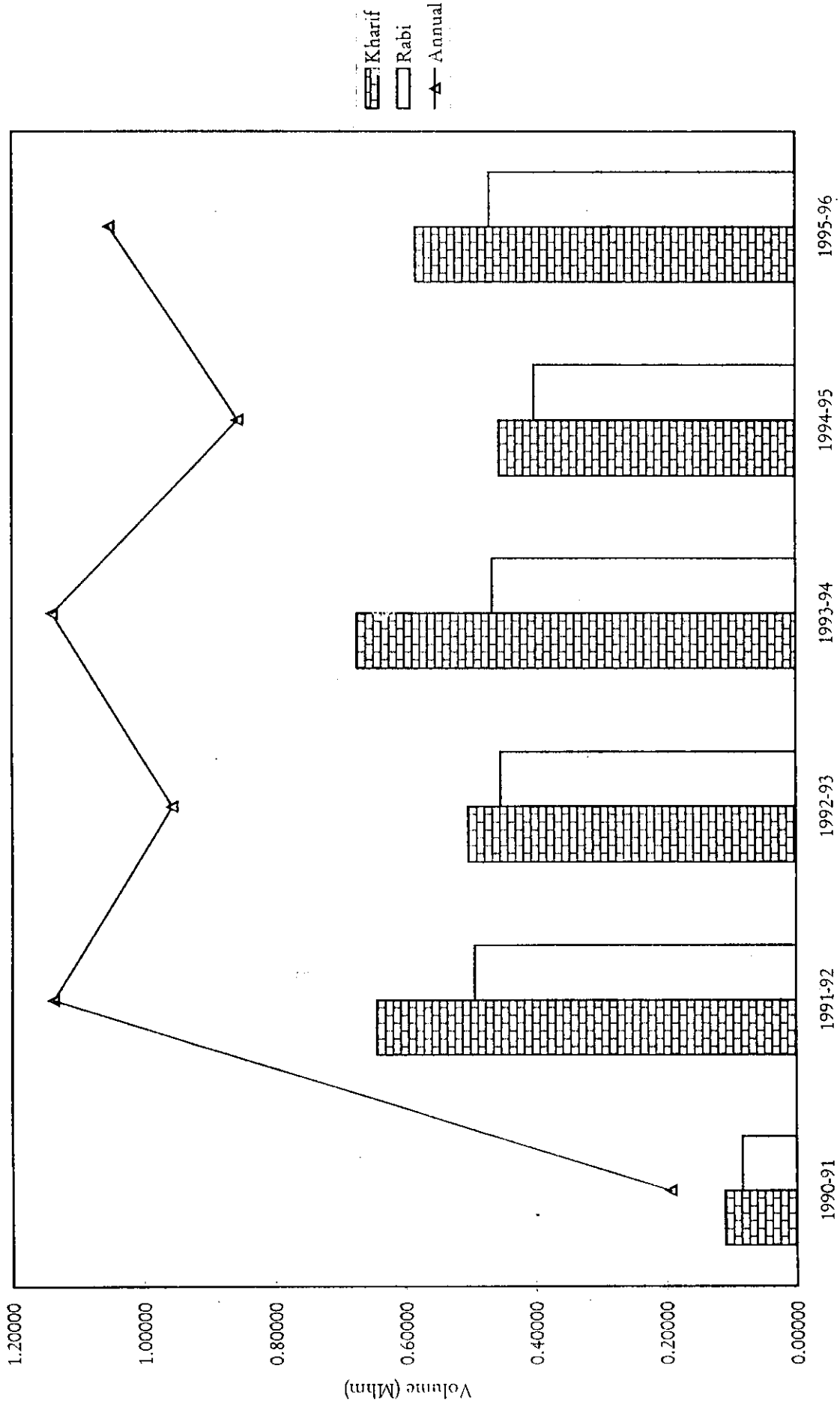


Figure III.9 Temporal Comparison of Average Canal Diversions at Canal Diversions at Canal Head for the Rohri Canal.

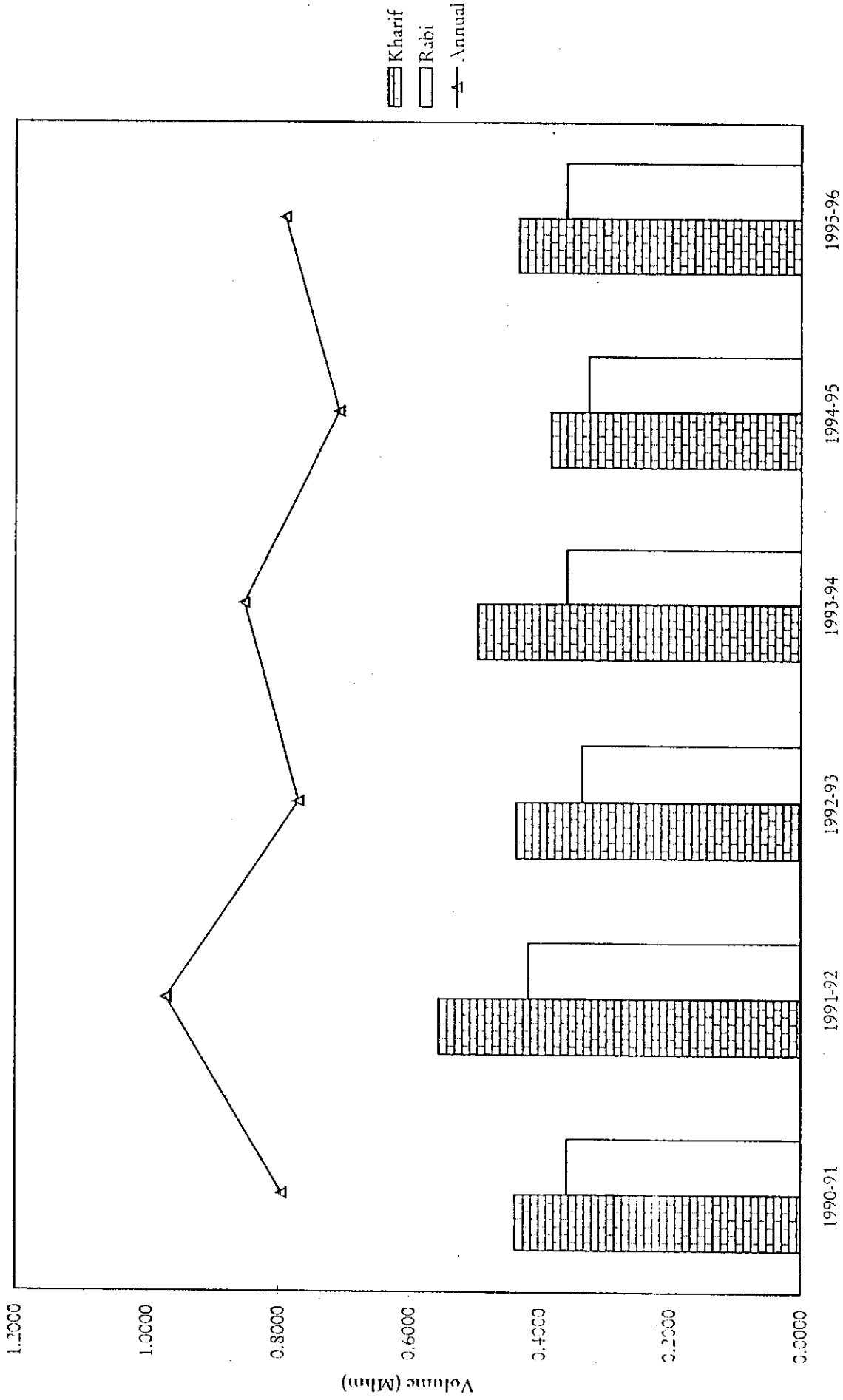


Figure III.10 Temporal Comparison of Average Canal Diversions at Canal Head for the Nara Canal.

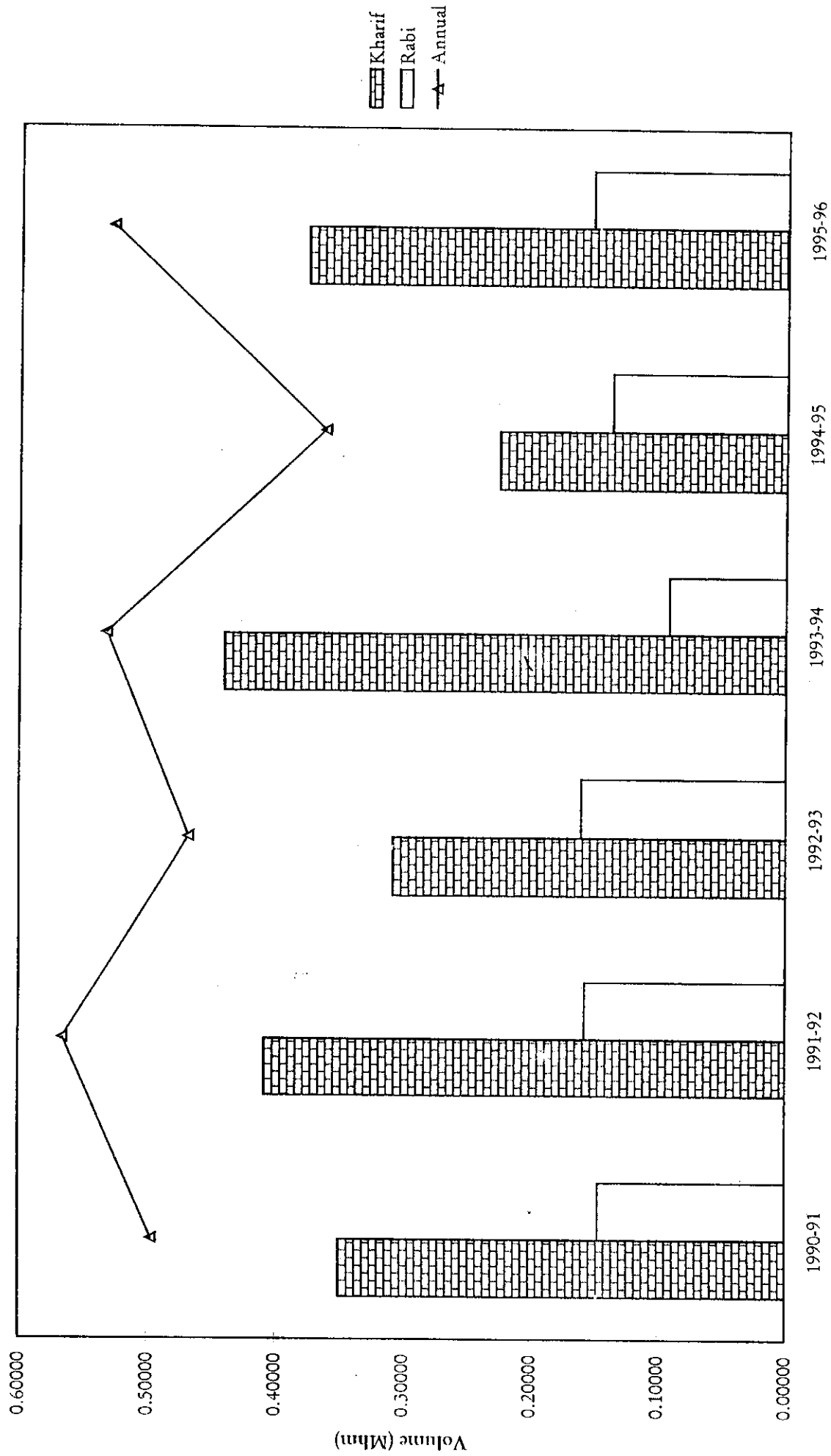


Figure III.11 Temporal Comparison of Average Canal Diversions at Canal Head for the Fuleli Canal.

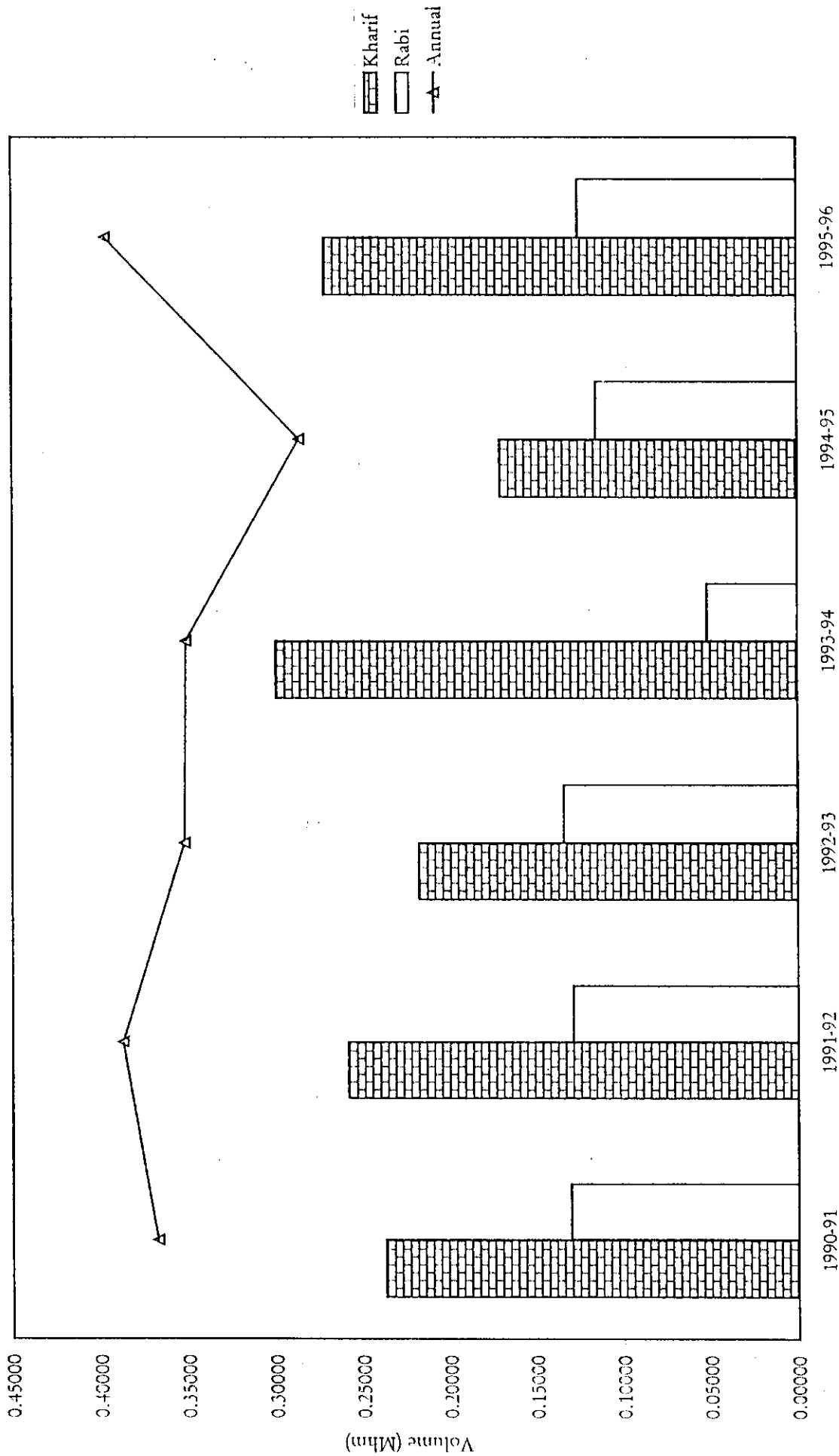


Figure III.12 Temporal Comparison of Average Canal Diversions at Canal Head for the Pinyari Canal.

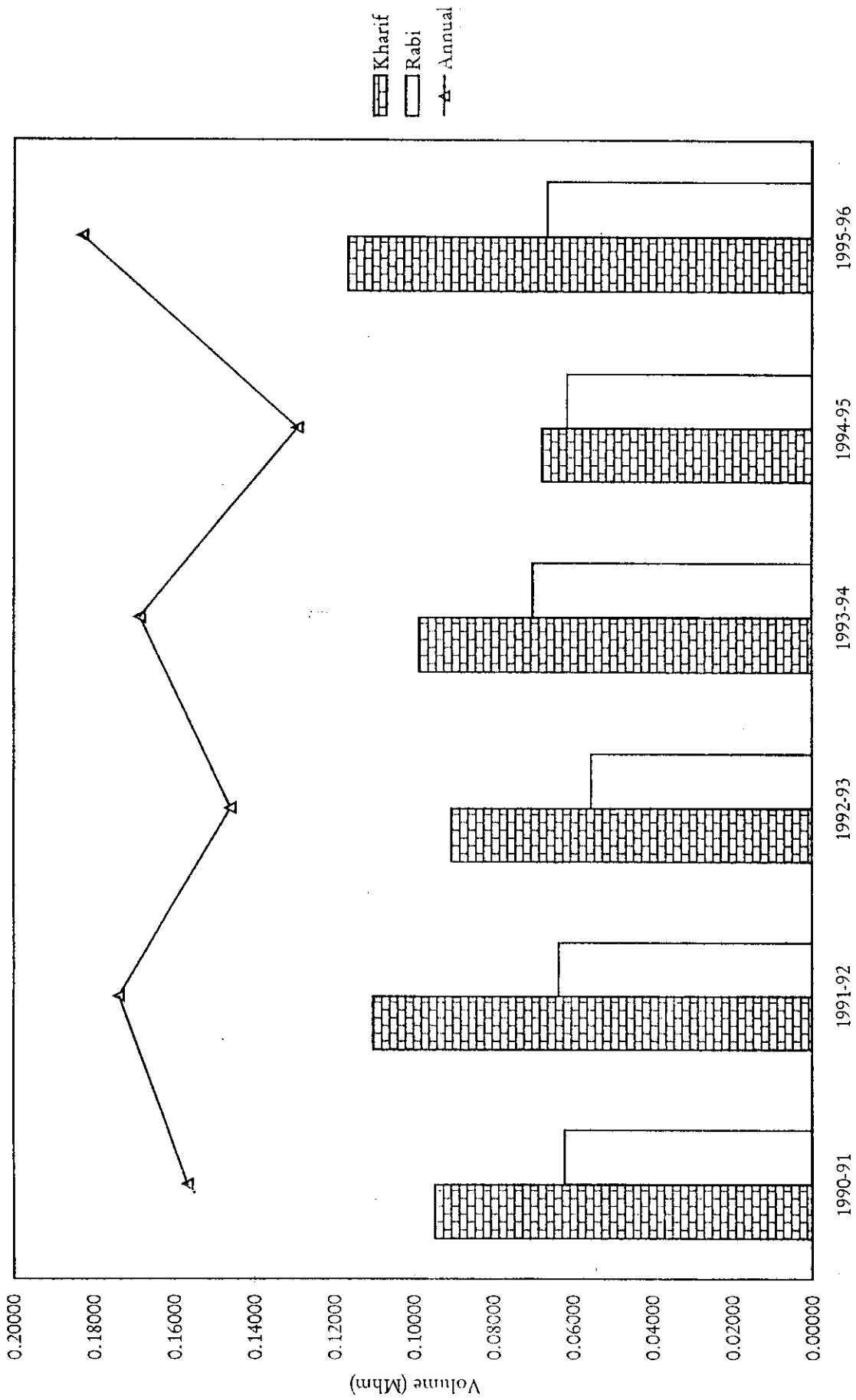


Figure III.13 Temporal Comparison of Average Canal Diversions at Canal Head for the Lined Channel.

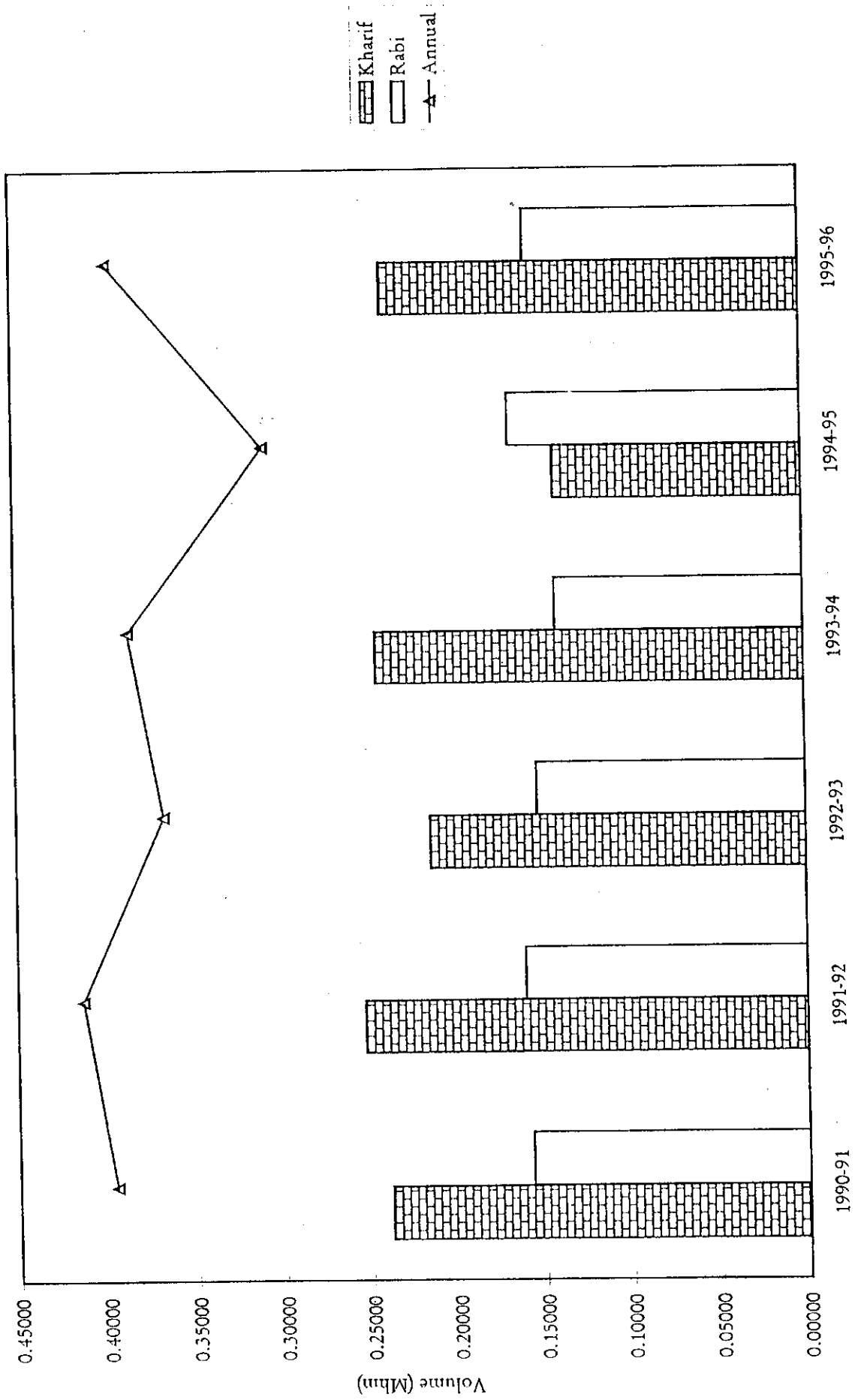


Figure III.14 Temporal Comparison of Average Canal Diversions at Canal Head for the Kalri Begavi Feeder.

ANNEX-IV

Irrigation Suitability Land Classification of the Sindh Hydrological Divides

ANNEX-IV

Irrigation Suitability Land Classification of the Sindh Hydrological Divides

For a study of the soils across the Sindh hydrological divides, published archives of the Soil Survey of Pakistan (SSoP) were reviewed for reconnaissance-level information on previously surveyed soils associations. The mapping of these associations, covering the entire Lower Indus Basin, was contained in the 18 separate reports prepared by the SSoP between 1965-66 and 1975-76. As an update to the mapped delineations of these yester-years, IIMI undertook carrying out extensive sample soil surveys during 1997-98 with the aid of high resolution panchromatic satellite imagery. These images had a ground resolution of 5.8 meters and provided a level of detail exceeding that of the aerial photographs originally used by the SSoP. Based on the digital interpretation and delineation of the sample areas, each 1-2 sq. km in size, belonging to productive regimes within the Sindh canal commands, detailed field maps were prepared with village identification and communication network for accessibility. For each sample area, 2-3 augur-assisted readings were taken for soil texture and pH determination according to the published FAO guide-lines (described in the FAO Soil Bulletin 44 "Watershed Development with Special Reference to Soil and Water Conservation" by N. Gil, FAO Consultant, Rome 1979). These were supplemental to a broad range of other on-site observations that, together, are reported in Table A.IV.1 of this Annex. The study, covering a total of 796 sample sites (Figure A.IV.1) was conducted in the period between Dec. 1997-June 1998 and included the following contributes to sample area definition:

- ▶ Landform/Physiographic position;
- ▶ Surface Salinity;
- ▶ Profile Sodicity-pH Value (Thymol Blue test);
- ▶ Land Use;
- ▶ Soil Texture;
- ▶ Watertable;
- ▶ Consistency (dry, moist, wet);
- ▶ Calcareousness; and
- ▶ Color and Mottles.

All the information, both field-collected and SSoP interpretations, were resampled at the canal command level through the use of a geographic information system software. This was subsequently overlaid on top of the satellite images, also resampled at the canal command level. The result was the updated land suitability map. Figure A-IV.2 shows the comparison of the updated land suitability assessment (based on IIMI sampling during 1997-98) with the previous observations and mapping done by the SSoP in the period between 1967-75 (Figure A.IV.3). The following is a description of all the land suitability classifications (Tables A.IV.2a & b) that have been applied native to the respective canal commands of the Sindh Province.

Table A.IV.1 IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Sample No. | Pir No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (Inches)/Texture | pH | Description of the Region | Cultivation Status | Land - Use Suitability | |
|------------|---------|------|--------------|---|--|------------------------|---|---------------------------|---|--|----------------|
| 10 | F-37 | 1 | 04-Dec-97 | Ex rice field | Fallow fields are severely saline | 3 | (0-6) Silty clay loam. (6-48) Silty clay | 8.4, 8.2 | The soils are nearly level, perennial (p)-canal irrigation, clayey soils, fallow fields are severely saline. As the area is lying between two canals therefore, it is suffering from both salinity & water logging. | The area is restricted to rice and sugarcane and some wheat but cotton is being restricted. Sugarcane & rice give good yield. | SIHw2 SIHw2 |
| 10 | F-37 | 2 | 04-Dec-97 | Sown to sugarcane | Surface ridges salinity is visible | 4 | (0-6) Silty clay loam. (6-48) Silty clay | 8.4, 8.2 | | | |
| 10 | P-13 | 1 | 04-Dec-97 | Ex rice field | Severely saline | 4 | (0-6) Silt loam. (6-30) Silt loam. (30+) Sloughing | 8.4, 8.2 | The area is nearly level, under p-canal irrigation, severely water logged, fallow fields are severely saline and water weeds are seen in the fields. | Major crop restricted to sugarcane and rice with some wheat. | SIHw2 SIHw2 |
| 10 | P-13 | 2 | 04-Dec-97 | Sugarcane field | Severely saline | 4 | (0-6) Silt loam. (6-48) Silt loam. | 9.0 | | | |
| 10 | J-1 | 1 | 04-Dec-97 | Barren (lani, pharwan, dab. (natural-vegetation) | Severely saline/non sodic (gypsi/ferrous) | | (0-23) Silt loam. (23-48) Very fine silt loam | 8.4 | The area is level and cultivated area is under p-canal irrigation, sufficient area is lying barren perhaps due to shortage of irrigation water. The soils are deep, well-drained, cultivated soils are non-saline, non sodic and can be graded as class I land. All the crops including fruit orchards ecologically suited to the area, can be raised economically. | Major crop is sugarcane, wheat & cotton / crop condition is good to very good. | SI SI |
| 10 | J-1 | 2 | 04-Dec-97 | Sugarcane field | | | (0-6) Silt loam. (6-20) Silt loam. (20-40) Very fine silt loam. (40-48) Silty clay loam -vc | 8.4, 8.2 | | | |
| 10 | J-2 | 1 | 08-Dec-97 | Barren fodder | Severely saline but not sodic pharwan less as natural vegetation | | (0-6) Silty clay loam. (6-20) Silty clay loam. (20-48) Silty clay | 8.4, 8.4, 8.2 | The area is level and cultivated under p-canal irrigation, sufficient area is lying barren with severe salinity but without sodicity, perhaps due to lack of irrigation. The soils are deep, medium to fine textured (silty clay loam to silty clay), moderately well drained and can be put in grade II class. All the crops excluding mango garden can be grown successfully and profitably. | Good crops of sugarcane, cotton, wheat and fodders are seen. | SI SI |
| 10 | J-2 | 2 | 08-Dec-97 | Living barren | | | (0-8) Silty clay loam (8-30) Silty clay (30-36) Silt loam. (36-48) Silty | 8.4, 8.4 | | | |
| 10 | J3 | 1 | 17-Dec-97 | Sugarcane September sown | Surrounding is infested with salinity | | (0-6) Silty clay loam. (6-40) Silty clay. (40-48) Silty clay mottled | 8.4, 8.2, 8.2 | The area is level some salinity patches are visible in some fields, on water saturation at 48 inches depth. The soils are level deep, deep, moderately well-drained, faintly mottled, homogenized, fine textured (silty clays). They have good potential (grade II) for all the crops ecologically suited to the area. In the surrounding the uncommanded/fallow fields are severely saline. Due to the presence of big canal/sarao the area may have drainage problem. Mechanical cultivation is essential need of these soils for handling. | Major crop is sugarcane with very good stand. The management seems good hence other crops like cotton, rice and onions are also have good condition. | SIH SIH |
| 10 | J3 | 2 | 17-Dec-97 | Sugarcane September sown | Surrounding is infested with salinity | | (0-6) Silty clay. (6-48) Silty clay | 8.3 | | | |
| 10 | J-4 | 1 | 08-Dec-97 | Barren | Severely saline but not sodic | | (0-6) Silty clay. (30-48) Silt loam | 8.2 | The area is level and cultivated area is under p-canal irrigation. Barren area is severely saline but not sodic. Cultivated soils are deep, moderately well-drained, fine textured (silty clays) and can be graded as class II land due to their workability problem and | Major crops grown at present are sugarcane, wheat and cotton. | SIH SIH |
| 10 | J-4 | 2 | 08-Dec-97 | Sown to wheat | Severely saline but not sodic | | (0-6) Silty clay loam. (6-48) Silty | 8.2 | | | |
| 10 | J-5 | 1 | 08-Dec-97 | Barren (kikar & valayati kikar, jawan are natural-vegetation) | Severely saline but not sodic (inundated in rainy season) | 4 | (0-6) Loam. (6-30) Very fine sandy loam. (30-48) Loamy very fine sand | 8.0 | The area is level and cultivated area is under p-canal irrigation. The south-western corner is usually flooded during rainy season, that effect the surrounding drainage and control salinity also. Presently open drain have some positive influence on the area. The soils are level, deep, moderately well-drained, medium textured (loam/very fine sandy loam) and can be graded as class II soil due to their high | Cotton, wheat, mango trees, and some sugarcane. | SIHw2 SIHw2 |
| 10 | J-5 | 2 | 08-Dec-97 | Cotton intercropped in mango garden | | 3 | (0-6) Loam. (6-42) Loam | 8.4, 8.0 | The area is level, and soils are medium textured (silt loam, loam, very fine sandy loam) homogenized up to 36 to 38 inch and quite friable posing no workability problem. The soils are well-drained but according to a farmer ground water lies at 10 to 15 ft deep. The soils are non-saline, non sodic but fallow fields are infested with severe salinity on the surface. Over all these soils have very high agriculture potential under modern management practices. | Sugarcane, wheat & cotton, all the crops including fruit orchards ecologically suited to this area, can be grown profitably with high yields. | SI SI |
| 10 | J-6 | 1 | 17-Nov-97 | Cotton field | Non saline/non sodic | | (0-6) Silt loam. (6-36) Loam/sandy loam. (36-48) Very fine sandy loam | 8.2 | | | |
| 10 | J-6 | 2 | 17-Nov-97 | Sown to wheat | Non saline/non sodic | | (0-6) Silt loam. (6-38) Loam. (36-48) Silt loam Very fine sandy loam | 8.0 | | | |
| 10 | J-7 | 1 | 17-Nov-97 | Maize field | Non saline/non sodic | | (0-6) Silt loam. (6-48) Silt loam | 8.2 | | | |
| 10 | J-7 | 2 | 17-Nov-97 | Sugarcane field | Non saline/non sodic | | (0-6) Silt loam. (6-48) Silty clay | 8.2 | | | |
| 10 | J-7 | 3 | 17-Nov-97 | Lying barren | Severely saline | Saturation at 4 | (0-6) Silt loam. (6-48) Silt loam | 8.4 | The area is level, medium textured. (silt loam to very sandy loam) well drained non saline non sodic (barren fields are severely saline) such soils can be graded as class I land. | The area is under canal irrigation. The north-east side where the soils are well-drained, is producing very good crops of sugarcane, cotton, wheat, chickpeas and mango garden. The south-west part which has saturation at 4 ft the above mentioned crop condition is poor to moderate. | SI SI SI |
| 10 | J-7 | 4 | 17-Nov-97 | Cotton field | Non saline/non sodic | Saturation at 4 | (0-6) Silt loam. (6-42) Silt loam. (42-48) Very fine sandy loam | | | | |
| 10 | J-8 | 1 | 08-Dec-97 | Barren (oily loak) | Severely saline / no sodic (gypsi/ferrous) lani and pharwan natural vegetation | | (0-48) Silty clay | paper 8.6 | Area is level and cultivated area is under p-canal irrigation, sufficient area is lying barren due to lack of irrigation water. The soils are deep, fine textured (silty clays), moderately well drained and can be placed in grade II class. All the ecological mixed crops excluding mango can be grown successfully. | Major crops are cotton, wheat, sugarcane, fodders | SIH SIH |
| 10 | J-8 | 2 | 08-Dec-97 | Barren field | | | (0-30) Silty clay. (30-48) Silty clay loam | 8.4, 8.2 | | | |
| 10 | J-9 | 1 | 06-Dec-97 | Cotton field intercropped with sugarcane | Non saline / non sodic | 3.5 | Silt loam (6), Silt loam (36), Very fine silt loam (48) | 8.8, 8.4, 8.0 | The area is level and under p-canal irrigation. The soils are deep, moderately well-drained, non saline non sodic (fallow fields have severe salinity/sodicity) can be put in capability class II. Shallow rooted crops can be grown successfully while mango trees are | Major crops are sugarcane, chickpeas, poor condition of mango, wheat is minor crop. | SIHw2 SIHw2 |
| 10 | J-9 | 2 | 06-Dec-97 | Sugarcane intercropped with mango garden | Non saline / non sodic | 4 | (0-6) Silty clay loam. (6-48) Silt loam | 8.4, 8.0 | | | |
| 10 | J-10 | 1 | 05-Dec-97 | Ploughed barren field surface is severely saline | Severely saline | | (0-6) Silty clay loam. (6-22) Silty clay. (22-48) Silt loam | paper 8.6 | | | |
| 10 | J-10 | 2 | 05-Dec-97 | Lying barren | | | (0-6) Silty clay loam. (6-20) Silty clay. (20-36) Silt loam. (36-48) Silty clay | 8.4 | The area is level under p-canal irrigation, sufficient area is lying barren with severe salinity on the surface, even cultivated area has salinity on the ridges. The soils are clayey moderately well drained and saline non sodic and can be graded in class II land. | Sugarcane, cotton, wheat, (cotton is scarce) | SIH SIH |
| 10 | J-10 | 3 | 05-Dec-97 | Sugarcane field | Non saline / non sodic | | (0-6) Silty clay loam. (6-22) Silty clay. (22-48) Silt loam | paper 8.8, 8.4, 8.4 | | | |
| 10 | R-4 | 1 | 09-Dec-97 | Wheat field | No saline / no sodic | | (0-6) Loam. (6-30) Loam. (30-48) Silt loam | 8.4, 8.2 | The area is nearly level and under p-canal irrigation. The soils in lower area are deep, well-drained, medium textured (loam/silt loam/very fine sandy loam) which can be graded as class I land. Sufficient area of this polygon occupying the convex position has shallow soils underlain by grey loamy sands. These soils are shallow to very shallow, excessive drained, non saline non sodic. | Wheat, cotton and sugarcane with a few mango gardens. | SI SI |
| 10 | R-4 | 2 | 09-Dec-97 | Ex-cotton field | No saline / no sodic | | (0-6) Sandy loam. (6-48) Loamy | 8.0 | | | |

Table A.1V | IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Image/Sample No. | PK No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|------------------|--------|------|--------------|---|---|------------------------|---------------------|---|--|------------------------|
| 10 | R-5 | 1 | 09-Dec-97 | Cotton field | No saline / no sodic | | | The area is nearly level and under p-canal and tubewell irrigation. Tubewell water seems marginally fit for irrigation as its water is hardening the surface soils and paper pH is 8.8. The soil is deep well drained, non saline non sodic medium texture (few fields have surface salinity). Such soils can be placed in class I having no or very little limitation for crop production including fruit orchards. | | SI |
| 10 | R-5 | 2 | 09-Dec-97 | Wheat field | No saline / no sodic | | paper 8.8, 8.4, 8.2 | | Wheat, cotton, onion and sugarcane | SI |
| 10 | R-6 | 1 | 09-Dec-97 | Cotton field | No saline / no sodic | | | The area is level and under p-canal irrigation. The soils are deep, mod-well-drained, non saline non sodic medium textured (silt loam/very fine sandy loam) can be graded in class I land. | | SI |
| 10 | R-6 | 2 | 09-Dec-97 | Wheat field | No saline / no sodic | | | | Sugarcane, cotton, wheat | SI |
| 10 | R-7 | 1 | 09-Dec-97 | Sugarcane intercropped with onion | No saline / no sodic | | | The area is level and under p-canal irrigation. The soils are deep, well-drained, non saline non sodic (only a few uncommanded fields have severe surface salinity), medium to moderately fine textured (silt loam/very fine sandy loam and silt/clay loams) such soils can be put as class I, having no or little limitation for crop production including fruit orchards ecologically suited to this area. | | SI |
| 10 | R-7 | 2 | 09-Dec-97 | Mango garden intercropped with cotton | No saline / no sodic | | | | Sugarcane, cotton, wheat, onions and mango garden. | SI |
| 10 | R-8 | 1 | 09-Dec-97 | Cotton (very good condition) | No saline / no sodic | | | Sufficient area of this polygon and around it is uncommanded with severe surface salinity but without sodicity. According to the farmers, it is because of shortage of irrigation water. The area is level and cultivated area is under p-canal irrigation. The soils are deep, mod-well-drained, non-saline, non-sodic (uncommanded area severely saline). Such soil can be graded as class II due to their workability problem. | | SIb |
| 10 | R-8 | 2 | 09-Dec-97 | Barren area (jami & karu as natural vegetation) | Severely saline but not sodic | | | | Major crops are cotton, wheat and sugarcane. | SIb |
| 10 | R-9 | 1 | 09-Dec-97 | Ex-cotton field | No saline / no sodic | | | The area is level and under p-canal irrigation. The soils are deep, moderately well-drained/have water table at 4 feet, non-saline, non sodic (few fields have surface salinity). Such soils can be graded as class I due to their drainage problem. Shallow rooted crops can be | | SIb/2 |
| 10 | R-9 | 2 | 09-Dec-97 | Wheat field | Surface salinity is present | Saturation 4 | | | Major crops are sugarcane, wheat, cotton, garden is visible | SIb/2 |
| 10 | R-10 | 1 | 09-Dec-97 | Mango garden | non saline/non sodic | | | The area is level and under p-canal irrigation. Very few fields have surface salinity. The soils are deep, well drained, non saline, non sodic, medium textured (silt loam/very fine sandy loam). Such soils can be graded as class I having very little limitations for crop production, ecologically suited to this area including fruit orchards. | | SI |
| 10 | R-10 | 2 | 09-Dec-97 | Sugarcane field | Surface salinity is present | | | | Very good crops are sugarcane, onion intercropped in sugarcane, cotton & wheat, mango trees are also healthy | SI |
| 10 | R-11 | 1 | 19-Nov-97 | Cotton field | non saline/non sodic | | | The area is nearly level, and have gently slope toward Shabqur village (south-west corner) where water stagnates. The soils are deep, moderately well drained, faintly mottled, non-saline, non sodic, fine textured (silty clays). The soils have good potential (II grade) of all the ecologically suited crops and have workability problem and needs mechanical cultivation. | | SI |
| 10 | R-11 | 2 | 19-Nov-97 | Sugarcane intercropped with onion | non saline/non sodic | | | | Major crops are sugarcane, cotton, wheat & onion are being harvested. No fallow field is seen. Tubewell water seems of good quality hence creating no salinity. | SI |
| 10 | R-11 | 3 | 19-Nov-97 | Sugarcane field | non saline/non sodic, slight surface salinity present | 4 | | | | SI |
| 10 | R-12 | 1 | 07-Dec-97 | Mango garden | non saline/non sodic | | | The area is level and under p-canal irrigation. The soils are moderately fine to fine textured (silt clay loam to silty clay), deep, moderately well drained and low lying area is clayey and has water table at 4 feet. The soil can be graded in II class land. Mango orchards are of not very good conditions | | SI |
| 10 | R-12 | 2 | 07-Dec-97 | Sugarcane field | non saline/non sodic | | | | | SI |
| 10 | R-12 | 3 | 07-Dec-97 | Mango garden | non saline/non sodic | | | | Major crops are sugarcane & mango garden | SI |
| 10 | R-13 | 1 | 19-Nov-97 | Wheat field | non saline/non sodic | | | The area is level and soils are deep, moderately well drained, non saline, non sodic, homogenized fine texture (silty clays). The soils have good (grade II) potential for all kinds of crops, ecologically suited to the area. Fruit orchards like guava can flourish well. The soils needs mechanical cultivation and avoid over irrigation. | | SIb |
| 10 | R-13 | 2 | 19-Nov-97 | Cotton field | non saline/non sodic | | | | The area is under tubewell irrigation, main crops grown are of sugarcane, cotton, wheat, onion and few mango garden. Modern management can enhance the yields. | SIb |
| 10 | R-13 | 3 | 19-Nov-97 | Cotton field | non saline/non sodic | | | | | SIb |
| 10 | R-14 | 1 | 18-Nov-97 | Mango garden | non saline/non sodic | | | The area is level and soils are deep, moderately well drained, non saline, non sodic, homogenized medium texture (silt loam/very fine sandy loam). The soils create no problem for seed bed preparation and wide variety of crops, ecologically suited to this area, can be grown profitably except rice. | | SI |
| 10 | R-14 | 2 | 18-Nov-97 | Sugarcane field | non saline/non sodic | | | | | SI |
| 10 | R-15 | 1 | 18-Nov-97 | Ex-cotton field near sand dune | non saline non sodic | | | The area is level and soils consist of deep, well drained, non saline, non sodic, homogenized, dominantly medium textured (loam, silt loam) soils. About 20% of the polygon area constitutes moderately fine textured (silty clay loam) with medium textured (silt loam) top soils. The soils pose no workability problem. The soils can be put under intensive cropping and successfully high yields, including fruit orchards, can be obtained of wide variety of crops ecologically suited to this area. | | SI |
| 10 | R-15 | 2 | 18-Nov-97 | Mango garden intercropped with fodder | non saline/non sodic | | | | The area is under canal & tubewell irrigation. Very good crops of sugarcane, cotton, wheat and onions are being harvested. Mango garden are also with good condition. The soils can be graded as class I without any or very minor limitation for crop production. | SI |
| 10 | R-15 | 3 | 18-Nov-97 | Sugarcane field | non saline/non sodic | | | | | SI |
| 10 | R-16 | 1 | 18-Nov-97 | Ex-sugarcane field | non saline/non sodic | Saturation at 4 | | The area is level and soils are deep, moderately well drained, non saline, non sodic, fine texture (silty clays). Needs mechanical cultivation for seed bed preparation. | | SIb |
| 10 | R-16 | 2 | 18-Nov-97 | Onion field | non saline/non sodic | | | | The area is under canal & tubewell irrigation. Due to its clayey nature the soils can be graded into class II. Good crops of sugarcane, | SIb |
| 10 | R-17 | 1 | 07-Dec-97 | Sugarcane field | non saline/non sodic | | | The area is level and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic, medium textured (silt loam/very fine sandy loam). Such soils have wide range for many crops including fruit orchards ecologically suited to the area and so can be graded as class I land, having very little limitations for crop | | SI |
| 10 | R-17 | 2 | 07-Dec-97 | Sugarcane field | non saline/non sodic | | | | Major crops are sugarcane, wheat and some cotton, mango orchard are not good and have dried tips. | SI |

Table A.IV.1: HMI Field Sample Survey Observation for Land Suitability Assessments across the Sixth Hydrological Divides, 1997-98

| Sample No | Plot No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (Inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-----------|----------|------|--------------|--|--|--|--------------------|--|--|------------------------|
| 10 | R-18 | 1 | 18-Nov-97 | Wheat field | non saline/non sodic (fallow fields have salinity) | (0-6) Silt loam, (6-40) Silty clay loam, (40-48) Silt loam | 8.4 | The soils are deep, moderately well drained, homogenized upto 2-3 feet, calcareous non saline, non sodic, (fallow field have salinity) mottled moderately fine textured (silt clay loam) no saturation upto 4 feet. Such soils have good to very good potential for all the ecologically suited crops. Enhanced irrigation water and | Major part of the area is under wheat crop with some cotton, sugarcane and fodder (barren). | SI |
| 10 | R-18 | 2 | 18-Nov-97 | Sugarcane field | non saline/non sodic (fallow fields have salinity) | (0-6) Silt loam, (6-24) Silty clay loam, (24-48) Silt loam | 8.4, 8.0 | | Good sugarcane and moderate crop of cotton were seen. | SI |
| 10 | R-19 | 1 | 19-Nov-97 | Sugarcane field | non saline/non sodic | (0-24) Silt loam, (24-48) Very fine sandy loam | 8.2, 8.0 | The area is level, ground water seems of good quality, producing no salinization hazard in the soils. The soils are level, deep, well drained, homogenized non saline, non sodic, and have very high (grade I) potential for all the crops and fruit orchards ecologically suited to this area. | Sugarcane crop, the remaining area is under wheat, cotton, banana and onions with very good condition. | SI |
| 10 | R-19 | 2 | 19-Nov-97 | Sugarcane field intercropped with onion | non saline/non sodic | (0-40) Silt loam, (40-48) Very fine sandy loam (48) | 8.4, 8.2, 8.0 | | | SI |
| 10 | R-20 | 1 | 06-Dec-97 | Sugarcane field | non saline/non sodic | (0-48) Silt loam | 8.4 | The area is nearly level, under p-canal irrigation, the soils are medium textured (silt loam), well drained, homogenized, non saline, non sodic but fallow fields have surface salinity. The shallow rooted crops, like sugarcane, wheat barrens are flourishing well while mango gardens have dried tips. | Sugarcane, wheat, and some cotton | SI |
| 10 | R-20 | 2 | 06-Dec-97 | Banana field | non saline/non sodic | (0-36) Silt loam (36-48) Silty clay loam | 8.0 | | | SI |
| 10 | R-21 | 1 | 06-Dec-97 | Cotton field | non saline/non sodic | (0-40) Silt loam (40-48) Silty clay loam | 8.4, 8.0 | The area is level, under p-canal irrigation, the soils are medium textured (silt loam/very fine sandy loam), well drained, non saline, non sodic, and can be placed in grade I. All the crops including fruit orchard can be grown profitably. | | SI |
| 10 | R-21 | 2 | 06-Dec-97 | Very good mango garden | non saline/non sodic | (0-6) Loam, (6-36) Very fine sandy loam, (36-48) Very fine sandy loam to Loamy very fine sand | 8.2, 8.0 | | Sugarcane, cotton, wheat & mango garden. | SI |
| 10 | R-22 | 1 | 07-Dec-97 | Sugarcane field | non saline/non sodic | (0-6) Silty clay loam, (6-20) Silty clay, (20-36) Silt loam, (36-42) Silty clay, (42-48) Silt loam | 8.4, 8.2 | The area is level, under p-canal irrigation, the soils are deep fine textured (silty clay/silt clay loam), moderately well drained, non saline, non sodic, but fallow fields have surface salinity. Such soils have some workability problems and graded as class II land. | Sugarcane, rice, wheat, cotton, mango orchards are not in good condition and have dried tips | SIIb |
| 10 | R-22 | 2 | 07-Dec-97 | Mango garden intercropped with wheat | non saline/non sodic | (0-6) Silty clay loam, (6-20) Silty clay, (20-36) Silt loam, (36-42) Silty clay, (42-48) Silt loam | 8.4, 8.2, 8.0 | | | SIIb |
| 10 | R-23 | 1 | 07-Dec-97 | Ex-cotton field | non saline/non sodic | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.4 | The area is level, under p-canal irrigation, the soils are deep medium to moderately fine textured well drained, non saline, non sodic, barren areas/recently brought under plough have surface salinity. | Sugarcane, cotton, wheat & mango orchards all crops are moderate to good. | SI |
| 10 | R-23 | 2 | 07-Dec-97 | Mango garden | non saline/non sodic | (0-40) Silt loam, (40-48) Very fine sandy loam | 8.6, 8.4, 8.4 | | | SI |
| 10 | R-23 | 3 | 07-Dec-97 | Sugarcane field (poor growth) | Surface salinity is present slightly sodic | (0-6) Silty clay loam, (6-20) Silty clay, (20-42) Silty clay, (42-48) Silt loam | 8.4, 8.2 | The area is level, partly under p-canal irrigation and partly is lying barren, severely saline but no sodic due to the presence of gypsum. The soils are deep, moderately well drained and fine textured (silty clay). | | SIIb |
| 10 | R-24 | 1 | 07-Dec-97 | Barren area (land pharwan, fog, jamali, kilar as natural vegetation) | non saline/non sodic/barren area severely saline | (0-15) Silty clay, (15-48) Silt loam | 8.4, 8.2 | | Sugarcane, cotton, wheat are sown | SIIb |
| 10 | R-24 | 2 | 07-Dec-97 | Sugarcane field | non saline/non sodic | (0-6) Silty clay loam, (6-20) Silty clay, (20-48) Silt loam | 8.4, 8.2 | | | SIIb |
| 10 | R-25 | 1 | 07-Dec-97 | Sugarcane field | non saline/non sodic | (0-6) Loam, (6-20) Silt loam, (20-48) Silty clay loam | 8.4, 8.2 | The area is level and under p-canal irrigation. The soils are deep well drained, medium textured (silt loam/very fine sandy loam) and usually underlain by buried clayey profile. The soils have very high potential for wide variety of crops and can be graded as class I land. | Sugarcane, wheat, some cotton | SI |
| 10 | R-25 | 2 | 07-Dec-97 | Cotton field | non saline/non sodic | (0-42) Silt loam, (42-48) Silty clay | 8.0 | | | SI |
| 10 | R-24 | 1 | 06-Dec-97 | Wheat field | non saline/non sodic | (0-30) Silt loam, (30-36) Silty clay, (36-48) Very fine sandy loam | 8.4, 8.2 | The area is level and under p-canal irrigation. The soils are level, deep, well drained, med textured (silt loam/very fine silt loam) non saline, non sodic. The soils can be placed in category class I and all the crop ecologically fit including fruit orchards can be grown | Vegetable, garlic, onion, chibick, sugarcane, wheat and mango garden. | SI |
| 10 | R-24 | 2 | 06-Dec-97 | Garlic field | non saline/non sodic | (0-36) Silt loam, (36-48) Silt loam | 8.0 | | | SI |
| 10 | R-27 | 1 | 05-Dec-97 | Wheat field | non saline/non sodic | (0-36) Silt loam, (36-48) Loamy very fine sand | 8.4, 8.2 | The area is level and soils are deep medium textured, well drained, non saline, non sodic, the area is under perennial canal & tubewell irrigation. Water seems some what of good quality. All the ecologically suited crops can be grown economically. | Sugarcane, wheat are sown, some mango garden of good condition are also present. | SI |
| 10 | R-27 | 2 | 05-Dec-97 | Sugarcane field | non saline/non sodic | (0-48) Silt loam | 8.4, 8.4, 8.2 | | | SI |
| 10 | R-28 | 1 | 04-Dec-97 | Sugarcane field | non saline/non sodic | (0-48) Silt loam (48) | 8.3, 8.2 | The area is nearly level under perennial irrigation, around an old ruins, producing good yields of sugarcane and rice. The soils are generally medium textured (silt loam) homogenized, non saline, non sodic, but water table as seen in a well is about 8-10 feet deep. Fallow fields are severely saline but ploughed are saline / sodic. | Mostly restricted cropping of rice and sugarcane. few mango & guava garden, cotton fields are seldom seen in and around the polygon. | SI |
| 10 | R-28 | 2 | 04-Dec-97 | Cultivated area lying barren | Surface saline sodic | (0-48) Silt loam (48) | 9.0, 9.6 | | | SI |
| 10 | R-28 | 3 | 04-Dec-97 | Tomato field | non saline/non sodic | (0-48) Silt loam (48) | 8.4 | | | SI |
| 10 | R-29 | 1 | 05-Dec-97 | Wheat field | non saline/non sodic | clay (0-48) Silty clay | 8.0 | | | SIIb |
| 10 | R-29 | 2 | 05-Dec-97 | Lying barren (lama, pilahi as natural vegetation) | Severely saline | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.6, 8.4 | Cultivated (under canal irrigation) is level, clayey and generally sown to sugarcane, rice and wheat. The area is nearly level. Cultivated area is non saline, non sodic, but barren area is slightly higher and infested with severe hypocoepic salinity. | Sugarcane, rice, wheat, (water is sufficient but barrenness is due to carelessness of landlord. | SIIb |
| 10 | R-29 | 3 | 05-Dec-97 | Lying barren (pharwan, phog as natural vegetation) | Severely saline | Saturation at 4 | 8.4, 8.2 | | | SIIb |
| 10 | R-30 | 1 | 06-Dec-97 | Sugarcane field | non saline non sodic | (0-6) Silty clay loam, (6-40) Silty clay, (40-48) Silt loam | 8.4, 8.4, 8.1, 8.1 | The area is level, clayey and under p-canal irrigation. The soils are fine textured (silty clay), med well drained, non saline, non sodic, fallow fields have minor surface salinity but it can be placed in class | Sugarcane rice, minor constitutes wheat, onions and cotton. | SIIhw2 |
| 10 | R-30 | 2 | 06-Dec-97 | Sugarcane field | non saline non sodic | (0-24) Silty clay, (24-40) Silt loam | 8.4, 8.2, 8.0 | | | SIIhw2 |
| 10 | R-31 | 1 | 06-Dec-97 | Cotton field | non saline/non sodic | (0-36) Silty clay loam, (36-48) Very fine sandy loam (48) | 8.4, 8.0 | The area is nearly level and under p-canal and tubewell irrigation. The soil are level moderately fine to fine texture (silty clay loam) deep moderately well drained, non saline, non sodic. Such soils can be placed in capability class II (due some difficulty in seed bed preparation. | Wheat, cotton and some sugarcane and rice | SIIb |
| 10 | R-31 | 2 | 06-Dec-97 | Barren field (fodder) | non saline/non sodic | (0-6) Silty clay loam, (6-30) Silty clay, (30-40) Silt loam, (40-48) Very fine sandy loam | 8.4, 8.0 | | | SIIb |
| 10 | R-32 | 1 | 06-Dec-97 | Sugarcane field | non saline/non sodic | (0-6) Silt loam, (6-36) Very fine sandy loam, (36-48) Loamy very fine sand | 8.4, 8.0 | The area is level and under p-canal irrigation, the soils are deep moderately well drained, non saline, non sodic but barren are is severely saline. Good crops can be raised under good management & rotation. Saline area can be reclaimed with a few extra heavy irrigations with good quality water. | Sugarcane & wheat with some cotton. | SI |
| 10 | R-32 | 2 | 06-Dec-97 | Lying barren (Jawan, pharwan, land as natural vegetation) | Severely saline | (0-6) Silt loam, (6-36) Silt loam/Very fine sandy loam, (36-48) Very fine sandy loam | 8.6, 8.4 | | | SI |

Table A.1 V : CIM Field Salinity Survey Observations for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Range/Sample No. | PK No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|------------------|--------|-----------|--------------------|--------------------------|------------------|---|---------------------|--|--|------------------------|
| 10 R-33 | 1 | 05-Dec-97 | Wheat field | non saline/non sodic | Saturation at 4 | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.6, 8.2 | The soils are nearly level, deep, homogenized non saline, non sodic but barren fields have moderate surface salinity. Low lying area that is small in area extent contains clayey soils. The area is under p-canal irrigation. The soils are level, deep, moderately well drained, water saturation at 4 feet, deep, non saline, non sodic, but barren fields which are very few contain salinity on the surface. | Sugarcane, wheat. In the adjoining area the mango garden are with no good condition - with dried tips. | S1 |
| 10 R-33 | 2 | 05-Dec-97 | Sugarcane field | non saline/non sodic | Saturation at 4 | (0-6) Silty clay loam, (6-24) Silty clay, (24-48) Silt loam. Very fine sandy loam | 8.4, 8.2 | | S1 | |
| 10 R-34 | 1 | 05-Dec-97 | Sugarcane field | non saline/non sodic | Saturation at 4 | (0-6) Silty clay loam, (6-24) Silty clay, (24-48) Silt loam | 8.4, 8.2, 8.0 | The area is level and under perennial canal irrigation. The soils are level, deep, well drained, non saline, non sodic. The soils have very high potential for all the ecologically suited crops. | Goode crops sugarcane & banana are visible. Cotton is scarce. wheat is also not a major crop. | S1b |
| 10 R-34 | 2 | 05-Dec-97 | Wheat field | non saline/non sodic | Saturation at 4 | (0-6) Silty clay loam, (6-24) Silty clay, (24-48) Silt loam | 8.4, 8.2, 8.2 | | S1b | |
| 10 R-35 | 1 | 05-Dec-97 | Sugarcane field | non saline/non sodic | | (0-48) Silt loam | 8.2, 8.0 | The area is level and mostly under tubewell irrigation, water seems of good quality creating no bad effect on the soils. The soils are deep, well drained, non saline, non sodic very few fields have surface salinity, medium textured (silt loams very fine silt loam). Soils are very fertile and raise intercropping happily. Such soils can be classified as class I land with wide variety of crops, including | Sugarcane, cotton and wheat | S1 |
| 10 R-35 | 2 | 05-Dec-97 | Ploughed field | non saline/non sodic | | (0-48) Silt loam | 8.0, 8.0 | | S1 | |
| 11 R-1 | 1 | 15-Dec-97 | Sugarcane field | non saline/non sodic | | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.4, 8.4 | More than half area is under water and water weeds. Out of remaining half sufficient area is lying barren with uses on topography and severe gypiferous salinity. The cultivated area is nearly level, water table at 3 to 4 feet under p-canal irrigation. The soils are deep, moderately to imperfectly drained, partly non saline, non sodic, fine textured (silty clays). Such soils can be classified as | Generally intercropping is practiced with sugarcane. Major crops consists of sugarcane, rice, vegetable but little wheat and cotton. | S1 |
| 11 R-1 | 2 | 15-Dec-97 | | non saline/non sodic | Saturation at 4 | (7-48) Silt loam | 8.4, 8.4 | | S1 | |
| 11 R-2 | 1 | 15-Dec-97 | Wheat field | non saline/non sodic | 2.5 | (0-6) Silty clay loam, (6-48) Silty clay | 8.4 | The area is level with water table at 4 feet and is under p-canal irrigation. The soils are deep, moderately well drained, non saline, non sodic, medium textured (silt loams/very fine sandy loams. A few chuko garden are present; such soils can be graded as class II land due to impeded drainage. | Cultivated area is sown to sugarcane and wheat only. | S1bw2 |
| 11 R-2 | 2 | 15-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-12) Silt loam, (12-48) Silty clay | 8.4, 8.4 | | S1bw2 | |
| 11 R-2 | 1 | 15-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-6) Sandy loam, (6-20) Very fine sandy loam, (20-48) Silt loam | 8.4, 8.2 | About 2/3 of the area of the polygon is lying uncultivated due to very high water table and severe salinity. The area is nearly level with depressions, filled with water, and water table at 3-4 feet. The soils are deep, imperfectly drained, non saline (but fallow field are severely saline) non sodic, moderately fine textured (silty clay loams) such soils can be graded as class III land with restricted | Major crops consists of sugarcane, rice and some wheat and few chuko garden. | S1bw2 |
| 11 R-3 | 2 | 15-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-40) Silt loam, (40-48) Loamy very fine sand | 8.2, 8.2 | | S1bw2 | |
| 11 L-1 | 1 | 19-Dec-97 | Sugarcane field | non saline/non sodic | 3 | (0-24) Silt loam, (24-48) Very fine sandy loam to loamy very fine sand | 8.4, 8.2 | The area is nearly level with water table at 4 feet, intensively cultivated. The soils deep, moderately well drained, non saline, non sodic, mostly fine to moderately fine textured (silty clays & silty clay loams) with some medium textured (silt loams/very fine silt loams). Such soils can be graded as class II with limiting crop selection. | The main crops grown are sugarcane, rice and some wheat/barley. | S1bw2 |
| 11 L-1 | 2 | 19-Dec-97 | Barley field | non saline/non sodic | 4 | (0-4) Silty clay loam, (4-48) Very fine sandy loam | 8.4, 8.2 | | S1bw2 | |
| 11 L-2 | 1 | 19-Dec-97 | Sugarcane field | non saline/non sodic | 3 | (0-40) Silt loam, (40-48) Silty clay | 8.4, 8.2, 8.2 | The area is nearly level water table at 4 to 6 feet. The soil are deep, moderately well drained, non saline, non sodic, medium textured (silt loams/very fine sandy loam). Such soils can be put in class II land limiting crop selection. | Major crops are sugarcane and rice with some wheat. Fallow fields are severely saline, depressions have water weeds. | S1bw2 |
| 11 L-2 | 2 | 19-Dec-97 | Ex-rice field | non saline/non sodic | 4 | (0-4) Silty clay loam, (4-20) Silty clay, (20-48) Silty clay loam | 8.4, 8.2, 8.2 | | S1bw2 | |
| 11 L-3 | 1 | 19-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-24) Silt loam, (24-48) Silty clay loam | 8.4, 8.4, 8.2 | The area is nearly level with water table at 4 feet. The soils deep, moderately well drained, non saline, non sodic, fine to moderately fine textured (silty clays & silty clay loams). Such soils can be classified as class II land limiting crop selection. | Major crops are sugarcane then rice with some wheat. Fallow fields are severely saline, depressions have water weeds. | S1bw2 |
| 11 L-3 | 2 | 19-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-48) Silt loam | 8.2, 8.2 | | S1bw2 | |
| 11 L-4 | 1 | 19-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-30) Silty clay loam, (30-48) Silt loam | 8.4, 8.2, 8.2 | The area is level and under p-canal irrigation. The soils are deep, good well drained, non saline, non sodic, medium textured (silt loams/very fine silt loam). Such soils can be graded as class II due to high water table 4-6 feet. Shallow rooted crops like rice, wheat and sugarcane can be grown economically. Deep rooted crops like cotton or fruit orchard may not be economical or met failure. | Major crops are sugarcane & rice with little wheat. | S1bw2 |
| 11 L-4 | 2 | 19-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-4) Silty clay loam, (4-48) Silty | 8.4, 8.2 | | S1bw2 | |
| 11 P-1 | 1 | 11-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-30) Silt loam, (30-46) Very fine sandy loam, (46-48) Loamy sand | 8.4, 8.2, 8.2 | The area is nearly with few depressions in the surrounding of the polygon where water stagnates and is being irrigated by p-canals. The soils are deep, moderately well to seasonally may be imperfectly drained, non saline, non sodic, higher water table 3-4 feet, homogenized, fine textured (silty clay/clays). Such soils can be graded as class II due to their workability problem. Restricted to | Major crops consists of sugarcane, wheat and rice cotton is not seen in the area. | S1w2 |
| 11 P-1 | 2 | 11-Dec-97 | Ex-sugarcane field | Surface salinity present | | (0-6) Silt loam, (6-22) Very fine sandy loam, (22-48) Loamy very fine sand | 8.4, 8.4 | | S1w2 | |
| 11 P-2 | 1 | 11-Dec-97 | Wheat field | non saline/non sodic | 3 | (0-48) Silty clay | paper 8.8, 8.4, 8.3 | The area is level and under p-canal irrigation with water table at 3 to 4 feet. The soils are deep, moderately well drained, non saline, non sodic, medium textured (silt loams/very fine silt loam). Such soils can be placed in class II. | Major crops are sugarcane, wheat and rice. | S1w2 |
| 11 P-2 | 2 | 11-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-4) Silty clay, (4-48) Clay | 8.4, 8.4 | | S1w2 | |
| 11 P-3 | 1 | 11-Dec-97 | Ex-sugarcane field | non saline/non sodic | 4 | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.4, 8.4 | The area is level, under intensive cultivation by p-canal water. The soils are deep, well drained, non saline, non sodic, medium textured (silt loams/very fine silt loam). Such soil can be graded as class I land in which wide variety of crops including fruit orchards can be grown economically. | Major crops are sugarcane, wheat and some rice. | S1 |
| 11 P-3 | 2 | 11-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-20) Silt loam, (20-48) Very fine sandy loam | 8.4, 8.4, 8.2 | | S1w2 | |
| 11 P-4 | 1 | 11-Dec-97 | Sugarcane field | non saline/non sodic | | (0-6) Silt loam, (6-48) Silt loam/Very fine sandy loam | 8.4, 8.4 | The area is nearly level, under p-canal irrigation and water table ranges between 3-4 feet depth from the surface. The soils are deep, moderately well drained, non saline non sodic, medium textured (silt loams & very fine silt loam). Such soils can be graded as class II land due to high water table. | Major crops are sugarcane, wheat and some rice. | S1w2 |
| 11 P-4 | 2 | 11-Dec-97 | Wheat field | non saline/non sodic | | (0-25) Silt loam, (25-48) Very fine silt loam | 8.4, 8.4, 8.2 | | S1w2 | |
| 11 P-5 | 1 | 11-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (6-42) Silt loam, (42-48) Loam fine sand | 8.4, 8.4 | | | S1w2 |
| 11 P-5 | 2 | 11-Dec-97 | Sugarcane field | non saline/non sodic | 3 | (0-24) Loam, (24-40) Very fine sandy loam, (40-48) Loamy fine | 8.4, 8.2 | | S1w2 | |

Table A.IV | IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Sample No | Plt No. | Date | Present Crop | Salinization Status | Water Table (Rt) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-----------|---------|------|--------------|---|--|---|---------------|--|---|------------------------|
| 11 | P-6 | 1 | 11-Dec-97 | Sugarcane field (very good crop) | non saline/non sodic | (0-30) Silt loam, (30-48) Silty clay loam | 8.4, 8.4 | The area is level and under p-canal irrigation. The soils are deep, moderately well drained, non saline, non sodic, medium to moderately fine textured soils (silt loam to silty clay loam). Such soils can be graded as class I land with wide variety of crops can be | Major crops are sugarcane, wheat and rice. | SI |
| 11 | P-6 | 2 | 11-Dec-97 | Sugarcane field | non saline/non sodic | (0-48) Silty clay loam | 8.4, 8.2 | The area is level, water table at 4 feet and p-canal irrigation. The soils are deep, moderately to seasonally imperfectly drained, non saline, non sodic, clayey soils. Such soils can be classified as II class with limited crop selection. | | SI |
| 11 | P-7 | 1 | 12-Dec-97 | Wheat field | non saline/non sodic | (0-48) Silty clay | 8.4, 8.4 | | Major crops are sugarcane, rice and some wheat. | SIWw2 |
| 11 | P-7 | 2 | 12-Dec-97 | Sugarcane field | non saline/non sodic | (0-48) Silty clay, (40-48) Loamy | 8.4, 8.4 | | | SIWw2 |
| 11 | P-8 | 1 | 12-Dec-97 | Ex-rice field | non saline/non sodic | (0-48) Silt loam | 8.4, 8.4 | | Major crops are sugarcane, rice and some wheat. | SIWw2 |
| 11 | P-8 | 2 | 12-Dec-97 | Sugarcane field | non saline/non sodic | (0-40) Silt loam, (40-66) Silty clay, (46-48) Very fine sandy loam | 8.4, 8.4 | | | SIWw2 |
| 11 | P-9 | 1 | 12-Dec-97 | More than half of the polygon area has surface water with water weed. | | | | | Major crops consists of sugarcane, rice and some wheat. | SIWw2 |
| 11 | P-9 | 2 | 12-Dec-97 | Ex-rice field | non saline/non sodic | (0-30) Silt loam, (30-48) Silty clay | 8.5, 8.6, 8.4 | | | SIWw2 |
| 11 | P-10 | 1 | 18-Dec-97 | Sugarcane field | non saline/non sodic | (0-48) Silt loam | 8.2, 8.2 | | | SIWw2 |
| 11 | P-10 | 2 | 18-Dec-97 | Wheat field | non saline/non sodic | (0-20) Silt loam, (20-40) Silty clay loam, (40-48) Silt loam | 8.2 | | Sugarcane, rice & wheat. | SIWw2 |
| 11 | P-11 | 1 | 18-Dec-97 | Ploughed field | non saline/non sodic | (0-20) Silty clay loam, (20-48) Silt loam | 8.4, 8.2 | | | SIWw2 |
| 11 | P-11 | 2 | 18-Dec-97 | Sugarcane field | non saline/non sodic | (0-6) Silt loam, (6-20) Silty clay loam, (20-48) Very fine sandy loam | 8.4, 8.2 | | Sugarcane, rice & some wheat. | SIWw2 |
| 11 | P-12 | 1 | 18-Dec-97 | Wheat field | non saline/non sodic | (0-4) Silty clay loam, (4-48) Silty clay | 8.4, 8.4 | | | SIWw2 |
| 11 | P-12 | 2 | 18-Dec-97 | Ex-rice field | non saline/non sodic | (0-6) Silty clay loam, (6-20) Silty clay, (20-40) Silty clay loam, (40-48) Silt loam | 8.4, 8.2 | | Sugarcane, rice & wheat. | SIWw2 |
| 11 | F-1 | 1 | 14-Dec-97 | Sugarcane field | non saline/non sodic | (0-30) Silt loam, (30-48) Very fine sandy loam | 8.4, 8.4, 8.2 | Water accumulates on the surface during the rainy season water table is a 4 feet. Sufficient area is still under marsh and water weeds. Surrounding area has depression filled with water and water weed. The cultivated area is nearly level and under p-canal irrigation. The soils are deep, moderately well drained, non saline (but fallow fields are infested with severe salinity), non sodic, medium textured (silt loam/very fine sandy loam). Such soils can | Sugarcane, rice & wheat. | SIWw2 |
| 11 | F-1 | 2 | 14-Dec-97 | Sugarcane field | non saline/non sodic | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.4, 8.4 | | | SIWw2 |
| 11 | F-2 | 1 | 13-Dec-97 | Sugarcane field | non saline/non sodic | (0-48) Silt loam | 8.4, 8.4 | | | SIWw2 |
| 11 | F-2 | 2 | 13-Dec-97 | Sugarcane field | non saline/non sodic | (0-48) Silt loam | 8.4, 8.4 | | Sugarcane, rice & wheat. | SIWw2 |
| 11 | F-3 | 1 | 13-Dec-97 | Sugarcane field | non saline/non sodic | (0-6) Silt loam (6-30), Silty clay loam (30-48), Silt loam | 8.4, 8.4 | | | SIWw2 |
| 11 | F-3 | 2 | 13-Dec-97 | Sugarcane field | non saline/non sodic | (0-40) Silt loam (40-48), Very fine sandy loam | 8.4, 8.4 | | Sugarcane, rice & wheat. | SIWw2 |
| 11 | F-4 | 1 | 15-Apr-97 | sown to sugarcane | non saline/non sodic | (0-6) Silt loam (6-48), Silty clay loam | 8.4, 8.4 | | | SI |
| 11 | F-4 | 2 | 15-Apr-97 | Cotton field | non saline/non sodic | (0-6) Silt loam (6-20), Silty clay loam (20-40) Silt loam (40-48) | 8.4, 8.4 | | Sugarcane, rice & wheat. | SI |
| 11 | F-5 | 1 | 16-Dec-97 | Barley field | non saline/non sodic/salinity on the ridges. | (0-6) Silt loam (40-48) Very fine sandy loam | 8.4, 8.2 | | | SIWw2 |
| 11 | F-5 | 2 | 16-Dec-97 | Ex-rice field | non saline/non sodic/salinity on the ridges. | (0-4) Silty clay loam, (4-48) Silty | 8.4, 8.2 | | Sugarcane, rice & wheat/barley. | SIWw2 |
| 11 | F-6 | 1 | 16-Dec-97 | Ex-rice field | non saline/non sodic | (0-6) Silty clay loam, (6-30) Silty clay, (30-46) Silty clay, mottled, (46-48) Very fine sandy loam | 8.4, 8.2 | | Sugarcane, rice with little wheat. | SIWw2 |
| 11 | F-7 | 1 | 15-Dec-97 | Sugarcane field | non saline/non sodic | (0-4) Silty clay loam, (4-48) Silty clay | 8.4 | | | SIWw2 |
| 11 | F-7 | 2 | 15-Dec-97 | Ex-rice field | non saline/non sodic | (0-4) Silty clay loam, (4-48) Silty | 8.4, 8.2 | | Sugarcane, rice & some wheat. | SIWw2 |
| 11 | F-8 | 1 | 14-Dec-97 | Wheat field | non saline/non sodic | (0-6) Silty clay loam, (6-48) Silty clay | 8.4, 8.4 | | | SIWw2 |
| 11 | F-8 | 2 | 14-Dec-97 | Ex-sugarcane field | non saline/non sodic | (0-6) Silty clay loam, (6-48) Silty | 8.4, 8.4 | | Sugarcane, rice & some wheat. | SIWw2 |
| 11 | P-9 | 1 | 14-Dec-97 | Ploughed field | non saline/non sodic | (0-6) Silt loam, (6-48) Very fine sandy loam/silt loam | 8.4, 8.4 | | | SIWw2 |

Table A.IV.1 IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Image | Sample No. | Pl. No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------|-----------|---|---|------------------|--|-----------------|---|---|------------------------|
| 11 | F-9 | 2 | 14-Dec-97 | Sugarcane field | non saline non sodic-barren area infested with salinity | | Silt loam (61) Silt loam (45) | 8.4, 8.4 | water upto 30 to 40 feet is sweet but brackish below this depth. This land does not bear the intercropping burden. | Sugarcane, rice & some wheat | SIIw2 |
| 11 | F-10 | 1 | 13-Dec-97 | Wheat field | non saline non sodic | 4 | (0-6) Silty clay loam, (6-48) Silty clay loam +ve | 8.4, 8.4 | Sufficient area is lying barren with surface salinity but non sodic. The cultivated area is nearly level with some depressions, and under p-canal irrigation. The soils (cultivated) are deep, good well drained (water table at 4-6 feet), non saline, non sodic, fine textured (silty clays with some silty clay loams). Such soils can be classified as class II land with limited selection of crops. | Sugarcane, rice & some wheat | SIIw2 |
| 11 | F-10 | 2 | 13-Dec-97 | Barren field, khajal grass, pharwan as natural vegetation | saline non sodic | | (0-20) Silty clay, (20-48) Silty clay mottled | 8.4, 8.4 | | | SIIw2 |
| 11 | F-11 | 1 | 12-Dec-97 | Ex-rice field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-48) Silty clay loam +ve | 8.4, 8.4 | The area is nearly level, and under p-canal irrigation. The soils are deep, clayey (silty clays to silty clay-ve), homogenized, non saline, non sodic, moderately well drained to imperfectly drained (water table at 4 feet). Such soils can be graded as class II land with workability problem with limited choice of crops. Shallow rooted crops like sugarcane, rice & wheat can be raised economically. | Sugarcane, rice & some wheat | SIIw2 |
| 11 | F-11 | 2 | 12-Dec-97 | Oniseed field | non saline/non sodic | 4 | (0-40) Silty clay, (40-48) Silt loam | 8.4, 8.4 | | | SIIw2 |
| 11 | F-12 | 1 | 14-Dec-97 | Ploughed field | Severely saline but gypsumiferous | 4 | (0-6) Silt loam, (6-48) Silt loam | 8.8 to 8.0, 8.4 | Sufficient area is lying barren with severe salinity. The area is level water table at 4-6 feet and under p-canal irrigation. The cultivated soils are deep, moderately well-drained, non saline, non sodic, fine textured (silty clays & silty clay loams with some silt loams). Such soils can be classified as II grade soil with limited selection for crops. | | SIIw2 |
| 11 | F-12 | 2 | 14-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-6) silty clay loam, (6-48) silty clay loam+ve | 8.4, 8.4 | | | SIIw2 |
| 11 | F-12 | 3 | 14-Dec-97 | Sugarcane field | non saline/non sodic | 3 | (0-6) Silty clay loam, (6-48) Silty clay, mottled | 8.4, 8.4 | | Sugarcane, rice & wheat | SIIw2 |
| 11 | F-13 | 1 | 14-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-48) Silty clay / clay | 8.4, 8.4 | The area is nearly level with depressions filled with water, water table at 4 feet and under p-canal irrigation. The soils are deep, moderately well to imperfectly drained, non saline, non sodic, fine textured soils/silty clays/clays). Such soils can be placed in II class land with limited selection of crops. | Sugarcane, rice & some wheat | SIIw2 |
| 11 | F-13 | 2 | 14-Dec-97 | Wheat field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-40) Silty clay/clay, (40-48) Very fine sandy loam loam | 8.4, 8.4 | | | SIIw2 |
| 11 | F-14 | 1 | 14-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-24) Silt loam, (24-48) Very fine sandy loam | 8.4, 8.4 | The area is severely affected by high water table (4 feet at present) and salinity. The area is level and under p-canal irrigation. The soil of the polygon are deep, moderately well drained, non saline (only cultivated lands), non sodic, medium textured (silt loam/very fine silt loam) with fine textured surface. Such soils can be classified as | Sugarcane, rice & some wheat | SIIw2 |
| 11 | F-14 | 2 | 14-Dec-97 | Sugarcane field | non sodic but Surface salinity present | 4 | (0-6) Silty clay loam, (6-48) Silt | 8.4, 8.4 | | Sugarcane, rice & some wheat | SIIw2 |
| 11 | F-15 | 1 | 16-Dec-97 | Barseen field | non saline/non sodic | 4 | (0-4) Silty clay loam, (4-24) Silty clay loam, (24-40) Silt loam, (40-45) Silty clay | 8.4, 8.2 | The area is nearly level, some old inundation canals are still existing, with water table at 4 feet and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline (fallow fields are severely saline), non sodic, moderately fine to medium textured (silty clay loams & silt loams/very fine silt loams) soils. Such soils can be placed in II class land with limited selection of crops. Surrounding areas have standing water with | Sugarcane, rice & some wheat/barley, intercropping cannot be practised due to fluctuation of water ranges from 2 to 6 feet. | SIIw2 |
| 11 | F-15 | 2 | 16-Dec-97 | Sugarcane field | non saline non sodic | 4 | (0-4) Loam, (4-24) Very fine sandy loam, (24-48) Silty clay loam | 8.4, 8.2 | In most of the low area (in northern part that soil lying barren) water magnesium and damages surrounding crops or affect them adversely. The area is nearly level/sloping, with water table at 4 feet and under p-canal irrigation. The soils of the polygon are deep, moderately well and seasonally imperfectly drained, non saline (fallow field are severely saline), non sodic, medium textured (silt loams/very fine | Sugarcane, rice & some wheat/barley, intercropping cannot be practised. | SIIw2 |
| 11 | F-16 | 1 | 10-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-40) Silt loam, (40-48) very fine sandy loam | 8.4, 8.2 | The area is surrounded by standing water and fallow fields are severely saline. The area is nearly level with water table at 4 feet and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic, moderately fine to medium textured (silty clay loams to silt loams/very fine silt loams) Such soil can be classified as class II land due to their drainage | Sugarcane, rice & some wheat/barley, intercropping cannot be practised. | SIIw2 |
| 11 | F-17 | 1 | 16-Dec-97 | Wheat field | non saline/non sodic | 4 | (0-20) Silty clay loam, (20-48) Silt loam | 8.4, 8.2 | The area is surrounded by stagnated water. The area nearly level with water table at 3-4 feet. Sufficient area is lying barren due to higher water table and severe salinity. The cultivated area is deep, moderately well to imperfectly drained, non saline, non sodic fine textured (silty clays with some silty clay loams) soils. Such soils can be graded as class II/III land with restricted cropping. | Sugarcane, rice & some wheat/barley, intercropping cannot be practised. | SIIw2 |
| 11 | F-17 | 2 | 16-Dec-97 | Wheat field | non saline/non sodic | | (0-20) Silt loam, (20-24) Silty clay, (24-48) Silt loam | 8.4, 8.2 | | | SIIw2 |
| 11 | F-18 | 1 | 19-Dec-97 | Ex-rice field | non saline/non sodic | 4 | (0-4) Silty clay loam, (4-48) Silty clay | 8.4 | | | SIIw2 |
| 11 | F-18 | 2 | 19-Dec-97 | Ex-rice field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-48), Silty clay (48) | 8.4 | | Sugarcane, rice & some wheat/barley | SIIw2 |
| 11 | F-19 | 1 | 13-Dec-97 | lying barren | surface salinity present/non-sodic | 4 | (0-6) Silty clay, (6-48) Silty clay, mottled | 8.4, 8.4 | Sufficient area is lying vacant with surface salinity associated with water table at 4-6 feet. The area is broad level basins and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic, fine textured (silty clays) soils. Such soils can be classified as class II land with limited selection for | Sugarcane, rice and little wheat | SIIw2 |
| 11 | F-20 | 1 | 13-Dec-97 | Sugarcane field | non saline non sodic | 4 | (0-6) Silt loam, (6-40) Silty clay loam, (40-48) silt loam | 8.4, 8.4 | The area is nearly level, water table at 4-6 feet and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline (barren fields have severe surface salinity), non sodic, medium to moderately fine textured (silt loam & silty clay loam). Such soil can be graded as class II land due to high water table enabling them for limited selections of crops. | Sugarcane, rice and some wheat | SIIw2 |
| 11 | F-20 | 2 | 13-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-30) Silt loam, (30-48) Very fine sandy loam | 8.4, 8.4 | | | SIIw2 |
| 11 | F-21 | 1 | 12-Dec-97 | Sugarcane field intercropped with wheat | non saline/non sodic | | (0-20) Silt loam, (20-40) Very fine sandy loam, (40-48) Silty clay | 8.4, 8.4, 8.4 | The area is nearly level, water table at 4-6 feet and under p-canal irrigation. The soils are deep, moderately well to imperfectly drained, non saline, non sodic, mostly clayey soils. Such soils can be graded as class II land with restricted crop selection. Sufficient | Sugarcane, rice and some wheat | SIIw2 |
| 11 | F-21 | 2 | 12-Dec-97 | Ex-rice field | non saline/non sodic | 4 | (0-48) Silty clay | 8.4, 8.4 | | | SIIw2 |
| 11 | F-22 | 1 | 13-Dec-97 | Ex-rice field | non saline/non sodic | | (0-6) Silty clay loam, (6-24) Silty clay, (24-36) Silt loam, (36-48) Silty clay loam | 8.4, 8.4 | Sufficient surrounding area is lying barren with severe salinity but no sodicity. The area is level and under p-canal irrigation. The soils are deep, moderately well drained but seasonally imperfectly drained, fine textured soils (silty clays). Such soils can be classified as class II land due to their workability and drainage problem very | Rice & barley no other crop can be raised | SIIh |
| 11 | F-22 | 2 | 13-Dec-97 | Ex-rice field | non saline non sodic | | (0-20) Silty clay, (20-40) Silt loam, (40-48) Silty clay | 8.4, 8.4 | restricted cropping can be adopted. | | SIIh |

Table A IV - IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Image/Sample No | Plt No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Region | Cultivation Status | Land - Use Suitability |
|-----------------|---------|------|--------------|---------------------|------------------------------------|------------------------|---|---------------------------|--|------------------------|
| 11 | F-23 | 1 | 12-Dec-97 | Lying fallow | surface salinity present/non-sodic | 4 | (0-20) Silty clay, (20-30) Silt loam (30-48) Silty clay/clay | 8.4, 8.4 | The area is nearly level, water table between 4 to 6 feet and under p-canal irrigation. The soils are deep, moderately well to seasonally imperfectly drained, non saline (barren area is severely saline); non sodic, clayey soils (silty clay/clays). Such soils can be placed in class II land with limited choice for crops. | SIIw2 |
| 11 | F-23 | 2 | 12-Dec-97 | Ex-rice field | non saline/non sodic | | (0-4) Silty clay, (4-48) Clay common small shells and few lime | 8.4, 8.4 | | SIIw2 |
| 11 | F-23 | 3 | 12-Dec-97 | Lying barren | Severely saline | | (0-48) Silty clay | 8.4 | | SIIw2 |
| 11 | F-24 | 1 | 17-Dec-97 | Ex-rice field | non saline/non sodic | Saturation at 4 | (0-6) Loam, (6-48) Silt loam | 8.4, 8.2 | The area is level, insufficient fields are lying barren with surface salinity and water saturation at 4 feet. The soils of the polygon are deep, moderately well drained, non saline, non sodic, moderately fine to medium textured (silty clay loams & silt loams/very fine sandy loam) but moderately fine textured dominantly. Such soils can be classified as class II land with limited selection of crops. | SIIw2 |
| 11 | F-24 | 2 | 17-Dec-97 | Barsoen field | non saline/non sodic | Saturation at 4 | (0-30) Silty clay loam, (30-48) Silty clay | 8.4, 8.2, 8.2 | | SIIw2 |
| 11 | F-25 | 1 | 17-Dec-97 | Lying fallow | surface salinity present | | (0-20) Silty clay loam, (20-48) Silt loam | 8.4, 8.2 | The area is nearly level with saturation at 4 feet and surrounded by depression filled with water. The soils of the polygon are deep, moderately well drained, non-saline, non sodic, moderately fine to medium textured (silty clay loams & silt loams/very fine sandy loam). Such soils can be graded as class II land limiting the more than half area is shaded the breach of canal. It also contains depression where water stagnates permanently. The cultivated area is nearly level, with water table at 4 feet, moderately well to seasonally imperfectly drained when seasonal canals start, non saline, non sodic, moderately fine textured (silty clay loams/clay loams). Such soils can be placed in II/III class with | SIIw2 |
| 11 | F-25 | 2 | 17-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-6) Silt loam, (6-30) Silty clay loam (30-48) Silt loam | 8.4, 8.2, 8.2 | | SIIw2 |
| 11 | F-26 | 1 | 17-Dec-97 | Ex-rice field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-12) Clay loam, (12-48) Silty clay | 8.4, 8.2, 8.2 | The area is nearly level & concave, with saturation of water at 4 feet. The soils of the polygon are deep, moderately well drained, non saline, non sodic, fine textured (silty clays). Such soils can be graded as class II land with limited selection of crops. | SIIw2 |
| 11 | F-27 | 1 | 17-Dec-97 | Ex-rice field | non saline/non sodic | 4 | (0-18) Silty clay loam (18-48), Silty clay (mottled with few fine lime concretions) | 8.4, 8.2 | The area is nearly level with water table at 3-4 feet depth. The soils of the polygon are deep, moderately well to seasonally imperfectly drained with the inception of seasonal canal, non saline, non sodic fine textured (silty clay to heavy silty clay loams). Such soils can be classified as II/III class land with restricted cropping. | SIIw2 |
| 11 | F-28 | 1 | 17-Dec-97 | Wheat field | non saline/non sodic | 3.5 | (0-36) Silty clay, (36-48) Silt loam (mottled with few fine lime concretions) | 8.4, 8.2, 8.2 | Major area is under water and salinity. The cultivated area is level with water table at 4 feet. The soils of the polygon are deep to moderately deep, non saline, non sodic, fine textured (silty clays). Such soils can be graded as class II land with limiting selection of crops. | SIIw2 |
| 11 | F-28 | 2 | 17-Dec-97 | Wheat field | non saline/non sodic | 3.5 | (0-4) Silty clay loam, (4-36) Silty clay, (36-48) Silt loam | 8.4, 8.2 | | SIIw2 |
| 11 | F-29 | 1 | 18-Dec-97 | Wheat field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-48) Silty clay (mottled with few fine lime concretions) | 8.4, 8.2 | The area is level with water table at 4 feet. The soils of the polygon are deep, moderately well drained and seasonally imperfectly drained with the inception of seasonal canal, non saline non sodic, moderately fine to fine textured (silty clay loams to silty clays). Such soils can be graded as class II land with limiting selection of crops. | SIIw2 |
| 11 | F-30 | 1 | 17-Dec-97 | Barley field | non saline/non sodic | 4 | (0-40) Silty clay loam, (40-48) Silty clay | 8.4, 8.2 | The area is level with water table at 4 feet. The soils of the polygon are deep, moderately well drained and seasonally imperfectly drained with the inception of seasonal canal, non saline non sodic, moderately fine to fine textured (silty clay loams to silty clays). Such soils can be graded as class II land with limiting selection of crops. | SIIw2 |
| 11 | F-30 | 2 | 17-Dec-97 | Barley field | non saline/non sodic | 4 | (0-16) Silty clay loam, (16-48) Silty clay | 8.4, 8.2 | | SIIw2 |
| 11 | F-31 | 1 | 18-Dec-97 | Barsoen field | non saline/non sodic | 4 | (0-6) Silt loam, (6-20) Very fine sandy loam, (20-40) Silty clay loam (40-48) Silt loam | 8.4, 8.2 | The area is level with water table at 4-6 feet and under seasonal canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic, medium textured (silt loams/very fine sandy loam). Fluctuation of ground water also occurs. Such soils can be placed in II class land with limited crop selection. | SIIw2 |
| 11 | F-31 | 2 | 18-Dec-97 | Ex-rice field | non saline/non sodic | 4 | (0-6) Loam, (6-24) Very fine sandy loam, (24-40) Silt loam, (40-48) Silty clay | 8.4 | | SIIw2 |
| 11 | F-32 | 1 | 18-Dec-97 | Wheat field | non saline/non sodic | 4 | (0-48) Silt loam | 8.4, 8.2 | The area is level with water table at 4 feet. The soils of the polygon are deep, moderately well to seasonally imperfectly drained, non saline, non sodic, medium textured (silt loams/very fine sandy loam). Such soils can be graded as class II/III land with restricted cropping. The water fluctuates between 4-12 feet. The water rises with the commencement of seasonal canal supply. | SIIw2 |
| 11 | F-32 | 2 | 18-Dec-97 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.2 | | SIIw2 |
| 11 | F-33 | 1 | 18-Dec-97 | Wheat field | non saline/non sodic | 4 | (0-40) Silt loam, (40-48), Silty clay loam | 8.4, 8.2 | The area is level, with water table at 4 feet and under seasonal canal irrigation. The soils are deep, moderately well-drained, non saline, non sodic, medium textured (silt loams/very fine sandy loam). Such soils can be graded as class II land with limiting selection of crops avoiding deep rooted crops. (During the canal non-operational) | SIIw2 |
| 11 | F-33 | 2 | 18-Dec-97 | Barley field | non saline/non sodic | | (0-40) Silt loam, (40-48), Silty clay loam | 8.4, 8.2 | | SIIw2 |
| 11 | F-34 | 1 | 17-Dec-97 | Barsoen field | non saline/non sodic | | (0-48) Silt loam | 8.4, 8.2 | The area is nearly level with water table at 4-6 feet. The soils of the polygon are deep, moderately well drained, non saline, non sodic, medium to moderately fine textured (silt loam & silty clay loams). Such soils can be classified as class II land with limited crop selection. | SIIw2 |
| 11 | F-34 | 2 | 17-Dec-97 | Sugarcane field | non saline/non sodic | 4 | (0-20) Silty clay loam, (20-48) Silt loam | 8.4, 8.2 | | SIIw2 |
| 11 | F-35 | 1 | 17-Dec-97 | Tomato field | non saline/non sodic | 4 | (0-20) Silty clay loam, (20-48) Silt loam/very fine sandy loam | 8.4, 8.2 | The area is nearly level with saturation at 4 feet. The soils of the polygon are deep, well to moderately well drained, non saline, non sodic, medium and moderately fine textured (silt loam, loams & very fine sandy loam-to silty clay loams). Such soils can be placed in class I land with choice of wide variety of crops. | SIIw2 |
| 11 | F-35 | 2 | 17-Dec-97 | Ex-rice field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-24) Loam, (24-48) Silt loam | 8.4, 8.2 | | SIIw2 |
| 11 | F-36 | 1 | 17-Dec-97 | Ex-rice field | non saline/non sodic | 4 | (0-6) Silt loam+ve, (6-48) Silt loam | 8.4, 8.2 | The area is level, water table at 4 feet and under seasonal canal irrigation with water table fluctuates between 4 to 10 feet. The soils of the polygon are deep, moderately well to seasonally imperfectly drained, non saline (but fallow fields have surface salinity) non sodic, medium textured (silt loams/very fine sandy loams) with moderately fine textured surface. Such soils can be graded as class | SIIw2 |
| 11 | F-36 | 2 | 17-Dec-97 | Ex-rice field | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silt | 8.4, 8.2 | | SIIw2 |

Table A.1V 1 IIMI Field Sample Survey Observation for Land Suitability Assessments across the South Hydrological Divides, 1997-98

| Image/Sample No. | Pt. No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (feet)/Texture | pH | Description of the Region | Cultivation Status | Land - Use Suitability |
|------------------|---------|------|--------------|---------------------|-------------------------|--|---------------|---|--|------------------------|
| 5 | G-14 | 1 | 29-Mar-98 | Wheat field | non saline/non sodic | (0-20) Silt loam, (20-26) Silty clay loam, (26-36) Silt loam, (36-48) Very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial nearly level plain and under / July to March) canal & whole year tubewell irrigation. The soils of the polygon are nearly level, deep, well drained non saline, non sodic, few fields have patchy salinity) and medium in texture (silt loam/very fine sandy loam). These soils can produce very high yields under modern management and can be classified as class I | Wheat, cotton, a banana orchard is also present | SI |
| 5 | G-15 | 1 | 29-Mar-98 | Mango Garden | non saline/non sodic | (0-24) Silt loam, (24-36) Very fine sandy loam, (36-48) Silty clay loam | 8.4, 8.2, 8.2 | The area is a subrecent alluvial plain with a few cut off channelled portion, and under / July to March) canal & round the year tubewell-irrigation. The soils of the polygon are nearly level, deep, well-drained, non saline, non sodic and medium to moderately fine texture (silt loam/very fine sandy loam & silty clay loam). These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | | SI |
| 5 | G-15 | 2 | 29-Mar-98 | Wheat field | non saline/non sodic | (0-20) Silty clay loam, (20-36) Silt loam/Silty clay loam, (36-48) Sandy loam/Very fine sandy loam | 8.2, 8.2, 8.2 | The area is a subrecent alluvial levelled and covered bars, usually underlain by sandy material and under tubewell & p-canal irrigation. The soils of the polygon are level, deep, well-drained non saline, non sodic and medium in texture (silt loam, very fine sandy loam). These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | Cotton & wheat | SI |
| 5 | G-16 | 1 | 27-Mar-98 | Wheat field | non saline/non sodic | (0-18) Silt loam, (18-24) Silty clay loam -ve, (24-48) Loam | 8.2, 8.2 | The area is a subrecent alluvial (July to March) & whole the year tubewell irrigation. The soils of the polygon are level, deep, well drained and non saline non sodic, medium to moderately fine in texture (silt loam, very fine sandy loam). These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | | SI |
| 5 | G-16 | 2 | 27-Mar-98 | Maize field | non saline/non sodic | (0-18) Silt loam, (18-36) Very fine sandy loam, (36-48) Fine sandy | 8.2, 8.2 | The area is a subrecent alluvial levelled and covered bars, usually underlain by sandy material and under p-canal & tubewell irrigation. Surrounding areas are severely saline sodic. The soils of the polygon are level, deep, moderately well-drained and moderately fine in texture (silt clay loam). These soils have high | Wheat, cotton and some scattered mango trees | SI |
| 5 | G-17 | 1 | 27-Mar-98 | Wheat field | non saline/non sodic | (0-6) Silt clay loam, (6-30) Silt loam, (30-48) Silty clay loam | 8.2, 8.2, 8.2 | The area is a subrecent alluvial nearly level plain, and under canal (July to March) & whole the year tubewell irrigation. The soils of the polygon are level, deep, well drained and non saline non sodic, medium to moderately fine in texture (silt loam & silty clay loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards, ecologically suited to the area and can be graded as class I land. | Wheat, cotton and sugarcane | SI |
| 5 | G-17 | 2 | 27-Mar-98 | Sugarcane field | non saline/non sodic | (0-30) Silt clay loam, (30-42) Loam, (42-48) Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial flat basin, and under canal (July to March) & round the year tubewell irrigation. The soils of the polygon are level, deep, well drained non saline non sodic and moderately fine textured (silty clay loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards, ecologically suited to the area & can be graded as class I | | SI |
| 5 | G-18 | 1 | 27-Mar-98 | Wheat field | non saline/non sodic | (0-20) Silty clay loam, (20-38) Silt loam, (38-48) Silty clay loam (laminated) | 8.2, 8.2 | The area is a subrecent alluvial flat basin, and under canal (July to March) & round the year tubewell irrigation. The soils of the polygon are level, deep, well drained non saline non sodic and moderately fine textured (silty clay loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards, ecologically suited to the area & can be graded as class I | Wheat, cotton and some onion, mango orchards and datepalm. | SI |
| 5 | G-18 | 2 | 27-Mar-98 | Wheat field | non saline/non sodic | (0-24) Silt loam, (24-36) Silt loam/silty clay loam, (36-48) Silt clay loam | 8.2, 8.2 | The area is a subrecent alluvial flat basin, and under canal (July to March) & round the year tubewell irrigation. The soils of the polygon are level, deep, well drained non saline non sodic and moderately fine textured (silty clay loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area & can be graded as class I | Wheat, cotton with few dates, mango & banana orchards. | SI |
| 5 | G-19 | 1 | 29-Mar-98 | Banana Field | non saline/non sodic | (0-48) Silt clay loam | 8.2 | The area is a subrecent alluvial levelled covered bars/levees, such soils have sandy material underlain, and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained, non-saline, non-sodic and medium in texture (silt loam, loam, very fine sandy loam). These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | Wheat & cotton. | SI |
| 5 | G-20 | 1 | 27-Mar-98 | Wheat field | non saline/non sodic | (0-16) Silt loam, (16-36) Loam, (36-42) Silt loam, (42-48) Sandy loam | 8.2, 8.2 | The area is a subrecent alluvial flat basin/channel, major portion of the area is moderate to severely saline sodic (pH 9.6-8.8) and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, moderately well-drained, non-saline only small portion, non sodic (small portion) even cultivated fields have patchy salinity/sodicity in abundance and moderately fine textured (silty clay loam). These soils have moderate severe problem of | | SI/II |
| 5 | G-21 | 1 | 27-Mar-98 | Barsoon field | Severely saline / sodic | (0-24) Silt clay loam, (24-48) Silt clay loam (high) | 8.8, 8.4 | The area is a subrecent covered, levelled levees/bars, uncommanded fields are severely saline/sodic, and under p-canal & tubewell irrigation. These soils usually under lain by sandy material. The soils of the polygon are level, deep, well drained non saline (but patchy salinity is present), non sodic and medium textured (silt loam/loam). These soils (cultivated) have high agricultural potential | Wheat & rice | SI/II |
| 5 | G-21 | 2 | 27-Mar-98 | Wheat field | non saline/non sodic | (0-48) Silt clay loam | 8.4 | The area is a subrecent alluvial nearly level plain, partly (July to March) under canal & whole time tubewell irrigation. The soils of the polygon are nearly level, deep, well drained, non saline, non sodic and medium textured (silt loam/very fine sandy loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be | | SI |
| 5 | G-22 | 1 | 27-Mar-98 | Wheat field | non saline/non sodic | (0-6) Silt loam, (6-36) Loam, (36-42) Silt loam, (42-48) Loamy sand | 8.2, 8.2, 8.2 | The area is a subrecent alluvial (flat basin, and under p-canal (June-March) & round the year tubewell irrigation. The soils of the polygon are nearly level, deep, well drained non saline, non sodic and moderately fine textured (silty clay loam). These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | Wheat & cotton. | SI |
| 5 | G-23 | 1 | 29-Mar-98 | Wheat | non saline/non sodic | (0-48) Silt loam | 8.2 | The area is a subrecent alluvial flat basin, water-logged and under canal (July-March) & round the year tubewell irrigation. The soils of the polygon are nearly level, deep, moderately well drained, non saline, non sodic and medium textured (silt loam/very fine sandy loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be | Wheat, cotton with few date, mango & banana orchards. | SI |
| 5 | G-23 | 2 | 29-Mar-98 | Wheat | non saline/non sodic | (0-6) Silt loam, (6-30) Very fine sandy loam, (30-48) Silt loam | 8.2 | The area is a subrecent alluvial (flat basin, and under p-canal (June-March) & round the year tubewell irrigation. The soils of the polygon are nearly level, deep, well drained non saline, non sodic and moderately fine textured (silty clay loam). These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | | SI |
| 5 | G-24 | 1 | 30-Mar-98 | Wheat field | non saline/non sodic | (0-30) Silty clay loam, (30-38) Loam, (38-48) Loamy fine sand/fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial flat basin, and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained non saline non sodic and moderately fine textured (silty clay loam). These soils have very high agricultural potential for wide variety of crops and can be | Wheat, cotton and some date orchards. | SI |
| 5 | G-24 | 2 | 30-Mar-98 | Barsoon field | non saline/non sodic | (0-6) Silt loam, (6-20) Silty clay loam, (20-30) Very fine sandy loam, (30-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial flat basin, water-logged and under canal (July-March) & round the year tubewell irrigation. The soils of the polygon are nearly level, deep, moderately well drained, non saline, non sodic and moderately fine textured (SICL). These soils have limitations of water logging, low permeability and sand bed preparation which put these soils in class II land where limited crops | | SI/II/2 |
| 5 | G-25 | 1 | 29-Mar-98 | Wheat field | non saline/non sodic | (0-20) Silt clay loam, (20-48) Loam +ve (40-48) Very fine sandy loam | 8.2 | The area is a subrecent alluvial level plain surrounded by old river creeks and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and | Wheat & cotton | SI/II/2 |
| 5 | G-25 | 2 | 29-Mar-98 | Barsoon field | non saline/non sodic | (0-48) Silty clay loam | 8.2 | The area is a subrecent alluvial level plain surrounded by old river creeks and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and | | SI |
| 5 | G-26 | 1 | 27-Mar-98 | Sugarcane field | non saline/non sodic | (0-6) Silt loam, (6-36) Loam, (36-48) Silt loam | 8.2, 8.2 | | | SI |

Table A IV I IIMI Field Sample Survey Observation for Land Suitability Assessment across the South Hydrological Divides, 1997-98

| Sample No | Plt No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches/Texture) | pH | Description of the Regime | Cultivation Status | Land - Use Suitability | |
|-----------|---------|------|--------------|---------------------|--|------------------------|---|---------------------------|---|--|---------|
| 5 | G-26 | 2 | 27-Mar-98 | Ammand field | non saline/non sodic | 4 | (0-30) Loam, (30-48) Very fine sandy loam | 5.2, 8.2 | medium texture (loam, silt loam). These soils have very high agricultural potential for wide variety of crops and can be placed in the area as a subrecent alluvial back slope deposits, water logged, patchy salinity/acidity in some fields and under p-canal irrigation. The soils of the polygon are level, deep, imperfectly drained but have 1 to 2 feet fluctuation during the year, non saline, non sodic, and moderately fine textured (silty clay loam). These soils have restricted choice for crops and can be placed as class III/II land. | Cotton, wheat, sugarcane & maize. | SI |
| 5 | G-27 | 1 | 28-Mar-98 | Wheat field | non saline/non sodic | 3 | (0-36) Silt clay loam, (36-48) Silty clay loam dense | 5.5, 8.4 | The area is a subrecent alluvial level plain, patchy salinity/acidity in few fields, and under p-canal irrigation. The soils of the polygon are level, deep, well drained non-saline non-sodic and medium textured (silt loam/ very fine sandy loam). These soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Wheat, cotton & rice | SI/IIw2 |
| 5 | G-27 | 2 | 28-Mar-98 | Ex-cotton field | non saline/non sodic | 4 | (0-22) Silty clay loam, (22-48) Silt loam | 5.4, 8.2 | | SI/IIw2 | |
| 5 | G-28 | 1 | 28-Mar-98 | Wheat field | non saline/non sodic | | (0-6) Silty clay loam, (6-24) Silt loam, (24-30) Loam, (30-48) Very fine sandy loam | 5.4, 8.2 | The area is a subrecent alluvial level plain, and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic, and medium in texture (silt loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be graded as class I land. | Wheat & cotton. | SI |
| 5 | G-29 | 1 | 31-Mar-98 | Wheat field | non saline/non sodic | | (0-6) Silty clay loam, (6-30) Silt loam, (30-48) Silty clay loam | 8.2 | | SI | |
| 5 | G-29 | 2 | 31-Mar-98 | Wheat field | non saline/non sodic | | (0-24) Silt loam, (24-48) Silty clay loam | 8.2 | The area is a subrecent alluvial leveled levees and channel filled, under p-canal and tubewell irrigation. The soils of the polygon are nearly level, deep well drained, non saline, non sodic and medium in texture (silt loam/very fine sandy loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards and can be graded as class I land. | Wheat, cotton & sufficient area is under date, mango and ber orchards. | SI |
| 5 | G-30 | 1 | 31-Mar-98 | Sugarcane field | non saline/non sodic | | (0-30) Silt loam, (30-48) Very fine sandy loam | 8.2 | | SI | |
| 5 | G-30 | 2 | 31-Mar-98 | Wheat field | non saline/non sodic | | (0-6) Loam, (6-24) Silt loam, (24-48) Very fine sandy loam/Silt loam | 8.2 | The area is a subrecent alluvial channel levees remnants, water logged and under p-canal and tubewell irrigation. The soils of the polygon are nearly level, moderately deep to deep, moderately to imperfectly drained, non saline, non sodic. These soils have good agricultural potential for limited crops and can be graded as class II land. | Wheat, cotton, sugarcane & many orchards of date, banana and mango are present. | SI |
| 5 | G-31 | 1 | 31-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-30) Very fine sandy loam, (30-48) Loamy sand | 8.2 | | SI/IIw2 | |
| 5 | G-31 | 2 | 31-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-45) Silty clay loam, (45-48) Very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial cover leveled levees, & best surrounded by two old channels and under p-canal (July to March) & round the year tubewell. The soils of the polygon are nearly level, deep, deep, well to moderately well drained, non saline, non sodic and medium to moderately fine textured (SIL/SILCL). These soils have very high to high agricultural potential for limited crops under modern management and can be graded as class I/II land. | Wheat & cotton in comparatively higher area and wheat & rice in lower area. | SI/IIw2 |
| 5 | G-32 | 1 | 30-Mar-98 | Wheat field | non saline/non sodic | Saturation at 4 | (0-24) Silty clay loam, (24-48) Loamy sand | 8.2, 8.2 | | SI/IIw2 | |
| 5 | G-32 | 2 | 30-Mar-98 | Lady finger field | non saline/non sodic | | (0-36) Silt loam, (36-40) Very fine sandy loam, (40-48) Loamy sand | 8.4, 8.2 | The area is a subrecent alluvial flat basin and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, moderately well-drained, non saline, non sodic and moderately fine textured (silty clay loam). These soils have good agricultural potential for limited crops and can be graded as class II land. | Wheat & cotton | SI/IIw2 |
| 5 | G-33 | 1 | 30-Mar-98 | | non saline/non sodic | 4 | (0-30) Silt clay loam, (30-40) Loam/very fine sandy loam, (40-48) Very fine sandy loam | 8.2, 8.2 | | SI | |
| 5 | G-34 | 1 | 30-Mar-98 | Ploughed field | non saline/non sodic | | (0-36) Silt loam, (36-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial filled channel, usually have sandy material underneath, water logged and under p-canal & tubewell irrigation. The soils of the polygon are nearly level, moderately deep to deep underlain by sand, moderately well drained (water table 3-4), non saline, non sodic and moderately fine textured (silty clay loam). These soils have good agricultural potential for limited crops. | Wheat, cotton & scattered trees of datepalm and mangoes. | SI |
| 5 | G-34 | 2 | 30-Mar-98 | Wheat field | non saline/non sodic | | (0-30) Silt loam, (30-42) Very fine sandy loam, (42-48) Silty clay loam | 8.2, 8.2 | | SI | |
| 5 | G-35 | 1 | 28-Mar-98 | Barren field | Surface salinity and sodicity is present | 4 | (0-12) Silt clay loam, (12-48) Silt loam/ very fine sandy loam | 8.8, 8.4 | The area is a subrecent back slope deposits, mostly surface salinity/sodicity is present on the major area of the polygon and under p-canal irrigation. The soils of the polygon are level, deep, moderately well-drained (water table at 4-5) surface salinity/sodicity. | Wheat, cotton, rice | SI/IIw2 |
| 5 | G-35 | 2 | 28-Mar-98 | Ploughed field | non saline/non sodic | 4 | (0-36) Silt clay loam, (36-48) Silt loam | 9.2, 8.2 | | SI/IIw2 | |
| 5 | G-36 | 1 | 31-Mar-98 | Sugarcane field | non saline/non sodic | 3 | (0-12) Silty clay loam, (12-24) Loam/Silt loam, (24-48) Loamy sand | 8.2 | The area is a subrecent alluvial level plain and under p-canal (June to March) & tubewell round the year. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (silt loam/very fine sandy loam). These soils have very high agricultural potential for wide variety of crops and fruit orchards ecologically suited to the area and can be graded as class I land. | Wheat, sugarcane and some mango, guava orchards on comparatively higher spots present. | SI/IIw2 |
| 5 | G-36 | 2 | 31-Mar-98 | Wheat field | non saline/non sodic | 3 | (0-12) Silty clay loam, (12-24) Loam, (24-48) Loamy sand | 8.2 | | SI/IIw2 | |
| 5 | G-37 | 1 | 30-Mar-98 | | non saline/non sodic | 4 | (0-30) Silty clay loam, (30-42) Very fine sandy loam, (42-48) Loamy sand | 8.2, 8.2 | The area lies in a subrecent alluvial abandoned channel, water logged, under p-canal and tubewell irrigation. The soils of the polygon are nearly level or terraced, deep moderately well drained (usually underlain by sand), non saline, non sodic (fallow fields have surface salinity) and moderately fine textured (silty clay loam). The soils have good to moderate agricultural potential for limited. | Wheat, cotton & rice. | SI/IIw2 |
| 5 | G-38 | 1 | 30-Mar-98 | Wheat field | non saline/non sodic | | (0-40) Silt loam, (40-48) Silty clay loam (laminated) | 8.2, 8.2 | | SI | |
| 5 | G-38 | 2 | 30-Mar-98 | Wheat field | non saline/non sodic | | (0-40) Silt loam, (40-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial filled basin/channel, and under p-canal (June to March) & tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (silt loam). The soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be graded as class I land. | Wheat, cotton, some orchards of mango & banana | SI |
| 5 | G-39 | 1 | 30-Mar-98 | Wheat field | non saline/non sodic | | (0-30) Silt loam, (30-48) Silty clay loam | 8.4, 8.2 | | SI | |
| 5 | G-39 | 2 | 30-Mar-98 | | non saline/non sodic | Saturation at 4 | (0-6) Loam, (6-24) Silt loam, (24-30) Loam, (30-40) Fine sandy loam, (40-48) Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial level channel/levees and under p-canal (June - March) and tubewell round the year irrigation. The soils of the polygon are level, deep, well to moderately well drained (saturation at 4 ft), non saline, non sodic (some patchy salinity in few fields present) and medium in texture (silt loam, loam). These soils have high to very high agricultural potential and can be graded as class I land. | Wheat cotton with some sugarcane. | SI |

Table A IV 1 / RMI Field Sample Survey Observation for Land Sustainability Assessments across the Sindh Hydrological Divides, 1997-98

| Image | Sample No. | PH No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (Inches/Texture) | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|--------|-----------|-----------------|------------------------|------------------|--|---------------|---|--|------------------------|
| 5 | G-40 | 1 | 28-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-18) Silt loam, (18-48) Very fine sandy loam/Silt loam | 8.2, 8.2 | The area is a subrecent alluvial covered levelled levees, usually have sandy material in the subsoil, water logged and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained, non saline, non sodic and medium in texture (silt loam / very fine sandy loam). These soils have good agricultural potential for limited crops and can be placed in class II | Wheat & cotton. | SIW2 |
| 5 | G-40 | 2 | 28-Mar-98 | Coriander field | non saline/non sodic | 4 | (0-18) Silt loam, (18-48) Very fine sandy loam/Silt loam | 8.2, 8.2 | The area is a subrecent alluvial covered levelled levees, patchy salinity/sodicity in a few fields, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 4-5 feet), non saline, non sodic and medium texture (silt loam/very fine sandy loam). These soils have good agricultural potential for limited crops and can be graded as class II | Wheat & cotton. | SIW2 |
| 5 | G-41 | 1 | 28-Mar-98 | Wheat field | non saline/non sodic | | (0-30) Very fine sandy loam, (30-48) Silt loam | 8.2, 8.2 | | | SI |
| 5 | G-41 | 2 | 28-Mar-98 | Barren field | Paper surface salinity | Saturation at 4 | (0-6) Loam, (6-30) Silt loam, (30-48) Very fine sandy loam | 8.8, 8.2, 8.2 | | Wheat & cotton. | SI |
| 5 | G-42 | 1 | 31-Mar-98 | Barren field | non saline/non sodic | 4 | (0-48) Silty clay loam | 8.4, 8.4 | The area is a subrecent alluvial channel levees levelled, water logged, unconsolidated areas are severely saline, and under p-canal (June to March) and tubewell irrigation. The soils of the polygon (cultivated) are level, deep, moderately well drained (water table at 4 feet), non saline (patchy salinity present, non sodic and mostly moderately fine textured (silty clay loam). These soils have good agricultural potential for limited crops and can be graded as class II land. | Cotton & wheat | SIW2 |
| 5 | G-42 | 2 | 31-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-12) Loam, (12-24) Silt clay loam (24-48) Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial flat basin, water logged and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic. These soils have good agricultural potential for limited crops and can be graded as class II land. | Wheat, rice and very little cotton. | SI |
| 5 | G-43 | 1 | 31-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-24) Loam, (24-45) Silt clay loam, (45-48) Silt loam | 8.2, 8.2 | | | SI |
| 5 | G-43 | 2 | 31-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-24) Silty clay loam, (24-48) Silt loam (48) | 8.2, 8.2 | | Wheat, rice and very little cotton. | SI |
| 5 | G-44 | 1 | 01-Apr-98 | Wheat field | non saline/non sodic | Saturation at 4 | (0-48) Silty clay loam | 8.2 | The area is a subrecent alluvial flat basin, water logged and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic (but patchy salinity/sodicity is present) and moderately fine textured (silty clay loam). These soils have good agricultural potential for limited crops | Wheat & cotton. | SI |
| 5 | G-44 | 2 | 01-Apr-98 | Wheat field | non saline/non sodic | | (0-48) Silty clay loam | 8.2 | | Wheat & cotton. | SI |
| 5 | G-45 | 1 | 01-Apr-98 | Wheat field | non saline/non sodic | | (0-20) Silt clay loam, (20-48) Silt loam/Very fine sandy loam | 8.4, 8.2 | The area is a subrecent alluvial filled channel/levees, water logged, and p-canal & tubewell irrigation. The soils of the polygon are terraced-nearly level, deep, moderately well drained, non saline, non sodic while cultivated field have patchy salinity/sodicity and moderately fine textured (silty clay loam). These soils have good agricultural potential for limited crops | Wheat & cotton. | SIW2 |
| 5 | G-45 | 2 | 01-Apr-98 | Ploverfield | non saline/non sodic | 4 | (0-48) Silty clay loam | 8.4, 8.2 | The area is a subrecent alluvial flat basin, water logged, patchy salinity in a few fields and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderate to imperfectly drained, non saline, non sodic and moderately fine textured (SICL). These soils have good to moderate agricultural potential for limited crops and | Wheat & cotton. | SIW2 |
| 5 | G-46 | 1 | 28-Mar-98 | Ex-rice field | non saline/non sodic | 3 | (0-48) Silty clay loam | 8.2 | The area is a subrecent alluvial flat basin and under p-canal irrigation. The soils of the polygon are level, deep, moderately well to well-drained, non saline, non sodic (some sick spots are present in some fields) and moderately fine textured (SICL). These soils have good to moderate agricultural potential for limited crops and | Cotton, wheat & rice | SIW2 |
| 5 | G-47 | 1 | 28-Mar-98 | Wheat field | non saline/non sodic | | (0-48) Silty clay loam | 8.2 | | | SI |
| 5 | G-47 | 2 | 28-Mar-98 | Wheat field | non saline/non sodic | | (0-48) Silty clay loam | 8.2 | | Wheat & cotton. | SI |
| 5 | G-48 | 1 | 01-Apr-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-18) Loam, (18-48) Silt loam | 8.2 | The area is a subrecent alluvial and their sand deposited during the subrecent period, water logged, and under p-canal irrigation. The soils of the polygon are level, deep moderately well drained (water table 4 feet), non saline, non sodic and medium in texture (silt & loam). These soils have good agricultural potential for limited crops and can be graded | Wheat & cotton. | SIW2 |
| 5 | G-48 | 2 | 01-Apr-98 | Wheat field | non saline/non sodic | 4 | (0-12) Loam, (12-24) Very fine sandy loam, (24-48) Loamy fine | 8.2 | The area is a subrecent alluvial and their sand deposited during the subrecent period, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 4), non saline, non sodic and moderately coarse texture (sandy loam). These soils have some limitations for good production of crops like, low water & nutrients holding capacity and only limited crops under good management can be produced, hence | Wheat & cotton with some rice and kharboozas | SIW2 |
| 5 | G-49 | 1 | 01-Apr-98 | Wheat field | non saline/non sodic | 4 | (0-24) Sandy loam, (24-48) Very fine sandy loam | 8.2 | The area is a subrecent filled and filled channel and flat basin, under p-canal irrigation, and water logged. The sufficient area of the polygon is marshy. The soils of the remaining area are nearly level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and fine textured (silty clay). These soils have | Wheat & cotton with some rice and kharboozas | SIW2 |
| 5 | G-49 | 2 | 01-Apr-98 | Wheat field | non saline/non sodic | 3-4 | (0-24) Sandy loam, (24-48) Silty clay loam | 8.2 | The area is a subrecent filled and filled channel and flat basin, under p-canal irrigation, and water logged. The sufficient area of the polygon is marshy. The soils of the remaining area are nearly level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and fine textured (silty clay). These soils have | Wheat & cotton with some rice and kharboozas | SIW2 |
| 5 | G-50 | 1 | 02-Apr-98 | Wheat field | non saline/non sodic | | (0-48) Silty clay | 8.2 | | Wheat rice with little cotton. | SIW2 |
| 5 | G-50 | 2 | 02-Apr-98 | Wheat field | non saline/non sodic | 4 | (0-48) Silty clay | 8.2 | | Wheat rice with little cotton. | SIW2 |
| 5 | G-51 | 1 | 02-Apr-98 | Wheat field | non saline/non sodic | | (0-30) Silt clay loam, (30-48) Silt loam | 8.2, 8.2 | The area is a subrecent alluvial flat basin, and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline, non sodic and moderately fine textured (silty clay loam). These soils have very good agricultural potential for wide variety of crop with modern management and can | Wheat, cotton & rice. | SI |
| 5 | G-52 | 1 | 02-Apr-98 | Wheat field | non saline/non sodic | | (0-30) Silt clay loam, (30-48) Silty clay | 8.2 | The area is a subrecent alluvial flat basin, and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline, non sodic and moderately fine textured (SICL) and usually underlain by dense silty clay. These soils have good to very good agricultural potential and can be graded as class I/II land. | Wheat rice with little cotton. | SI |
| 5 | G-52 | 2 | 02-Apr-98 | Wheat field | non saline/non sodic | | (0-30) Silt clay loam, (30-48) Silty clay | 8.2 | The area is a subrecent alluvial flat basin, and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline, non sodic and moderately fine textured (SICL) and usually underlain by dense silty clay. These soils have good to very good agricultural potential and can be graded as class I/II land. | Wheat rice with little cotton. | SI |
| 5 | G-53 | 1 | 02-Apr-98 | Wheat field | non saline/non sodic | | (0-6) Silt loam, (6-36) Silty clay loam, (36-48) Silty clay | 8.2 | The area is subrecent alluvial slightly depression area, and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained (water table at 4-6 feet), non saline, non sodic and moderately fine textured (silty clay loam). These soils have good to very good agricultural potential and can be graded as class I/II land. | Wheat, cotton. | SI |
| 5 | G-53 | 2 | 02-Apr-98 | Ex-cotton field | non saline/non sodic | 4 | (0-6) Loam, (6-24) Silty clay loam, (24-36) Loam, (36-48) Very fine sandy loam | 8.2 | The area is subrecent alluvial slightly depression area, and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained (water table at 4-6 feet), non saline, non sodic and moderately fine textured (silty clay loam). These soils have good to very good agricultural potential and can be graded as class I/II land. | Wheat, cotton. | SI |

Table A (V) I IIIM Field Sample Survey Observation for Land Suitability Assessments across the Sixth Hydrological Divides, 1997-98

| Traverse | Sample No. | Plot No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (Inches)/Texture | pH | Description of the Regions | Cultivation Status | Land - Use Suitability |
|----------|------------|----------|-----------|-----------------|----------------------|------------------|---|----------|---|-------------------------------|------------------------|
| 5 | G-54 | 1 | 01-Apr-98 | Wheat field | non saline/non sodic | 4 | (0-6) Loam, (6-36) Silt loam, (36-42) Loamy sand, (42-48) Fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial level channel levees infill and under p-canal irrigation and water logged. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and medium in texture (silt loam). These soils have good agricultural potential for limited crops and can be graded | Wheat, cotton with some rice. | SIW2 |
| 5 | G-55 | 1 | 02-Apr-98 | Wheat field | non saline/non sodic | | (0-6) Loam, (6-30) Silty loam, (30-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, water logged, usually underlain by dense silty clay loam and is being irrigated by p-canal. The soils of the polygon are level, deep, moderately well drained (water table at 4-6 ft) non saline, non sodic and medium textured (silt loam/very fine sandy loam). These soils have good agricultural potential and can be graded as class II land. | | SIW2 |
| 5 | G-55 | 2 | 02-Apr-98 | Ploughed field | non saline/non sodic | 4 | (0-6) Loam, (6-20) Silt loam, (20-30) Very fine sandy loam, (30-48) Silty clay loam | 8.2 | The area is a subrecent alluvial depression areas between sand dunes, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well-drained (water table at 3/4 ft), non saline, non sodic (patchy salinity is present) and fine to moderately fine texture (SIC & SICL). These soils have good agricultural potential for limited crops and can be graded as class II land. | Wheat, cotton. | SIW2 |
| 5 | G-56 | 1 | 02-Apr-98 | Wheat field | non saline/non sodic | 3 | (0-6) Loam, (6-36) Silty clay, (36-48) Sandy loam | 8.2 | | | SIW2 |
| 5 | G-56 | 2 | 02-Apr-98 | Wheat field | non saline/non sodic | 4 | (0-6) Loam, (6-24) Silty clay loam, (24-30) Silt loam, (30-48) Silty | 8.2 | | Wheat, cotton. | SIW2 |
| 5 | G-57 | 1 | 01-Apr-98 | Ex-rice field | non saline/non sodic | 2 | (0-36) Silty clay loam, (36-48) Silty clay | 8.4, 8.2 | The area is a subrecent alluvial flat basin, water logged and under perennial canal irrigation. The soils of the polygon are level, deep, imperfectly drained (water table at 2-3 ft), non saline, non sodic and moderately fine textured (silty clay loam) and usually underlain by dense silty clay. These soils have moderate limitations to produce good production and only restricted crops can be produced. | Rice with some wheat | SIW3 |
| 5 | G-58 | 1 | 02-Apr-98 | Sugarcane field | non saline/non sodic | | (0-6) Clay loam, (6-30) Loam, (30-48) Sandy loam | 8.2 | The area is depressional & level plain, between big sand dunes (partly man made or levelled) water logged and under p-canal irrigation. The soil of the polygon are level, deep moderately well drained (water table at 4 feet), non saline, non sodic and mostly medium in texture (loamy). The soils have good agricultural | Sugarcane | SI |
| 5 | G-58 | 2 | 02-Apr-98 | Sugarcane field | non saline/non sodic | 4 | (0-42) Silty clay loam, (42-48) Sandy loam | 8.2 | | | SI |
| 5 | G-59 | 1 | 01-Apr-98 | Wheat field | non saline/non sodic | 4 | (0-24) Sandy loam, (24-36) Very fine sandy loam, (36-48) Fine sandy loam | 8.2 | The area is levelled flat sand plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic (but patchy salinity/odicity exists) and moderately coarse to medium in texture (sandy loam & loam), but mostly moderately coarse (sandy loam). These soils have some limitations for very good production of | Wheat, cotton. | SIW2 |
| 5 | G-59 | 2 | 01-Apr-98 | Wheat field | non saline/non sodic | 4 | (0-24) Loam, (24-48) Sandy loam | 8.2 | | | SIW2 |
| 5 | B-28 | 1 | 24-Mar-98 | Wheat field | non saline/non sodic | Saturation at 4 | (0-6) Silt loam, (6-18) Very fine sandy loam, (18-30) Loamy sand, (30-36) Silt loam/very fine sandy loam, (36-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, usually underlain by sandy material and is irrigated by p-canal & tubewells. The soils of the polygon are level, deep, well drained at present (saturation at 4 feet), non saline, non sodic, but seasonally imperfectly drained and medium in texture (silt loam & very fine silt loam) such soils have high agricultural potential for limited crops and can be graded as | Wheat & rice | SI |
| 5 | B-28 | 2 | 24-Mar-98 | Wheat field | non saline/non sodic | Saturation at 4 | (0-6) Silty loam/loam, (6-30) Silt loam, (30-48) Loamy sand | 8.2 | The area is subrecent alluvial level plain, usually underlain by sand and under p-canal irrigation. The soils of the polygon are level, deep, well drained, seasonally imperfectly drained medium in texture (silt loam/very fine silt loam). These soils have good agricultural potential for limited crops and can be placed in class II land. | | SI |
| 5 | B-29 | 1 | 24-Mar-98 | Wheat field | non saline/non sodic | | (0-20) Silt loam, (20-45) Very fine sandy loam, (45-48) Loamy sand | 8.2, 8.2 | | | SI |
| 5 | B-29 | 2 | 24-Mar-98 | Coriander field | non saline/non sodic | | (0-6) Silt loam, (6-36) Very fine sandy loam, (36-48) Silt loam | 8.2, 8.2 | | Wheat & rice | SI |
| 5 | B-30 | 1 | 24-Mar-98 | Wheat field | non saline/non sodic | | (0-6) Silt loam, (6-18), Loam, (18-42) Fine sandy loam, (42-48) Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial level plain, usually underlain by sand and is under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained but seasonally imperfectly drained, non saline, non sodic and medium in texture. Such soils have high agricultural potential for limited crops and can be graded as class II/1 land. | Rice & wheat | SI |
| 5 | B-30 | 2 | 24-Mar-98 | Wheat field | non saline/non sodic | | (0-6) Silt loam, (6-36) Very fine sandy loam, (36-48) Loamy sand | 8.2, 8.2 | | | SI |
| 5 | B-31 | 1 | 24-Mar-98 | Wheat field | non saline/non sodic | | (0-30) Silt loam, (30-36) Loam, (36-45) Silty clay loam, (45-48) Silt loam | 8.2, 8.2 | The area is a subrecent alluvial level plain and under p-canal irrigation and tubewells. The soils of the polygon are level, deep, well drained but seasonally imperfectly drained, non saline, non sodic and medium in texture (silt loam/very fine sandy loam). These soils have good to very good agricultural potential for limited | Rice & wheat | SI |
| 5 | B-31 | 2 | 24-Mar-98 | Wheat field | non saline/non sodic | | (0-18) Silty clay loam, (18-48) Silt loam | 8.2, 8.2 | | | SI |
| 5 | B-32 | 1 | 24-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-12) Silty clay loam, (12-20) Loam, (20-48) Very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, usually underlain by sand and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well to moderately well drained but seasonally imperfectly drained, non saline, non sodic and generally moderately fine textured (silty clay loam). These soils have good agricultural potential for limited crops and can be graded as class II | Rice & wheat and some banana | SI |
| 5 | B-32 | 2 | 24-Mar-98 | Wheat field | non saline/non sodic | | (0-36) Silty clay loam, (36-48) Very fine sandy loam | 8.2, 8.2 | | | SI |
| 5 | B-33 | 1 | 24-Mar-98 | Wheat field | non saline/non sodic | | (0-15) Silty clay loam, (15-36) Loam/ Very fine sandy loam, (36-48) Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial level plain, usually underlain by sands and under p-canal irrigation. The soils of the polygon are nearly level, deep, well drained, non saline, non sodic but seasonally imperfectly drained and moderately fine texture (silty clay loam). Such soils have high agricultural potential for limited crops and can be placed in class II/1 land. | Rice & wheat | SI |
| 5 | B-33 | 2 | 24-Mar-98 | Wheat field | non saline/non sodic | | (0-24) Silty clay loam, (24-30) Very fine sandy loam, (30-48) Sandy | 8.2, 8.2 | | | SI |
| 5 | B-34 | 1 | 24-Mar-98 | Wheat field | non saline/non sodic | | (0-24) Silty clay loam, (24-36), Silt loam, (36-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial flat basin, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained but seasonally imperfectly drained, non saline, non sodic and moderately fine textured (silty clay loam). These soils have | Rice & wheat | SI |
| 5 | B-34 | 2 | 24-Mar-98 | Wheat field | non saline/non sodic | | (0-48) Silty clay loam | 8.2 | | | SI |
| 5 | B-35 | 1 | 25-Mar-98 | Ex-rice field | non saline/non sodic | 4 | (0-24) Silty clay loam, (24-36) Silt loam, (36-48) Silty clay loam | 8.4, 8.2 | The area is a subrecent alluvial flat basin, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well | | SIW2 |

Table A.IV (IMI) Field Sample Survey Observation for Land Suitability Assessments across the South Hydrological Divides: 1997-98

| Sample No. | Plot No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Response | Cultivation Status | Land - Use Suitability | |
|------------|----------|------|--------------|------------------------|----------------------|------------------------|---|-----------------------------|---|--|-------|
| 5 | B-35 | 2 | 25-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-6) Loam, (6-30) Silty clay loam, (30-36) Sandy loam, (36-42) Silty clay loam (42-48) Silt loam/Loamy sand | 8.4, 8.2 | and seasonally imperfectly drained (water at 4 feet), non saline, non sodic and moderately fine textured (SICL) with silted phase. These soils have good agricultural potential for limited crops and can be graded as class II land. | Rice some wheat as sown in main made husband fields and some Ajwain. Sufficient area is lying barren after rice harvesting and rice will be sown again. | SIIW2 |
| 5 | B-36 | 1 | 25-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-24) Very fine sandy loam, (24-30) Silty clay loam, (30-48) Silt loam | 8.4, 8.2, 8.2 | The area is a subrecent alluvial level levee, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained (water table at 4 feet), non saline, non sodic and medium to moderately coarse textured (SIL-VPSL and SL). These soils have good agricultural potential for limited crops and can be graded as class II land. | Rice & wheat | SIIW2 |
| 5 | B-36 | 2 | 25-Mar-98 | Onion field | non saline/non sodic | 4 | (0-6) Loam, (6-30) Sandy loam, (30-42) Loamy sand, (42-48) Sandy loam | 8.2, 8.2 | The area is a subrecent alluvial filled flat basin and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained and medium in texture (silt loam-very fine sandy loam). These soils have good agricultural potential for limited crops due to seasonally drainage problem, and can be graded as class II land. | Rice & wheat | SIIW2 |
| 5 | B-37 | 1 | 25-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-24) Very fine sandy loam, (24-36) Silty clay loam (36-48) Silt loam/Very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, irregular, erratic and uncertain canal supply has adversely affected the crops especially of winter crop, and under p-canal irrigation. The soils of the polygon are level, deep, well drained and medium in texture (silt loam and very fine silt loam). These soils have very high agricultural potential for wide variety of crops hence can be graded as class I. | Rice & wheat | SIIW2 |
| 5 | B-37 | 2 | 25-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-24) Very fine sandy loam, (24-30) Silty clay loam, (30-45) Silt loam, (45-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial level plain and channels silted places, unconsolidated areas are severely saline and under p-canal irrigation. The soils of the polygon are level, deep, well drained but seasonally imperfectly drained and medium to moderately fine textured (very fine silt loam & silty clay loam). These soils have very good to good agricultural potential for wide variety of crops but due to their seasonally imperfectly drainage these can be placed in class II. | Rice & wheat | SI |
| 5 | B-38 | 1 | 25-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-24) Very fine sandy loam, (24-36) Silt loam, (36-48) Silt clay | 8.4, 8.2 | The area is a subrecent alluvial level plain and channels silted places, unconsolidated areas are severely saline and under p-canal irrigation. The soils of the polygon are level, deep, well drained but seasonally imperfectly drained and medium to moderately fine textured (very fine silt loam & silty clay loam). These soils have very good to good agricultural potential for wide variety of crops but due to their seasonally imperfectly drainage these can be placed in class II. | Rice & wheat | SI |
| 5 | B-38 | 2 | 25-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-12) Loam, (12-18) Very fine sandy loam, (18-24) Loamy sand, (24-30) Very fine sandy loam, (30-36) Loamy sand, (36-48) Sand | 8.4, 8.2 | The area is a subrecent alluvial level plain and channels silted places, unconsolidated areas are severely saline and under p-canal irrigation. The soils of the polygon are level, deep, well drained but seasonally imperfectly drained and medium to moderately fine textured (very fine silt loam & silty clay loam). These soils have very good to good agricultural potential for wide variety of crops but due to their seasonally imperfectly drainage these can be placed in class II. | Rice & wheat | SI |
| 5 | B-39 | 1 | 25-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-16) loam/silt loam, (18-30) silty clay loam, (30-48) silt loam | 8.4, 8.2, 8.6, 8.8 | The area is a subrecent alluvial level plain, the lowest central part has been silted up to 15 inches and has surface salinity (it is general practice in the area to silt up lower parts, which are generally clayey, to improve their workability and to increase the soil depth above ground water) and is under p-canal irrigation. The soils of the polygons are nearly level, deep, well to moderately well drained, partly non saline, non sodic, and moderately fine texture (silty clay loam). | Rice and wheat | SI |
| 5 | B-39 | 2 | 25-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-30) silty clay loam, (30-36) sandy loam, (36-48) very fine sandy loam/silt loam | 8.2 | The area is a subrecent alluvial level plain, the lowest central part has been silted up to 15 inches and has surface salinity (it is general practice in the area to silt up lower parts, which are generally clayey, to improve their workability and to increase the soil depth above ground water) and is under p-canal irrigation. The soils of the polygons are nearly level, deep, well to moderately well drained, partly non saline, non sodic, and moderately fine texture (silty clay loam). | Rice and wheat | SI |
| 5 | B-40 | 1 | 26-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-15) silt loam, (15-48) silty clay loam | 8.6, 8.4, 8.2 | The area is a subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, and medium textured (silt loam). These soils have very high agricultural potential for wide variety of crops and can be graded as class I. | Rice and wheat | SI |
| 5 | B-40 | 2 | 26-Mar-98 | Ex-rice field | non saline/non sodic | 4 | (0-24) silt loam, (24-36) loamy sand, (36-48) very fine sandy loam/silt loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, fallow fields after harvesting rice have slight surface salinity and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and mostly medium in texture (silt loam-very fine silt loam). These soils have very high agricultural potential for wide variety of crops hence can be classified as class I land. | Rice and wheat | SI |
| 5 | B-41 | 1 | 25-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-24) silt loam, (24-36) loamy sand, (36-48) very fine sandy loam/silt loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, fallow fields after harvesting rice have slight surface salinity and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and mostly medium in texture (silt loam-very fine silt loam). These soils have very high agricultural potential for wide variety of crops hence can be classified as class I land. | Rice and wheat | SI |
| 5 | B-42 | 1 | 26-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, fallow fields after harvesting rice have slight surface salinity and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and mostly medium in texture (silt loam-very fine silt loam). These soils have very high agricultural potential for wide variety of crops hence can be classified as class I land. | Rice and wheat | SI |
| 5 | B-42 | 2 | 26-Mar-98 | Fodder Field (Barsoom) | non saline/non sodic | 4 | (0-24) Silty loam, (24-48) Very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial level plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained and medium in texture (silt loam and very fine silt loam). These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | Rice and wheat | SI |
| 5 | B-43 | 1 | 26-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-30) silt loam, (30-48) very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial level plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained and medium in texture (silt loam). The soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area, and can be graded as class I. | Wheat, cotton, jawar and vegetables, sufficient area of the polygon is under banana datepalm, guava plantation. | SI |
| 5 | B-43 | 2 | 26-Mar-98 | Fodder Field (Barsoom) | non saline/non sodic | 4 | (0-30) Silt loam, (30-44) Very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial level plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained and medium in texture (silt loam-very fine sandy loam) usually underlain by sandy material. These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area, and can be graded as class I. | Wheat, cotton, jawar (recently rice is being replaced by cotton), sufficient area of the polygon is under banana datepalm, some datepalm gardens have intercropping of wheat | SI |
| 5 | KW-1 | 1 | 20-Mar-98 | Coarader field | non saline/non sodic | 4 | (0-18) Silt loam, (18-48) Very fine sandy loam | 8.2, 8.0 | The area is a subrecent alluvial level levee channel infills, and under canal and tubewell irrigation. The soils of the polygon are level, deep, well drained (near the channel saturated sand at 4 ft), and medium texture (silt loam-very fine sandy loam) but area falls near the channel has 15 inches clayey (silty clay loam) cover that may create minor workability problem. These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | Wheat, rice and sugarcane | SI |
| 5 | KW-1 | 2 | 20-Mar-98 | fallow field | non saline/non sodic | 4 | (0-18) Silt loam, (18-48) Very fine sandy loam | 8.2, 8.0 | The area is a subrecent alluvial level levee channel infills, and under canal and tubewell irrigation. The soils of the polygon are level, deep, well drained (near the channel saturated sand at 4 ft), and medium texture (silt loam-very fine sandy loam) but area falls near the channel has 15 inches clayey (silty clay loam) cover that may create minor workability problem. These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | Wheat, rice and sugarcane | SI |
| 5 | KW-1 | 3 | 20-Mar-98 | Barsoom field | non saline/non sodic | 4 | (0-12) Silty clay loam, (12-42) Silt loam, (42-48) Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial level plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained and medium in texture (silt loam-very fine sandy loam) usually underlain by sandy material. These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area, and can be graded as class I. | Wheat, cotton, jawar (recently rice is being replaced by cotton), sufficient area of the polygon is under banana datepalm, some datepalm gardens have intercropping of wheat | SI |
| 5 | KW-2 | 1 | 20-Mar-98 | Banana field | non saline/non sodic | 4 | (0-24) Silt loam, (24-42) Very fine sandy loam, (42-48) Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial level plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained and medium in texture (silt loam). The soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area, and can be graded as class I. | Wheat, cotton, jawar and vegetables, sufficient area of the polygon is under banana datepalm, guava plantation. | SI |
| 5 | KW-3 | 1 | 18-Mar-98 | Banana field | non saline/non sodic | 4 | (0-48) Silt loam | 8.2 | The area is a subrecent alluvial level plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained and medium in texture (silt loam). The soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area, and can be graded as class I. | Wheat, cotton, jawar (recently rice is being replaced by cotton), sufficient area of the polygon is under banana datepalm, some datepalm gardens have intercropping of wheat | SI |
| 5 | KW-4 | 1 | 18-Mar-98 | Banana field | non saline/non sodic | 4 | (0-30) Silt loam, (30-36) Very fine sandy loam, (36-48) Loamy sand | 8.2, 8.0 | The area is a subrecent alluvial level plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained and medium in texture (silt loam). The soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area, and can be graded as class I. | Wheat, cotton, jawar (recently rice is being replaced by cotton), sufficient area of the polygon is under banana datepalm, some datepalm gardens have intercropping of wheat | SI |
| 5 | KW-4 | 2 | 18-Mar-98 | Banana field | non saline/non sodic | 4 | (0-48) Silt loam | 8.2 | The area is a subrecent alluvial level plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained and medium in texture (silt loam). The soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area, and can be graded as class I. | Wheat, cotton, jawar (recently rice is being replaced by cotton), sufficient area of the polygon is under banana datepalm, some datepalm gardens have intercropping of wheat | SI |

Table A IV : HMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides 1997-98

| Image | Sample No | PW No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Substrate |
|-------|-----------|-------------------------------|-----------|--|----------------------|----------------------|--|-------------------------|--|--|----------------------|
| 5 | KW-5 | 1 | 20-Mar-98 | Datepalm garden intercropped with wheat | non saline/non sodic | 4 | (0-24) Silty clay loam, (24-30) Silty clay, (30-48) Loam | 8.2, 8.2 | The area is a subrecent alluvial flat basin, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained and moderately fine texture (silty clay loam). These soils have high agricultural potential with minor problems of workability and low permeability and can be graded as class II land. | Major area under datepalm then wheat, cotton and jawar. | SI |
| 5 | KW-6 | 1 | 20-Mar-98 | Mango garden field | non saline/non sodic | | (0-48) Silt loam | 8.2 | The area is a subrecent alluvial plain and under tubewell irrigation. The soils of the polygon are level, deep, non saline, non sodic, well drained and medium texture (silt loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be graded as class I | Major area under mango garden (70-80%). The remaining under dates and bananas. Very little area is under wheat - vegetables. | SI |
| 5 | KW-7 | 1 | 20-Mar-98 | Wheat field | non saline/non sodic | | (0-26) Silt loam, (36-45) Loam, (45-48) Silt loam | 8.2, 8.0 | The area is a subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be graded as class I | | SI |
| 5 | KW-7 | 2 | 20-Mar-98 | Datepalm garden intercropped with barsoom | non saline/non sodic | 4 | (0-30) Silt loam, (30-42) Very fine sandy loam, (42-48) Silt Loam | 8.2, 8.0 | The area is a subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be graded as class I | Datepalm garden then wheat/cotton. | SI |
| 5 | KW-8 | | 23-Mar-98 | Datepalm garden intercropped with wheat | non saline/non sodic | | (0-48) Silt loam | 8.2 | The area is a subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be | About 100% area is under datepalm garden which are usually intercropped with wheat and sometimes with mango, onion, garlic and chili. | SI |
| 5 | KW-9 | 1 | 23-Mar-98 | Datepalm garden intercropped with wheat | non saline/non sodic | | (0-30) silt loam, (30-48) very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic, and medium in texture (silt loam). These soils have not to very minor limitation for agricultural production for wide variety of crops including fruit orchards ecologically suited to the area and can be | About 100% area is under datepalm garden, most of them are intercropped with wheat. | SI |
| 5 | KW-10 | 1 | 20-Mar-98 | Datepalm garden | non saline/non sodic | 4 | (0-24) Silty clay loam, (24-48) Vcr fine sandy loam/ silt loam | (paper 8.6), 8.4, 8.2 | The area is a subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (some patchy salinity present) and moderately fine in texture (silty clay loam) usually underlain by sandy material. These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can | Major area is under datepalm and mango garden wheat/cotton are main crops. | SI |
| 5 | KW-10 | 2 | 20-Mar-98 | Wheat field | non saline/non sodic | | (0-18) Silty clay loam, (18-36) Vcr fine sandy loam, (36-48) Loamy | (paper 8.6), 8.4, 8.2 | | | SI |
| 5 | KW-11 | 1 | 20-Mar-98 | Datepalm garden intercropped with mango garden | non saline/non sodic | | (0-24) Silty clay loam, (24-30) Vcr fine sandy loam, (30-48) Silt loam | paper 8.6), 8.4, 8.2, 8 | The area is a subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (yellow fields have saline/ sodic paper) and moderately fine in texture (silty clay loam). These soils have very high agricultural potential and can be graded as class I land. | Major area is under datepalm garden small acreage is under rice and wheat. Most of the date garden are intercropped with wheat or barsoom. | SI |
| 5 | KW-11 | 2 | 20-Mar-98 | Ex-rice field | non saline/non sodic | | (0-36) Silty clay loam, (36-48) Vcr fine sandy loam | (paper 8.6), 8.4, 8.2 | | | SI |
| 5 | KW-11 | 3 | 20-Mar-98 | Datepalm garden intercropped with wheat | non saline/non sodic | | (0-36) Silty clay loam, (36-48) Vcr fine sandy loam | 8.2 | | | SI |
| 5 | KW-12 | image no 3 as kw 21 | | | | | | | | | SIW2 |
| 5 | KW-13 | 1 | 19-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-18) Sandy loam, (18-30) Loamy sand, (30-42) Sandy loam, (42-48) Sand | 8.2, 8.2 | The area is a subrecent alluvial level covered levees under p-canal irrigation usually underlain by saturated sand. The soils of the polygon are level, deep moderately well drained (water table at 4 feet) and moderately coarse (SL) to medium in texture (loam). These soils have high agricultural potential for limited crops and can be graded as class II land. | | SIW2 |
| 5 | KW-13 | 2 | 19-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-18) Loam, (18-30) Silty clay loam, (30-48) Loam Sand | 8.2, 8.2 | | Wheat and cotton. | SIW2 |
| 5 | | Covered in Image No.5 as KW25 | | | | | | | | | SIW2 |
| 5 | KW-15 | 1 | 19-Mar-98 | Wheat field | non saline/non sodic | | (0-10) Silt loam, (10-36) Silty clay loam, (36-48) Very fine sandy loam / silt loam | 8.2, 8.2 | The area is a subrecent alluvial flat basin and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained and medium in texture (loam). The soils have high agricultural potential and can be | | SIW2 |
| 5 | KW-15 | 2 | 19-Mar-98 | Wheat field | non saline/non sodic | saturation at 4 feet | (0-18) Silty clay loam, (18-42) Silt loam/very fine sandy loam, (42-48), Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial covered levees, usually underlain by saturated sand and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained and medium in texture (loam). The soils have high agricultural potential and can be graded as class I/II land. | Wheat, cotton, jawar, sufficient area is under date orchards with few mango trees. | SI |
| 5 | KW-16 | 1 | 19-Mar-98 | Fodder Field | non saline/non sodic | 4 | (0-6) Loam, (6-24) Silt loam, (24-48) Loamy sand | 8.2, 8.0 | | | SI |
| 5 | KW-16 | 2 | 19-Mar-98 | Wheat field | non saline/non sodic | saturation at 4 feet | (0-12) Silt loam, (12-48) Very fine sandy loam | 8.2, 8.0 | The area is a part of subrecent alluvial level covered levees, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3 feet) and medium in texture (loam, silt loam, vfil). These soils have high agricultural potential and can be graded as class II land. | Wheat, cotton, sufficient area is under date orchards with few mango trees. | SIW2 |
| 5 | KW-17 | 1 | 19-Mar-98 | Fodder Field | non saline/non sodic | saturation at 4feet | (0-30) Loam, (30-36) sandy Loam, (36-48) Sand | 8.2, 8.2 | The area is a subrecent alluvial covered levees, usually underlain by saturated sand and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained and medium in texture (loam). The soils have high agricultural potential and can be | Wheat, cotton and mango trees are also present. | SIW2 |
| 5 | KW-18 | 1 | 19-Mar-98 | Datepalm intercropped with wheat | non saline/non sodic | | (0-18) Sandy Loam, (18-48) Sand | 8.2, 8.0 | The area is a subrecent alluvial covered levees, usually underlain by saturated sand and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained and medium in texture (loam). The soils have high agricultural potential and can be | | SIW2 |
| 5 | KW-18 | 2 | 19-Mar-98 | Mango garden intercropped with fodder | non saline/non sodic | 4 | (0-18) Silty clay loam, (18-24) Silt loam, (24-36) Silty clay loam, (36-48) Silty clay | 8.2, 8.2 | The area is a subrecent alluvial covered levees, usually underlain by saturated sand and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained and medium in texture (loam). The soils have high agricultural potential and can be | | SIW2 |
| 5 | KW-18 | 3 | 19-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-24) Silty clay loam, (24-42) Silty clay, (42-48) Silt loam | 8.2, 8.2 | The area is a subrecent alluvial covered levees, usually underlain by saturated sand and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained and medium in texture (loam). The soils have high agricultural potential and can be | Major part consists of SI | SIW2 |
| 5 | KW-19 | 1 | 19-Mar-98 | Wheat field | non saline/non sodic | | (0-24) Silt loam, (24-48) Very fine sandy loam | 8.2, 8.0 | The area is a subrecent alluvial plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained to moderately well drained (lower areas), non saline, non sodic (patchy salinity exists) and medium in texture (silt loam/vfil). These soils have very high agricultural potential (excluding some low area) for wide variety of crops and can be graded class I land. | | SI |
| 5 | KW-19 | 2 | 19-Mar-98 | Amisced | non saline/non sodic | saturation at 4feet | (0-30) Silt loam, (30-48) Very fine sandy loam | 8.2, 8.2 | | Wheat, cotton, Srauf, sugarcane | SI |

Table A.IV.1: RMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divisions (1997-98)

| Sample No. | Plot No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (ft) & Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability | |
|------------|----------|------|--------------|--|----------------------|----------------------|--|---------------------------|---|--|------|
| 5 | KW-20 | 1 | 19-Mar-98 | Datepalm intercropped with wheat | non saline/non sodic | 4 | 0-18) Silt loam, (18-24) Loam, (24-32) Fine sandy loam, (42-48) Loamy sand | 5.2, 8.2 | The area is a subrecent alluvial level covered levees, water logged, uncommanded areas are severely saline, and under p-canal irrigation. The soils of the polygon are nearly level, deep, mostly well drained, small area is moderately well drained and medium in texture. (silt loam, loam, vfd) These soils have high to very high agricultural potential and can be graded as class I II land. | Wheat, cotton, jawar and sufficient area is under datepalm orchards few mango trees are also present. | SI |
| 5 | KW-20 | 2 | 19-Mar-98 | Fodder field Should be discarded | non saline/non sodic | | 0-18) Loam, (18-36) Silt loam, very fine sandy loam, (36-48) Loamy sand | 9.2, 8.2 | | | SI |
| 5 | KE-18 | 1 | 21-Mar-98 | Wheat field | non saline/non sodic | 4 | 0-36) Silty clay loam, (36-48) Very fine sandy loam | 8.2, 8.2 | The area is a subrecent level piedmont plain and under p-canal irrigation, fallow fields have surface salinity. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic (fallow fields are saline white cultivated fields are non saline, non sodic and moderately fine textured (SICL). | It is tile drainage area, most of it is not working. | SIW2 |
| 5 | KE-18 | 2 | 21-Mar-98 | Wheat field | non saline/non sodic | | 0-6) Sandy loam, (6-12) Very fine sandy loam, (12-30) Silty clay loam, (30-48) Silty clay | 8.6, 8.2, 9.2 | | | SIW2 |
| 5 | KE-17 | 1 | 21-Mar-98 | Fodder field | non saline/non sodic | | 0-24) Silty clay loam, (24-30) Silt loam, (30-36) Silty clay loam (36-45) Very fine sandy loam, (45-48) Loamy sand | 9.2, 8.2 | The area is a subrecent alluvial flat basin and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4), non saline, non sodic and moderately fine textured (SICL). These soils have high agricultural potential for limited crops and can be graded as class II land. | Wheat, cotton, jawar and sufficient area is under datepalm orchards intercropped with wheat and berseem. | SIW2 |
| 5 | KE-17 | 2 | 21-Mar-98 | Wheat field | non saline/non sodic | 4 | 0-18) Silty clay loam, (18-36) Silt loam, (36-48) Silty clay loam | 8.2, 8.0 | | | SIW2 |
| 5 | KE-16 | 1 | 21-Mar-98 | Wheat field | non saline/non sodic | | 0-12) Loam, (12-48) Very fine sandy loam | 8.2, 8.2 | The area is a subrecent level covered levee and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (loam & vfd). These soils have very high agricultural potential for wide variety of crops. | Wheat, cotton, jawar | SI |
| 5 | KE-15 | 1 | 21-Mar-98 | Wheat field | non saline/non sodic | 4 | 0-18) Silty clay loam, (18-48) Silt loam | 8.2, 8.2 | The area is a subrecent alluvial flat basin, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and moderately fine textured (silty clay loams). These soils have high agricultural potential for limited crops and can be graded as class II land. | | SIW2 |
| 5 | KE-15 | 2 | 21-Mar-98 | Wheat field | non saline/non sodic | 4 | 0-36) Silty clay loam, (36-48) Silt clay | 8.2, 8.2 | | Wheat, cotton / jawar | SIW2 |
| 5 | KE-14 | 1 | 22-Mar-98 | Datepalm and wheat field | non saline/non sodic | 4 | 0-12) Loam, (12-42) Very fine sandy loam, (42-48) Loamy very fine sand | 8.2, 8.2 | The area is subrecent alluvial level plain, water logged, fallow fields have surface salinity, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and medium in texture (silt loam, vfd). These soils have good agricultural potential for limited crops and can be graded as class II land. | Wheat, sugarcane, cotton, sufficient area is under date orchards with few scattered mango trees. | SIW2 |
| 5 | KE-14 | 2 | 22-Mar-98 | Ploughed field | non saline/non sodic | 4 | 0-18) Silt loam, (18-30) Very fine sandy loam, (30-42) Silt loam, (42-48) Loamy very fine sand | 8.2, 8.2 | | | SIW2 |
| 5 | KE-13 | 1 | 21-Mar-98 | Wheat field | non saline/non sodic | | 0-36) Silt loam/Very fine sandy loam, (36-48) Silty clay | 8.2, 8.2 | The area is a subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam/vfd). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be graded as class I land. | Wheat, cotton/jawar a few orchards of date are present with some scattered trees of mango. | SI |
| 5 | KE-13 | 2 | 21-Mar-98 | Wheat field | non saline/non sodic | | 0-30) Loam, (30-36) Very fine sandy loam, (36-48) Loamy sand | 8.2, 8.2 | | | SI |
| 5 | KE-12 | 1 | 22-Mar-98 | Wheat field | non saline/non sodic | 4 | Silt loam (12), Silty clay loam (30), Silt clay loam (45), Silty clay (48) | 8.2 | The area lies in the foot of the mountain and is a mixed piedmont and river alluvial deposited during the subrecent period and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and moderately fine textured (SICL). These soils have good | Wheat, cotton and some rice | SIW2 |
| 5 | KE-12 | 2 | 22-Mar-98 | Barren natural vegetation (barren, open) | non saline/non sodic | | 0-6) Silt loam, (6-30) Silty clay loam, (30-45) Silty clay, (45-48) | 8.6, 8.4, 8.4 | | | SIW2 |
| 5 | KE-11 | 1 | 22-Mar-98 | Wheat field | non saline/non sodic | 4 | 0-18) Silty clay loam, (18-36) Silty clay loam, (36-48) Very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial flat basin, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4), non saline, non sodic and moderately fine textured (silty clay loam). These soils have high agricultural potential for limited crops and can be graded as class II land. | Wheat, cotton and some rice. Some date orchards are also present. | SIW2 |
| 5 | KE-11 | 2 | 22-Mar-98 | Wheat field | non saline/non sodic | 4 | 0-18) Silty clay loam, (18-36) Silty clay loam, (36-48) Silty clay | 8.2, 8.2 | | | SIW2 |
| 5 | KE-10 | 1 | 21-Mar-98 | Wheat field | non saline/non sodic | | 0-12) Silty clay loam, (12-48) Very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial level plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium to moderately fine textured (silt loam/vfd). These soils have very high agricultural potential including fruit orchards ecologically suited to the area and can be graded as class I land. | Wheat, cotton / jawar, mango, date and banana gardens are also present. | SI |
| 5 | KE-10 | 2 | 21-Mar-98 | Wheat field | non saline/non sodic | | 0-24) Silt loam, (24-36) Very fine sandy loam, (36-42) Silty clay loam, (42-48) Loamy sand | | | | SI |
| 5 | KE-9 | 1 | 21-Mar-98 | Wheat field | non saline/non sodic | 4 | 0-36) Silty clay loam, (36-48) Silty clay | 8.2, 8.0 | The area is subrecent alluvial level levees and flat basins and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and medium to moderately fine textures (silt loam, loam & silty clay loam). Such soils have good agricultural potential for limited crops and can be classified and class II land. | Wheat, cotton / jawar. Some date and gardens are also present intercropped with wheat or berseem. | SIW2 |
| 5 | KE-9 | 2 | 21-Mar-98 | Datepalm intercropped with wheat | non saline/non sodic | | 0-12) Silt loam, (12-42) Loam, (42-48) Very fine sandy loam | 8.2, 8.2 | | | SIW2 |
| 5 | KE-8 | 1 | 22-Mar-98 | Wheat field | non saline/non sodic | 4 | 0-24) Silty clay loam, (24-48) Silty clay | 8.2, 8.2 | The area is a mixture of piedmont and river alluvium deposited during the subrecent period. It is water logged, uncommanded or fallow fields are saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium to moderately fine texture. These soils have good agricultural potential for limited crops and can be graded as | Wheat & rice. Many scattered date orchards are present. | SIW2 |
| 5 | KE-8 | 2 | 22-Mar-98 | Wheat field | non saline/non sodic | 4 | 0-12) Silt clay loam, (12-30) Silty clay, (30-48) Silt loam/ Very fine sandy loam | 8.2, 8.2 | | | SIW2 |
| 5 | KE-7 | 1 | 22-Mar-98 | Coriander field | non saline/non sodic | | 0-36) Loam, (36-42) Silty clay loam, (42-48) Very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained (water table at 4), non saline, non sodic and medium in texture (loam & vfd). The soils have high agricultural | Wheat, cotton / jawar. Sufficient area is under date & mango orchards. | SI |
| 5 | KE-7 | 2 | 22-Mar-98 | Wheat field | non saline/non sodic | 4 | 0-36) Loam, (36-48) Very fine sandy loam | 8.2, 8.2 | | | SI |
| 5 | KE-6 | 1 | 22-Mar-98 | Wheat field | non saline/non sodic | 4 | 0-6) Loam, (6-24) Very fine sandy loam, (24-48) Silt loam | 8.2, 8.2 | The area is a subrecent alluvial level covered levees and filled flat basins, water logged, uncommanded areas are severely saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non | | SIW2 |

Table A IV - 1 HMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides 1997-98

| Image | Sample No. | Plk No. | Date | Present Crop | Salinization Status | Water Table (fts) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------|-----------|--|----------------------|-------------------|--|---------------|---|--|------------------------|
| 5 | KE-6 | 2 | 22-Mar-98 | Wheat field | non saline/non sodic | | (0-30) Silty clay loam, (30-48) Silty clay | 8.2, 8.2 | sodic and medium to moderately fine textured (SIL, VFSL and SICL). These soils have high agricultural potential for limited crops | Wheat, cotton, jawar. Sufficient area is under date orchards. | SIW2 |
| 5 | KE-5 | 1 | 22-Mar-98 | Datepalm intercropped with wheat | non saline/non sodic | | (0-18) Silt loam, (18-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam/vsil). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be graded as class I land. | Wheat & cotton. Major area is under mango, banana and date garden. | SI |
| 5 | KE-5 | 2 | 22-Mar-98 | Banana field | non saline/non sodic | | (0-20) Silt loam, (20-30) Very fine sandy loam, (30-48) Loamy very fine sand | 8.2, 8.2 | | | SI |
| 5 | KE-4 | 1 | 21-Mar-98 | Wheat field | non saline/non sodic | Saturation at 4 | (0-18) Silt clay loam, (18-24) Silt loam, (24-42) Silty clay loam, (42-48) Loamy sand | 8.6, 8.4, 8.2 | The area is a subrecent alluvial level plain, water logged, and under p-canal irrigation. The area lies between two big canals. The soils of the polygon are level, deep, moderately well drained (water table at 4), non saline, non sodic (but patchy salinity is present in few | Wheat-cotton/jawar. Sufficient area is under date and mango gardens. | SI |
| 5 | KE-4 | 2 | 21-Mar-98 | Wheat field | non saline/non sodic | | (0-12) Silt loam, (12-18) Silty clay | 8.4, 8.2 | | | SI |
| 5 | KE-3 | 1 | 22-Mar-98 | Datepalm intercropped with onion field | non saline/non sodic | | (0-30) Silt loam, (30-48) Very fine sandy loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline, non sodic and medium in texture (silt loam, loam, vsil). Such soils have very high agricultural potential for wide variety of crops and can be graded as | Wheat, cotton and many date gardens are present. | SI |
| 5 | KE-3 | 2 | 22-Mar-98 | Datepalm intercropped with wheat field | non saline/non sodic | | (0-6) Silt loam, (6-42) Loam, (42-48) Silt loam | 8.2, 8.2 | | | SI |
| 5 | KE-2 | 1 | 23-Mar-98 | Wheat field | non saline/non sodic | | (0-6) Silt loam, (6-18) Loam, (18-30) Very fine sandy loam, (30-48) Silt loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam, loam, vsil). | Wheat and cotton. Sufficient area is under date & mango orchards. Date orchards are usually intercropped with wheat. | SI |
| 5 | KE-2 | 2 | 23-Mar-98 | Datepalm intercropped with wheat field | non saline/non sodic | | (0-48) Silt loam | 8.2 | The area is subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic, but un-intercropped date fields have saline sodic paper about 1-3 cm, and medium in texture (silt loam & vsil). These soils have non to very minor limitations for very high agricultural production including fruit orchards ecologically suited | 100% area is under date. | SI |
| 5 | KE-1 | 1 | 23-Mar-98 | Datepalm garden field | non saline/non sodic | Saturation at 4 | (0-24) Loam, (24-42) Very fine sandy loam, (42-48) Silt loam | 8.8, 8.4, 8.2 | | | SI |
| 5 | N-16 | 1 | 23-Mar-98 | Wheat field | non saline/non sodic | | (0-18) Silty clay loam, (18-42) Very fine sandy loam, (42-48) Silt loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, and under p-canal irrigation from Nara Canal. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam, loam, vsil). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be graded as class I land. | Wheat & cotton. A few mango & date orchards are present. | SI |
| 5 | N-16 | 2 | 23-Mar-98 | Ploughed field | non saline/non sodic | | (0-24) Silt loam, (24-30) Very fine sandy loam, (30-48) Loamy sand | 8.2, 8.2, 8.2 | | | SI |
| 5 | D-7 | 1 | 25-Mar-98 | Gram | non saline/non sodic | | (0-48) Silty clay loam | 8.2 | The area is subrecent alluvial flat basin and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline, non sodic and moderately fine textured (silty clay loam). These soils have very good agricultural potential with minor problems of workability and low permeability hence can be | Rice, wheat and gram. | SI |
| 5 | D-7 | 2 | 25-Mar-98 | Gram | non saline/non sodic | | (0-48) Silty clay loam | 8.2 | | | SI |
| 5 | NW-73 | 1 | 26-Mar-98 | Wheat field | non saline/non sodic | | (0-36) Silty clay loam, (36-48) Silty clay | 8.2, 8.3 | The area is a subrecent alluvial flat basin, under p-canal irrigation and water logged. The soils of the polygon are level, deep, moderately well drained (water table at 4-5 feet), non saline, non sodic and moderately fine in texture (silty clay loam). These soils have good agricultural potential for limited crops due to the minor problems of workability and low permeability and can be graded as | Rice with some wheat. | SIW2 |
| 5 | NW-73 | 2 | 26-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-30) Silty clay loam, (30-36) Loam, (36-48) Sandy loam | 8.2, 8.2 | The area falls in recent flood plain, and under flood residual moisture and tubewell. Single crop of wheat is harvested. The soils of the polygon are nearly level, deep, well drained (half yearly), non saline, non sodic and laminated medium textured. The soils have moderately flood hazard and only single crop of wheat is grown and | Wheat only no summer crop is grown due to flood hazard. | SIW2 |
| 14 | G-60 | 1 | 21-Apr-98 | Wheat field | non saline/non sodic | | (0-6) Silt loam, (6-18) Very fine sandy loam, (18-36) Loamy sand, (36-48) Fine sandy loam | 8.2 | The area falls in the subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are nearly level, deep to moderately deep, well drained, non saline, non sodic and medium to moderately fine texture (silt loam/vsil and silty clay loam) but major part consists of medium textures. Such soils have very high agricultural potential for wide variety of crops and | Wheat, cotton and sugarcane | SI |
| 14 | G-61 | 1 | 21-Apr-98 | Wheat field | non saline/non sodic | | (0-20) Silt loam, (20-48) Loamy fine sand | 8.2 | The area lies in recent alluvial level plain flooded every year, and under tubewell irrigation and laminated. The soils of the polygon are level, deep, well drained, seasonally poorly drained, (flooded), non saline, non sodic and medium to moderately fine textured (silt loam & SICL). Such soils can produce only one good crop per year | Wheat | SIW2 |
| 14 | G-61 | 2 | 21-Apr-98 | Ploughed field | non saline/non sodic | | (0-48) Silty clay loam | 8.2 | | | SI |
| 14 | G-62 | 1 | 18-Apr-98 | Wheat field | non saline/non sodic | | (0-24) Laminated silt loam/silty clay loam/very fine sandy loam, (24-84) Silt clay loam | | | Wheat | SIW2 |
| 14 | G-63 | 1 | 18-Apr-98 | Ex-cotton field | non saline/non sodic | | (0-6) Loam, (6-24) Silt loam, (24-45) Silt loam, (45-48) Silty clay loam | 8.2 | The area falls in subrecent level plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained and medium in texture (SIL & VFSL). Such soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be placed in class I | Wheat, cotton and some sugarcane & vegetables | SI |
| 14 | G-63 | 2 | 18-Apr-98 | Wheat field | non saline/non sodic | | (0-36) Silty clay loam | | | | SI |
| 14 | G-64 | 1 | 18-Apr-98 | Wheat field | non saline/non sodic | | (0-24) Silt loam, (24-36) Silty clay loam, (36-48) Silt loam | 8.2, 8.0, 8.0 | The area occupies subrecent alluvial level plain and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (SIL/VFSL and SICL) but mostly medium textured. Such soils have very high agricultural potential for wide variety of crops including fruit orchards, ecologically suited to the area and can be | Wheat & cotton and few mango garden | SI |
| 14 | G-64 | 2 | 18-Apr-98 | Wheat field intercropped with mango garden | non saline/non sodic | | (0-24) Silt loam, (24-36) Silty clay loam, (36-48) Silt loam | 8.2 | | | SI |
| 14 | G-65 | 1 | 18-Apr-98 | Wheat field | non saline/non sodic | | (0-18) Silt loam, (18-24) Silty clay loam, (24-30) Silt loam, (30-48) Very fine sandy loam | 8.2, 8.0 | The area falls in subrecent level back slope deposits plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (in the surrounding some stamie/sodic patches are present) and moderately fine to medium textured (SICL & SIL/VFSL). Such soils have little to none | Wheat & cotton and few mango garden | SI |
| 14 | G-65 | 2 | 18-Apr-98 | Wheat field | non saline/non sodic | | (0-24) Silty clay loam, (24-30) Silt loam, (30-48) Very fine sandy loam | 8.2 | | | SI |

Table A IV - 1. IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides - 1997-98

| Image/Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|------------------|---------|------|--------------|---------------------|----------------------|--|----------|--|--|------------------------|
| 14 | G-66 | 1 | 21-Apr-98 | Wheat field | non saline non sodic | (0-20) Silt loam, (20-48) Very fine sandy loam | 8.2 | The area falls in subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained (presently), non saline, non sodic and medium in texture (SIL, L. VPSL). Such soils have very high agricultural potential for wide variety of crops and can be placed in class I land. | | SI |
| 14 | G-66 | 2 | 21-Apr-98 | Ex-cotton field | non saline non sodic | (0-6) Silt loam, (6-18) Loam, (18-30) Silt loam, (30-42) Loamy sand, (42-48) Very fine sandy loam | 8.2 | The area is a subrecent alluvial covered levee bank, usually underlain by sandy material under p-canal and tubewell irrigation. The soils of the polygon are level, deep to moderately deep, well drained (presently), non saline, non sodic and medium in texture. Such soils have very high agricultural potential (under present conditions) for wide variety of crops and can be classified as class I land. | Wheat and cotton | SI |
| 14 | G-67 | 1 | 21-Apr-98 | Ex-cotton field | non saline non sodic | (0-18) Silt loam, (18-36) Very fine sandy loam, (36-48) Loamy fine | 8.2 | The area falls in subrecent alluvial channel levee or backslope deposits and under p-canal and tubewell irrigation. The soils of the polygon are nearly level, deep, well drained, non saline, non sodic (patchy salinity exists) and mostly (75%) fine textured (SICL) with minor components about 25% medium textures (SIL, L. VPSL). Such soils have very high agricultural potential for wide range of crops and fruit orchards ecologically suited to the area. | Wheat and cotton | SI |
| 14 | G-67 | 2 | 21-Apr-98 | Fodder field | non saline non sodic | (0-6) Loam, (6-20) Very fine sandy loam, (20-48) Loamy sand | 8.2 | The area falls in subrecent alluvial channel levee or backslope deposits and under p-canal and tubewell irrigation. The soils of the polygon are nearly level, deep, well drained, non saline, non sodic (patchy salinity exists) and mostly (75%) fine textured (SICL) with minor components about 25% medium textures (SIL, L. VPSL). Such soils have very high agricultural potential for wide range of crops and fruit orchards ecologically suited to the area. | Wheat and cotton with a few mango garden | SI |
| 14 | G-68 | 1 | 19-Apr-98 | Fodder field | non saline non sodic | (0-30) Silty clay loam, (30-42) Silt loam, (42-45) Very fine sandy loam, (45-48) Loamy sand | 8.2 | The area is a part of subrecent alluvial channel in-fills and covered by, usually underlain by sandy material and seasonally becomes in winter moderately well drained and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained (presently), non saline, non sodic and medium textures (SIL, L. VPSL). These soils have very good to good agricultural potential and can be classified as class I/II land. | | SI |
| 14 | G-69 | 1 | 21-Apr-98 | Wheat field | non saline non sodic | (0-6) Silt loam (6-36) Loam, (36-48) Very fine sandy loam | 8.2, 8.2 | The area is a part of subrecent alluvial channel levee remnant and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (may be moderately well drained in winter) and medium in texture (SIL). Such soils have very high agricultural potential and can be classified as class I land. | | SI |
| 14 | G-69 | 2 | 21-Apr-98 | Wheat field | non saline/non sodic | (0-6) Loam, (6-12) Silty clay loam, (12-20) Loam, (20-30) Very fine sandy loam, (30-48) Loamy sand | 8.2 | The area is a part of subrecent alluvial channel levee remnant and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (may be moderately well drained in winter) and medium in texture (SIL). Such soils have very high agricultural potential and can be classified as class I land. | Wheat and cotton | SI |
| 14 | G-70 | 1 | 20-Apr-98 | Barley field | non saline/non sodic | (0-6) Loam, (6-18) Silty clay loam, (18-48) Loamy sand | 8.2 | The area is a part of subrecent alluvial channel levee remnant and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (may be moderately well drained in winter) and medium in texture (SIL). Such soils have very high agricultural potential and can be classified as class I land. | | SI |
| 14 | G-70 | 2 | 20-Apr-98 | Wheat field | non saline/non sodic | (0-6) Silt clay loam, (6-12) Silt loam, (12-48) Very fine sandy loam | 8.2 | The area is a part of subrecent alluvial channel levee remnant and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (may be moderately well drained in winter) and medium in texture (SIL). Such soils have very high agricultural potential and can be classified as class I land. | Wheat and cotton | SI |
| 14 | G-71 | 1 | 19-Apr-98 | Ex-cotton field | non saline/non sodic | (0-30) Silt clay loam, (30-48) Loamy sand | 8.2 | The area is a part of subrecent alluvial channel levee remnant and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (may be moderately well drained in winter) and medium in texture (SIL). Such soils have very high agricultural potential and can be classified as class I land. | | SI |
| 14 | G-71 | 2 | 19-Apr-98 | Wheat field | non saline non sodic | (0-12) Silt loam, (12-36) Silt clay loam, (36-48) Silty clay loam/Very fine sandy loam | 8.2, 8.0 | The area is a part of subrecent alluvial channel levee remnant and under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (may be moderately well drained in winter) and medium in texture (SIL). Such soils have very high agricultural potential and can be classified as class I land. | Cotton, wheat and few mango trees are also present | SI |
| 14 | G-72 | 1 | 19-Apr-98 | Wheat field | non saline non sodic | (0-20) Silt loam, (20-30) Loam, (30-36) Very fine sandy loam, (36-48) Loamy sand | 8.2 | The area falls in subrecent alluvial meander bars/levees and under p-canal and tubewell irrigation and usually underlain by sandy material. The soils of the polygon are moderately deep to deep (sand at 18 - 36 ins), level, well drained and medium textured (silt loam, vst. loam). These soils in part may have moderate good | Cotton, wheat, vegetables and few mango trees are also present | SI |
| 14 | G-72 | 2 | 19-Apr-98 | Wheat field | non saline non sodic | (0-20) Silt loam, (20-48) Loamy | 8.2 | The area falls in subrecent alluvial level, covered bars/levees, usually underlain by sand at shallow depth, and under p-canal & tubewell irrigation. The soils of the polygon are level, moderately deep to deep (saturation at 20 - 48 ins) well drained, non saline, non sodic but patchy salinity in some fields exist and medium textured | Cotton, wheat and few mango trees are also present but not healthy | SI |
| 14 | G-73 | 1 | 20-Apr-98 | Wheat field | non saline non sodic | (0-6) Loam, (6-18) Sandy loam, (18-48) Loamy sand | 8.2 | The area is a subrecent alluvial level plain & under p-canal & tubewell irrigation. The soils of the polygon are level, deep, well drained (seasonally in winter become moderately well drained) water table at 4 - 6 ft, non saline, non sodic and medium in texture (silt loam). Such soils have very high agricultural potential for | Wheat, cotton. Some mango orchards present in the adjacent. | SI |
| 14 | G-73 | 2 | 20-Apr-98 | Wheat field | non saline/non sodic | (0-30) Loam, (30-48) Loamy sand | 8.2 | The area is a subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, VPSL). Such soils have very high agricultural potential for wide variety of crops and can be put in class I land. | | SI |
| 14 | G-74 | 1 | 20-Apr-98 | Wheat field | non saline non sodic | (0-30) Silt loam, (30-48) Fine sandy loam | 8.2, 8.0 | The area is a part of subrecent alluvial back slope deposits nearly level plains and under canal & tubewell irrigation. The soils of the polygon are deep, level, well drained, non saline, non sodic (patchy salinity in many fields present) and medium texture (SIL, VPSL). | Wheat, cotton. Some mango orchards present in the adjacent. | SI |
| 14 | G-75 | 1 | 19-Apr-98 | Wheat field | non saline non sodic | (0-30) Silt loam, (30-42) Silty clay loam, (42-48) Loam | 8.2, 8.2 | The area is a part of subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, VPSL). Such soils have very high agricultural potential for wide variety of crops and can be put in class I land. | Wheat & cotton | SI |
| 14 | G-75 | 2 | 19-Apr-98 | Wheat field | non saline/non sodic | (0-18) Silt loam, (18-45) Very fine sandy loam, (45-48) Loamy fine | 8.2 | The area is a part of subrecent alluvial back slope deposits nearly level plains and under canal & tubewell irrigation. The soils of the polygon are deep, level, well drained, non saline, non sodic (patchy salinity in many fields present) and medium texture (SIL, VPSL). | | SI |
| 14 | G-76 | 1 | 19-Apr-98 | Wheat field | non saline non sodic | (0-18) Silt loam, (18-30) Loam, (30-48) Fine sandy loam | 8.2 | The area is a flat depression area, water logged, and under p-canal irrigation. The soils of the polygon are nearly level, deep, imperfectly drained, non saline, non sodic (as the fields were ploughed patchy salinity was not recognizable) and medium in texture (SIL, VPSL). | Cotton - poor only, some wheat is sown in higher spots. | SIW2 |
| 14 | G-76 | 2 | 19-Apr-98 | Wheat field | non saline non sodic | (0-18) Silt loam, (18-30) Loam, (30-42) Silty clay loam, (42-48) Fine sandy loam | 8.2, 8.0 | The area falls in subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine to medium textures (SIL, silty clay loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be placed in | Cotton, wheat and some vegetables. | SI |
| 14 | G-77 | 1 | 20-Apr-98 | Ex-cotton field | non saline non sodic | (0-18) Silt loam, (18-45) Very fine sandy loam, (45-48) Silty clay | 8.2 | The area falls in subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are | | SI |
| 14 | G-78 | 1 | 19-Apr-98 | Wheat field | non saline non sodic | (0-18) Silt loam, (18-30) Loam, (30-42) Silty clay loam, (42-48) Fine sandy loam | 8.2, 8.0 | The area falls in subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are | | SI |
| 14 | G-79 | 1 | 19-Apr-98 | Ex-cotton field | non saline non sodic | (0-18) Silt loam, (18-45) Very fine sandy loam, (45-48) Silty clay | 8.2 | The area falls in subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are | | SI |

Table A.IV.1 IIMI Field Sample Survey Observations for Land Sustainability Assessments across the Sindh Hydrological Divides, 1997-98

| Image | Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability | |
|-------|------------|--------------------------------|-----------|-----------------|-----------------------|------------------|---|--------------------|--|--|------------------------|-----|
| 14 | G-79 | 2 | 19-Apr-98 | Wheat field | non saline/non sodic | | (0-30) Silt loam, (30-48) Very fine sandy loam | 8.2 | nearly level, deep, well to moderately well drained (saturation at 4 feet, non saline, non sodic but approximately every field has patchy salinity/sodicity and medium textures (SIL/VFSL). Such soils have some salinity limitations for crop production and can be placed as class I/II. The area is a part of subrecent alluvial, level, channel levee remnants gets waterlogged in winter/when canal supply begins, and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (canal closed up to last week of May) and medium textured (loam, silt loam). Such soils have good to very good agricultural potential and can be placed in class I/II. | Cotton and wheat | SI | |
| 14 | G-80 | 1 | 20-Apr-98 | Wheat field | non saline/non sodic | | (0-24) Loam, (24-30) Silt loam, (30-48) Very fine sandy loam | 8.2 | The area falls in subrecent alluvial level plain & under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam/vh1). Such soils have very high agriculture potential for wide variety of crops including fruit orchards ecologically suited to the area and can be classified as class I land. | Wheat and cotton | SI | |
| 14 | G-81 | 1 | 20-Apr-98 | Fodder field | non saline/non sodic | | (0-6) Silt loam, (6-24) Very fine sandy loam, (24-48) Silt loam | 8.2 | The area constitutes a part of subrecent alluvial broad basins and under seasonal canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic/barren fields are gypiferous (saline) and fine in texture (silty clay). These soils have | Wheat & cotton. Some cotton are also sown. | SI | |
| 14 | G-81 | 1 | 20-Apr-98 | Ploughed field | non saline/non sodic | | (0-6) Silt loam, (6-24) Very fine sandy loam, (24-30) Loamy sand, (30-48) Very fine sandy loam | 8.2 | | | SI | |
| 12 | B-117 | 1 | 26-Apr-98 | Ploughed field | surface saline -sodic | | (0-24) Silty clay, (24-48) Very fine sandy loam | (surface 8.8), 8.4 | | | Rice | SIb |
| 12 | B-117 | 2 | 28-Apr-98 | Coriander field | non saline/non sodic | | (0-24) Silty clay, (24-48) Silt loam | 8.2, 8.2 | | | | SIb |
| 12 | B-118 | 1 | 28-Apr-98 | Ploughed field | non saline/non sodic | | (0-24) Sandy loam, (24-48) Very fine sandy loam | 8.2 | The area falls in subrecent covered levees/bars and under seasonal canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (patchy salinity present) and medium to moderately coarse textured (SIL & SL) but mostly medium texture. Such soils can be graded as class I land but sandy soils as class II land. | Rice | SI | |
| 12 | B-118 | 2 | 28-Apr-98 | Ploughed field | non saline/non sodic | | (0-6) Silty clay loam, (6-36) Silt loam, (36-48) Silty clay loam | 8.2 | | | | SI |
| 12 | B-119 | 1 | 28-Apr-98 | Saagi field | non saline/non sodic | | (0-12) Silty clay loam, (12-46) Silt loam | 8.2 | The area falls in the subrecent alluvial broad basin and under seasonal canal irrigation. The soils of the polygon are nearly level, deep, well drained non saline, non-sodic and medium to moderately fine texture (silt loam and silty clay loam), but mostly moderately | Rice, some dhania, saunf and fodder are produced on residual moisture. | SI | |
| 12 | B-119 | 2 | 28-Apr-98 | Ex-rice field | non saline/non sodic | | (0-22) Silty clay loam, (22-48) Silt loam | 8.2 | The area lies in the subrecent alluvial broad basin and under seasonal canal irrigation. The soils of the polygon are level, deep, moderately well drained non saline, non sodic and fine textured (silty clay) Such soils have good agricultural potential under modern management practices. These soils have minor limitations | Rice | SIb | |
| 12 | B-120 | 1 | 28-Apr-98 | Saagi field | non saline/non sodic | | (0-24) Silty clay, (24-30) Silt clay loam, (30-48) Silt loam | 8.2 | The area falls in the subrecent alluvial broad basin and under seasonal canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in texture (silty clay) Such soils have some limitations for agricultural production as seed bed preparation and low permeability and | Rice | SIb | |
| 12 | B-121 | 1 | 28-Apr-98 | Ploughed field | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty clay | 8.2 | | Rice | SI | |
| 12 | NW-99 | Covered in Image No.1 to NW-14 | | | | | (0-30) Silty clay loam, (30-48) Silt loam | 8.4, 8.2 | The area falls in a subrecent alluvial level plain, about 40% of the polygon area is lying barren that contains gypiferous saline, and under p-canal irrigation. The soils of the polygon are level, deep, well drained (as present), non saline, non sodic (barren fields are gypiferous saline) and medium to moderately fine textured (SIL, SICL). Such soils have very good agricultural potential and | | SI | |
| 12 | NW-100 | 1 | 28-Apr-98 | Barren field | Surface pH 8.8 to 8.0 | | (0-6) Silty clay loam, (6-30) Silt loam, (30-42) Silty clay loam/Very fine sandy loam, (42-48) Silty clay (laminated) | 8.2 | | Rice | SI | |
| 12 | NW-100 | 2 | 28-Apr-98 | Barren field | Non saline, non sodic | | (0-24) Silt loam, (24-48) Loamy sand | 8.2 | The area falls in subrecent alluvial covered meander bars/levee, usually underlain by sandy material give desolate look, remain water logged for the major part of the year, about 30-40% are still lying barren and has severe gypiferous salinity, and under p-canal irrigation. The soils of the polygon are nearly level, deep, | Rice with some wheat. | SIw2 | |
| 13 | DT-31 | 1 | 29-Apr-98 | Ex-rice field | Non saline, non sodic | | (0-24) Silt loam, (24-48) Silt loam/silty clay loam | 8.2 | | | SIw2 | |
| 13 | DT-31 | 2 | 29-Apr-98 | Ex-wheat field | Non saline, non sodic | | (0-18) Silty clay loam, (18-42) Very fine sandy loam, (42-48) Loamy | 8.2 | The area falls in the subrecent piedmont level plain and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine to moderately fine in textures (SIC/SICL). Such soils have good | Rice and wheat | SIb | |
| 13 | DT-32 | 1 | 29-Apr-98 | Amixed field | non saline/non sodic | | (0-18) Silty clay loam, (18-36) Silt clay, (36-48) Silt loam | 8.2 | | | SIb | |
| 13 | DT-32 | 2 | 29-Apr-98 | Ploughed field | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty clay | 8.2 | The area occurs in the subrecent piedmont level plain and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (silty clay). Such soils have good agricultural potential under modern management practices and can be graded as class II land. | Rice with little wheat. | SIb | |
| 13 | DT-33 | 1 | 29-Apr-98 | Ploughed field | non saline/non sodic | | (0-30) Silty clay loam, (30-48) Silty clay | 8.2 | The area falls in the subrecent piedmont level plain, barren fields or severely gypiferous, saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic. | Rice and then wheat | SIb | |
| 13 | DT-34 | 1 | 29-Apr-98 | Wheat field | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty | 8.2 | | | SIb | |
| 13 | DT-34 | 2 | 29-Apr-98 | Ex-rice field | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty | 8.2 | The area occurs in the subrecent piedmont level plain and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (silty clay/silty clay loam). Such soils have good agricultural potential under modern management practices and can be graded as | Rice and wheat | SIb | |
| 13 | DT-35 | 1 | 29-Apr-98 | Ex-wheat field | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty | 8.2 | The area occurs in a subrecent piedmont level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and fine textured (silty clay). Such | Rice and wheat | SIb | |
| 13 | DT-36 | 1 | 29-Apr-98 | Ploughed field | non saline/non sodic | | (0-6) Silty clay loam, (6-30) Silty clay, (30-48) Very fine sandy loam | 8.2 | The area lies in the subrecent piedmont level plain, water logged, patchy salinity in some fields presents and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (SIC). Such soils have good agricultural potential under modern management practices and can | Rice with some wheat. | SIb2 | |
| 13 | DT-37 | 1 | 30-Apr-98 | Ex-rice field | non saline/non sodic | 4 | (0-24) Silty clay, (24-42) Silt loam, (42-48) Silty clay | 8.2 | | | SIb2 | |

Table A.11. LHM Field Sample Survey Observation for Land Suitability Assessments across the South Hydrological Divides 1997-98

| Image/Sample No. | PH No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability | | |
|------------------|--------|------|--------------|---------------------|----------------------|------------------------|----|---|--------------------|---|--|--------|
| 13 | DT-38 | 1 | 30-Apr-98 | Ploughed field | non saline non sodic | | | 0-24" Silty clay, (24-30) Silt loam, (30-48) Silty clay | 5.2 | The area falls in the subrecent alluvial level plains and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine to medium textured (Silty clay & silt loam) but mostly fine textured. Such soils | Rice with little wheat | SIth |
| 13 | DT-38 | 2 | 30-Apr-98 | Ploughed field | non saline non sodic | | | 0-6" Silty clay loam, (6-20) Silt loam, (20-48) Silty clay loam | 5.2 | The area lies in meander covered bars and levees of subrecent period, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderate to imperfectly drained, non saline, non sodic and moderately coarse in texture (SL). The soils have limitations of high water table that is at 4 feet at present and | Rice with some wheat and ulu | SIhw-2 |
| 13 | DT-39 | 1 | 30-Apr-98 | Uffis field | non saline non sodic | 4 | | 0-6" Loam, (6-20) Sandy loam, (20-48) Loamy sand | 5.2 | The area falls in a subrecent alluvial broad basins and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (Silt loam & Silty clay loam). Most of the soils have SiCL cover. Such | Rice and wheat | SI |
| 13 | DT-40 | 1 | 01-May-98 | Ex-wheat field | non saline non sodic | | | 0-6" Silty clay loam, (6-42) Silt loam, (42-48) Silty clay loam | 5.2 | The area occupies the part of subrecent alluvial channel levee remnants and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic but patchy salinity in some fields present and medium to moderately fine in textures | Rice with wheat. Some melon fields are also present. | SI |
| 13 | DT-40 | 2 | 01-May-98 | Wheat-melon field | non saline non sodic | | | 0-20" Silty clay loam, (20-48) Silt loam | 5.2 | The area falls in the subrecent piedmont level plains and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (silty clay). Such soils have good agricultural potential under modern management practices and can be graded as class II land. | Rice with little wheat. | SIth |
| 13 | DT-41 | 1 | 01-May-98 | Ex-wheat field | non saline non sodic | | | 0-30" Silt loam, (30-42) Very fine sandy loam, (42-48) Silt loam | 5.2 | The area falls in the subrecent alluvial broad basins and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (silty clay). Such soils have good agricultural potential under modern management practices and can be graded as class II land. | Rice with little wheat. | SIth |
| 13 | DT-41 | 2 | 01-May-98 | Wheat-melon field | non saline non sodic | | | 0-22" Silty clay loam, (22-48) Silt loam | 5.2 | The area falls in the subrecent alluvial broad basins and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (silty clay). Such soils have good agricultural potential under modern management practices and can be graded as class II land. | Rice with wheat. Some melon fields are also present. | SI |
| 13 | DT-42 | 1 | 30-Apr-98 | Ploughed field | non saline non sodic | 4 | | 0-26" Clay, (36-48) Very fine sandy loam | 5.2 | The area falls in the subrecent piedmont level plains and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (silty clay). Such soils have good agricultural potential under modern management practices and can be graded as class II land. | Rice with little wheat. | SIth |
| 13 | DT-43 | 1 | 30-Apr-98 | Ploughed field | non saline non sodic | | | 0-24" Silty clay, (24-48) Clay | 5.2 | The area constitutes a part of subrecent alluvial broad basins and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (silty clay). Such soils have good agricultural potential under modern management practices and can be graded as class II land. | Rice with little wheat. | SIth |
| 13 | DT-44 | 1 | 01-May-98 | Ploughed field | non saline non sodic | | | (0-20) Silty clay loam, (20-24) Silt loam, (24-48) Very fine sandy loam | 5.2 | The area lies in the subrecent piedmont level plains and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (silty clay). Such soils have good agricultural potential under modern management practices and can be graded as class II land. | Rice and wheat. | SI |
| 13 | DT-45 | 1 | 30-Apr-98 | | | | | | | | | |
| 13 | DT-45 | 1 | 30-Apr-98 | | | | | | | | | |
| 13 | DT-46 | 1 | 30-Apr-98 | Ex-rice field | non saline non sodic | 4 | | 0-18" Silty clay loam, (18-30) Silt loam, (30-45) Silty clay loam, (45-48) Loamy sand | 5.2 | The area lies in the subrecent alluvial broad basins, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and moderately fine textured (silty clay loam). Such soils have very good agricultural potential under modern management practices and can be graded as class II land. | Rice with little wheat. | SIth |
| 13 | DT-47 | 1 | 30-Apr-98 | Ploughed field | non saline non sodic | | | 0-45" Silty clay, (45-48) Very fine sandy loam | 5.2 | The area falls in meander bars/levees, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet) and moderately coarse textured (SL). Such soils have moderate agricultural potential due to lack in inherent fertility and can be graded as class II land. | Rice and wheat. Some vegetables and melon fields are also present. Few ber gardens are also present. | SIth |
| 13 | DT-47 | 1 | 30-Apr-98 | Ploughed field | non saline non sodic | | | 0-36" Sandy loam, (36-48) Very fine sandy loam | 5.2 | The area falls in meander bars/levees, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet) and moderately coarse textured (SL). Such soils have moderate agricultural potential due to lack in inherent fertility and can be graded as class II land. | Rice and wheat. Some vegetables and melon fields are also present. Few ber gardens are also present. | SIth |
| 13 | NW-98 | 1 | 04-May-98 | Vegetable field | non saline non sodic | 4 | | 0-6" Silty clay loam, (6-20) Silt loam, (20-48) Very fine sandy loam | 5.2 | The area lies in the subrecent alluvial covered bars/levees, water logged, usually underlain by sandy material and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet) and moderately coarse textured (SL). Such soils have moderate agricultural potential due to lack in inherent fertility and can be graded as class II land. | Rice and wheat. Some vegetables and melon fields are also present. Few ber gardens are also present. | SIth |
| 13 | NW-98 | 2 | 04-May-98 | Ex-wheat field | non saline non sodic | 4 | | 0-6" Silty clay loam, (6-20) Silt loam, (20-48) Very fine sandy loam | 5.2 | The area lies in the subrecent alluvial covered bars/levees, water logged, usually underlain by sandy material and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet) and moderately coarse textured (SL). Such soils have moderate agricultural potential due to lack in inherent fertility and can be graded as class II land. | Rice and wheat. Some vegetables and melon fields are also present. Few ber gardens are also present. | SIth |
| 13 | B-73 | 1 | 05-May-98 | Barren field | non saline non sodic | 4 | | 0-6" Silty clay loam, (6-20) Silt loam, (20-48) Very fine sandy loam | 5.2 | The area lies in the subrecent alluvial covered bars/levees, water logged, usually underlain by sandy material and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet) and moderately coarse textured (SL). Such soils have moderate agricultural potential due to lack in inherent fertility and can be graded as class II land. | Rice and wheat. Some vegetables and melon fields are also present. Few ber gardens are also present. | SIth |
| 13 | B-73 | 2 | 05-May-98 | Ploughed field | non saline non sodic | | | 0-6" Silty clay loam, (6-20) Silt loam, (20-48) Very fine sandy loam | 5.2 | The area lies in the subrecent alluvial covered bars/levees, water logged, usually underlain by sandy material and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet) and moderately coarse textured (SL). Such soils have moderate agricultural potential due to lack in inherent fertility and can be graded as class II land. | Rice and wheat. Some vegetables and melon fields are also present. Few ber gardens are also present. | SIth |
| 13 | B-74 | 1 | 05-May-98 | Ploughed field | non saline non sodic | Saturation at 4 | | 0-6" Silt loam, (6-24) Very fine sandy loam, (24-30) Silty clay loam, (30-42) Very fine sandy loam, (42-48) Silty clay loam | 5.2 | The area falls in the subrecent alluvial covered bars/levees, usually underlain by sandy material that is highly permeable, and under p-canal irrigation. The cultivated soils of the polygon are level, deep, moderately well drained non saline, non sodic and medium in | Rice and wheat | SIth |
| 13 | B-75 | 1 | 05-May-98 | Ploughed field | non saline non sodic | | | 0-6" Loam (6-24) Sandy loam (6-20) Silt loam | 5.2 | The area lies in the subrecent meander bars and levees, adjacent to Begari Canal, and under p-canal irrigation. The soils of the polygon are nearly level (depressional), deep, moderately well drained, sufficient area having black tone is marshy with the inception of canal supply (at present dry) here seepage water from the canal stagnates throughout the year, and moderately coarse in texture (SL). Such soils with severe limitation of water logging and crop failure chances are present can be placed in marginal agricultural | Rice | SIth |
| 13 | B-76 | 1 | 05-May-98 | Unseeded field | non saline non sodic | Saturation at 4 | | 0-6" Loam, (6-24) Sandy loam, (20-48) Loamy sand | 5.2 | The area consists of subrecent alluvial meander bars/levees, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and moderately coarse textured soils (SL/PSL). These soils have limitations of high water table and low in water and nutrient holding capacity and can | Rice | SIth |
| 13 | B-76 | 2 | 05-May-98 | Wheat field | non saline non sodic | Saturation at 4 | | 0-6" Loam, (6-24) Fine sandy loam, (24-36) Very fine sandy loam, (36-48) Silt loam | 5.2 | The area occupies the part of subrecent alluvial broad basins and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic and dominantly moderately fine textured (silty clay loam). Such soils have very high agricultural potential for wide variety of crops and can be | Rice and wheat | SI |
| 13 | B-77 | 1 | 04-May-98 | Ex-bean field | non saline non sodic | | | 0-20" Silty clay loam, (20-48) Silty clay, (48-60) Silt loam | 5.2 | The area occupies the part of subrecent alluvial broad basins and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic and dominantly moderately fine textured (silty clay loam). Such soils have very high agricultural potential for wide variety of crops and can be | Rice and wheat | SI |

Table A IV. 1. HMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides 1997-98

| Image | Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability | |
|-------|------------|---------|------|--------------|----------------------|----------------------|------------------------|----------|---|--|---|-------|
| | 13 | B-78 | 1 | 04-May-98 | Ploughed field | non saline/non sodic | 4 | 8.2 | (0-24) Silty clay, (24-30) Sandy loam, (30-48) Silty clay loam | The area falls in a subrecent alluvial broad basin, waterlogged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (SIC). Such soils have good agricultural potential under modern management practices and can be graded as class II land. | Rice only, wheat can not be grown here due to wetness and shortage of irrigation. | SIHw2 |
| | 13 | B-79 | 1 | 05-May-98 | Barren field | non saline/non sodic | 4 | 8.4, 8.2 | (0-24) Sandy loam, (24-36) Silt loam, (36-48) Loamy sand | The area falls in subrecent alluvial covered bars/levees, water logged, barren fields are severely gypsiferous saline and is under p-canal irrigation. The soils of the polygon are nearly level, moderately deep to deep, moderately well drained (water table at 4 feet), non saline, non sodic and mostly medium textured (SIL/VFSL) with some moderately coarse textured (SL) soils. Such soils have moderate limitations of high water table and partly saline. | | SIHw2 |
| | 13 | B-79 | 2 | 05-May-98 | Ploughed field | non saline/non sodic | 4 | 8.2 | (0-6) Loam, (6-36) Very fine sandy loam, (36-48) Loamy sand | | | SIHw2 |
| | 13 | B-79 | 3 | 05-May-98 | Ex-wheat field | non saline/non sodic | 4 | 8.2 | (0-6) Silt loam, (6-24) Very fine sandy loam, (24-48) Loamy sand | | Rice and wheat | SIHw2 |
| | 13 | B-80 | 1 | 04-May-98 | Ex-wheat field | non saline/non sodic | | 8.2 | (0-6) Loam, (6-20) Silty clay loam, (20-42) Silt loam, (42-48) Very fine sandy loam | The area falls in a subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (Silt loam & silt clay loam). Such soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | | SI |
| | 13 | B-80 | 2 | 04-May-98 | Ex-wheat field | non saline/non sodic | | 8.4, 8.2 | (0-6) Loam, (6-36) Very fine sandy loam, (36-48) Silt loam | | Rice and wheat | SI |
| | 13 | B-81 | 1 | 03-May-98 | Ex-rice field | non saline/non sodic | | 8.2 | (0-20) Silty clay loam, (20-24) Silt loam, (24-36) Very fine sandy loam, (36-48) Loamy sand | The area occupies the subsequent alluvial broad basin position and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained, non saline, non sodic and moderately fine to fine textured (SICL/SC). Such soils have good agricultural potential under modern management practices and can be graded as | | SIH |
| | 13 | B-81 | 2 | 03-May-98 | Ploughed field | non saline/non sodic | | 8.2 | (0-24) Silty clay loam, (24-45) Silty clay, (45-48) Silt loam | | Main crop grown is rice with little wheat. | SIH |
| | 13 | B-82 | 1 | 03-May-98 | Ex-wheat field | non saline/non sodic | | 8.2 | (0-6) Loam, (6-42) Very fine sandy loam, (42-48) Loamy sand | The area falls in the subrecent alluvial level plains and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic and medium textured (silt loam/VFSL). Such soils have very high agricultural potential for | Rice and wheat. In the surrounding uncommanded areas are severely saline. | SI |
| | 13 | B-82 | 2 | 03-May-98 | Ex-wheat field | non saline/non sodic | | 8.2 | (0-24) Silty loam, (24-36) Silty clay loam, (36-48) Silt loam | | | SI |
| | 13 | B-83 | 1 | 01-May-98 | Wheat field | non saline/non sodic | | 8.2 | (0-24) Silty clay loam, (24-36) Silty clay, (36-48) Very fine sandy loam | The area falls in a subsequent alluvial broad basin and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and moderately fine textured (SICL). Such soils have very good agricultural potential under modern agricultural management practices and can be graded | Rice and wheat. | SI |
| | 13 | B-84 | 1 | 01-May-98 | Ex-wheat field | non saline/non sodic | | 8.2 | (0-24) Silty loam, (24-36) Very fine sandy loam, (36-48) Loamy sand | The area is a part of subrecent alluvial covered bars/levees, barren areas about 50% are severely saline and under p-canal irrigation. The cultivated soils of the polygon are nearly level, deep, well | Main crop is rice. Perhaps most of the polygon area is lying barren due to shortage of water and cultivation is not well groomed. | SI |
| | 13 | B-85 | 1 | 04-May-98 | Ex-rice field | non saline/non sodic | Saturation at 4 | 8.2 | (0-24) Silty clay loam, (24-36) Silt loam, (36-48) Very fine sandy loam | The area occupies the subrecent alluvial broad depression and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and moderately fine textured (silty clay loam). Such soils have very good agricultural | Main crops grown are rice with some wheat. | SI |
| | 13 | B-86 | 1 | 04-May-98 | Ploughed field | non saline/non sodic | | 8.2 | (0-24) Sandy loam, (24-48) Silty clay loam | The area falls in subrecent channel/levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic, and dominantly moderately fine textured (75% SICL) with some 25% moderately coarse textured (SL) usually underlain by moderately fine textured (SICL). Such | | SI |
| | 13 | B-86 | 2 | 04-May-98 | Ploughed field | non saline/non sodic | | 8.2 | (0-48) Silty clay loam | | Rice with some wheat. | SI |
| | 13 | B-87 | 1 | 02-May-98 | Ex-rice field | non saline/non sodic | | 8.2 | (0-6) Silty clay loam, (6-48) Silty clay | The area occurs in subrecent alluvial channel/levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine to | | SIH |
| | 13 | B-87 | 2 | 02-May-98 | | non saline/non sodic | | 8.2 | (0-6) Loam, (6-36) Sandy clay loam, (36-48) Silty clay | | Rice and wheat | SIH |
| | 13 | B-88 | 1 | 03-May-98 | Ex-wheat field | non saline/non sodic | | 8.2 | (0-6) Loam, (6-48) Silt loam | The area forms a valley between the stable sand dunes and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic and medium in textures | Rice and wheat some melon fields are also present. | SI |
| | 13 | B-89 | 1 | 02-May-98 | Barren field | non saline/non sodic | | 8.2 | (0-24) Silt loam, (24-36) Very fine sandy loam, (36-48) Silt loam | The area constitutes a part of subrecent alluvial level plains and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL/VFSL). Such soils have very high agricultural potential for | Rice and wheat. | SI |
| | 13 | B-90 | 1 | 03-May-98 | Ex-wheat field | non saline/non sodic | | 8.2 | (0-20) Silty clay loam, (20-48) Silt loam | The area lies in the subrecent alluvial broad basin and under p-canal irrigation. The soils of the polygon are nearly level, deep, well to moderately well drained, non saline, non sodic and mostly moderately fine textured (SICL). Such soils have very good agricultural potential and can be graded as class I/II land. | Rice & wheat, adjacent area sufficient acreage is under melons & vegetables and is being irrigated by tubewells (private). | SI |
| | 13 | B-90 | 2 | 03-May-98 | Ex-wheat field | non saline/non sodic | | 8.2 | (0-18) Silty clay loam, (18-24) Silt loam, (24-48) Silt loam | | | SI |
| | 13 | B-91 | 1 | 02-May-98 | Wheat field | non saline/non sodic | | 8.2 | (0-48) Silty clay loam | The area falls in a subrecent alluvial broad basin and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained/well drained, non saline, non sodic and moderately fine | Rice and wheat | SI |
| | 13 | B-91 | 2 | 02-May-98 | Barren ex-rice field | non saline/non sodic | | 8.2 | (0-6) Silty loam, (6-22) Silt clay loam (22+) Silt loam | | | SI |
| | 13 | B-92 | 1 | 03-May-98 | Ploughed field | non saline/non sodic | | 8.2 | (0-6) Loam, (6-24) Sandy loam, (24-48) Loamy sand | The area falls in the subrecent alluvial remnant bars/levees, generally underlain by sandy material at various depths and under p-canal irrigation. The soils of the polygon are nearly level, moderately deep (sand at 24 inch), somewhat excessively drained, | Rice and wheat | SIH |
| | 13 | B-92 | 2 | 03-May-98 | Ex-wheat field | non saline/non sodic | | 8.2 | (0-6) Loam, (6-24) Sandy loam, (24-48) Loamy sand | | | SIH |
| | 13 | B-93 | 1 | 03-May-98 | Ex-wheat field | non saline/non sodic | | 8.2 | (0-20) Silt loam, (20-48) Silty clay loam | The area falls in the subrecent alluvial level plains and under p-canal irrigation. Some vegetable and melon growers have installed small/shallow tubewells for this purpose water quantity seems of good quality. The soils of the polygon are level, deep, well drained, | Rice and wheat, some vegetables and melons are being grown in the adjacent area. | SI |
| | 13 | B-93 | 2 | 03-May-98 | Ex-wheat field | non saline/non sodic | | 8.2 | (0-24) Silty clay loam, (24-48) Silty clay | | | SI |
| | 13 | B-94 | 1 | 02-May-98 | Ex-rice field | non saline/non sodic | | 8.2 | (0-36) Sandy loam, (36-48) Loamy sand | The area occurs in a subrecent channel/levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic, fallow field have surface salinity and medium to moderately coarse textured (SIL, SL). | Rice and wheat | SI |
| | 13 | B-94 | 2 | 02-May-98 | Ex-wheat field | non saline/non sodic | | 8.2 | (0-20) Silty loam, (20-42) Silty clay loam, (42-48) Silty clay | | | SI |
| | 13 | B-95 | 1 | 02-May-98 | Ploughed field | non saline/non sodic | | 8.2 | (0-24) Silty loam, (24-48) Silty clay loam | The area falls in a subrecent alluvial broad basin and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (SIL). | Rice and wheat. | SI |
| | 13 | B-95 | 2 | 02-May-98 | Ploughed field | non saline/non sodic | | 8.2 | (0-48) Silty clay loam | | | SI |
| | 13 | B-96 | 1 | 02-May-98 | Ex-rice field | non saline/non sodic | | 8.2 | (0-24) Silt loam, (24-42) Silty clay loam, (42-48) Silty clay | The area falls in a subrecent alluvial broad basin and under canal irrigation. The soils of the polygon are level, deep, well drained, | | SI |

Table A.15. 1. IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Image/Sample No. | Pt. No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land Use Suitability |
|------------------|---------|------|--------------|---------------------|----------------------|--|----------|--|--|----------------------|
| 13 | B-96 | 2 | 02-May-98 | Ploughed field | non saline/non sodic | (0-12) Silty clay loam, (12-36) Silt loam, (36-48) Silty clay loam | 8.2 | non saline, non sodic and moderately fine to medium textured (SICL, SIL). Mostly consists of moderately fine textured. Such soils have very high agricultural potential under modern | Rice, wheat and maize. Some kharboza fields are also present | SI |
| 13 | B-96 | 3 | 02-May-98 | Ex-rice field | non saline/non sodic | (0-6) Silt loam, (6-48) Silty clay | 8.2 | | | SI |
| 13 | B-97 | 1 | 22-Apr-98 | Coriander field | non saline/non sodic | (0-6) Silty loam, (6-18) Very fine sandy loam, (18-48) Silty loam | 8.2, 8.2 | The area falls in a subrecent alluvial level plains and under p-canal and private tubewells irrigation. The soils of the polygon are level, deep, well drained (presently), non saline, non sodic and medium in textured (silt loam) VFSL. Such soils have very high agricultural | Major crops grown is rice, little wheat and | SI |
| 13 | B-97 | 2 | 22-Apr-98 | Ex-rice field | non saline/non sodic | (0-24) Silt loam, (24-48) Silty clay loam | 8.2 | | Dhania, oilseed, saunf etc | SI |
| 13 | B-98 | | | Covered in Image # | | | | | | SIIa2 |
| 13 | B-99 | 1 | 01-May-98 | Ex-rice field | non saline/non sodic | (0-20) Loam, (20-36) Sandy loam, (36-48) Silty loam | 8.2 | The area forms a part of subrecent alluvial channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present) non saline, non sodic and medium to moderately fine textured (L, SiCL) but mostly medium one. Such soils have good to very good agricultural potential for wide variety of crops and can be graded as class I land. | Rice and wheat. | SI |
| 13 | B-99 | 2 | 01-May-98 | Ploughed field | non saline/non sodic | (0-18) Silty clay loam, (18-48) Silt loam | 9.2 | | | SI |
| 13 | B-100 | 1 | 24-Apr-98 | Wheat field | non saline/non sodic | (0-20) Silty loam, (20-36) Very fine sandy loam, (36-48) Loamy very fine sand | | The area falls in the subrecent alluvial covered bars levees, seasonally water logged and under canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and mostly medium in texture (SIL, VFSL). Such soils under present situation possess very high agricultural potential and can be graded as class I land. Otherwise with bad drainage condition these are | Rice and wheat | SI |
| 13 | B-100 | 2 | 24-Apr-98 | Wheat field | non saline/non sodic | (0-4) Loam, (4-48) Very fine sandy loam | | | | SI |
| 13 | B-101 | 1 | 22-Apr-98 | Wheat field | non saline/non sodic | (0-48) Silty loam/ Very fine sandy loam | 8.2 | The area occupies the covered levees bar physiographic position in the subrecent flood plain and under p-canal irrigation. The soils of the polygon are level, deep to moderately deep, well drained (presently), non saline, non sodic and medium in textures (silt loam, VFSL). Such soils have very high agricultural potential (under present condition), for wide variety of crops and can be graded as class I land. | Rice and wheat. | SI |
| 13 | B-101 | 2 | 22-Apr-98 | Wheat field | non saline/non sodic | (0-6) Loam, (6-24) Silt loam, (24-36) sand, (36-48) loamy sand/ silt loam | 8.2 | | Rice and wheat. Some dhania, saunf, oilseed. | SI |
| 13 | B-102 | 1 | 24-Apr-98 | Ex-rice field | non saline/non sodic | (0-22) Silty clay loam, (22-32) Silt loam, (32-48) Very fine silt loam, (40-48) Loamy sand | | The area falls in the subrecent alluvial flat shallow basins, seasonally water logged, and under canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and moderately fine textured (SICL). Such soils under present conditions have very high agricultural potential and can be graded a class I land but under bad drainage condition class II land. | | SI |
| 13 | B-102 | 2 | 24-Apr-98 | Wheat field | non saline/non sodic | (0-20) Silty clay loam, (20-30) Very fine silt loam, (30-48) Loamy very fine sand | | | Rice then wheat. | SI |
| 13 | B-103 | 1 | 29-Apr-98 | Ex-wheat field | non saline/non sodic | (0-22) Silty loam, (22-36) Silty clay loam, (36-48) Very fine sandy loam | 8.2 | The area falls in subrecent alluvial level plains and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam). These soils have very high agricultural potential for wide variety of crops and | Rice and wheat. | SI |
| 13 | B-104 | 1 | 22-Apr-98 | Wheat field | non saline/non sodic | (0-6) Silty clay loam, (6-48) Loam | 8.2 | The area occupies the covered levee/bar physiographic position to the subrecent flood plain and under p-canal and private tubewell irrigation. The soils of the polygon are level, deep, well drained | Rice then wheat. | SI |
| 13 | B-104 | 2 | 22-Apr-98 | Ploughed field | non saline/non sodic | (0-18) Silt loam, (18-24) Loam, (24-30) Silt loam, (30-48) Loam | 8.2 | The area falls in a subrecent flat basin, seasonally imperfectly drained (June to October) and under p-canal irrigation. Only one irrigation is provided to wheat. The soils of the polygon are level, deep, well drained (presently), non saline, non sodic and moderately fine textured (silty clay loam). Such soils under present conditions have very high agricultural potential and can be graded as class I | | SI |
| 13 | B-105 | 1 | 24-Apr-98 | Wheat field | non saline/non sodic | (0-4) Silty clay loam, (4-40) Silty clay loam, (40-48) Very fine silt loam | 8.2 | | Rice and wheat | SI |
| 13 | B-106 | 1 | 24-Apr-98 | Wheat field | non saline/non sodic | (0-20) Loam, (20-30) Silty clay loam, (30-42) Silt loam, (42-48) Very fine sandy loam | 8.2 | The area falls in subrecent alluvial level plains, seasonally moderately well drained June to October as long as canal supply continues. Only one supply is provided to wheat crop. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (SIL, L, VFSL). Such soils | Wheat and rice. | SI |
| 13 | B-106 | 2 | 24-Apr-98 | Wheat field | non saline/non sodic | (0-40) Silty clay loam, (40-48) Very fine sandy loam | 8.2 | | | SI |
| 13 | B-107 | 1 | 24-Apr-98 | Wheat field | non saline/non sodic | (0-30) Silty clay loam, (30-36) Silt loam, (36-48) Very fine sandy loam Loamy very fine sand | | The area falls in subrecent alluvial broad basins, seasonally plagued with drain problem, and under p-canal irrigation. wheat crop gets only one irrigation supply. The soils of the polygon are level, deep, well drained at present, non saline, non sodic and mostly moderately fine textured (SICL). Such soils under present conditions, have very | Rice and wheat. | SI |
| 13 | B-108 | 1 | 23-Apr-98 | Ex-wheat field | non saline/non sodic | (0-36) Silt loam, (36-48) Very fine sandy loam | | The area is a subrecent Kirthar Range piedmont and level covered levees/bars and under p-canal irrigation. The soils of the polygon are level, deep, well drained (presently), non saline, non sodic and medium in textures (SIL, VFSL). Such soils have very high agricultural potential (not for rice and under present conditions) and | Rice and wheat. | SI |
| 13 | B-109 | 1 | 24-Apr-98 | Ex-rice field | non saline/non sodic | (0-30) Silt loam, (30-48) Loam | | The area falls in the subrecent alluvial channel levee remnant, usually underlain by sandy material, saturation at 4 feet, a few fields under wheat, rest are waiting for rice cultivation again, under canal irrigation. The soils of the polygon are level, deep moderately well | Rice little wheat. | SIIa2 |
| 13 | B-109 | 2 | 24-Apr-98 | Ex-rice field | non saline/non sodic | (0-15) Loam, (15-30) Loam/sandy loam, (30-40) Silt loam, (40-48) Very fine sandy loam | | | | SI |
| 13 | B-110 | 1 | 23-Apr-98 | Wheat field | non saline/non sodic | (0-20) Silt loam, (20-48) Loam | | The area is a Kirthar Range piedmont alluvium of subrecent period covered levees bars and under p-canal irrigation. The soils of the polygon are level, deep, well drained (presently), non saline, non | Rice and wheat. | SI |
| 13 | B-110 | 2 | 23-Apr-98 | Wheat field | non saline/non sodic | (0-15) Loam, (10-24) Silt loam, (24-48) Loamy sand | | | | SI |
| 13 | B-111 | 1 | 23-Apr-98 | Wheat field | non saline/non sodic | (0-4) Silty clay loam, (4-24) Silt clay, (24-48) Silt loam | | The area is a covered piedmont levees with fine textured soil material in the subrecent period and under p-canal irrigation. The soils of the polygon are level, deep moderately well drained, non saline, non sodic and mostly fine textured (SIC) Such soils have good agricultural potential under modern management practices and | Rice and wheat. | SIIa |
| 13 | B-112 | 1 | 23-Apr-98 | Wheat field | non saline/non sodic | (0-4) Silty clay loam, (4-25) Silt clay, (25-30) Loam, (36-48) Sandy | | The area falls in the subrecent piedmont alluvial channel/levee remnant and under p-canal irrigation, usually underlain by brown sand. The soils of the polygon are nearly level, deep, moderately well drained (presently) (may be imperfectly drained in winter), non | Rice and wheat. | SIIb |
| 13 | B-112 | 2 | 23-Apr-98 | Ex-wheat field | non saline/non sodic | (0-14) Silty clay, (14-48) Very fine sandy loam | | | | SIIb |
| 13 | B-113 | 1 | 23-Apr-98 | Wheat field | non saline/non sodic | (0-15) Silty clay, (15-36) Silt loam, (36-48) Silty clay loam | 8.4 | The area is a broad basins of piedmont plain of Kirthar Range and under p-canal irrigation. The soils of the polygon are level, deep, | | SIIb |

Table A.IV.1 IIMI Field Sample Survey Observation for Land Suitability Assessments across the South Hydrological Divides, 1997-98

| Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Region | Cultivation Status | Land - Use Suitability |
|------------|---------|------|--------------|---|----------------------|---|--------------------|--|---|------------------------|
| 13 | B-113 | 2 | 23-Apr-98 | Wheat field | non saline/non sodic | Silty clay (20), Silt clay loam (30), Silty clay loam (48) | | moderately well drained (at present, may become imperfectly drained in winter), and fine in texture (Silty clay). Such soils have | Rice and wheat. | SIIb |
| 13 | B-114 | 1 | 22-Apr-98 | Fallow field | non saline/non sodic | (0-18) Loam, (18-48) Loamy sand | 8.2 | The area occupies the covered levees/bars of subrecent flood plain and under p-canal and private tubewell irrigation. The soils of the polygon are level, moderately deep to deep (usually underlain by sandy material) well drained (presently), non saline, non sodic and | Rice, wheat and then dhania. | SI |
| 13 | B-114 | 2 | 22-Apr-98 | Fodder field | non saline/non sodic | (12-36) Silty loam, (36-48) Loamy sand | 8.2 | | | |
| 13 | B-115 | 1 | 22-Apr-98 | Wheat field | non saline/non sodic | (0-36) Silt loam, (36-42) Sandy loam, (42-48) Loamy sand | 8.2 | The area occupies channel/levee remnant physiographic position in the subrecent flood plain and under p-canal and private tubewell irrigation. The soils of the polygon are level, deep, well drained (presently), non saline, non sodic and medium in texture (silt loam, loam). Such soils have very high agricultural potential (under present conditions) I land. | Rice then wheat. | SI |
| 13 | B-115 | 2 | 22-Apr-98 | Fallow field | non saline/non sodic | (0-20) Silt loam, (20-30) Loam, (30-42) Silt clay loam, (42-48) Silt | 8.2 | | | |
| 13 | B-116 | 1 | 22-Apr-98 | Wheat field | non saline/non sodic | (0-24) Loam, (24-48) Loamy sand | 8.2 | The area occupies subrecent alluvial channel levee remnant position and under p-canal and private tubewell irrigation. The soils of the polygon are level, deep to moderately deep, well drained (presently), non saline, non sodic and medium to moderately fine in texture (Loam and silty clay loam). These soils have very high | Rice then wheat. | SI |
| 13 | B-116 | 2 | 22-Apr-98 | Ploughed field | non saline/non sodic | (0-20) Silt loam, (20-48) Silty clay loam | 8.2 | | | |
| 9 | R-36 | 1 | 09-Jan-98 | Wheat field | non saline/non sodic | (0-36) Silt loam, (36-48) Silt clay loam | 8.2, 8.0 | The area is level and under canal irrigation. The soils are deep, well drained, non saline, non sodic and mostly moderately fine textured (SICL) with some medium textured (SIL) area. The soils have very high agricultural potential for producing wide variety of crops and can be placed in class I land. | Cotton, wheat with some mango garden. | SI |
| 9 | R-36 | 2 | 09-Jan-98 | Wheat field | non saline/non sodic | (0-40) Silt clay loam, (40-48) Silt loam | 8.2, 8.0 | | | |
| 9 | R-37 | 1 | 09-Jan-98 | Wheat field | non saline/non sodic | (0-6) Loam, (6-36) Silty clay loam, (36-48) Loam / Very fine sandy loam | 8.4, 8.2, 8.2 | The area is level, patchy salinity exists, but surrounding barren areas are severely saline and under canal irrigation. The soils are deep, moderately well drained, non saline, non sodic and moderately fine textured (SICL). Such soils have good agricultural potential and can be graded as class II land. | Wheat and cotton some area is under sugarcane, banana garden. | SIIb |
| 9 | R-37 | 2 | 09-Jan-98 | Wheat field | non saline/non sodic | (0-12) Silty clay loam, (12-36) Silty clay loam, (36-48) Silt loam | 8.2, 8.0, 8.0 | | | |
| 9 | R-38 | 1 | 09-Jan-98 | Wheat field | non saline/non sodic | (0-18) Loam, (18-48) Silt loam | 8.4, 8.2 | The area is level, patchy salinity exists and under canal irrigation. The soils are deep, well to moderately well drained, non saline, non sodic mostly moderately fine textured (SICL, SIC) with some medium textured area (silt loam). The soils have good potential for | Cotton and wheat few mango garden are also present. | SI |
| 9 | R-38 | 2 | 09-Jan-98 | Mango garden intercropped with wheat | non saline/non sodic | (0-48) Silt clay loam | 8.2 | | | |
| 9 | R-39 | 1 | 10-Jan-98 | Wheat field | non saline/non sodic | (0-36) Silt loam, (36-48) (morceling is present) Very fine sandy loam | 8.2, 8.0 | The area is level, and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and medium textured (silt loam/VPSL). The soils have non to very little limitation for agricultural production. Such soils are graded as class I land with wide selection of crops including fruit orchards. | Wheat and cotton. | SI |
| 9 | R-39 | 2 | 10-Jan-98 | Wheat field | non saline/non sodic | (0-18) Silt loam, (18-48) Very fine sandy loam | 8.2, 8.0 | | | |
| 9 | R-40 | 1 | 11-Jan-98 | Wheat field | non saline/non sodic | (0-36) Silt loam, (36-48) Loam / Very fine sandy loam, (48-60) Very fine sandy loam | 8.2, 8.0, 8.0 | The area is level, under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and medium textured (silt loam/VPSL). The soils have very high agricultural potential and capability to grow wide variety of crops. Such soils can be placed in class I land. | Wheat and cotton but sufficient area is under mango garden. The crops are well suitable. | SI |
| 9 | R-40 | 2 | 11-Jan-98 | Wheat field | non saline/non sodic | (0-36) Silt loam, (36-48) Loam / Very fine sandy loam, (48-60) Very fine sandy loam | 8.2, 8.0, 8.0 | | | |
| 9 | R-41 | 1 | 11-Jan-98 | Wheat field | non saline/non sodic | (0-48) Silt loam | 8.2, 8.0, 8.2 | The area is level and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and medium to moderately fine textured (silt loam and silty clay loams). The soils have very high agricultural potential and can be graded as class I land. | Cotton and wheat with sufficient area under mango and banana garden. The crops are in good condition. | SI |
| 9 | R-41 | 2 | 11-Jan-98 | Wheat field | non saline/non sodic | (0-6) Silt loam, (6-12) Silty clay loam, (12-18) Very fine sandy loam, (18-30) Silt loam, (30-36) Silty clay loam, (36-42) Silty clay loam, (42-48) Silty clay loam | 8.2, 8.0, 8.0 | | | |
| 9 | R-42 | 1 | 11-Jan-98 | Wheat field | non saline/non sodic | (0-12) Silt loam, (12-18) Very fine sandy loam, (18-30) Silt loam, (30-36) Silty clay loam, (36-48) Silty clay loam | 8.2, 8.0 | The area is level, barren surrounding is severely saline and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and medium to moderately fine textured. Such soils have very high agricultural potential for wide variety of crops and can be classified as class I land. | Wheat, cotton and some oilseed (raya). | SI |
| 9 | R-42 | 2 | 11-Jan-98 | Lacuna field | non saline/non sodic | (0-18) Silt loam, (18-30) Silty clay loam, (30-42) Silty clay loam | 8.2, 8.0 | | | |
| 9 | R-43 | 1 | 11-Jan-98 | Sugarcane field | non saline/non sodic | (0-12) Silt loam, (12-48) Very fine sandy loam | 8.2, 8.0 | The area is nearly level and under tubewell and p-canal irrigation. The tubewell water is of good quality. The soils are deep, well drained, non saline, non sodic and medium textured (silt loam/VPSL). The soils have very high agricultural potential and | Wheat and cotton with some onions. | SI |
| 9 | R-44 | 1 | 12-Jan-98 | Cotton field | non saline/non sodic | (0-48) Silt loam | 8.2, 8.0, 8.0 | The area is nearly level, waterlogged, surrounding area is also being barren and severely saline, new surface drains has been dug in which water stagnates and needs cleaning. The area is under p-canal irrigation. The soils are deep, imperfectly drained, non saline, non sodic (patchy salinity exist) medium textured. Such soils can be placed in class II with limited choice of cropping. | Cotton and wheat. | SIIw2 |
| 9 | R-44 | 2 | 12-Jan-98 | Wheat field | non saline/non sodic | (0-12) Silt loam, (12-18) Loam, (18-42) Fine sandy loam, (42-48) Loamy sand | 8.2, 8.0, 8.0, 8.0 | | | |
| 9 | R-45 | 1 | 11-Jan-98 | Sugarcane field | non saline/non sodic | (0-6) Silt loam, (6-48) Silty clay | 8.2, 8.0 | The area is level and under p-canal irrigation. The soils are deep, well drained to moderately well drained, non saline, non sodic and | Wheat, cotton and some sugarcane. | SI |
| 9 | R-45 | 2 | 11-Jan-98 | Sugarcane field | non saline/non sodic | (0-48) Silty clay loam | 8.2, 8.0 | The area is level, falls in the vicinity of main drain therefore water table does not hit at 4 feet and comparatively possess better drainability, and is under p-canal irrigation. The soils of the polygon are deep, well to moderately well drained, non saline, non sodic (some patchy salinity in some fields), medium textured (silt loam). The soils are level, and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and medium to moderately fine textured (silt loam/SICL). The soils have non to very little limitations for growing wide variety of crops and can be placed in class I land. | Banana garden with a few mango garden. Major crops grown are wheat and cotton. | SI |
| 9 | R-46 | 1 | 13-Jan-98 | Fodder field | non saline non sodic | Saturation at 4 | 8.2, 8.0, 8.0 | | | |
| 9 | R-46 | 2 | 13-Jan-98 | Mango garden intercropped with fodder | non saline/non sodic | Saturation at 4 | 8.2, 8.0 | The area is level, and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic (some patchy salinity in some fields), medium textured (silt loam). The soils are level, and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and medium to moderately fine textured (silt loam/SICL). The soils have non to very little limitations for growing wide variety of crops and can be placed in class I land. | Wheat, cotton and oilseed. Mango gardens are also present in sufficient area of the polygon. | SI |
| 9 | R-47 | 1 | 11-Jan-98 | Wheat field | non saline/non sodic | (0-30) Silt loam, (30-36) Silt loam, (36-48) Silty clay loam | 8.2, 8.0, 8.0 | | | |
| 9 | R-47 | 2 | 11-Jan-98 | Wheat field | non saline/non sodic | (0-6) Silt loam, (6-18) Silty clay loam, (18-42) Silt loam, (42-48) Loamy sand | 8.2, 8.0, 8.0 | | | |
| 9 | R-48 | 1 | 14-Jan-98 | Mango garden intercropped with cotton field | non saline/non sodic | (0-48) Silt loam | 8.2, 8.0, 8.0 | The area is level and under p-canal irrigation. The soils of the polygon are deep, well drained, non saline, non sodic and medium textured. The soils have least minimum limitations for growing wide variety of crops and can be graded as class I land. | Wheat and sugarcane with some mango garden also present. | SI |
| 9 | R-49 | 1 | 11-Jan-98 | Cotton field | non saline/non sodic | (0-12) Silty clay loam, (12-48) | 8.2, 8.0 | The area is terraced level, lower terrace has water table at 2-3 ft. (imperfectly drain) while higher terrace is well drained and | Banana garden with few acreage under mango garden. The major crops grown are cotton. | SI |
| 9 | R-49 | 2 | 11-Jan-98 | Wheat field | non saline/non sodic | (0-6) Silt loam, (6-48+) Silt loam | 8.2, 8.0 | | | |

Table A.IV.1 IIM Field Sample Survey Observation for Land Suitability Assessments across the South Hydrological Divides: 1997-98

| Image | Sample No. | Plot No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (feet)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|----------|-----------|---------------------------------------|---|------------------|---|-------------------------|--|---|------------------------|
| | R-50 | 1 | 13-Jan-98 | Sugarcane field | non saline/non sodic | 4 | (0-24) Silty clay loam, (24-45) Silty clay, (45-48) Very fine sandy loam | 8.2, 8.0, 8.0 | The area is level, water logged, and under p-canal irrigation. The soils are deep, moderately well drained (water table 4 ft), non saline, non sodic and moderately fine textured. The soils have good agricultural potential for limited cropping. Such soils can be placed | Near by depressions may be acting as open drains in summer | SIIw2 |
| | R-50 | 2 | 13-Jan-98 | Sugarcane field | non saline/non sodic | 3 | (0-24) Silty clay loam, (24-48) Silty clay | 8.2, 8.0 | The area is level, and under p-canal irrigation. The soils of the polygon are deep, well drained, non saline, non sodic and medium textured. These soils have very high potential for producing wide variety of crops and can be placed in class I land. | | SIIw2 |
| | R-51 | 1 | 14-Jan-98 | Sugarcane field | non saline/non sodic | | (0-30) Silty loam, (30-42) Silty clay loam, (42-48) Silt loam | 8.2, 8.0, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | Wheat, cotton and some sugarcane. Some mango and banana garden are also present. | SI |
| | R-51 | 2 | 14-Jan-98 | Banana field | non saline/non sodic | | (0-48) Silt loam | 8.2, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | | SI |
| | R-52 | 1 | 13-Jan-98 | Guava field | non saline/non sodic | | (0-12) Silty clay loam, (12-48) Silt loam | 8.2, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | Mango, banana and guava garden. The main crops grown are cotton wheat. | SI |
| | R-52 | 2 | 13-Jan-98 | Wheat field | non saline/non sodic | | (0-24) Silty clay loam, (24-48) Silt loam | 8.2, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | | SI |
| | R-53 | 1 | 13-Jan-98 | Sugarcane field | non saline/non sodic | | (0-48) Silty clay loam | 8.2, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | Cotton and wheat with sugarcane. Mango garden are also present in the surrounding. | SI |
| | R-53 | 2 | 13-Jan-98 | Fodder field | non saline/non sodic | | (0-48) Silty clay loam | 8.2, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | | SI |
| | R-54 | 1 | 14-Jan-98 | Sugarcane field | non saline/non sodic | 4 | (0-30) Silty clay loam, (30-42) Silty clay, (42-48) Silt loam | 8.2, 8.0, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | | SIIw2 |
| | R-54 | 2 | 14-Jan-98 | Fodder field | non saline/non sodic | 3.5 | (0-42) Silt loam, (42-48) Loosey fine sand | 8.2, 8.0, 8.0, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | Cotton, wheat and sugarcane with some oilseeds (raya). | SIIw2 |
| | R-55 | 1 | 14-Jan-98 | Cotton field | non saline/non sodic | | (0-24) Silt loam, (24-36) Very fine sandy loam, (36-48) Sand | 8.2, 8.0, 8.0, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | | SI |
| | R-55 | 2 | 14-Jan-98 | Cotton field | non saline/non sodic | | (0-36) Silt loam, (36-48+) Silt loam | 8.2, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | Sugarcane and cotton. Some mango garden are also present in the surrounding. | SI |
| | R-56 | 1 | 20-Jan-98 | Banana field | non saline/non sodic | | (0-12) Loam, (12-48) Silt loam | 8.2, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | | SI |
| | R-56 | 2 | 20-Jan-98 | Wheat field | non saline/non sodic | | (0-24) Silt loam, (24-45) Silt clay loam, (45-48) Silt loam | 8.4, 8.2, 8.0 | The area is level, water logged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | Wheat and cotton, banana gardens are also present. | SI |
| | J-11 | 1 | 10-Jan-98 | Barren field | Surface saline sodic non saline/non sodic | | (0-6) Silt clay loam, (6-48) Silt clay loam, few fine lime concretions | (Surface 8.5), 8.4, 8.4 | The area is level, deep, water logged and salinized, and under p-canal irrigation. The soils are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | | SIIw2 |
| | J-11 | 2 | 10-Jan-98 | Wheat field | non saline/non sodic | | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.5, 8.2 | The area is level, deep, water logged and salinized, and under p-canal irrigation. The soils are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | Cotton and wheat. | SIIw2 |
| | J-12 | 1 | 09-Jan-98 | Wheat field | non saline/non sodic | | (0-48) Silt loam | 8.2, 8.0 | The area is level, deep, water logged and salinized, and under p-canal irrigation. The soils are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | | SI |
| | J-12 | 2 | 09-Jan-98 | Barren field | Severely saline | | (0-30) Silt loam, (30-48) Very fine sandy loam | 8.8-8.2, 9.6, 8.4 | The area is level, deep, water logged and salinized, and under p-canal irrigation. The soils are deep, moderately well drained, non saline, non sodic (pachy salinity present), moderately fine (mostly) to medium textured. The soils have good potential for growing limited crops and can be graded as | Cotton and wheat with some sugarcane. | SI |
| | J-13 | 1 | 10-Jan-98 | Barri garden field | non saline/non sodic | 3 | (0-24) Silt loam, (24-30) Silt clay loam, (30-36) Silt loam, (36-48) Very fine sandy loam | 8.5, 8.4, 8.2, 8.0 | The area is level, water logged (water table at 3-4 feet) mostly saline and under p-canal irrigation. The soils are deep, moderately well drained, mostly saline, non sodic and medium textured. Such soils can be classified as class II land with restricted cropping. | Wheat, sugarcane and cotton. | SIIw2 |
| | J-13 | 2 | 10-Jan-98 | Sugarcane field | non saline/non sodic | | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.5, 8.4 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, moderately (mostly) saline, non sodic but surface crust has pH 8.6 and medium textured. Such soils can be classified as class II land with restricted cropping. | Wheat and sugarcane area major crops with little cotton, mango and lemon garden also fall in the area perhaps due to fluctuation of water table that goes deeper in summer. | SIIw2 |
| | J-14 | 1 | 10-Jan-98 | Citrus intercropped with fodder field | non saline/non sodic | 3 | (0-24) Loam, (24-48) Silt loam | 8.4, 8.2 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, moderately (mostly) saline, non sodic but surface crust has pH 8.6 and medium textured. Such soils can be classified as class II land with restricted cropping. | | SIIw2 |
| | J-14 | 2 | 10-Jan-98 | Wheat field | non saline/non sodic | | (0-48) Silt loam | 8.5, 8.4 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, moderately (mostly) saline, non sodic but surface crust has pH 8.6 and medium textured. Such soils can be classified as class II land with restricted cropping. | | SIIw2 |
| | J-15 | 1 | 10-Jan-98 | Sugarcane field | non saline/non sodic | 3 | (0-30) Silt clay loam, (30-48) Silt clay | 8.4, 8.2 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, moderately (mostly) saline, non sodic but surface crust has pH 8.6 and medium textured. Such soils can be classified as class II land with restricted cropping. | | SIIw2 |
| | J-15 | 2 | 10-Jan-98 | Cotton field | non saline/non sodic | 3 | (0-30) Silt clay loam, (30-48) Silt clay | 8.4, 8.2, 8.0 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, moderately (mostly) saline, non sodic but surface crust has pH 8.6 and medium textured. Such soils can be classified as class II land with restricted cropping. | Wheat, cotton and sugarcane. | SIIw2 |
| | J-16 | 1 | 10-Jan-98 | Mango garden intercropped with citrus | non saline/non sodic | 4 | (0-6) Loam, (6-24) Very fine sandy loam | 8.2, 8.0 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, (water table 3-4 feet) partly saline, non sodic and medium textured (Silt loam and VFSL). Such soils can be placed in class II land with restricted cropping. | Wheat, cotton and sugarcane. Some mango trees are also surviving. According to a farmer the mango trees are standing because water table goes below 4-5 feet in summer. | SIIw2 |
| | J-16 | 2 | 10-Jan-98 | Cotton field | non saline/non sodic | | (0-12) Silt loam, (12-48) Very fine sandy loam | 8.3, 8.2 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, (water table 3-4 feet) partly saline, non sodic and medium textured (Silt loam and VFSL). Such soils can be placed in class II land with restricted cropping. | | SIIw2 |
| | J-17 | 1 | 10-Jan-98 | Barren field | Surface salinity present | 3 | (0-48) Sandy loam | 9.6, 8.4 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, (water table 3-4 feet) partly saline, non sodic and medium textured (Silt loam and VFSL). Such soils can be placed in class II land with restricted cropping. | | SIIw2 |
| | J-17 | 2 | 10-Jan-98 | Barren field | Surface salinity present | 3 | (0-12) Silt clay loam, (12-18) Loam, (18-30) Silty clay loam, (30-48) Loam | 8.4, 8.2, 8.0, 8.0, 8.0 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, (water table 3-4 feet) partly saline, non sodic and medium textured (Silt loam and VFSL). Such soils can be placed in class II land with restricted cropping. | | SIIw2 |
| | J-17 | 3 | 10-Jan-98 | Wheat field | non saline/non sodic | 3 | (0-48) Sandy loam | 9.2 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, (water table 3-4 feet) partly saline, non sodic and medium textured (Silt loam and VFSL). Such soils can be placed in class II land with restricted cropping. | Cotton and wheat. | SIIw2 |
| | J-18 | 1 | 10-Jan-98 | Cotton field | non saline/non sodic | | (0-30) Silt loam, (30-48) Very fine sandy loam | 8.4, 8.2 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, (water table 3-4 feet) partly saline, non sodic and medium textured (Silt loam and VFSL). Such soils can be placed in class II land with restricted cropping. | | SIIw2 |
| | J-18 | 2 | 10-Jan-98 | Barren field | Surface salinity present | 3.5 | (0-6) Silt loam, (6-48) Silt loam | 8.5, 8.4 | The area is level, water logged (water table at 3-4 feet) moderately saline and under p-canal irrigation. The soils are deep, moderately well drained, (water table 3-4 feet) partly saline, non sodic and medium textured (Silt loam and VFSL). Such soils can be placed in class II land with restricted cropping. | Wheat and cotton with some oilseed (raya). | SIIw2 |
| | J-19 | 1 | 12-Jan-98 | Wheat field | non saline/non sodic | | (0-40) Silt loam, (40-48) Sandy loam | 8.2, 8.0, 8.0 | The area is level, water logged, and under p-canal irrigation. The soils of the polygon are deep, moderately well drained (water table 4-5 ft), but severe patchy salinity exists, non sodic and medium textured (silt loam + VFSL). These soils have good agricultural potential for limited cropping and can be placed in class II land. | | SIIw2 |
| | J-19 | 2 | 12-Jan-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.4, 8.4 | The area is level, water logged, and under p-canal irrigation. The soils of the polygon are deep, moderately well drained (water table 4-5 ft), but severe patchy salinity exists, non sodic and medium textured (silt loam + VFSL). These soils have good agricultural potential for limited cropping and can be placed in class II land. | Wheat and cotton. | SIIw2 |

Table A IV.1 IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides 1997-98

| Range | Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------|-----------|---|----------------------|------------------|--|-------------------------|---|---|------------------------|
| 9 | J-20 | 1 | 16-Jan-98 | Wheat field | non saline non sodic | 3 | (0-12) Silt loam, (12-36) Silty clay loam, (36-48) Silt loam | 8.2, 8.0, 8.0 | The area is nearly level, water logged, left over fields are severely saline, and under p-canal irrigation. The soils of the polygon are deep, moderately drained (water table 3-4 feet), non sodic but patchy salinity is present, moderately fine to medium textured (SICL/SIL/VFSL). The soils have moderate potential to grow restricted crops and be graded as class II land. | Wheat and cotton with some sugarcane and rice. | SIIw2 |
| 9 | J-20 | 2 | 16-Jan-98 | Cotton field | non saline non sodic | 4 | (0-6) Silt clay loam, (6-9) Very fine sandy loam, (9-18) Silty clay loam, (18-42) Silt loam, (42-48) Silty clay loam | 8.4, 8.2, 8.0, 8.0, 8.0 | | | SIIw2 |
| 9 | J-21 | 1 | 16-Jan-98 | Sugarcane field | non saline non sodic | 4 | (0-36) Silt loam, (36-48) Very fine sandy loam | 8.4, 8.4, 8.4 | The area is level, water logged, abandoned fields are severely saline and is under p-canal irrigation. The soils of the polygon are deep, moderately well drained (water table 4 feet), non saline, non sodic and medium textured (silt loam / VFSL). The soils have good potential to grow limited agricultural crops and can be placed as class II land. | Wheat and cotton with some sugarcane and rice. | SIIw2 |
| 9 | J-21 | 2 | 16-Jan-98 | Wheat field | non saline non sodic | 4 | (0-12) Silt loam, (12-36) Very fine sandy loam, (36-48) Silt loam, (45-48) Silty clay loam | 8.4, 8.2, 8.0, 8.0 | | | SIIw2 |
| 9 | J-22 | 1 | 21-Jan-98 | Cotton field | non saline non sodic | 4 | (0-48) Silt loam | 8.2, 8.0 | The area is nearly level, water logged and barren fields in the surrounding area severely saline and under p-canal irrigation. The soils of the polygon are deep, moderately well drained (water table at 4-5 feet, non saline but patchy salinity is present, non sodic and generally medium textured (silt loam/VFSL). The soils can be used for limited cropping and can be classified as class I land. | Wheat and cotton. | SIIw2 |
| 9 | J-22 | 2 | 21-Jan-98 | Wheat field | non saline non sodic | 4 | (0-36) Silt loam, (36-42) Very fine sandy loam, (42-48) Loamy very fine sand | 8.2, 8.0, 8.0, 8.0 | | | SIIw2 |
| 9 | J-23 | 1 | 12-Jan-98 | Wheat field | non saline non sodic | 4 | (0-48) Silt clay loam | 8.2, 8.0 | The area is level, water logged and needs to cleaned present existing surface drains and some more fields drains or vertical drainage system. The soils of the polygon are deep, moderately well drained (water table at 3-4 feet), non saline but severe patchy salinity is present. | Wheat and cotton. | SIIw2 |
| 9 | J-23 | 2 | 12-Jan-98 | Wheat field | non saline non sodic | 5 | (0-48) Silt clay loam | 8.2, 8.0 | | | SIIw2 |
| 9 | J-24 | 1 | 12-Jan-98 | Onion field | non saline non sodic | Saturation at 4 | (0-24) Silt loam, (24-42) Very fine sandy loam, (42-48) Very fine sandy loam | 8.2, 8.0 | The area is level, waterlogged and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline but patchy salinity exists, non sodic medium medium textured (SICL and SIL). These soils have good potential for limited crops and can be graded as class II land. | Cotton and sugarcane. | SIIw2 |
| 9 | J-24 | 2 | 12-Jan-98 | Wheat field | non saline non sodic | 4 | (0-42) Silt loam, (42-48) Silty clay loam | 8.2, 8.0, 8.0 | | | SIIw2 |
| 9 | J-25 | 1 | 12-Jan-98 | Chilies field | non saline non sodic | 3 | (0-24) Silt loam, (24-36) Silt clay loam, (36-48) Silt loam (48) | 8.2, 8.0, 8.0 | The area is level, water logged and under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline but patchy salinity present, non sodic and moderately fine textured (SICL). These soils have good potential for limited cropping and can be graded as class I land. | Cotton and wheat. | SIIw2 |
| 9 | J-25 | 2 | 12-Jan-98 | Ploughed field | non saline non sodic | 4 | (0-12) Silt loam, (12-18) Very fine sandy loam, (18-30) Silty clay loam, (30-48) Silty clay | 8.2, 8.0, 8.0, 8.0 | | | SIIw2 |
| 9 | J-26 | 1 | 16-Jan-98 | Mango garden intercropped with cotton field | non saline non sodic | 4 | 3-6 Silt loam | 8.2, 8.0 | The area is nearly level, water logged and barren area are severely saline and is under p-canal irrigation. The soils of the polygon are deep, moderately well drained (water table at 4-5 feet, non saline, sodic and medium textured (silt loam). The soils have a little limitation for growing wide variety of agricultural crops. Such soils | Mango garden are also present. | SIIw2/SI SIIw2/SI |
| 9 | J-26 | 2 | 16-Jan-98 | Cotton field | non saline non sodic | 5 | (0-48) Silt loam | 8.2, 8.0 | | | SIIw2/SI |
| 9 | J-27 | 1 | 16-Jan-98 | Cotton field | non saline non sodic | 4 | (0-18) Silt loam, (18-48) Silty clay loam | 8.2, 8.0 | The area is nearly level, water logged, barren fields are severely gypiferous saline and is under canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic and medium textured (silt loam/VFSL) underlain usually by clayey material. The soils have good agricultural potential or have some limitations for growing crops and can be graded as class II land. | Wheat and cotton. Mango gardens are also present. | SIIw2/SI |
| 9 | J-27 | 2 | 16-Jan-98 | Ploughed field | non saline non sodic | 4 | (0-18) Silt loam, (18-24) Silty clay loam, (24-36) Silt loam, (36-45) Silty clay loam, (45-48) Silty loam | 8.4, 8.2, 8.0, 8.0, 8.0 | | | SIIw2/SI |
| 9 | J-28 | 1 | 14-Jan-98 | Cotton field | non saline non sodic | 4 | (0-24) Silt loam, (24-48) Very fine sandy loam | 8.2, 8.0 | The area is nearly level, adjacent to LBOD and under canal irrigation. The soils of the polygon are deep, well drained, non saline, non sodic and medium textured (SIL, VFSL). The soils have no limitations for growing wide variety of crops including fruit orchards and can be graded as class I land. | Cotton and wheat with some sugarcane. | SI |
| 9 | J-28 | 2 | 14-Jan-98 | Cotton field | non saline non sodic | 4 | (0-30) Silt loam, (30-48) Very fine sandy loam | 8.2, 8.0 | | | SI |
| 9 | J-29 | 1 | 19-Jan-98 | Wheat field | non saline non sodic | 4 | (0-18) Very fine sandy loam, (18-30) Silt loam, (30-42) Very fine sandy loam, (42-48) Silty loam | 8.6, 8.4, 8.2, 8.2, 8.2 | The area is level, water logged, and is under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic but patchy salinity is present in many fields, medium textured (silt loam / VFSL). These soils have high agricultural potential to grow limited crops and can be placed in class II land. | Wheat, cotton and oilseeds (raya). | SIIw2 |
| 9 | J-29 | 2 | 19-Jan-98 | Cotton field | non saline non sodic | 4 | (0-18) Silt loam, (18-48) Very fine sandy loam | 8.2, 8.2 | | | SIIw2 |
| 9 | J-30 | 1 | 19-Jan-98 | Fodder field | non saline non sodic | 4 | (0-18) Silt loam, (18-24) Silty clay loam, (24-48) Silt loam | 8.4, 8.2, 8.2 | The area is level, water logged, abandoned fields are severely saline and is under p-canal irrigation. The soils of the polygon are deep, moderately well drained, (water table at 4 feet) non saline, non sodic, but patchy salinity is present in many fields, and medium textured | Wheat, cotton, sugarcane, and onion. | SIIw2 |
| 9 | J-30 | 2 | 19-Jan-98 | Cotton field | non saline non sodic | 4 | (0-42) Silt loam, (42-48) Silty clay loam | 8.4, 8.2 | | | SIIw2 |
| 9 | J-31 | 1 | 19-Jan-98 | Fodder field | non saline non sodic | 4 | (0-18) Silty clay loam, (18-24) Silt loam, (24-36) Silty clay loam, (36-48) Sand | 8.4, 8.2, 8.2, 8.2 | The area is level, water logged, abandoned areas are severely saline and is under p-canal irrigation. The soils of the polygon are deep to moderately deep, moderately well drained/ water table at 4 feet) and moderately fine textured (silty clay loam) non saline, non sodic but patchy salinity is present. These soils have high agricultural potential to grow limited crops and can be graded as class II land. | Wheat, cotton and sugarcane. | SIIw2 |
| 9 | J-31 | 2 | 19-Jan-98 | Wheat field | non saline non sodic | 4 | (0-6) Silt loam, (6-12) Silty clay loam, (12-48) Loamy sand | 8.2, 8.2, 8.0 | | | SIIw2 |
| 9 | J-31 | 3 | 19-Jan-98 | Cotton field | non saline non sodic | 4 | (0-36) Silty clay loam, (36-48) Silty clay | 8.2, 8.0 | | | SIIw2 |
| 9 | J-32 | 1 | 20-Jan-98 | Sugarcane field | non saline non sodic | 3 | (0-12) Silt loam, (12-45) loam, (45-48) Very fine sandy loam | 8.4, 8.2, 8.0 | The area is level, water logged, highly saline, lies between two big canals namely Eastern and western branches of Jamroo canal and is under p-canal irrigation. The soils of the polygon are deep, imperfectly drained (water table at 2-4 feet) but abandoned fields are severely saline while cropped fields have patchy salinity and medium textured (silt loam/loam/VFSL). These soils have moderate | Wheat, sugarcane rice and some cotton. | SIIIw3a |
| 9 | J-32 | 2 | 20-Jan-98 | Cotton field | non saline non sodic | 4 | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.4, 8.2 | | | SIIIw3a |

Table A IV - I IIMI Field Sample Survey Observations for Land Suitability Assessments across the South Hydrological Divides - 1997-98

| Image | Sample No. | FW No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches/Texture) | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|--------|-----------|--|--------------------------|------------------|--|-------------------------|---|---|------------------------|
| 9 | J-13 | 1 | 18-Jan-98 | Chilia garden intercropped with cotton | non saline/non sodic | 4 | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.4, 8.2 | The area is level, abandoned areas are severely saline and is under p canal irrigation. The soils of the polygon are deep, well drained (lift irrigation) non saline, non sodic, medium textured (silt loams/VFSL). These soils have none to little limitations for growing wide variety | Chilia, mango and lemon. In some garden cotton is intercropped. Outside the polygon main crops are wheat, cotton and sugarcane. | S1 |
| 9 | J-13 | 2 | 18-Jan-98 | Chilia garden | non saline/non sodic | | 0-48) Silt loam | 8.4, 8.0 | | | S1 |
| 9 | J-14 | 1 | 20-Jan-98 | Mango garden intercropped with fodder | non saline non sodic | | (0-48) Silt loam | 8.2, 8.0 | The area is level, adjacent to a main drain in which at present water flows below 10 feet from the surrounding surface area and is under p canal lift irrigation. The soils of the polygon are deep, well drained, | Cotton, wheat and sufficient area is under mango garden intercropped with berseem. | S1 |
| 9 | J-14 | 2 | 20-Jan-98 | Barren field | non saline non sodic | | (0-12) Silt loam, (12-48) Very fine sandy loam | 8.4, 8.2, 8.0 | | | S1 |
| 9 | J-15 | 1 | 19-Jan-98 | Sugarcane field | non saline non sodic | | (0-6) Silt loam, (6-42) Very fine sandy loam, (42-48) Silt loam | 8.4, 8.2, 8.0 | The area is level, water logged, abandoned areas are severely saline and is under p-canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, non sodic but patchy salinity in some fields is present and medium textured (silt loams/VFSL). | Wheat, cotton and some sugarcane. Some mango garden are also present in surroundings | S1/w2 |
| 9 | J-15 | 2 | 19-Jan-98 | Cotton field | non saline non sodic | 4 | (0-6) Silt loam, (6-30) Very fine sandy loam, (30-48) Silt loam | 8.2, 8.2, 8.0 | | | S1/w2 |
| 9 | N-1 | 1 | 15-Jan-98 | Wheat field | non saline non sodic | 3-4 | (0-18) Sandy loam, (18-48) Sandy loam | 8.2, 8.0 | The area lies between the sand dune, nearly level, water logged and under canal irrigation. The soils of the polygon are deep, some what exclusively drained but water table at 3-4 feet, non saline, non sodic but patchy salinity excess, moderately coarse textured (sandy loams). The soils have moderate to good agricultural potential for restricted | Wheat and cotton with some sugarcane. Lemon and mango garden are standing in a poor condition. | S1/w2 |
| 9 | N-2 | 1 | 15-Jan-98 | Wheat field | non saline/non sodic | 4 | Salt crust (3), Silty clay (16), Sandy loam (48) | 9.6, 8.4, 8.2 | The area is level, water logged with surface salinity and under canal irrigation. The soils of the polygon are generally moderately deep clayey soils (silty clays), moderately well drained, non saline, but patchy salinity is present, non sodic (salt crust has pH 8.6). The soils have good agricultural potential for agricultural crops and can be placed in class II land. | | S1/w2 |
| 9 | N-2 | 2 | 15-Jan-98 | Sugarcane field | non saline/non sodic | 3-4 | (0-3) Salt crust, (0-16) Silty clay, (16-48) Loamy sand | 9.6, 8.4, 8.2 | | Wheat, sugarcane and some cotton and rice. Mango plants surviving only due to their situation that is comparatively on higher spot. | S1/w2 |
| 9 | N-2 | 3 | 15-Jan-98 | Mango garden field | non saline/non sodic | 3-6 | (0-18) Silt loam, (0-30) Silty clay loam, (30-48) Silty clay | 8.4, 8.2, 8.0 | | | S1/w2 |
| 9 | N-3 | 1 | 15-Jan-98 | Ploughed field | non saline/non sodic | 3-4 | (0-3) Salt crust pH, (3-18) Loam, (18-48) Very fine sandy loam | 8.5, 8.2, 8.0 | The area is nearly level, water logged with patchy surface salinity and under canal irrigation. The soils of the polygon are deep, moderately well drained, non saline, but patchy salinity is present, non sodic, medium/moderately coarse textured (Sandy loams/Loam). The soils have moderate agricultural potential for restricted croppings and can be graded as class II land. | Wheat, cotton and sugarcane. | S1/w2 |
| 9 | N-3 | 2 | 15-Jan-98 | Cotton field | non saline/non sodic | 3-4 | (0-6) Sandy, (6-18) Fine sandy loam, (18-48) Fine sandy loam | 8.2, 8.0, 8.0 | | | S1/w2 |
| 9 | N-4 | 1 | 15-Jan-98 | Wheat field | non saline/non sodic | 2 | (0-12) Silt loam (12), Sandy loam (24), Silty clay (42), Very fine sandy loam (48) | 8.5, 8.4, 8.2, 8.0, 8.0 | The area is nearly level, lower area is adversely effected by water logging and salinity and under p-canal irrigation. The soils of the polygon are deep, imperfectly drained (water table at 4 feet), non saline, non sodic and moderately coarse textured (sandy loam) and usually underlain by impervious dense clayey layer. These soils | Cotton and wheat. | S1/w2 |
| 9 | N-4 | 2 | 15-Jan-98 | Cotton field | non saline/non sodic | 2-4 | (0-6) Loam, (6-24) Sandy loam, (24-48) Silty clay loam | 8.4, 8.2, 8.0 | | | S1/w2 |
| 9 | N-5 | 1 | 16-Jan-98 | Wheat field | non saline/non sodic | 4 | (0-12) Silty clay loam, (12-24) Silt loam, (24-48) Very fine sandy loam | 8.2, 8.0, 8.0 | The area is level, water logged, abandoned fields have surface salinity and is under canal irrigation. The soils of the polygon are deep, moderately well drained, water table at 4 feet, non saline, but patchy salinity is present, non sodic, medium textured (silt | Wheat and cotton. | S1/w2 |
| 9 | N-5 | 2 | 16-Jan-98 | Wheat field | non saline/non sodic | 4 | (0-48) Silt loam | 8.2, 8.0 | | | S1/w2 |
| 9 | N-6 | 1 | 15-Jan-98 | Cotton field | non saline non sodic | | 0-48) Silt loam | 8.2, 8.0 | The area is nearly level, water logged and under canal irrigation. The soils of the polygon are deep, moderately well drained but low lying area is perfectly drained, non saline with severe salinity and plumes in encyclops, non sodic, medium textured (silt loam/VFSL). These soils have good agricultural | Cotton and wheat. | S1/w2 |
| 9 | N-6 | 2 | 15-Jan-98 | Encyclops | Surface salinity present | 4 | (0-18) Silt loam, (18-48) Very fine sandy loam | 8.6, 8.4, 8.2 | | | S1/w2 |
| 9 | N-7 | 1 | 15-Jan-98 | Barren field | Surface salinity present | | (0-18) Silt loam, (18-48) Very fine sandy loam | 8.6, 8.5, 8.4 | The area is level, water logged, abandoned fields are severely saline and is under canal irrigation. The soils of the polygon area deep, moderately well drained, non saline, non sodic and medium textured (silt loams/VFSL). These soils have good potential for limited crops and can be graded as class II land. | Wheat and cotton. | S1/w2 |
| 9 | N-7 | 2 | 15-Jan-98 | Wheat field | non saline non sodic | 3-4 | Silt loam (24), Very fine sandy loam (48) | 8.2, 8.0 | | | S1/w2 |
| 9 | N-8 | 1 | 15-Jan-98 | Ploughed field | non saline/non sodic | 4-5 | (0-24) Silt loam, (24-36) Silty clay loam, (36-48+) Silty clay loam | 8.2, 8.2, 8.0 | The area is level, water logged and under canal irrigation. The soils of the polygon are deep, moderately well drained (water table at 3-5), non saline but patchy salinity present, non sodic and medium textured (Silt loam/VFSL), sometime underlain by impervious clayey layer. These soils have good agricultural potential for limited | Wheat and cotton. | S1/w2 |
| 9 | N-8 | 2 | 15-Jan-98 | Wheat field | non saline non sodic | 3 | (0-24) Silt loam, (24-48) Very fine sandy loam | 8.2, 8.0 | | | S1/w2 |
| 9 | N-9 | 1 | 17-Jan-98 | Fodder field | non saline non sodic | 3 | (0-6) Silt clay loam, (6-36) Silt loam, (36-48) Silty clay loam | 8.4, 8.2, 8.0 | The area is level, water logged, abandoned fields are severely saline and is under p-canal irrigation. The soils of the polygon area deep, moderately well drained (water table at 3-4 feet), non saline, patchy salinity present, non sodic and medium textured (silt loams/VFSL). The soils have moderately to good potential for limited crops and | Cotton, wheat and some sugarcane. | S1/w2 |
| 9 | N-9 | 2 | 17-Jan-98 | Sugarcane field | non saline non sodic | 4 | (0-48) Silt loam | 8.2, 8.0 | | | S1/w2 |
| 9 | N-10 | 1 | 17-Jan-98 | Sugarcane field | non saline/non sodic | | (0-30) Silt loam, (30-48) Silty clay loam | 8.2, 8.0 | The area is level, water logged, barren fields are severely saline and under p-canal irrigation. The soils of the polygon are deep, cultivated area is well drained while abandoned area near the diary is imperfectly drained (water table at 3-4 feet), non saline with patchy salinity, non sodic and medium textured usually underlain by SICL at 30 inch. Cultivated land has very high agricultural potential for | Wheat, cotton and sugarcane. | S1/w2 |
| 9 | N-10 | 2 | 17-Jan-98 | Barren field | Surface salinity present | 3 | (0-30) Silt loam, (30-48) Silty clay loam | 8.5, 8.4, 8.2 | | | S1/w2 |
| 9 | N-11 | 1 | 18-Jan-98 | Sugarcane field | non saline non sodic | 3 | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.4, 8.2 | The area is level, water logged, abandoned fields are severely saline and is under p-canal irrigation. The soils of the polygon are deep, moderately well drained (water table at 3 feet), non saline but many fields have patchy salinity, non sodic and mostly moderately fine textured (SICL), with some medium textured (silt loam/VFSL). | Wheat, cotton and sugarcane. | S1/w2 |
| 9 | N-11 | 2 | 18-Jan-98 | Sugarcane field | non saline non sodic | 3 | (0-30) Silty clay loam, (30-48) Silt loam | 8.4 | | | S1/w2 |
| 9 | N-12 | 1 | 17-Jan-98 | Cotton field | non saline/non sodic | 4 | (0-18) Silt loam, (18-24) Silty clay loam, (24-30) Silt loam, (30-48) Very fine Sandy loam | 8.2, 8.0, 8.0, 8.0 | The area is level, water logged, abandoned areas are severely saline and is under p-canal irrigation. The soils of the polygon are deep, moderately well drained, (water table at 3-4 feet), non saline (in some fields patchy is present) non sodic, mostly medium textured. | Wheat and cotton. | S1/w2 |
| 9 | N-12 | 2 | 17-Jan-98 | Cotton field | non saline/non sodic | 3 | (0-48) Very fine sandy loam | 8.4, 8.2 | The area is nearly level, water logged, and is under p-canal irrigation. The soils of the polygon are deep, moderately well drained, (water table at 3-4 feet), non saline, non sodic and moderately fine to medium textured (SICL to SIL). These soils can produce good limited crops under modern management and can be | Wheat and cotton. | S1/w2 |
| 9 | N-13 | 1 | 17-Jan-98 | Cotton harvested field | Surface salinity present | 3-4 | (0-30) Silt loam, (30-48) Very fine sandy loam | 8.5, 8.4, 8.2 | | | S1/w2 |
| 9 | N-13 | 2 | 17-Jan-98 | Wheat field | non saline non sodic | 3-4 | (0-18) Silt loam, (18-48) Silty clay loam | 8.4, 8.2 | | | S1/w2 |

Table A.IV : IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Sample No | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-----------|---------|------|--------------|--|--------------------------|------------------------|--|---------------------------|---|------------------------|
| 9 | N-14 | 1 | 18-Jan-98 | Barren field | Surface salinity present | 4 | (0-36) Silt loam, (36-48) Very fine sandy loam | 8.6, 8.4, 8.4 | The area is level, water logged, abandoned areas are severely saline and is under p-canal irrigation. The soils of the polygon are deep, moderately well drained (water table at 4 feet), non saline but patchy salinity is present in many fields, non sodic. Such soils have limited crop growing capability and can be classified as class II land. | SIW2 |
| 9 | N-14 | 2 | 18-Jan-98 | Cotton field | non saline/non sodic | 4 | (0-12) Silt loam, (12-48) Silty clay loam | 8.2, 8.2 | | SIW2 |
| 9 | N-14 | 3 | 18-Jan-98 | Carrot harvested field | non saline/non sodic | | Silt loam (24) Silty clay loam (48) | 8.4, 8.2 | | SIW2 |
| 9 | N-15 | 1 | 18-Jan-98 | Lemon garden field | non saline/non sodic | | (0-24) Silt loam, (24-48) Silty clay loam | 8.2, 8.0 | The area is level, water logged, and is under p-canal irrigation. The soils of the polygon are deep, moderately well drained (water table at 4 feet), non saline, but slight salinity is present in some fields, non sodic medium textured (silt loams / VFSL) and usually is underlain by silty clay loams. These soils have good potential for growing wide variety of crops and can be placed in class I land. | SI |
| 9 | N-15 | 2 | 18-Jan-98 | Sugarcane field | non saline/non sodic | 4 | (0-12) Loam, (12-18) Silty clay loam, (18-36) Silt loam, (36-48) Silty clay loam | 8.2, 8.0, 8.0, 8.0 | The area is level and under p-canal irrigation. The soils are deep, well to moderately well drained, (saturation at 4 feet) non saline, non sodic and medium textured (silt loams/VFSL). Surrounded by stagnated water pond. Such soils can be placed in class I/II land due to high water table with restriction on deep rooted crops like cotton | SI |
| 8 | R-57 | 1 | 03-Jan-98 | Banana field | non saline/non sodic | 4 | (0-36) Silt loam, (36-48) Very fine sandy loam | 8.2, 8.2 | The area is level and under canal and tabewell irrigation. The soils are deep, well to moderately well drained, (saturation at 4 feet) non saline, non sodic and medium textured (silt loams/VFSL). Surrounded by stagnated water pond. Such soils can be placed in class I/II land due to high water table with restriction on deep rooted crops like cotton | SI |
| 8 | R-58 | 1 | 03-Jan-98 | Cotton field | non saline/non sodic | | (0-30) Silt loam, (30-36) Silty clay loam, (36-48) Very fine sandy loam | 8.2, 8.2, 8.2 | The area is level and under canal and tabewell irrigation. Tabewell water seems some what hazardous as paper of wheat sown field has pH 8.9 and nearby mango garden that is being watered only by tabewell water has had condition with burned/dried tips. The soils are deep, well drained, non saline, non sodic medium textured (silt | SI |
| 8 | R-58 | 2 | 03-Jan-98 | Wheat field | non saline/non sodic | | (0-30) Silt loam, (30-48) Very fine sandy loam | 8.2, 8.2 | | SI |
| 8 | R-59 | 1 | 03-Jan-98 | Sugarcane field | non saline/non sodic | | (0-24) Silt loam, (24-48) Silty clay loam | 8.2, 8.2 | The area is level and under canal irrigation. The soils are deep, well drained, non saline, non sodic with laminated substratum, medium textured (silt loams/VFSL). Such soils can be placed as class I land with wide variety for choice of crops. | SI |
| 8 | R-59 | 2 | 03-Jan-98 | Cotton field | non saline/non sodic | | (0-30) Silt loam, (30-36) Silty clay loam, (36-48) Silt loam | 8.2, 8.2, 8.2 | | SI |
| 8 | R-60 | 1 | 03-Jan-98 | Sugarcane field | non saline/non sodic | | (0-30) Silt loam, (30-48) Very fine sand | 8.2, 8.2 | The area is level and under canal irrigation. The soils are deep, well drained, non saline, non sodic and medium textured (silt loams/VFSL) substratum laminated with various textural classes ranging from VFS to silty clay loams. Such soils can be placed as class I land with selection choice of wide variety for ecologically suited to the area. | SI |
| 8 | R-60 | 2 | 03-Jan-98 | Mango garden intercropped with fodder field | non saline/non sodic | | (0-18) Silt loam, (18-24) Silt clay loam, (24-48) Very fine sandy loam | 8.2, 8.2, 8.2 | | SI |
| 8 | R-61 | 1 | 03-Jan-98 | Onion field | non saline/non sodic | Saturation at 4 | (0-18) Silt loam, (18-36) Very fine sand, (36-48) Loamy fine sand | 8.4, 8.0, 8.0 | The area is level, under canal irrigation, many banana gardens are present, in surround mango gardens are also flourishing well. The soils are deep, well drained, non saline, non sodic (in the vicinity of canal some salinity patches are visible), medium textured (silt loams/VFSL). Such soils can be graded as class I land with selection of wide variety of crops. | SI |
| 8 | R-61 | 2 | 03-Jan-98 | Banana field | non saline/non sodic | | (0-36) Silt loam, (36-48) Very fine sand | 8.4, 8.2 | | SI |
| 8 | R-62 | 1 | 03-Jan-98 | Wheat field | non saline/non sodic | | (0-48) Silt loam | 8.2 | The area is nearly level, falls in Indus flood plain and is being irrigated by tabewell water. Slight surface salinity is visible in fallow fields. Tabewell water seems of good quality. The soils are deep, well drained, non saline, non sodic and medium textured (silt loam/VFSL) underlain by various laminated textures. Such soils may be graded as class I land with wide variety of crops. | SI |
| 8 | R-62 | 2 | 03-Jan-98 | Wheat field | non saline/non sodic | | (0-30) Silt loam, (30-36) Silty clay loam, (36-48) Silt loam | 8.4, 8.2, 8.2 | | SI |
| 8 | R-63 | 1 | 03-Jan-98 | Barren natural vegetation (Pharwan, Jee, Laran, Jar) | Surface salinity present | | (0-36) Silt loam, (36-48) Very fine sandy loam | 8.4, 8.2 | The area is level, irrigated with tabewell water but there is sufficient area lying barren with slight surface salinity tabewell water seems of good as irrigation with causing no hindrance for crops production. The soils are deep well drained, non saline, non sodic and medium textured (silt loam/Very fine sandy loam). Such soils | SI |
| 8 | R-63 | 2 | 03-Jan-98 | Cotton field | non saline/non sodic | | (0-48) Silt loam | 8.4 | | SI |
| 8 | R-64 | 1 | 03-Jan-98 | Onion field | non saline/non sodic | | (0-6) Silt loam, (6-36) Silt loam, (36-48) Silty clay loam | | The area is level tabewell and p-canal irrigated. The soils are deep, well drained, non saline, non sodic and medium (silt loam/VFSL) textured. Such soils can be graded as class I land with very extensive choice of crops ecologically suited to the area. | SI |
| 8 | R-65 | 1 | 04-Jan-98 | Wheat field | non saline/non sodic | | (0-18) Silt loam, (18-48) Very fine sandy loam | 8.2, 8.0 | The area is level and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and medium textured (silt loams/VFSL). Such soils have non to very little limitations for growing wide variety of crops and can be placed in class I land. | SI |
| 8 | R-65 | 2 | 04-Jan-98 | Wheat field | non saline/non sodic | | (0-12) Silt loam, (12-48) Loam | 8.2, 8.0 | The area is level and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and moderately fine textured (silty clay loam). Such soils have non to very little limitation for growing wide variety of crops ecologically suited to the area and | SI |
| 8 | R-66 | 1 | 04-Jan-98 | Wheat field | non saline/non sodic | | (0-42) Silty clay loam, (42-48) Silt loam | 8.2, 8.0 | The area is level and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and mostly moderately fine textured. Such soils have non to very little limitations for growing wide variety of crops and can be placed in class I land. | SI |
| 8 | R-67 | 1 | 04-Jan-98 | Cotton harvested field | non saline/non sodic | | (0-30) Silt loam, (30-48) Silty clay loam | 8.2, 8.0 | | SI |
| 8 | R-67 | 2 | 04-Jan-98 | Onion field | non saline/non sodic | | (0-48) Silty clay loam | 8.2, 8.0 | | SI |
| 8 | R-68 | 1 | 04-Jan-98 | Wheat field | non saline/non sodic | | (0-12) Silt loam, (12-48) Silty clay loam | 8.2, 8.2 | The area is level and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and moderately fine textured (silty clay loam usually with medium surface silt loam). Such soils can be classified as class I land where wide variety of crops can be grown profitably, ecologically suited to the area. | SI |
| 8 | R-68 | 2 | 04-Jan-98 | Wheat field | non saline/non sodic | | (0-10) Silt loam, (10-48) Silty clay loam | 8.2, 8.0 | | SI |
| 8 | R-69 | 1 | 04-Jan-98 | Wheat field | non saline/non sodic | | (0-48) Silty clay loam (mottling is present) | 8.2, 8.0 | The area is level, with some slick spots, water table at 5-6 feet (as told by the farmers), and under p-canal irrigation. The soils The soils are deep, well to moderately well drained, non saline, non | SI |

Table A IV 1. BML Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides 1997-98

| Image | Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (Inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------|-----------|--|----------------------|------------------|---|--------------------|---|---|------------------------|
| 8 | R-69 | 2 | 04-Jan-98 | Mango garden intercropped with fodder barbees | non saline non sodic | | (0-18) Silty clay loam, (18-48) Silt loam | 5.2, 8.0 | sodic and moderately fine to medium textured (silty clay loams to silt loams) but major area is moderately fine textured. Such soils | Cotton and wheat and sufficient area is surrounding is under mango garden. | SI |
| 8 | R-70 | 1 | 07-Jan-98 | Sugarcane field | non saline non sodic | 3 | (0-12) Silt loam, (12-36) Very fine sandy loam, (36-48) Loam very fine sand | 5.2, 8.0, 8.0 | The area is nearly level and under p-canal irrigation. The soils are deep, well to moderately well drained, non saline, non sodic and medium in texture (silt loam-VFSL). The soils have no drainage for deep rooted crops, like cotton/mango garden. But people are sowing cotton and mango. Such soils can be graded as class II land. | Wheat, cotton and sugarcane. Some banana and mango gardens are also present, perhaps water fluctuates during the year. | SI/w2 |
| 8 | R-70 | 2 | 07-Jan-98 | Banana field | non saline non sodic | 4 | (0-12) Silt loam, (12-36) Very fine sandy loam, (36-48) Loam very fine sand | 5.2, 5.0, 8.0 | | | SI/w2 |
| 8 | R-71 | 1 | 04-Jan-98 | Cotton field | non saline non sodic | | (0-48) Silt loam | 9.0 | The area is level and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and medium textured (silt loams/VFSL). Such soils have no to minimum limitations for wide variety of crops ecologically suited to the area and canal be placed in class I land. | Wheat and cotton. | SI |
| 8 | R-71 | 2 | 04-Jan-98 | Cotton field | non saline non sodic | | (0-18) Silt loam, (18-42) Very fine sandy loam, (42-48) Silt loam (mottled) | 5.2, 8.0 | | | SI |
| 8 | R-72 | 1 | 08-Jan-98 | Wheat field | non saline non sodic | | (0-24) Loam, (24-48) Silt loam | 5.2, 5.0 | The area is level and under p-canal and tubewell irrigation. The soils are deep, well drained, non saline, non sodic and moderately fine textured (SICL/CL-ve). The soils have very high agricultural potential and have no to very little limitations for production of wide variety of crops and can be graded as class I land. | Wheat and cotton with some onions. | SI |
| 8 | R-72 | 2 | 08-Jan-98 | Cotton harvested field | non saline non sodic | | (0-6) Loam, (6-48) Silty clay loam | 5.2, 3.0 | | | SI |
| 8 | R-73 | 1 | 07-Jan-98 | Wheat field | non saline non sodic | | (0-15) Silty clay loam, (15-48) Silty clay | 5.2, 8.0 | The area is level and under p-canal irrigation. The soils are deep, moderately well drained, non saline, non sodic and fine textured (silty clay). Such soils have seed bed preparation problem that need mechanical cultivation at proper moisture level. Such soils may create some air water and root circulation/penetration problem. | Cotton and wheat with some sugarcane. | SI/B |
| 8 | R-74 | 1 | 08-Jan-98 | Cotton field | non saline non sodic | 5-6 | (0-6) Silt loam, (6-24) Silt clay loam, (24-42) Silt loam, (42-48) Very fine sandy loam | 8.2, 8.0, 8.0 | The area is level and under tubewell and canal irrigation. The soils are deep, well to moderately well drained, non saline but patchy salinity exists, non sodic and moderately fine textured (SICL). Such | Cotton and wheat. | SI |
| 8 | R-75 | 1 | 04-Jan-98 | Wheat field | non saline non sodic | | (0-36) Silty clay loam, (36-48) Laminated silty clay loam | 8.6, 8.0 | The area is level, suffering with gypsumiferous surface salinity (40-60%), having saturation at 4 feet, and under canal and tubewell irrigation. The soils are deep, moderately well drained, surface salinity is present partly, non sodic and moderately fine textured (silty clay loam). Such soils can be graded as class III land. | Wheat, rice and cotton. | SI |
| 8 | R-76 | 1 | 04-Jan-98 | Wheat field | non saline non sodic | | (0-30) Silty clay loam, (30-48) Silt loam | 8.2, 8.0 | The area is level and under p-canal irrigation. The soils are deep, well drained, non saline, non sodic and moderately fine textured (silty clay loam) with laminated substratum of various textural classes. Such soils can be graded into class I land having wide range for selection of crops ecologically suited to the area. | Wheat and cotton. Sufficient area in the surrounding and in polygus is under mango and banana garden. Both crops and gardens gave healthy look. | SI |
| 8 | R-76 | 2 | 04-Jan-98 | | non saline non sodic | | (0-30) Silty clay loam, (30-48) Very fine sandy loam | 5.2, 8.0 | | | |
| 8 | R-77 | 1 | 05-Jan-98 | Sugarcane field | non saline non sodic | | (0-48) Silt loam | 5.4, 8.2 | The area is level, water table at 3 to 4 feet, surface salinity was present and under p-canal irrigation. The soils are deep, moderately well drained, surface gypsumiferous salinity present, but non sodic and fine to medium textured (silt loam, clay loam and silty loam). Such soils | Wheat and cotton, minor sugarcane and no garden of any sort, crop condition was poor. | SI/w2 |
| 8 | R-77 | 2 | 05-Jan-98 | Wheat field | non saline non sodic | 3 | (0-36) Silty clay loam, (36-48) Clay loam | 5.4, 8.2 | | | SI/w2 |
| 8 | R-78 | 1 | 06-Jan-98 | | non saline non sodic | | (0-6) Silt loam, (6-20) Very fine sandy loam, (20-48) Loamy very fine sand | 8.2, 8.0, 8.0 | The area is level and under canal and tubewell irrigation. The soils are deep, well drained, non saline, non sodic and medium textured (silt loam/VFSL). Such soils have no to little limitation for all sorts of crop production. Such soils can be graded as class I land. | Wheat and cotton and banana garden. Crops were healthy. | SI |
| 8 | R-79 | 1 | 04-Jan-98 | | non saline non sodic | | (0-20) Silt loam, (20-48) Very fine sandy loam | 8.2, 8.0 | | | SI |
| 8 | R-79 | 2 | 04-Jan-98 | | non saline non sodic | | (0-40) Silt loam, (40-48) Very fine sandy loam | 5.2, 5.0 | The area is level, devoid of any visible limitation for crops production. The soils are deep, well drained, non saline, non sodic and medium textured (silt loams/VFSL). Such soils have no to very little hindrance for production of wide variety of crops and can be classified as class I land. | Wheat and cotton with some banana garden and some onion fields. | SI |
| 8 | R-80 | 1 | 06-Jan-98 | Onion field | non saline non sodic | | (0-12) Silt loam, (12-48) Very fine sandy loam | 5.2, 8.0 | The area is level, under tubewell and canal irrigation and devoid of any limitation that affect the crop production. The soils are deep, well drained, non saline, non sodic and medium textured (silt loams/VFSL). The soils having very high agricultural potential can | Wheat and cotton with little onion and sugarcane. | SI |
| 8 | R-81 | 1 | 06-Jan-98 | Barren natural vegetation (Dubli, Larran, Jar) | non saline non sodic | 3 | (0-48) Silt loam | 8.8, 8.4 | The area is level, water table at 36 inch, with severe surface salinity (gypsumiferous). Sufficient areas has gone out of cultivation due to twin menaces of water logging and severe salinity. Even cultivated areas have severe surface salinity. The soils are deep, imperfectly drained, severely saline, medium to moderately fine textured (silt loams and silty clay loams). Such soils with severe limitation for | Wheat and cotton, crop condition was poor. | SI/w2a3 |
| 8 | R-81 | 2 | 06-Jan-98 | Cotton field | non saline non sodic | 3 | (0-12) Silt loam, (12-48) Silty clay loam | 5.2, 8.0 | | | SI/w2a3 |
| 8 | R-82 | 1 | 07-Jan-98 | Fodder field | non saline non sodic | | (0-6) Silt loam, (6-24) Loam, (24-48) Very fine sandy loam | 5.2, 5.0, 5.0 | The area has two terraces the higher one is devoid of water logging while that of lower one is water logged. The soils are deep, well and moderately well drained, non saline, but lower one has surface salinity, non sodic and medium textured (sometimes underlain by moderately fine textured (SICL) Silt loam/VFSL). Such soils can be | Cotton, wheat with some banana and mango gardens. | SI |
| 8 | R-82 | 2 | 07-Jan-98 | Wheat field | non saline non sodic | | (0-24) Silt loam, (24-48) Silty clay loam | 5.2, 8.0 | | | SI |
| 8 | R-83 | 1 | 08-Jan-98 | Wheat field | non saline non sodic | | (0-6) Silt loam, (6-24) Silty clay loam, (24-42) Silt loam, (42-48) Silty clay loam | 8.2, 8.2, 8.2, 8.2 | The area is level with patchy salinity and under canal irrigation. The soils are deep, moderately well to well drained, non saline, non sodic, mostly moderately fine textured. The soils have high potential for agricultural production and can be graded as class I/II land. | | SI |
| 8 | R-83 | 2 | 08-Jan-98 | Sugarcane field | non saline non sodic | | (0-30) Silty clay loam, (30-48) Silt loam | 8.2, 8.0 | | Cotton and wheat and some sugarcane. | SI |
| 8 | R-84 | 1 | 08-Jan-98 | Onion field | non saline non sodic | | (0-6) Silt loam, (6-30) Very fine sandy loam, (30-48) Silt loam | 5.2, 8.0, 8.0 | The soils are level, patchy salinity exists and under tubewell and canal irrigation. The soils are deep, well drained, non saline (partly), non sodic, medium textured (silt loam/VFSL). Such | Cotton and wheat but sufficient area is under oilseed and onions. | SI |
| 8 | R-84 | 2 | 08-Jan-98 | Onion field | non saline non sodic | | (0-12) Very fine sandy loam, (12-48) Loamy very fine sand | 5.2, 8.0 | | | SI |

Table A.IV.1 IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Image | Sample No. | PH No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (Inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|--------|-----------|---|----------------------|------------------|--|--------------------|--|---|------------------------|
| 8 | R-85 | 1 | 08-Jan-98 | Wheat field | non saline/non sodic | | (0-30) Sandy loam, (30-48) Loamy sand | 8.2, 8.0 | The area is level and under canal and tubewell irrigation. The soils are deep, well to moderately well drained, non saline, non sodic (pachy salinity present in surrounding), mostly medium to moderately fine textured (SIL & SICL). Such soils can be graded as class I land. | Wheat and cotton are the main crops but sufficient area is under oilseed (raya). | SI |
| 8 | R-85 | 2 | 08-Jan-98 | Wheat field | non saline/non sodic | | (0-42) Silty clay loam, (42-48) Silty clay | 8.2, 8.0 | | | SI |
| 8 | R-86 | 1 | 07-Jan-98 | Wheat field | non saline/non sodic | | (0-6) Silt loam, (6-42) Very fine sandy loam, (42-48) Loamy very fine sand | | The area is level with some patchy salinity and under canal irrigation. The soils are deep, well drained, non saline, non sodic and medium textured (silt loam/VFSL) with substratum having various textures. These soils have no to very little limitations for production of wide variety of crops and can be graded as class I land. | Cotton and wheat with some banana and mango garden. | SI |
| 8 | R-86 | 2 | 07-Jan-98 | Sugarcane field | non saline/non sodic | | (0-6) Silt loam, (6-28) Loam/fine sandy loam, (28-48) Silty clay loam | 8.2, 8.0, 8.0 | | | SI |
| 8 | R-87 | 1 | 07-Jan-98 | Wheat field | non saline/non sodic | | (0-20) Silt loam, (20-36) Very fine sandy loam, (36-48) Loamy very fine sand | 8.2, 8.0, 8.0 | The area is level and under tubewell and p-canal irrigation. The soils are deep, well drained, non saline, non sodic and medium textured (silt loam/VFSL). The soils have very high agricultural potential | Cotton and wheat, with some banana garden. | SI |
| 8 | R-88 | 1 | 07-Jan-98 | Sugarcane field | non saline/non sodic | 3 | (0-6) Silt loam, (6-30) Very fine sandy loam, (30-48) Loamy very fine sand | 8.4, 8.2 | The area is level and under p-canal irrigation. The soils are deep, imperfectly to moderately well drained (water table at 3 feet), non saline, non sodic surface salinity is present in many fields, medium textured (silt loam/VFSL). Such soils can be graded as class II land. | Wheat and cotton, sugarcane with some banana garden. | SIW2 |
| 8 | R-88 | 2 | 07-Jan-98 | Chilies field | non saline/non sodic | | (0-20) Silt loam, (20-48) Silty clay loam | 8.2, 8.0 | | | SIW2 |
| 8 | R-89 | 1 | 06-Jan-98 | Banana garden field | non saline/non sodic | | (0-48) Silt loam | 8.2, 8.0 | The area is level and under tubewell and canal irrigation. The soils are deep, well drained, non saline, non sodic and medium textured (silt loam/VFSL). Such soils having none to very little limitations or having very high agricultural potential can be graded as class I land. | Approximately whole area is under banana garden having very good health. Otherwise the major crop rotation is cotton and wheat. | SI |
| 8 | R-90 | 1 | 06-Jan-98 | Corn field | non saline/non sodic | | (0-6) Silt loam, (6-48) Silty clay loam | 8.2, 8.0, 8.0 | | | SI |
| 8 | R-90 | 2 | 06-Jan-98 | Ploughed field | non saline/non sodic | | (0-48) Silt loam | 8.2, 8.0 | The area is level in two terraces and under canal and tubewell irrigation. The soils are deep, well drained, non saline, non sodic and moderately fine to medium textured (silty clay loam/silt loam). Such soils having none to little limitations for crop | Wheat and cotton, with some sugarcane and mango garden. | SI |
| 8 | R-91 | 1 | 06-Jan-98 | Wheat field | non saline/non sodic | | (0-40) Silt loam, (40-48) Very fine sandy loam | 8.2, 8.0, 8.0 | The area is level and mostly under tubewell irrigation (tubewell water is of good quality). The soils are deep, well drained, non saline, non sodic and medium textured (silt loam/VFSL). Such soils have very high agricultural potential and can be graded as class I land. | Cotton and wheat with little sugarcane. | SI |
| 8 | R-91 | 2 | 06-Jan-98 | Wheat field | non saline/non sodic | | (0-40) Silt loam, (40-48) Very fine sandy loam | 8.2, 8.0, 8.0 | | | SI |
| 8 | R-92 | 1 | 06-Jan-98 | Sugarcane intercropped with wheat field | non saline/non sodic | | (0-20) Silty clay loam, (20-48) Very fine sandy loam | 8.2, 8.0, 8.0 | The area is level in two terraces and solely under tubewell irrigation. The soils are deep, well drained, non saline, non sodic and moderately fine to medium textured (silty clay loam/silt loam/VFSL). Such soils with none to very little limitations for crop production can be classified as class I land. | Cotton, wheat and sugarcane. Crop condition is good. | SI |
| 8 | R-92 | 2 | 06-Jan-98 | | non saline/non sodic | | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.2, 8.0 | | | SI |
| 8 | R-93 | 1 | 07-Jan-98 | Mango intercropped with cotton | non saline/non sodic | | (0-6) Silt loam, (6-40) Very fine sandy loam, (40-48) Loamy very fine sand | 8.2, 8.0, 8.0 | The area is level and under tubewell and p-canal irrigation. The soils are deep, well drained, non saline, non sodic and medium textured (silt loam/VFSL). Such soils have the highest agricultural potential for wide variety of crops and gardens and can be graded as class I land. | Wheat, cotton and sugarcane with some mango garden. | SI |
| 8 | R-93 | 2 | 07-Jan-98 | Fodder field | non saline/non sodic | | (0-6) Loam, (6-36) Silt loam, (36-40) Very fine sandy loam, (40-48) Loamy very fine sand | 8.2, 8.0, 8.0, 8.0 | | | SI |
| 8 | R-94 | 1 | 07-Jan-98 | Wheat field | non saline/non sodic | | (0-6) Silty clay loam, (6-30) Loam/fine sandy loam, (30-48) Silty clay loam | 8.5, 8.0, 8.0, 8.0 | The area is level with patchy salinity, water table at 3-4 feet (it was high before the surface drain was dug) and under p-canal irrigation. The soils are deep, moderately well drained, non saline, non sodic, and moderately fine textured (SICL). Such soils have some problems for agricultural production and can be graded as class II land. | Cotton and wheat with some sugarcane. | SIW2 |
| 8 | R-94 | 2 | 07-Jan-98 | Wheat field | non saline/non sodic | 3 | (0-18) Silty clay loam, (18-48) Silty clay loam | 8.5, 8.0 | | | SIW2 |
| 8 | R-95 | 1 | 08-Jan-98 | Wheat field | non saline/non sodic | | (0-6) Sandy loam, (6-36) Very fine sandy loam, (36-48) Loamy very fine sand | 8.2, 8.0, 8.0 | The area is level and under p-canal irrigation. The soils are deep, moderately well drained, non saline (pachy salinity is present), non sodic and mostly moderately fine to medium textured (silty clay loam/silt loam). The soils have some problems of penetration of roots and circulation of air and water. These soils can be classified | Wheat and cotton. | SI |
| 8 | R-95 | 2 | 08-Jan-98 | Wheat field | non saline/non sodic | | (0-38) Silty clay loam (38-48) Silty clay | 8.4, 8.2, 8.0 | | | SI |
| 8 | R-96 | 1 | 08-Jan-98 | Wheat field | non saline/non sodic | | (0-12) Silt loam, (12-24) Silty clay loam, (24-36) Silt loam, (36-48) Very fine sandy loam | 8.2, 8.0, 8.0, 8.0 | The area is level and under canal/tubewell irrigation. The soils are deep, well drained, non saline, non sodic and mostly moderately fine textured (SICL). Such soils have very high agricultural potential for producing wide variety of crops and can be graded as class I land. | Wheat and cotton with a few gardens of mango and lemon. | SI |
| 8 | R-96 | 2 | 08-Jan-98 | Citrus intercropped with bringal field | non saline/non sodic | | (0-12) Silt loam, (12-24) Silty clay loam, (24-48) Silt loam | 8.2, 8.0, 8.0 | | | SI |
| 8 | R-97 | 1 | 08-Jan-98 | Corn field | non saline/non sodic | | (0-6) Silt loam, (6-36) Silty clay loam, (36-48+) Silty clay loam | 8.2, 8.0, 8.0 | The area is level and under canal irrigation. The soils are deep, well drained, non saline (pachy salinity exists in newly cultivated area), non sodic and moderately fine textured. The soils have very high agricultural potential for producing wide variety of crops economically and can be graded as class I land. | Wheat and cotton but sufficient area is under oilseed (raya). | SI |
| 8 | R-97 | 2 | 08-Jan-98 | Safflower field | non saline/non sodic | | (0-6) Silt loam, (6-12) Silty clay loam, (12-36) Silt loam, (36-48) Very fine sandy loam | 8.2, 8.0, 8.0, 8.0 | | | SI |
| 7 | R-98 | 1 | 22-Jan-98 | Sown to cotton | non saline/non sodic | 4 | (0-20) Loam, (20-48) Silt loam | | The area falls in subrecent broad basin channel and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic, but with patchy salinity in some fields and medium to moderately fine textured (Loam, SICL). Such soils have good agricultural potential and can be graded as class II land. | Cotton and wheat with some sugarcane. | SIW2 |
| 7 | R-98 | 2 | 22-Jan-98 | Sown to cotton | non saline/non sodic | 4 | (0-30) Silty clay loam, (30-48) Silty clay | | | | SIW2 |
| 7 | R-99 | 1 | 22-Jan-98 | Sown to cotton | non saline/non sodic | | (0-6) Silt loam, (6-36) Silt loam, (36-48) Very fine sandy loam | 8.4 | The area falls in the subrecent alluvial plain (covered levees/bars) and under p-canal irrigation. The soil of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (SIL/VFSL). Such soils have very high agricultural potential and | Sugarcane with little wheat and cotton. | SI |
| 7 | R-99 | 2 | 22-Jan-98 | Sown to cotton | non saline/non sodic | | (0-48) Silt loam | | | | SI |
| 7 | R-100 | 1 | 22-Jan-98 | Fodder field | non saline/non sodic | | (0-6) Silt loam, (6-36) Silty clay loam, (36-42) Silty clay, (42-48) | 8.4 | The area falls in subrecent broad basin and under p-canal irrigation. | | SIW |

Table A.IV.1: BML Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides 1997-98

| Image/Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability | |
|------------------|---------|-------------------------------|--------------|---------------------|---------------------------------------|------------------------|----------|---|---|---|-------|
| 7 | R-100 | 2 | 22-Jun-98 | Ex-wheat field | non saline/non sodic | | | (0-24) Silty clay loam, (24-48) Silty clay | The soil of the polygon are level, deep, moderately well drained, non saline, non sodic and mostly moderately fine textured (Sic). Such soils have good agricultural potential and can be graded as class II land. (Patchy salinity in some fields exist). | Cotton, wheat and some banana gardens are also present. | SIH |
| 7 | R-101 | 1 | 22-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-20) Silt loam, (20-40) Very fine sandy loam, (40-48) Loamy fine sand | The area falls in the subrecent alluvial level plain (covered levees bars) and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, VPSL). Such soils have very high agricultural potential including fruit orchards ecologically suited to the area and garden of mango, lemon, guava and datepalm. | Cotton and wheat. Sufficient area is under the garden of mango, lemon, guava and datepalm. | SI |
| 7 | R-102 | 1 | 22-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-24) Silty clay loam, (24-48) Very fine sandy loam | The area constitutes a part of subrecent level plain (covered levees/bars) with some low lying position and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline but patchy salinity in some fields is present, non sodic and moderately fine textured (SICL). Such soils have very high | Cotton, wheat and sugarcane. | SI |
| 7 | R-102 | 2 | 22-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-20) Silty clay loam, (20-48) Very fine sandy loam | The area falls in the subrecent level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (patchy salinity in some fields exist) and medium to moderately fine textured (SIL, SICL). Such soils have very high agricultural potential and can be classified as class I land. | Cotton, wheat and sugarcane. | SI |
| 7 | R-103 | 1 | 22-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-18) Silt loam, (18-40) Very fine sandy loam, (40-48) Stratified SIL/VPSL | The area is subrecent covered levees and bars, barren areas contain gypsumiferous salinity self reclaimable, and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well to moderately well drained (saturation at 4 feet), non saline but barren fields have gypsumiferous salinity, non sodic and medium in texture (SIL/VPSL) such soils have good to very good agricultural potential | Cotton, wheat and some banana gardens are also present. | SI |
| 7 | R-103 | 2 | 22-Jun-98 | Sugarcane field | non saline/non sodic | | | (0-20) Silty clay loam, (20-48) Silt loam | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (SICL, VPSL). Such soils have very high agricultural potential and can be graded as class I land. | Cotton, wheat and sugarcane. In the surrounding some mango and lemon gardens are present. | SI |
| 7 | R-104 | 1 | 22-Jun-98 | Cotton-excellent | non saline/non sodic | Saturation at 4 | 8.2 | (0-24) Silt loam, (24-40) Very fine sandy loam, (40-48) Loamy very fine sand | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained (saturation at 4 feet), non saline but barren fields have gypsumiferous salinity, non sodic and medium in texture (SIL/VPSL) such soils have good to very good agricultural potential | Cotton, wheat and some banana gardens are also present. | SI |
| 7 | R-104 | 2 | 22-Jun-98 | Cotton-very good | non saline/non sodic | Saturation at 4 | | (0-20) Silt loam, (20-30) Silty clay loam, (36-48) Silt loam/Silty clay loam (stratified) | The area fall in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (SICL, VPSL). Such soils have very high agricultural potential and can be graded as class I land. | Cotton, wheat and sugarcane. | SI |
| 7 | R-105 | 1 | 23-Jun-98 | Sown to cotton | non saline/non sodic | | 8.4 | (0-20) Silt loam, (20-48) Very fine sandy loam | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (SICL, VPSL). Such soils have very high agricultural potential and can be graded as class I land. | Cotton, wheat and sugarcane. In the surrounding some mango and lemon gardens are present. | SI |
| 7 | R-105 | 2 | 23-Jun-98 | Kharbooz field | non saline/non sodic | | | (0-42) Very fine sandy loam, (42-48) Silt loam/Silty clay loam | The area falls in the subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline (patchy salinity present), non sodic and fine textured (SIC/SICL). Such soils have good agricultural potential under modern management and can be graded as class II land. Drain tubewell has lowered the ground | Wheat and cotton are the main crops of the area. | SIHw2 |
| 7 | R-106 | 1 | 23-Jun-98 | Cotton field | non saline/non sodic | 4 | | (0-42) Silty clay, (42-48) Silt loam | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline (contains patchy salinity in a few fields), non sodic and medium to moderately coarse textured (VPSL, SL). Such soils have good agricultural potential and can be placed in class II land. Somewhat excessively | Cotton and wheat and barren area partly being reclaimed with growing rice and Australian grass. | SIHw2 |
| 7 | R-106 | 2 | 23-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-6) Silty clay loam, (6-25) Silty clay, (25-48) Silty clay loam | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 4 feet), non saline (patchy salinity is present), non sodic and fine textured SIC. Such soils have | Cotton and wheat with some sugarcane. Some mango and datepalm trees are also present. | SI |
| 7 | R-107 | 1 | 23-Jun-98 | Sown to cotton | non saline/non sodic | 4 | 8.4 | (0-6) Silt loam, (6-30) Very fine sandy loam, (30-48) Silt loam | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline (patchy salinity exists), non sodic and moderately fine to fine textured (SICL, SIC). Such soils have good agricultural potential under modern management and can be graded as class I land. | Jawar, cotton and wheat. | SI |
| 7 | R-107 | 2 | 23-Jun-98 | Uncommanded area | Surface severely gypsumiferous saline | | 9.4, 8.2 | (0-24) Silty clay loam, (24-48) Silty clay | The area constitutes a part of subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 4 feet), non saline (contains patchy salinity in a few fields), non sodic and medium to moderately coarse textured (VPSL, SL). Such soils have good agricultural potential and can be placed in class II land. Somewhat excessively | Cotton, wheat. Some mango and lemon orchards are also present. | SIHw2 |
| 7 | R-108 | 1 | 23-Jun-98 | Jawar fodder | non saline/non sodic | | 8.4 | (0-6) Silty clay loam, (6-25) Silty clay, (25-48) Silty clay loam | The area falls in the subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline (patchy salinity exists), non sodic and moderately fine to fine textured (SICL, SIC). Such soils have good agricultural potential under modern management and can be graded as class I land. | Jawar, cotton and wheat. | SI |
| 7 | R-108 | 2 | 23-Jun-98 | Jawar grain | non saline/non sodic | | 8.4 | (0-24) Silty clay loam, (24-48) Silty clay | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline (patchy salinity exists), non sodic and moderately fine to fine textured (SICL, SIC). Such soils have good agricultural potential under modern management and can be graded as class I land. | Jawar, cotton and wheat. | SI |
| 7 | R-109 | 1 | 23-Jun-98 | Sown to cotton | non saline/non sodic | 4 | 8.2 | (0-6) Loam, (6-36) Very fine sandy loam, (36-48) Silt loam | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 4 feet), non saline (contains patchy salinity in a few fields), non sodic and medium to moderately coarse textured (VPSL, SL). Such soils have good agricultural potential and can be placed in class II land. Somewhat excessively | Cotton, wheat. Some mango and lemon orchards are also present. | SIHw2 |
| 7 | R-109 | 2 | 23-Jun-98 | Sown to cotton | non saline/non sodic | 4 | | (0-30) Sandy loam, (30-48) Very fine sandy loam | The area falls in the subrecent channel levee remnant and under p-canal irrigation - higher areas are being irrigated with lift irrigation. The soils of the polygon are nearly level, deep, well drained, non saline, non sodic and medium in textures (SIL/VPSL). Such soils have very high agricultural potential including fruit orchards | Cotton and wheat with some sugarcane. Some mango and datepalm trees are also present. | SI |
| 7 | R-110 | 1 | 22-Jun-98 | Jawar fodder | non saline/non sodic | | 8.4 | (0-6) Silt loam, (6-24) Loam, (24-48) Silt loam/Silty clay loam stratified | The area falls in subrecent alluvial plain (covered levees bars) and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (L, SIL). Such soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | Wheat, cotton and sugarcane. Mango orchards are also present. | SI |
| 7 | R-110 | 2 | 22-Jun-98 | Sugarcane field | non saline/non sodic | | | (0-30) Very fine sandy loam, (30-48) Loamy fine sand | The area falls in subrecent alluvial plain (covered levees bars) and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (L, SIL). Such soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | Wheat, cotton and sugarcane. Mango orchards are also present. | SI |
| 7 | R-111 | 1 | 23-Jun-98 | Sugarcane | non saline/non sodic | | 8.4 | (0-20) Silt loam, (20-28) Loamy very fine sand, (28-48) Very fine sandy loam | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (L, SIL). Such soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | Cotton, wheat and little and sugarcane. | SI |
| 7 | R-111 | 2 | 23-Jun-98 | Sown to cotton | non saline/non sodic | | 3.2 | (0-36) Loam, (36-48) Very fine sandy loam | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline (patchy salinity in few fields exist), non sodic and medium to moderately fine textured (SIL, VPSL and SICL). Such soils have very high agricultural potential and can be graded as class I land. | Cotton, wheat and little and sugarcane. | SI |
| 7 | R-112 | 1 | 23-Jun-98 | Sown to cotton | non saline/non sodic | | 8.4 | (0-18) Silt loam, (18-30) Very fine sandy loam, (30-46) Very fine sandy loam, (46-48) Silty clay loam | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline (patchy salinity in some fields exist), non sodic and medium to moderately fine textured (SIL, VPSL and SICL). Such soils have very high agricultural potential and can be graded as class I land. | Cotton, wheat and little and sugarcane. | SI |
| 7 | R-112 | 2 | 23-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-24) Silty clay loam stratified, (40-48) Silty clay | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (SIL, SICL). Such soils have very high agricultural | Sugarcane, wheat, cotton and some rice. | SI |
| 6 | R-113 | Covered in image No. 4 to 154 | | | | | | | | | SI |
| 6 | R-114 | 1 | 19-Jun-98 | Sown to cotton | non saline/non sodic | | 8.2 | (0-24) Silt loam, (24-48) Silty clay loam | The area falls in the subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (SIL, SICL). Such soils have very high agricultural | Sugarcane, wheat, cotton and some rice. | SI |

Table A.IV 1 IIIM Field Sample Survey Observation for Land Suitability Assessments across the South Hydrological Divides, 1997-98

| Image | Sample No | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Region | Cultivation Status | Land - Use Suitability |
|-------|-----------|---------|-----------|---------------------|-------------------------------|----------------------|---|-----|---|---|------------------------|
| 6 | R-115 | 1 | 19-Jun-98 | Sown to cotton | non saline/non sodic | 4 | (0-6) Silt loam, (6-30) Silty clay loam, (30-48) Silty clay | | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and moderately fine textured (SICL). Such soils have minor limitations of seed bed preparation and low permeability and therefore can be graded as class I land. | Sugarcane, wheat and cotton. | SI/w2 |
| 6 | R-115 | 2 | 19-Jun-98 | | non saline/non sodic | 4 | (0-30) Silty clay loam, (30-48+ve) Silty clay loam | | | | SI/w2 |
| 6 | R-116 | 1 | 19-Jun-98 | Sown to cotton | non saline/non sodic | 4 | (0-10) Loam, (10-40) Sandy loam (40-48) Loamy sand | 8.2 | The area falls in channel levee remnant but whole the area of polygon occupies levee position and water logged under p-canal and tubewell irrigation. The soils of the polygon are level, moderately deep to deep somewhat excessively drained but water table at 4 feet, non saline, non sodic and moderately coarse textured (SL). Such | Sugarcane, wheat and cotton. | SI/w2 |
| 6 | R-116 | 2 | 19-Jun-98 | Wheat field | non saline/non sodic | | (0-24) Sandy loam, (24-30) Loamy sand, (30-48) Sand | | | | SI/w2 |
| 6 | R-117 | 1 | 20-Jun-98 | Sugarcane field | non saline/non sodic | | (0-36) Silt loam, (36-48) Very fine sandy loam | | The area lies in subrecent channel levee remnant under p-canal irrigation. The soils of the polygon are nearly level, deep, well drained, non saline, non sodic and mostly medium textured (SIL, VFSL) with moderately fine textured (SICL) surface. Such soils have minor limitation of seed bed preparation that can be overcome | Sugarcane then wheat and cotton. | SI |
| 6 | R-118 | 1 | 20-Jun-98 | Rice to be sown | non saline/non sodic | | (0-6) Silt loam, (6-24) Very fine sandy loam, (24-48) Silt loam/Silty clay loam stratified | 8.2 | The area occupies a subrecent level plain seems water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium in texture (SIL, L, VFSL). Such soils have good agricultural potential and can be graded as class II land. | Sugarcane with little wheat, cotton and rice. | SI/w2 |
| 6 | R-118 | 2 | 20-Jun-98 | Sugarcane field | non saline/non sodic | | (0-20) Loam, (20-48) Silt loam | | | | SI/w2 |
| 6 | R-119 | 1 | 20-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-6) Silt loam, (6-20) Very fine sandy loam, (20-48) Loamy fine sand | 8.2 | The area falls in subrecent channel levee remnant and whole the area of the polygon occupies levee position and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (Saturation at 4 feet) non saline, non sodic and medium to moderately coarse textured (VFSL, FSL). Such soils have good | Sugarcane, wheat and cotton. | SI/w2 |
| 6 | R-119 | 2 | 20-Jun-98 | Sugarcane | non saline/non sodic | Saturation at 4 feet | (0-20) Loam-ve, (20-48) Fine sandy loam | | | | SI/w2 |
| 6 | R-120 | 1 | 20-Jun-98 | Sugarcane field | (pH 8.8) non saline/non sodic | | (0-40) Silt loam, (40-48) Silt | | The area falls in slightly depressional position and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, VFSL). Such soils have very high agricultural potential and can be placed in class I land. | | SI/w2 |
| 6 | R-120 | 2 | 20-Jun-98 | Cotton field | non saline/non sodic | | (0-30) Silt loam, (30-48) Silt loam /Very fine sandy loam | 8.2 | | Sugarcane with little cotton and wheat. | SI |
| 6 | R-121 | 1 | 20-Jun-98 | Sown to cotton | non saline/non sodic | | (0-24) Silt loam, (24-36) Very fine sandy loam, (36-48) Loamy fine sand | | The area falls in subrecent level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, VFSL). Such soils have very high agricultural potential and can be placed in class I land. | Wheat, cotton and sugarcane. | SI |
| 6 | R-122 | 1 | 20-Jun-98 | Banana garden field | non saline / non sodic | 4 | (0-24) Silty clay loam, (24-48) Ver fine sandy loam | 8.2 | The area occupies subrecent broad basin and partly the fringes of the nearby basins. These grings contain surface salinity and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline (partly salinity in a few fields present) non sodic and medium to moderately fine textured (SIL, SICL). Such soils have good agricultural potential and can be | Wheat, cotton with little rice, sufficient acreage is under banana garden. | SI/w2 |
| 6 | R-122 | 2 | 20-Jun-98 | Will be sown rice | non saline / non sodic | | (0-24) Silt loam, (24-40) Very fine sandy loam, (40-48) Loamy sand | | | | SI/w2 |
| 6 | R-123 | 1 | 20-Jun-98 | Cotton sown | non saline/non sodic | | (0-40) Very fine sandy loam, (40-48) Very fine sandy loam/Silt loam | | The area falls in channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, VFSL). Such soils have very high agricultural potential and can be classified as class I land. | Major crops are cotton and wheat - Before the drain was excavated water table used to be at 2 to 3 feet | SI |
| 6 | R-124 | 1 | 21-Jun-98 | Sugarcane | non saline/non sodic | Saturation at 4 feet | (0-12) Loam, (12-18) Sandy loam, (18-48) Sand | 8.4 | The area falls in channel levee remnant and under p-canal irrigation. The soils of the polygon are level, moderately deep to deep somewhat excessively to well drained, non saline, non sodic and medium textured (L, SIL). Such soils have very good agricultural potential and can be placed in class I land. | Sugarcane with little cotton, wheat and banana. | SI |
| 6 | R-124 | 2 | 21-Jun-98 | Sugarcane | non saline/non sodic | | (0-6) Silt loam, (6-24) Silt loam-ve, (24-30) Very fine sandy loam, (30-48) Loamy sand | 8.2 | | | SI |
| 6 | R-125 | 1 | 20-Jun-98 | Sugarcane field | non saline/non sodic | | (0-24) Silt loam, (24-30) Very fine sandy loam, (30-48) Loamy very fine sand | 8.2 | The area occupies the subrecent covered levees usually under rain by sandy material and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline, non sodic and medium textured (SIL, VFSL). Such soils have very good agricultural potential and can be placed in class I | Sugarcane. | SI |
| 6 | R-126 | 1 | 20-Jun-98 | Sown to cotton | non saline/non sodic | | (0-48) Silt loam | 8.2 | The area falls in subrecent level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and mostly medium textured (SIL). Such soils have very high agricultural potential and can be graded as class I land. | Wheat, cotton and little sugarcane. | SI |
| 6 | R-127 | 1 | 21-Jun-98 | Sugarcane | non saline/non sodic | | (0-24) Silt loam, (24-48) Very fine sandy loam | 8.2 | The area falls in subrecent covered ascending bars/levees and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL/VFSL). Such soils have very high agricultural potential and can be graded as | Sugarcane with some banana. | SI |
| 6 | R-128 | 1 | 21-Jun-98 | Sugarcane | non saline/non sodic | Saturation at 4 feet | (0-6) Silt loam, (6-24) Silty clay loam-ve, (24-40) Very fine sandy loam, (40-48) Loamy fine sand | 8.2 | The area forms a valley in between sand dunes-subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline, non sodic and mostly moderately fine textured (SICL). Such soils have very good agricultural potential and can be graded as class I land. | Wheat, sugarcane and cotton. | SI |
| 6 | R-129 | 1 | 21-Jun-98 | Sugarcane | non saline/non sodic | | (0-6) Silt loam, (6-24) Very fine sandy loam, (24-48) Very fine sandy loam / Silt loam | 8.4 | The area is a part of subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL/VFSL). | Cotton, wheat and sugarcane. | SI |
| 6 | R-130 | 1 | 21-Jun-98 | | non saline/non sodic | | (0-48) Silt loam | 8.2 | The area is a part of subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL). Such soils have very high agricultural potential for wide range of crops including fruit orchards ecologically suited to the area and can be | Banana, then some mango and very little cotton and wheat. | SI |
| 6 | R-131 | 1 | 23-Jun-98 | Lemon garden | non saline/non sodic | | (0-6) Loam, (6-12) Fine sandy loam, (12-48) Very fine sandy loam | 8.2 | The area falls in subrecent level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, VFSL). Such soils have very high | | SI |
| 6 | R-131 | 2 | 23-Jun-98 | Sugarcane | non saline/non sodic | | (0-48) Silt loam | 8.4 | | Sugarcane, wheat and cotton | SI |

Table A.1V.1 JMI Field Sample Survey Observation for Land Suitability Assessments across the Sindhi Hydrological Divides, 1997-98

| Image/Sample No. | PR No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability | |
|------------------|--------|------|--------------|---------------------------------------|---|------------------------|------------------------|--|---|--|------|
| 6 | R-132 | 1 | 23-Jun-98 | Sugarcane | non saline/non sodic | | | The area falls in subrecent alluvial plain covered levee bar and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SiL). Such soils have very high agricultural potential including fruit orchards ecologically suited to the area and can be placed in class I land. | Sugarcane, wheat and cotton. Mango and ber garden are also present in the polygon area. | SI | |
| 4 | R-135 | 1 | 16-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-24) Silt loam, (24-42) Silty clay loam, (42-48) Silt loam | Wheat and cotton. Sufficient acreage is under gardens of mango, and banana. | SI | |
| 4 | R-136 | 1 | 16-Jun-98 | Sown field | non saline/non sodic | | | (0-26) Silt loam, (26-36) Silty clay loam, (36-48) Silt loam | Wheat and cotton. Sufficient area is under gardens of mango and datepalm | SI | |
| 4 | R-137 | 1 | 16-Jun-98 | Sown to cotton | non saline (slight salinity on uncommanded area)/non sodic | | | (0-20) Silty clay loam, (20-36) Very fine sandy loam, (36-48) Silt loam | The area constitutes a part of subrecent broad basin, partly null lying barren, and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic but uncommanded area contains slight surface salinity and mostly moderately fine textured (SiCL). Such soils have very high agricultural potential and can be classified as class I land. | SI | |
| 4 | R-137 | 2 | 16-Jun-98 | Ex-wheat field | non saline (slight salinity on uncommanded area)/non sodic | | | (0-22) Silty clay loam, (22-48) Very fine sandy loam | Cotton and wheat with little sugarcane. | SI | |
| 4 | R-138 | 1 | 16-Jun-98 | Barren field | non saline/non sodic | 4 | | (0-34) Silt loam, (34-48) Silty clay loam | The area falls in subrecent broad basin, water logged, lies in the nearness of big Rohri p-canal and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium moderately fine textured (SiL, SiCL). | SI | |
| 4 | R-138 | 2 | 16-Jun-98 | | non saline/non sodic | 4 | | (0-6) Silt loam, (6-48) Silty clay | | SiW2 | |
| 4 | R-139 | 1 | 18-Jun-98 | Sown to cotton | non saline/non sodic | 4 | | (0-20) Silt loam, (20-36) Very fine sandy loam, (36-48) Loamy fine | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained, (water table at 4 feet) and medium textured (SiL/VFSL). Such soils have good agricultural potential and can be placed in class II land. | Wheat, cotton, sugarcane. | SiW2 |
| 4 | R-139 | 2 | 18-Jun-98 | Sown to cotton | non saline/non sodic | 4 | | (0-6) Silt loam, (6-20) Very fine sandy loam, (20-30) Fine sandy loam, (30-48) Loamy fine sand | | SiW2 | |
| 4 | R-140 | 1 | 18-Jun-98 | Jawar (fodder) | non saline/non sodic | | | (0-24) Silt loam, (24-30) Silty clay loam, (30-48) Very fine sandy loam | The area falls in the subrecent channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SiL). Such soils have very high agricultural potential and can be classified | Cotton, wheat and some rice, mango garden also present. | SI |
| 4 | R-141 | 1 | 18-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-20) Silt loam, (20-36) Very fine sandy loam, (36-48) Loamy sand | The area falls in the subrecent channel levee remnant but almost whole the area of the polygon falls in levee position and under p-canal irrigation and tubewell. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SiL) | Cotton and wheat. | SI |
| 4 | R-141 | 2 | 18-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-48) Silt loam | | SI | |
| 4 | R-142 | 1 | 18-Jun-98 | Mango garden | non saline/non sodic | | | (0-22) Silt loam, (22-48) Silty clay loam | The area falls in a broad basin and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SiL, VFSL). Such soils have very high agricultural potential and can be placed as class I land. | Cotton and wheat, gardens of mango, datepalm and lemon are also present. | SI |
| 4 | R-142 | 2 | 18-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-30) Silt loam, (30-36) Loam, (36-48) Very fine sandy loam | | SI | |
| 4 | R-143 | 1 | 16-Jun-98 | Ex-wheat field | non saline/non sodic | | | (0-25) Silt loam, (25-48) Very fine sandy loam | The area is a subrecent covered levee bar and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SiL, VFSL) | Cotton, wheat, gardens of mango, lemon, guava area also present in sufficient acreage. | SI |
| 4 | R-143 | 2 | 16-Jun-98 | Mango garden intercropped with cotton | non saline/non sodic | | | (0-20) Silt loam, (20-36) Very fine sandy loam, (36-48) Loamy fine | The area consists of the part of subrecent covered levee bars and under p-canal tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured | Wheat, cotton and sufficient acreage is under mango garden. | SI |
| 4 | R-144 | 1 | 16-Jun-98 | Wheat field | non saline/non sodic | | | (0-24) Silt loam, (24-30) Silty clay loam, (30-48) Very fine sandy loam | The area is a part of subrecent channels levee remnant but whole the polygon falls in channel position and p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and moderately fine textured (SiCL). Such soils have very high agricultural potential and can be graded as class I | Cotton, wheat, sugarcane and rice. Some lemon garden are also present. | SI |
| 4 | R-145 | 1 | 16-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-22) Silty clay loam, (22-48) Very fine sandy loam | | SI | |
| 4 | R-146 | 1 | 18-Jun-98 | Ex-wheat field | non saline/non sodic | | | (0-6) Silty clay loam, (6-48) Silty clay loam, mottled | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (L, SiCL). Such soils have very high agricultural potential and can be placed in class I land. | Cotton and wheat. | SI |
| 4 | R-146 | 2 | 18-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-24) Loam, (24-48) Very fine sandy loam | | SI | |
| 4 | R-147 | 1 | 18-Jun-98 | Ex-wheat field | non saline/non sodic | Saturation at 4 feet | | (0-24) Loam, (24-48) Very fine sandy loam | The area falls in a broad basin, under p-canal tubewell irrigation and water logged. The soils of the polygon are nearly level, deep, moderately well drained, water table at 4 feet, non saline, non sodic but a few fields have saline sodic surface and medium textured (L, VFSL). Such soils have good agricultural potential and can be placed in class II land. | Wheat, rice, cotton and sugarcane. | SiW2 |
| 4 | R-147 | 2 | 18-Jun-98 | Ex-wheat field | non saline/non sodic | 4 | paper pH 8.3, 8.4, 8.5 | (0-22) Loam, (22-45) Very fine sandy loam | | SI | |
| 4 | R-148 | 1 | 18-Jun-98 | Cotton field | non saline (slight salinity on few uncommanded areas)/non sodic | | | (0-20) Silt loam, (20-40) Very fine sandy loam, (40-48) Silt loam | The area constitutes a part of subrecent channel levee remnant under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (except a few uncommanded fields which gypsiferous Salinity) and medium in textured (SiL, VFSL). Such soils have very high agricultural potential and can be | Cotton, wheat with some rice. Lemon garden are also present. | SI |
| 4 | R-149 | 1 | 18-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-30) Silt loam, (30-48) Very fine sandy loam | The area falls in subrecent covered levee spill flats, northern side of the polygon contains gypsiferous salinity in few fields and under p-canal and tubewell irrigation. The soils of the polygon are mostly level, deep, well drained, non saline, non sodic and medium textured (SiL, VFSL). Such soils have very high agricultural potential and | Wheat, cotton and sugarcane. | SI |
| 4 | R-149 | 2 | 18-Jun-98 | Sown to cotton | non saline/non sodic | | | (0-20) Silt loam, (20-48) Very fine sandy loam | | SI | |

Table A.IV 1 IIMI Field Sample Survey Observation for Land Suitability Assessment across the South Hydrological Divides, 1997-98

| Image | Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|----------------------------------|-----------|--|----------------------|------------------|---|---------------|---|--|------------------------|
| 4 | R-150 | 1 | 19-Jun-98 | Sown to cotton | non saline/non sodic | | (0-22) Silt loam, (22-30) Silty clay loam, (30-48) Very fine sandy loam (0-30) Silt loam, (30-48) Silty clay loam | 8.2 | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (silt loam). Such soils have no to minimum limitation for very high crop production and can be graded as class I land. | Cotton, wheat, sugarcane and garden of banana and lemon are also present. | SI |
| 4 | R-150 | 2 | 19-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Loam, (6-24) Silt loam, (24-48) Silty clay loam | 8.2 | The area falls in the subrecent broad basin, and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (SIL and SICL). Such soils have very high agricultural potential and can be put in class I land. | Cotton, wheat and sugarcane, gardens of mango, datepalm and lemon are present. | SI |
| 4 | R-151 | 1 | 19-Jun-98 | Sugarcane field | non saline/non sodic | | (0-6) Silt loam (6-38) Silty clay loam, (38-48) Very fine sandy loam | 8.4 | The area falls in the subrecent channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, L, VPSL). Such soils have very high agricultural potential including fruit orchards ecologically suited and can be graded as class I land. | Cotton, wheat and sugarcane, gardens of mango, datepalm and lemon are present. | SI |
| 4 | R-151 | 2 | 19-Jun-98 | Ex-wheat field | non saline/non sodic | | (0-30) Silt loam (30-48) Very fine sandy loam | 8.2 | The area falls in the subrecent channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, L, VPSL). Such soils have very high agricultural potential including fruit orchards ecologically suited and can be graded as class I land. | Cotton and wheat, mango garden are also present. | SI |
| 4 | R-152 | 1 | 17-Jun-98 | Sown to cotton | non saline/non sodic | | (0-20) Silt loam (20-48) Very fine sandy loam | | The area falls in the subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium to fine textured (SIL, SIC). Such soils have good agricultural potential and | Wheat and cotton, guava, datepalm and mango gardens are present. | SI/w2 |
| 4 | R-152 | 2 | 17-Jun-98 | Mango garden | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty clay | 8.4 | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline, non sodic and medium to fine textured (L and SiCL). Such soils have very high to high agricultural potential and can be graded as class III land. | Wheat, cotton, rice, guava, and mango garden. | SI |
| 4 | R-153 | 1 | 17-Jun-98 | Guava garden intercropped with cotton | non saline/non sodic | 4 | (0-48) Silt loam | | The area falls in the subrecent broad basin, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium to fine textured (SIL, SIC). Such soils have good agricultural potential and | Cotton, wheat, vegetable and rice. | SI |
| 4 | R-153 | 2 | 17-Jun-98 | Jowar (fodder) | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty clay | 8.4 | The area falls in the subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and moderately fine to fine textured (SiCL and SIC). Such soils have good agricultural potential and can be graded as class II land. | Sugarcane, wheat and cotton. | SI/w2 |
| 4 | R-154 | 1 | 17-Jun-98 | Ex-wheat field | non saline/non sodic | | (0-18) Silty clay loam, (18-48) Silty clay | | The area falls in the subrecent broad basin, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium to fine textured (L and SiCL). Such soils have very high to high agricultural potential and can be graded as class III land. | Wheat, cotton, rice, guava, and mango garden. | SI |
| 4 | R-154 | 2 | 17-Jun-98 | Banana garden | non saline/non sodic | | (0-24) Loam, (24-48) Very fine sandy loam | | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium to fine textured (SIL, SIC). Such soils have good agricultural potential and | Cotton, wheat, vegetable and rice. | SI |
| 4 | R-155 | 1 | 17-Jun-98 | Sown to cotton | non saline/non sodic | | (0-24) Silt loam, (24-40+) Silty clay loam | 8.4, 8.2 | The area falls in the subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium to fine textured (SIL, SIC). Such soils have good agricultural potential and | Sugarcane, wheat and cotton. | SI/w2 |
| 4 | R-155 | 2 | 17-Jun-98 | Will be sown rice | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty clay | 8.4 | The area falls in the subrecent broad basin, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 4 feet), non saline, non sodic and moderately fine to fine textured (SiCL and SIC). Such soils have good agricultural potential and can be graded as class II land. | Melndi, wheat, rice, sugarcane and cotton. | SI |
| 4 | R-156 | 1 | 17-Jun-98 | Ex-wheat field | non saline/non sodic | 4 | (0-28) Silty clay loam, (28-32) Silt loam, (32-48) Silty clay | | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 4 feet) and medium to fine textured (SIL, SIC). Such soils have good agricultural potential under modern management practices and can be graded as class II land. | Melndi, wheat, mango garden, rice and vegetable. | SI |
| 4 | R-156 | 2 | 17-Jun-98 | Cotton field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-48) Silty clay | 8.4 | The area falls in the subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium to fine textured (SIL, SIC). Such soils have good agricultural potential and can be graded as class III land. | Wheat, cotton and some rice. Some mango garden are also present. | SI |
| 4 | R-157 | 1 | 17-Jun-98 | Cotton field | non saline/non sodic | 4 | (0-20) Silt loam, (20-42) Very fine sandy loam, (42-48) Loamy fine | 8.4 | The area falls in the subrecent broad basin, and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium to fine textured (L and SiCL/SICL). Such soils have good agricultural potential under modern management and can be graded as class III land. | Main crops of sweet soils are cotton, wheat and sugarcane, while sour soils are being reclaimed. | SI |
| 4 | R-157 | 2 | 17-Jun-98 | Ex-wheat field | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty clay | 8.2 | The area falls in the subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (SIL, SiCL). Such soils have very high agricultural potential including fruit orchards ecologically suited to the area and can be placed in class I land. | Cotton and wheat. | SI |
| 4 | R-158 | 1 | 17-Jun-98 | Melndi field | non saline/non sodic | | (0-6) Silt loam, (6-48) Silty clay loam | 8.4 | The area falls in subrecent broad basin, and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, moderately well drained, (saturation at 4 feet), non saline, non sodic and moderately fine to fine textured (SiCL/SIC). Such soils have good agricultural potential under modern management and can be placed in class II land. | Banana then mango orchards, but cotton, wheat are the major crops in the surrounding. | SI |
| 4 | R-159 | 1 | 17-Jun-98 | Vegetables | non saline/non sodic | 4 | (0-6) Silt loam, (6-40) Silty clay, (40-48) Loam | 8.4 | The area falls in subrecent channel levee remnant, water logged, and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium to fine textured (L and SiCL/SICL). Such soils have good agricultural potential under modern management and can be graded as class III land. | | SI |
| 4 | R-159 | 2 | 17-Jun-98 | Ex-wheat field | non saline/non sodic | | (0-6) Silt loam (6-24) Loam, (24-38) Sandy loam, (38-48) Loamy | 8.2 | The area falls in the subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (SIL, SiCL). Such soils have very high agricultural potential including fruit orchards ecologically suited to the area and can be placed in class I land. | | SI |
| 4 | R-160 | 1 | 17-Jun-98 | Wheat field | non saline/non sodic | | (0-30) Silt loam, (30-48) Silty clay loam/Silt loam/Very fine sandy loam | 8.4 | The area falls in the subrecent broad basin whose fringes are saline/sodic and lower areas are under cultivation with p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained, non saline, non sodic partly saline/sodic and moderately fine to fine textured (SiCL, SIC). Non saline, non sodic soil can be placed in class II land. While saline/sodic soils | | SI |
| 4 | R-160 | 2 | 17-Jun-98 | Mango garden | non saline/non sodic | | (0-24) Silty clay loam, (24-48) Silt loam/Very fine sandy loam | 8.4 | The area falls in subrecent channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and mostly medium textured with little moderately fine textured (SIL, VPSL and SiCL). Such soils have very high agricultural potential and can be classified | | SI |
| 4 | KW-33 | 1 | 16-Jun-98 | Sugarcane field | non saline/non sodic | | (0-24) Silty clay loam, (24-48) Silt loam/Very fine sandy loam | 8.4 | The area falls in subrecent level plains and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, VPSL). | | SI |
| 4 | KW-33 | 2 | 16-Jun-98 | Fallow field | non saline/non sodic | | (0-24) Silty clay, (24-36) Loam, (36-48) Very fine sandy loam | 8.8, 8.4, 8.2 | The area falls in subrecent channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, VPSL and SiCL). Such soils have very high agricultural potential and can be classified | | SI |
| 4 | KW-34 | 1 | 16-Jun-98 | Sown to cotton | non saline/non sodic | | (0-30) Silt loam, (30-48) Silty clay loam | 5.4 | The area falls in subrecent broad basin back slope deposits and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline (patchy salinity may present), non sodic and moderately fine textured (SiCL). Such soils have very high agricultural potential and can be graded as class I land. | | SI |
| 4 | KW-34 | 2 | 16-Jun-98 | | non saline/non sodic | | (0-18) Silty clay loam, (18-26) Silt loam, (26-36) Silty clay loam, (36-48) Silt loam | 8.4 | The area forms a subrecent channel levee remnant (present polygon | | SI |
| 4 | KE-40 | 1 | 19-Jun-98 | Dense banana garden | non saline/non sodic | | (0-48) Silt loam | 8.2 | | | SI |
| 4 | KE-41 | Covered in image No. 16 as KE-39 | | | | | | | | | SI |
| 4 | RC-35 | 1 | 27-Jun-98 | Ready for rice sowing | non saline/non sodic | | (0-24) Silty clay loam, (24-48) Silt loam | | | | SI |
| 4 | RC-35 | 2 | 27-Jun-98 | Road cut (as whole the area was under water) | non saline/non sodic | | (0-18) Silty clay loam, (18-48) Silt loam | | | Rice | SI |
| 4 | RC-36 | 1 | 27-Jun-98 | Rice field (in water) | non saline/non sodic | | (0-20) Silt loam, (20-30) Loam, (30-48) Silt loam | | | | SI |

Table A-IV : IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides : 1997-98

| Image/Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability | | |
|------------------|---------|------|--------------|--------------------------|---------------------------|------------------------|-----|---|-------------------------|--|---|------|
| 3 | RC-36 | 2 | 27-Jun-98 | Ready for rice sowing | non saline/non sodic | | | (0-24) Silt loam, (24-48) Silty clay loam | | is in mostly levee position) and under s-canal irrigation. The soils of the polygon are level, deep, may be well drained, non saline, non sodic and mostly medium textured (SIL, VPSSL). Such soils have very high agricultural potential and can be graded as class I land. | Rice. | SI |
| 4 | R-37 | 1 | 27-Jun-98 | Rice field | non saline/non sodic | | | (0-20) Silt loam, (20-30) Very fine sand loam, (30-48) Silt loam | | (Whole the area of the polygon has been sown to rice hence under standing water and present point was observed in water.) The area falls in the subrecent level plain and under s-canal irrigation. The soils of the polygon are level, deep, drainage NK (may be well drained), non saline, non sodic and medium in texture (SIL, VPSSL). Such soils have very high agricultural potential and can be placed in class I land. | Rice. | SI |
| 4 | RC-38 | 1 | 27-Jun-98 | Rice field | non saline/non sodic | | | (0-8) Silty clay loam, (8-48) Very fine sand loam | | (Whole the polygon area is under water due to rice crop.) The area falls in subrecent broad basin (backslope deposits) and under s-canal irrigation. The soils of the polygon are levee deep, drainage NK, non saline, non sodic and moderately fine to medium textured (SICL, SIL). Such soils have good agricultural potential under modern management and can be placed as class II land. | | SIW2 |
| 4 | RC-38 | 2 | 27-Jun-98 | Rice field | non saline/non sodic | | | (0-15) Silty clay loam, (15-36) Very fine sand loam, (36-48) Silt loam | | The area is a subrecent broad basin the polygon area forms the faringes of it hence patchy salinity is present and under s-canal irrigation. The soils of the polygon are level, deep moderately well drained, non saline, non sodic with patchy salinity, and moderately fine to medium textured (SICL, SIL). Such soils have good agricultural potential under modern management and can be placed as class II land. | Rice. | SIW2 |
| 4 | RC-39 | 1 | 27-Jun-98 | Rice field (in water) | non saline/non sodic | | | (0-6) Silty clay loam, (6-36) Silt loam, (36-48) Silty clay loam | | The area is a part of subrecent broad basin (backslope deposits), uncommanded area (as No.1) are severely saline/sodic, and under s-canal irrigation. The cultivation soils of the polygon are level, deep moderately well drained, non saline, non sodic and fine textured (SIC). Such soils have good agricultural potential under modern management and can be placed in class II land. | | SI |
| 4 | RC-39 | 2 | 27-Jun-98 | Ready for rice sowing | non saline/non sodic | | | (0-20) Silty clay loam, (20-48) Silt loam | | (Whole the polygon area is under water due to both rice and single point was observed in standing water.) The area is part of subrecent broad basin (backslope deposits) and under s-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic with patchy salinity, and moderately fine to medium textured (SICL, SIL). Such soils have good agricultural potential under modern management and can be placed as class II land. | Rice. | SI |
| 4 | RC-40 | 1 | 26-Jun-98 | Barren area | Severely surface salinity | | | (0-20) Silty clay, (20-48) Silt loam | | (Whole the polygon area is under water due to both rice and single point was observed in standing water.) The area is part of subrecent broad basin (backslope deposits) and under s-canal irrigation. The cultivation soils of the polygon are level, deep moderately well drained, non saline, non sodic and fine textured (SIC). Such soils have good agricultural potential under modern management and can be placed in class II land. | | SIH |
| 4 | RC-40 | 2 | 26-Jun-98 | Rice field (in water) | non saline/non sodic | | | (0-30) Silty clay, (30-40) Silty clay loam | | (Whole the polygon area is under water due to both rice and single point was observed in standing water.) The area is part of subrecent broad basin (backslope deposits) and under s-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (SICL, SIL). Such soils have good agricultural potential under modern management and can be placed in class II land. | Rice. | SIH |
| 4 | RC-41 | 1 | 26-Jun-98 | Rice field | non saline/non sodic | | | (0-24) Silty clay loam, (24-38) Silty clay, (38-48) Silt loam | | (Whole the area is under water after sowing the rice and both the points were observed in standing water.) The area falls in subrecent broad basin / backslope deposits, and under s-canal irrigation. The soils of the polygon are nearly level, deep, moderately well | Rice. | SIH |
| 4 | RC-42 | 1 | 26-Jun-98 | Rice sown | non saline/non sodic | | | (0-24) Silty clay loam, (24-48) Silt loam | | (Whole the polygon is under water due to the sowing of rice. Only single point was observed in standing water.) The area is a part of subrecent broad basin (backslope deposits) and under s-canal irrigation. The soils of the polygon are level, deep moderately well drained, non saline, non sodic and moderately fine textured (SICL). Such soils have very good agricultural potential under modern management and can be graded as class I land. | Rice. | SI |
| 4 | RC-42 | 2 | 26-Jun-98 | Rice field | non saline/non sodic | | | (0-24) Silty clay loam, (24-36) Silt loam, (36-48) Silty clay loam | | Rest of the area of the polygon is under rice where water is standing. The area is a part of subrecent broad basin/backslope deposits, and under s-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine to moderately fine textured (SIC, SICL). Such soils have good agricultural potential under modern management and can be graded as class I land. | Rice. | SI |
| 4 | R-43 | 1 | 26-Jun-98 | Sown to rice | non saline/non sodic | | | (0-24) Silty clay loam, (24-48) Silt loam | | The area occupies a subrecent flat basin/backslope deposits and under s-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained, non saline, non sodic and fine to moderately fine textured (SIC, SICL). Such soils have very good agricultural potential and can be classified as class I/II land. | Rice, in water on residual moisture and on zero ploughing oil seeds are grown. Some wheat is also sown. | SIH |
| 4 | R-44 | 1 | 26-Jun-98 | Ready for sowing rice | non saline/non sodic | | | (0-20) Silty clay loam, (20-48) Silt loam | | The area is a subrecent broad basin or channel levee remnant and under s-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained and medium to fine textured (SIL, SICL, SIC). Such soils have very good to good agricultural potential and can be classified as class II land. | | SI |
| 4 | R-45 | 1 | 26-Jun-98 | Ready for sowing rice | non saline/non sodic | | 8.2 | (0-4) Silty clay loam, (6-26) Silty clay, (26-36) Silt loam, (36-48) Silty clay loam | | The area is a subrecent broad basin or channel levee remnant and under s-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained and medium to fine textured (SIL, SICL, SIC). Such soils have very good to good agricultural potential and can be classified as class II land. | | SI |
| 4 | RC-46 | 1 | 25-Jun-98 | Will be sown rice | non saline/non sodic | | 8.2 | (0-20) Silt loam, (20-36) Very fine sand loam, (36-48) Silt loam | | The area is a subrecent channel levee remnant, and under s-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained and medium to fine textured (SIL, SICL, SIC). Such soils have very good to good agricultural potential and can be classified as class I/II land. | | SIH |
| 4 | RC-46 | 2 | 25-Jun-98 | Will be sown to rice | non saline/non sodic | | 8.2 | (0-6) Silty clay loam, (6-40) Silty clay, (40-48) Silty clay loam | | The area is a subrecent broad basin or channel levee remnant and under s-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, and moderately fine textured (SICL). Such soils have good to very good agricultural potential under modern management and can be classified as class II land. | Rice. | SI |
| 4 | RC-47 | 1 | 27-Jun-98 | Ready for sowing to rice | non saline non sodic | | | (0-20) Silty clay loam, (20-30) Silt loam, (30-48) Silty clay loam | | The area is a subrecent broad basin or channel levee remnant and under s-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, and moderately fine textured (SICL). Such soils have good to very good agricultural potential under modern management and can be classified as class II land. | Rice. | SI |
| 4 | D-11 | 1 | 25-Jun-98 | Sugarcane | non saline/non sodic | 4 | 8.4 | (0-36) Silty clay loam, (36-48) Silt loam | | (Whole the area of the polygon is under standing water of irrigation therefore high water table may be due to this generously irrigation water. The area falls in the subrecent channel levee remnant, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 4 feet) and dominantly moderately fine textured (SICL). Such soils have good agricultural potential under modern management and can be classified as class II land. | Rice, Sugarcane and Wheat | SI |
| 4 | D-11 | 2 | 25-Jun-98 | Will be sown to rice | non saline/non sodic | 4 | 8.4 | (0-20) Silty clay loam, (20-24) Silty clay, (24-48) Silt loam | | The area falls in channel, levee remnant, newly cultivated area (pond No.2) still have surface salinity sodicity, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet, specially in channel-position, old cultivation) and medium to moderately fine textured (SIL/SICL). | | SIW2 |
| 4 | D-12 | 1 | 25-Jun-98 | Sugarcane | non saline/non sodic | 4 | 8.4 | (0-20) Loam, (20-30) Very fine sand loam, (30-40) Loamy sand, (40-48) Very fine sand loam | | | | SIW2 |
| 4 | D-12 | 2 | 25-Jun-98 | Will be sown to rice | non saline/non sodic | 4 | 8.4 | (0-4) Silty clay loam, (6-36) Silty clay loam, (36-48) Silty loam | (face saline/sodic 8.8) | | Sugarcane, rice and wheat. | SIW2 |

Table A. IV 1 IIMJ Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Sample No. | PN No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|------------|--------|------|--------------|-----------------------|--|------------------------|--|---|---|------------------------|
| 4 | D-13 | 1 | 25-Jun-98 | Will be sown to rice | non saline/non sodic | 4 | (0-30) Silt loam, (30-48) Very fine sand loam | The area falls in subrecent level plain uncommanded areas in and out of the polygon are severely saline and p-canal irrigation. The cultivated soil of the polygon are level, deep, moderately well drained, (water table at 4 feet) non saline-non sodic and mostly medium textured (SIL). Such soils have good agricultural potential | Sugarcane, rice and wheat. | SIW2 |
| 4 | D-13 | 2 | 25-Jun-98 | Lying barren | Surface saline/sodic | | (0-24) Silt loam, (24-30) Silty clay loam, (30-48) Silt loam | | | SIW2 |
| 4 | D-14 | 1 | 25-Jun-98 | Rice to be sown | non saline/non sodic | 4 | (0-20) Silty clay loam, (20-36) Silty clay, (36-48) Silty clay loam | The area falls in subrecent channel levee remnant, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 4 feet) and medium to moderately fine textured (L and SiCL). Such soils have good agricultural potential and can be classified as class II land. | Sugarcane, rice and wheat. | SIW2 |
| 4 | D-14 | 2 | 25-Jun-98 | Sugarcane | non saline/non sodic | 4 | (0-20) Loam, (20-48) Very fine sand loam | | | SIW2 |
| 4 | D-15 | 1 | 25-Jun-98 | Sugarcane | non saline/non sodic | | (0-15) Sandy loam, (15-48) Loamy sand | The area falls in subrecent channel levee remnant, uncommanded areas in and out of polygon are severely saline and under p-canal irrigation. The soils of the polygon are level, shallow to deep, well drained to some what excessively drained, cultivated areas are non saline, non sodic and coarse to medium textured (SL & L) but later | Sugarcane, wheat and rice | SI |
| 4 | D-15 | 2 | 25-Jun-98 | Tilt (lentil) | non saline/non sodic | | (0-22) Loam, (22-48) Silty clay | | | SI |
| 4 | D-16 | 1 | 25-Jun-98 | Sugarcane | non saline/non sodic | | (0-48) Silt loam | The area falls in subrecent channel levee remnant, abandoned fields in and out of polygon are severely gypsiferous saline, and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium textured (SIL/VPSL). Such soils have very high agricultural potential and can be graded as class I land. | Sugarcane, wheat, cotton and rice. | SI |
| 4 | D-16 | 2 | 25-Jun-98 | Ready for sowing rice | non saline/non sodic | | (0-36) Very fine sand loam, (36-48) Silty clay loam/silt loam | | | SI |
| 4 | D-17 | 1 | 25-Jun-98 | Ex-wheat field | non saline/non sodic | | (0-20) Silty clay loam, (20-36) Silt loam, (36-48) Silty loam clay | (Surface 8.6), 8.4 | Sugarcane, wheat and rice | SIH |
| 4 | D-17 | 2 | 25-Jun-98 | Sugarcane field | non saline/non sodic | | (0-24) Silty clay, (24-40) Silt loam, (40-48) Silty clay | | | SIH |
| 15 | G-82 | 1 | 09-Jun-98 | Vegetable field | non saline/non sodic | | (0-24) Silt loam, (24-36) Very fine sandy loam, (36-48) Silt loam | The area is the part of subrecent alluvial level plain and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium in texture (SIL, VPSL). Such soils have very high agricultural potential including | Wheat, cotton and vegetables. | SI |
| 15 | G-83 | 1 | 11-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Loam, (6-24) Silt loam, (24-48) Very fine sandy loam | | | SI |
| 15 | G-83 | 2 | 11-Jun-98 | Banana garden | non saline/non sodic | | (0-6) Loam, (6-25) Silt loam, (25-48) Very fine sandy loam | The area falls in the subrecent covered levee/bars and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium textured (silt loam/VPSL). Such soils have very high agricultural potential, including fruit orchards ecologically suited to the area and can be classified as class I land. | Wheat, cotton and few banana gardens. | SI |
| 15 | G-84 | 1 | 09-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Silt loam, (6-48) Very fine sandy loam | | | SI |
| 15 | G-84 | 2 | 09-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Silt loam, (6-24) Very fine sandy loam, (24-48) Silt loam/Loamy sand laminated | The area is a covered bars/levees in the subrecent period and under canal and tubewell irrigation. The soils of the polygon are level, deep well drained, non saline-non sodic and medium in texture (SIL, VPSL). Such soils have very high agricultural potential including fruit orchard, ecologically suited to the area and can be classified as class I land. | Cotton and wheat. Some mango & date palm trees are present in the surrounding. | SI |
| 15 | G-85 | 1 | 09-Jun-98 | Chari fodder | non saline/non sodic | | (0-24) Very fine sandy loam, (24-48) Very fine sandy loam /Loamy very fine sand | | | SI |
| 15 | G-85 | 2 | 09-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Silt loam, (6-36) Very fine sandy loam, (36-48) Loamy very fine sand | The area is a part of subrecent covered bars/levees, usually underlain by very permeable sandy material and under p-canal and tubewell irrigation. The soils of the polygon are level, moderately deep to deep, well drained, non saline-non sodic medium textured (VPSL). Such soils have very high agricultural potential for wide variety of crops, including fruit orchard and can be placed in class I land. | Wheat and cotton | SI |
| 15 | G-86 | 1 | 09-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-48) Silt loam Laminated | | | SI |
| 15 | G-86 | 2 | 09-Jun-98 | Ploughed | Surface pH changes from 8.8 to 8.0 due to the presence of gypsum. (Surface is severely saline) | Saturation at 4 feet | (0-24) Silt loam, (24-48) Very fine sandy loam/Loamy very fine sand | The area falls in the spill flats underlain by sandy material, sufficient area (1/3) has gypsiferous salinity, reclaimable under canal water easily and under p-canal and tubewell irrigation. The cultivated area of the polygon is level, deep, moderately well drained, non saline-non sodic and medium in texture (SIL/VPSL). Such soils have good agricultural potential and mainly limitation in some area, and can be graded as class II land. (The surface contains salt crust whose pH changes from 8.6 - 8.0 - 7.8. It means sufficient | Wheat and cotton, some areas are under reclamation with Australian grass. | SI |
| 15 | G-87 | 1 | 11-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Loam, (6-48) Very fine sandy loam | | | SI |
| 15 | G-87 | 2 | 11-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Loam, (6-36) Very fine sandy loam, (36-48) Loamy sand | The area constitutes a part of subrecent covered bars/levees and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present) non saline-non sodic but patchy salinity may exist, and medium textured (silt loam/VPSL). Such soils have very high agricultural potential and can be classified as class I land. (According to the farmers the area has the witnesses of high water table and patchy salinity in many fields where does not grow any | Cotton and wheat. | SI |
| 15 | G-88 | 1 | 11-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Loam, (6-48) Very fine sandy loam | | | SI |
| 15 | G-88 | 2 | 11-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Loam, (6-36) Very fine sandy loam, (36-48) Loamy sand | The area falls in subrecent channel levee remnant, in channels surface salinity exists, and under p-canal irrigation. The soils of the polygon are level, (except in channel) deep, well drained (at present) non saline-non sodic (in channels surface salinity is present), and medium in texture (VPSL). Such soils have very high | Cotton and wheat. | SI |
| 15 | G-89 | 1 | 09-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Loam, (6-24) Silt loam, (24-48) Very fine sandy loam/Loamy very fine sand | | | SI |
| 15 | G-89 | 2 | 09-Jun-98 | Sown to cotton | non saline/non sodic | | (0-24) Silt loam, (24-36) Very fine sandy loam, (36-48) Silt loam | The area constitutes the part of a subrecent covered bars/levees, under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline-non sodic and medium in texture (SIL/VPSL). Such soils have good to very good agricultural potential and can be graded as class I/II land. | Cotton and wheat, some low lying area where cotton does not grow, rice is sown. | SI |
| 15 | G-89 | 2 | 09-Jun-98 | Sown to cotton | non saline/non sodic | | | | | SI |

Table A IV | IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides 1997-98

| Image | Sample No. | Pir No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------|-----------|--|----------------------|----------------------|---|-----|---|--|------------------------|
| 15 | G-90 | 1 | 11-Jun-98 | Sown to cotton | non saline/non sodic | | (0-24) Silt loam, (24-36) Silty clay loam, (36-48) Silt loam/Very fine sandy loam | 8.2 | The area falls in subrecent broad basin, and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium in texture (SIL). Such soils have very high agricultural potential and can be graded as class I land. | Cotton and wheat. | SI |
| 15 | G-91 | 1 | 11-Jun-98 | Flooded | non saline/non sodic | | (0-24) Silt loam, (24-36) Very fine sandy loam | 8.4 | The area falls in the subrecent channel levee remnant, unconsolidated fields have gypiferous salinity, and under p-canal irrigation. The soils of the polygon are nearly level, deep, well drained, non saline-non sodic and medium in texture (SIL/VFSL). The adjacent areas lying in channel position is water logged in water. Such soils have very high agricultural potential and can be graded as class I land. | Cotton and wheat. | SI |
| 15 | G-92 | 1 | 09-Jun-98 | Sown to cotton | non saline/non sodic | | (0-48) Silt loam | 8.2 | The area falls in a subrecent broad basin and under p-canal irrigation. The soils of the polygon are nearly level, deep, well to moderately well drained in winter, and medium to moderately fine textured (SIL, SiCL). Such soils have very good to good agricultural potential and can be graded as class I land. | Wheat and cotton. | SI |
| 15 | G-92 | 2 | 09-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-24) Silt loam + ve, (24-48) Silty clay loam | 8.2 | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium textured (SIL/VFSL). Such soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | Wheat and cotton. | SI |
| 15 | G-93 | 1 | 09-Jun-98 | Sown to cotton | non saline/non sodic | | (0-24) Silt loam, (24-36) Very fine sandy loam, (36-48) Silt loam | 8.4 | The area falls in subrecent channel levee remnant, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 4 feet and medium to moderately fine textured (SIL/VFSL, L, and SiCL). Such soils have good agricultural potential and can be graded as class II land. | Cotton with little wheat with poor yield. | SI+2 |
| 15 | G-94 | 1 | 11-Jun-98 | Sown to cotton | non saline/non sodic | 4 | (0-12) Loam, (12-36) Very fine sandy loam, (36-48) Loamy fine sand | | | | SI |
| 15 | G-94 | 2 | 11-Jun-98 | Sown to cotton | non saline/non sodic | 4 | (0-24) Silty clay loam, (24-48) Very fine sandy loam/Silt loam | | | | SI |
| 15 | G-95 | 1 | 11-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-36) Silty clay loam, (36-48) Silt loam | 8.4 | The area falls in the subrecent broad basin and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (Saturation at 4 feet) and moderately fine textured (SiCL). Such soils have good to very good agricultural potential under modern management and can be graded as class I/II land. | Cotton with little wheat | SI |
| 15 | G-95 | 2 | 11-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-22) Silty clay loam, (22-36) Silt loam, (36-48) Silty clay loam | | | | SI |
| 15 | G-96 | 1 | 11-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-15) Silty clay loam, (15-30) Silt loam, (30-48) Silt loam/Very fine sandy loam | 8.2 | The area falls in subrecent channel levee remnant, water logged, water weeds are present in northern corner, and under p-canal irrigation. The soils of the polygon are nearly level, deep, (partly new area is being brought under plough) moderately well drained, (Saturation at 4 feet) non saline-non sodic (patchy salinity in some areas). | Cotton with little wheat. | SI |
| 15 | G-96 | 2 | 11-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-24) Very fine sandy loam, (24-48) Fine sandy loam | | | | SI |
| 15 | G-97 | 1 | 10-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Loam, (6-36) Very fine sandy loam, (36-48) Loamy sand | 8.2 | The area falls in the subrecent channel levee remnant, still river creek is visible and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline-non sodic and medium in texture (SIL, VFSL). Such soils have very high agricultural potential and can be graded as class I land. | Cotton and wheat, some mango and date palm trees are also present. | SI |
| 15 | G-97 | 2 | 10-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Loam, (6-48) Very fine sandy loam | | | | SI |
| 15 | G-98 | 1 | 10-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-36) Silty clay loam, (36-48) Loam | 8.2 | The area falls in subrecent channel levee remnant and (between the sand dunes) still a river creek is seen along the eastern side of the polygon area. It becomes alive during the irrigation season (for 9 months). The area is water logged and contains gypiferous salinity in a few fields. It is under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (saturation at 4 feet) non saline-non sodic and moderately fine to medium textured (SiCL & SiEL). Such soils have good agricultural potential and can be graded as class I land. | Cotton is major crop but rainfall damages it. | SI |
| 15 | G-99 | 1 | 10-Jun-98 | Sown to cotton | non saline/non sodic | | (0-6) Silt loam, (6-20) Loam, (20-36) Sandy loam, (36-48) Loamy | 8.4 | The area falls in channel levee remnant, water logged, fallow fields have gypiferous salinity, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, cultivated fields are non saline, non sodic and medium in texture (SIL, VFSL). Such soils have good to very good agricultural potential and can be graded as class I land. | Cotton with little wheat. | SI |
| 15 | G-99 | 2 | 10-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-20) Silt loam, (20-48) Silt loam, Very fine sandy loam | 8.2 | The area falls in the subrecent channel levee remnant, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (Saturation at 4 feet) non saline-non sodic and medium textured (SIL, L, VFSL). Such soils have good to very good agricultural potential and can be classified as class I land. | Cotton with little wheat. | SI |
| 15 | G-100 | 1 | 10-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-18) Loam, (18-24) Silty clay loam, (24-30) Very fine sandy loam, (30-48) Loamy fine sand | 8.2 | The area constitutes a part of subrecent channel levee remnant, water logged and under p-canal irrigation. The soils of the polygon are nearly level, deep, well drained, non saline-non sodic and dominantly moderately coarse textured (SIL, L). Such soils have very good to good agricultural potential and can be graded as class I land. | Cotton with little wheat. | SI |
| 15 | G-101 | 1 | 10-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-6) Loam, (6-22) Silt loam, (22-48) Loam sand | 8.2 | The area falls in subrecent covered levee, water logged, and under p canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline-non sodic and moderately coarse textured (sandy loam). Such soils have good agricultural potential and can be graded as class I land. | Cotton with little wheat. | SI+2 |
| 15 | G-101 | 2 | 10-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-30) Sandy loam, (30-42) Loam Silt loam, (42-48) Sandy loam. | 8.2 | | | SI |
| 15 | G-102 | 1 | 10-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet | (0-24) Sandy loam, (24-36) Silt loam, (36-48) Loamy sand | 8.4 | | | SI |
| 15 | G-103 | 1 | 10-Jun-98 | Sown to cotton | non saline/non sodic | | (0-18) Loam, (18-48) Silty clay loam | 8.2 | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium textured (SIL, L). Such soils have very high agricultural potential and can be graded as class I land. | Cotton and wheat | SI |
| 15 | G-103 | 2 | 10-Jun-98 | Sown to cotton | non saline/non sodic | | (0-30) Silt loam, (30-40) Very fine sandy loam, (40-48) Silt loam | 8.2 | | | SI |
| 16 | KE-19 | 1 | 12-Jun-98 | Sown to vegetable | non saline/non sodic | | (0-6) Loam, (6-30) Silty clay loam, (30-48) Silt loam/Silty clay loam | 8.2 | The area falls in the subrecent channel levee remnant, some fields have patchy salinity and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic (patchy salinity exists) and medium to moderately fine textured (SIL, VFSL and SiCL). Such soils have very high agricultural potential and can be graded as class I land. | Wheat, cotton with some vegetables. | SI |
| 16 | KE-19 | 2 | 12-Jun-98 | Sown to cotton intercropped with vegetable | non saline/non sodic | | (0-6) Silt loam, (6-30) Very fine sandy loam, (30-48) Loamy fine sand | 8.2 | | | SI |

Table A.IV.1 IIMI Field Sample Survey Observation for Land Suitability Assessment across the Sindh Hydrological Divides, 1997-98

| Image | Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (fts) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------|------|--------------|---------------------|---|--|---------------|--|--|------------------------|
| | 16 | KE-20 | 1 | 12-Jun-98 | Sown to cotton | non saline/non sodic | (0-20) Loam, (20-36) Silt loam, (36-48) Very fine sandy loam/Loamy fine sand | 8.2 | The area falls in subrecent covered bars/levees and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium textured (L, SIL, VFSL). Such soils have very high agricultural potential including fruit orchards, ecologically suited to the area and can be classified as class I land. | Cotton, wheat, vegetable and sugarcane. | SI |
| | 16 | KE-21 | 1 | 12-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet (0-22) Loam, (22-30) Silt loam, (30-48) Loamy sand | 8.2 | The area constitutes a part of subrecent covered bars/levee and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, saturation at 4 feet and medium textured (L, SIL, VFSL). Such soils have very high to high agricultural potential and can be graded as class I/II land. | Cotton, wheat with some sugarcane. | SI |
| | 16 | KE-21 | 2 | 12-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet (0-20) Loam, (20-24) Silt loam, (24-48) Very fine sandy loam/Loamy fine sand | 8.2 | The area falls in the subrecent broad basin or backslope deposits, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 4 feet) non saline-non sodic (patchy salinity exists), and moderately fine textured (SICL). Such soils have good agricultural potential under modern management and can be graded as class II land. | Cotton and wheat. | SIW2 |
| | 16 | KE-22 | 1 | 12-Jun-98 | Sown to cotton | non saline/non sodic | 4 (0-30) Silty clay loam, (30-48) Silt loam | 8.2 | The area falls in the subrecent broad basin or backslope deposits, and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline non sodic and moderately fine textured (SICL). Such soils have good to very good agricultural potential and can be graded as class I land. | Cotton and wheat. | SI |
| | 16 | KE-23 | 1 | 12-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet (0-20) Silty clay loam, (20-36) Silty clay loam, (36-48) Silt loam | 8.2 | The area falls in subrecent level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium textured (L & VFSL, SIL). Such soils have very high agricultural potential including fruit orchards ecologically suited to the area and can be classified as class I land. | Cotton & wheat, some mango, datepalm & falsa gardens are also present. | SI |
| | 16 | KE-24 | 1 | 12-Jun-98 | Sown to cotton | non saline/non sodic | (0-22) Loam, (22-36) Very fine sandy loam, (36-48) Silt loam | 8.2 | The area falls in the covered subrecent levees/bars and under p-canal irrigation. The cultivated soils of the polygon are level, deep, well drained, non saline-non sodic (uncommanded fields are severe gypsum saline) and medium in textured (L, Silt loam, VFSL). Such soils (cultivated) have very high agricultural potential and can be graded as class I land. | Cotton, sugarcane and wheat. | SI |
| | 16 | KE-25 | 1 | 14-Jun-98 | Fallow field | Surface severely gypsum saline -pH ranges from 8.8 to 8.2 | (0-24) Loam, (24-36) Sandy loam (36-48) Silt loam/Very fine sandy loam | 8.2, 8.2, 8.2 | The area is a subrecent flat area and lies between two canals, surface salinity present, non sodic water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (but due to high water table that causes salinity on the surface creates hindrance for cotton seed germination) and medium textured (SIL). Such soils have good agricultural potential and can be graded as class I land. | Sugarcane, cotton and wheat. | SIW2 |
| | 16 | KE-25 | 2 | 14-Jun-98 | Sown to cotton | non saline/non sodic | (0-36) Silt loam, (36-48) Silty clay loam/Silt loam | 8.4 | The area falls in the subrecent covered levees or level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic (patchy salinity exists) and medium textured (Silt loam, VFSL). Some fields have silty clay loam surface. Such soils have very high agricultural potential and can be graded as class I land. | Cotton, wheat, sugarcane. Some mango and datepalm orchards are also present. | SI |
| | 16 | KE-26 | 1 | 14-Jun-98 | Sown to cotton | non saline/non sodic | (0-24) Silt loam, (24-36) Very fine silty loam, (30-48) Silt loam | 8.2 | The area falls in the subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic (patchy salinity in some fields exists) and medium textured (silt loam, VFSL). Such soils have very high agricultural potential and can be graded as class I land. | Cotton, wheat and sugarcane. | SI |
| | 16 | KE-27 | 1 | 14-Jun-98 | Mango garden | non saline/non sodic | (0-20) Loam, (20-25) Fine sandy loam, (25-48) Silt loam | 8.2 | The area falls in subrecent channel levee remnants, partly water logged (channels) and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline-non sodic and medium textured (L, SIL, VFSL). Such soils have very high agricultural potential including fruit orchards, ecologically suited to the area and can be graded as class I land. | Cotton and wheat, some mango trees are present. | SI |
| | 16 | KE-27 | 2 | 14-Jun-98 | Sown to cotton | non saline/non sodic | (0-6) Silty clay loam, (6-48) Very fine sandy loam | 8.2 | The area lies in the subrecent covered bars/levees, fallow fields have surface salinity, and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic. | Cotton and wheat. | SI |
| | 16 | KE-28 | 1 | 14-Jun-98 | Cotton field | non saline/non sodic | (0-22) Silt loam, (22-30) Very fine silt loam, (30-48) Silt loam | 8.2 | The area falls in the subrecent covered levee/bars and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium textured (silt loam, VFSL). Such soils have very good agricultural potential and can be graded as class I land. (Farmers complain for the acute shortage of irrigation water) | Cotton and wheat. | SI |
| | 16 | KE-28 | 2 | 14-Jun-98 | Sown to cotton | non saline/non sodic | (0-24) Silt loam, (24-48) Very fine sandy loam | 8.2 | The area falls in subrecent level plains and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present) non saline-non sodic and medium textured (silt loam). Such soils have very high agricultural potential including fruit orchards ecologically suited to the area and can be graded as class I land. | Cotton, wheat and sugarcane. Fruit orchards of banana, mango and lemon. | SI |
| | 16 | KE-29 | 1 | 12-Jun-98 | Sown to cotton | non saline/non sodic | (0-24) Loam, (24-48) Very fine silt loam/Loamy fine sand | 8.2 | The area falls in subrecent covered bars/levees and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium textured (L, SIL, VFSL). Such soils have very high agricultural potential including fruit orchards, ecologically suited to the area and can be graded as class I land. | Cotton and wheat, some mango trees are present. | SI |
| | 16 | KE-30 | 1 | 14-Jun-98 | Sown to cotton | non saline/non sodic | (0-30) Silt loam, (30-48) Very fine silt loam/Silt loam | 8.2 | The area falls in subrecent channel levee remnants, partly water logged (channels) and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline-non sodic and medium textured (L, SIL, VFSL). Such soils have very high agricultural potential including fruit orchards, ecologically suited to the area and can be graded as class I land. | Cotton, sugarcane and wheat. | SIW2 |
| | 16 | KE-30 | 2 | 14-Jun-98 | Sugarcane field | non saline/non sodic | (0-6) Silt loam, (6-48) Silty clay | 8.4 | The area lies in the subrecent covered bars/levees, fallow fields have surface salinity, and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic. | Cotton and wheat. | SI |
| | 16 | KE-31 | 1 | 14-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet (0-24) Silt loam, (24-36) Very fine silt loam, (36-48) Silt loam | 8.4 | The area falls in the subrecent covered levee/bars and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium textured (silt loam, VFSL). Such soils have very good agricultural potential and can be graded as class I land. | Cotton and wheat. | SI |
| | 16 | KE-32 | 1 | 14-Jun-98 | Sown to cotton | non saline/non sodic | (0-6) Silt loam, (6-48) Very fine silt loam | 8.2 | The area falls in subrecent level plains and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present) non saline-non sodic and medium textured (silt loam). Such soils have very high agricultural potential including fruit orchards ecologically suited to the area and can be graded as class I land. | Cotton, wheat and sugarcane. Fruit orchards of banana, mango and lemon. | SI |
| | 16 | KE-33 | 1 | 15-Jun-98 | Sown to cotton | non saline/non sodic | (0-36) Silt loam, (36-48) Very fine sandy loam/Loamy fine sand | 8.2 | The area falls in a broad basin and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained and medium to moderately fine textured (SIL, SICL). Such soils have good to very good agricultural potential under modern management and can be graded as class I/II land. | Cotton, wheat and sugarcane, some banana orchards are also present in the surrounding. | SI |
| | 16 | KE-33 | 2 | 15-Jun-98 | Sown to cotton | non saline/non sodic | (0-24) Silt loam, (24-36) Silty clay loam, (36-48) Very fine sandy | 8.2 | | | SI |
| | 16 | KE-34 | 1 | 15-Jun-98 | Sown to cotton | non saline/non sodic | Saturation at 4 feet (0-20) Silt loam, (20-40) Silty clay loam, (40-48) Loamy sand | 8.2 | | | SI |
| | 16 | KE-34 | 2 | 15-Jun-98 | Sugarcane field | non saline/non sodic | Saturation at 4 feet (0-36) Silty clay loam, (36-48) Very fine sandy loam | 8.2 | | | SI |

Table A.IV.1 IIMI Field Sample Survey Observation for Land Suitability Assessments across the South Hydrological Divides, 1997-98

| Sample No | PK No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability | |
|-----------|--------|------|--------------|---------------------|----------------------|------------------------|--|---------------------------|---|---|------|
| 16 | KE-35 | 1 | 15-Jun-98 | Sugarcane field | non saline/non sodic | 4 | (0-6) Silt loam, (6-30) Very fine sandy loam, (30-48) Silty clay loam | 8.2 | The area falls in subrecent channel-levee remnant, water logged and under p-canal irrigation. The soils of the polygon are level, deep to moderately deep, moderately well drained, water table at 4 feet non saline-non sodic, surrounding areas are uncommanded and severely gyp-saline) and medium textured (SIL, VPSL). Such soils have good agricultural potential and can be graded as class II land. | Sugarcane, wheat and cotton. | SIW2 |
| 16 | KE-35 | 2 | 15-Jun-98 | Sown to cotton | non saline/non sodic | 4 | (0-20) Silt loam, (20-48) Fine sandy loam | | | | SIW2 |
| 16 | KE-36 | 1 | 15-Jun-98 | Sown to cotton | non saline/non sodic | 4 | (0-20) Loam, (20-48) Silty clay loam | 8.2 | The area is a valley between sand dunes and broad basins where fine soils material was deposited and later sandy material with the action of water or wind mixed in it. The area is under p-canal irrigation. | Cotton and wheat. | SIW2 |
| 16 | KE-36 | 2 | 15-Jun-98 | Sown to cotton | non saline/non sodic | | (0-20) Loam, (20-24+) Silty clay loam | | The soils of the polygon are level, deep, moderately well drained, water table at 4 feet, non saline-non sodic and medium textured. | Cotton and wheat. | SIW2 |
| 16 | KE-37 | 1 | 15-Jun-98 | Cotton | non saline/non sodic | 4 | (0-12) Silty clay loam, (12-48) Silt loam Very fine sandy loam | 8.2 | The area falls in subrecent channel-levee remnant, water logged and under p-canal irrigation. The soils of the polygon are level, deep to shallow, (mostly deep) moderately well drained, water table at 4 feet and medium textured (Silt loam, Fine sandy loam) with | Cotton, sugarcane and wheat, many datepalm gardens are also present. | SIW2 |
| 16 | KE-37 | 2 | 15-Jun-98 | Datepalm garden | non saline/non sodic | 4 | (0-12) Silty clay loam, (12-48) Fine sandy loam | 8.4 | Valley between sand dunes that contains fine material on which wind or water action or human being have mixed sandy material. It is under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium in texture (Loam) usually underlain by fine textures. Such soils have very high | Cotton and wheat. | SI |
| 16 | KE-38 | 1 | 15-Jun-98 | Sown to cotton | non saline/non sodic | | (0-22) Loam, (22-48) Silty clay loam | 8.2 | The area is subrecent level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium textured (Silt/VPSL). Such soils have very high agricultural potential including fruit orchards and can be classified as class I | Wheat and cotton, some mango trees are also present. | SI |
| 16 | KE-39 | 1 | 15-Jun-98 | Ex-wheat field | non saline/non sodic | | (0-24) Silt loam, (24-48) Very fine sandy loam | 8.2 | The area lies in the subrecent channel-levee remnant and mostly falls in sandy levee position, lift irrigation + tubewell irrigation which has brackish water and desalinizing the soils. The soils of the polygon are nearly level, deep, some what excessively drained, non saline-non sodic (but tubewell water is creating salinity/sodicity) and medium to moderately coarse textured (VPSL, SL). Such soils have good agricultural potential and can be | Cotton and wheat. | SIIs |
| 16 | R-133 | 1 | 14-Jun-98 | Cotton sown | non saline/non sodic | | (0-24) Very fine sandy loam, (24-48) Fine sandy loam | 8.6, 8.2 | The area is a subrecent sandy levee and under p-canal irrigation. The soils of the polygon are nearly level shallow to moderately deep underlain by sand, some what excessively drained, non saline-non sodic and moderately coarse textured (SL). Such soils have good to moderate agricultural potential due to low inherent fertility, water | Cotton and wheat. | SIIs |
| 16 | R-134 | 1 | 14-Jun-98 | Sown to cotton | non saline/non sodic | | (0-8) Loam, (8-24) Sandy loam, (24-48) Loamy sand | 8.2 | The area is level, intensively cultivated, patchy salinity in some fields present, and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline-non sodic and medium textured (SIL). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. (Tubewell water or ground water seems of good quality). | Rice and wheat with some oilseeds (sarson), chilies, tomatoes, dhania. | SI |
| 16 | R-134 | 2 | 14-Jun-98 | Ex-wheat field | non saline/non sodic | | (0-12) Sandy loam, (12-24) Loamy sand | 8.2 | The area is a subrecent level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (Silt loam/VPSL). These soils have very high agricultural potential including fruit orchards ecologically suited to the area and can be graded as class I land. | Datepalm, banana and mango orchards. Some orchards have been intercropped with wheat or fodder, main crop grown is wheat, may be jawar in summer. | SI |
| | RC-34 | 1 | 08-Mar-98 | Chilies field | non saline/non sodic | | (0-42) Silt loam, (42-48) Silty clay loam | 8.5, 8.4, 8.2 | | | SI |
| 3 | RC-34 | 2 | 08-Mar-98 | Coriander field | non saline/non sodic | | (0-24) Silt loam, (24-48) Very fine sandy loam | 8.4, 8.2 | | | SI |
| 3 | KW-21 | 1 | 17-Mar-98 | Banana field | non saline non sodic | | (0-36) Silt loam, (36-48) Very fine sandy loam | 8.2, 8.2 | | | SI |
| 3 | KW-21 | 2 | 17-Mar-98 | Banana field | non saline/non sodic | | (0-36) Silt loam, (36-48) Very fine sandy loam | 8.2, 8.2 | | | SI |
| 3 | KW-22 | 1 | 17-Mar-98 | Ploughed field | non saline non sodic | 4 | (0-18) Silty clay loam, (18-48) Silty clay | 8.2, 8.2 | | | SIW2 |
| 3 | KW-22 | 2 | 17-Mar-98 | Sugarcane field | non saline/non sodic | 4 | (0-24) Silty clay loam, (24-48) Silty clay | 8.2, 8.2 | | | SIW2 |
| 3 | KW-23 | 1 | 17-Mar-98 | Guava garden field | non saline/non sodic | | (0-42) Silt loam, (42-48) Very fine sandy loam | 8.2, 8.2 | | | SIW2 |
| 3 | KW-23 | 2 | 17-Mar-98 | Datepalm field | non saline/non sodic | 3 | (6-22) Silt loam, (22-42) Silty clay loam, (42-48) Silt loam/Silty clay | 8.6, 8.4, 8.4, 8.2 | | | SIW2 |
| 3 | KW-24 | 1 | 17-Mar-98 | Wheat field | non saline non sodic | 4 | (0-22) Silty clay loam, (22-48) Ver fine sandy loam | 8.2, 8.2 | | | SIW2 |
| 3 | KW-24 | 2 | 17-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-30) Silty clay loam, (30-45) Ver fine sandy loam, (45-48) Loamy | 8.2, 8.2 | | | SIW2 |
| 3 | KW-25 | 1 | 17-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-18) Silty clay loam, (18-36) Ver fine sandy loam, (36-42) Silt loam, (42-48) Loamy sand | 8.2, 8.2 | | | SIW2 |
| 3 | KW-25 | 2 | 17-Mar-98 | Sugarcane field | non saline/non sodic | | (0-18) Silty clay loam, (18-48) Silt loam | 8.2, 8.2 | | | SIW2 |
| 3 | KW-26 | 1 | 17-Mar-98 | Wheat field | non saline/non sodic | | (0-6) Loam, (6-36) Silty clay loam, (36-48) Very fine sandy loam | 8.2, 8.2 | | | SI |

Table A IV I IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Image | Sample No. | Plt No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land Use Suitability |
|-------|------------|---------------------------------|-----------|---------------------------|------------------------------|------------------|---|------------------------|---|--|----------------------|
| 3 | KW-26 | 2 | 17-Mar-98 | Wheat field | non saline/non sodic | | (0-6) Loam, (6-20) Silty clay loam, (20-36) Very fine sandy loam, (36-48) Grey river sand | 8.4, 8.2 | level, deep, well drained (10-20% surface salinity of the polygon area exists) non sodic and moderately fine textured (silty clay loam). These soils have very high agricultural potential and can be graded as class I land. | Wheat and jawar, some datepalm orchard and few mango trees were also present. | SI |
| 3 | KW-27 | 1 | 18-Mar-98 | Wheat field | non saline/non sodic | 3 | (0-33) Silty clay, (33-48) Very fine sandy loam | 8.4, 8.2 | The area is a part of subrecent alluvial flat basin/channel, water logged, surface patchy salinity exists and under p-canal irrigation. The soils of the polygon are nearly level, deep moderately well drained (water table at 3-4 feet), non saline (patchy salinity present in some fields), non sodic and fine textured (silty clay). These soils have moderate limitations of high water table and clayey nature of soils with very low permeability. Therefore, restricted cropping can | Wheat and rice. | SIW2 |
| 3 | KW-28 | 1 | 18-Mar-98 | Wheat field | non saline/non sodic | | (0-18) Silty clay loam, (18-24) Loam, (24-30) Fine sandy loam, (30-36) Sandy loam, (36-45) Silt loam, (45-48) Silty clay loam | 8.4, 8.2 | The area is a part of subrecent alluvial filled channel, water logged and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained (water table at 3-4 feet), non saline (patchy salinity in some fields present), non sodic and moderately fine textured (silty clay loam). These soils have moderate limitations for agricultural potential and can be graded as class II land. | Wheat and rice. On the higher part wheat is grown and on lower parts are lying fallow after harvesting rice. | SIW2 |
| 3 | KW-28 | 2 | 18-Mar-98 | Banana field | non saline/non sodic | 3-4 | (0-22) Silty clay loam, (22-48) Very fine sandy loam | 8.4 | (0-18) Loam, (18-24) Very fine sandy loam, (24-45) Loamy sand, (45-48) Very fine sandy loam | | SIW2 |
| 3 | KW-29 | 1 | 18-Mar-98 | Sugarcane field | non saline/non sodic | | (0-6) Loam, (6-24) Fine sandy loam, (24-42) Loamy sand, (42-48) Silt loam | 8.2, 8.2 | The area is a part of subrecent alluvial level plains and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (surface salinity in some unploughed and patchy salinity in ploughed fields present) and medium to moderately fine in texture (loam, VPSL and SICL). These soils excluding uncultivated saline fields, have very high agricultural potential for wide variety of crops and can be placed as class I land. | | SI |
| 3 | KW-29 | 2 | 18-Mar-98 | Barren natural vegetation | Surface severely saline | | (0-22) Silty clay loam, (22-48) Silt loam | 8.6, 8.4, 8.2 | | | SI |
| 3 | KW-29 | 3 | 18-Mar-98 | Wheat field | non saline/non sodic | | (0-36) Silt loam, (36-48) Very fine sandy loam | 8.4, 8.2 | | Wheat, jawar, sugarcane and cotton. | SI |
| 3 | KW-30 | 1 | 18-Mar-98 | Wheat field | non saline/non sodic | | (0-20) Silty clay loam, (20-30) Sandy loam, (30-36) Sandy loam, (36-42) Very fine sandy loam, (42-48) Silt loam | 8.2, 8.2 | The area is a part of subrecent alluvial level plains and is under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (silt loam/VPSL and silty clay loam). These soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be graded as class I land. | Wheat and cotton. The northern tip of the polygon area has dense gardens of banana and datepalm. | SI |
| 3 | KW-30 | 2 | 18-Mar-98 | Wheat field | non saline/non sodic | | (0-18) Loam, (18-24) Very fine sandy loam, (24-45) Loamy sand, (45-48) Very fine sandy loam | 8.2, 8.2 | | | SI |
| 3 | KW-31 | 1 | 17-Mar-98 | Sugarcane field | non saline/non sodic | 3 | (0-18) Silty clay loam, (18-36) Very fine sandy loam, (36-48) Sand | 8.2, 8.2 | The area is a part of subrecent alluvial level, levees, usually underlain by saturated sandy material and under p-canal irrigation. The soils of the polygon are level, deep, and moderately well drained, (water table at 3-4 feet), non saline, non sodic and moderately fine textured (silty clay loam). These soils have high agricultural potential for limited crops and can be graded as class II | Wheat, jawar and sugarcane. In the surrounding area datepalm and mango gardens are present. | SIW2 |
| 3 | KW-32 | 1 | 17-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-18) Sandy loam, (18-24) Silty clay loam, (24-36) Sandy loam, (36-48) Loamy sand | 8.2, 8.2 | The area is a part of subrecent level sandy levees, laminated partly, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and moderately coarse to medium textured (SL, VPSL). These soils have moderate to good agricultural potential and therefore can be graded good as class III/II land. | Wheat, cotton, some orchards of dates and mango are present. | SIW2 |
| 3 | KW-32 | 2 | 17-Mar-98 | Onion field | non saline/non sodic | 4 | (0-6) Silt loam, (6-30) Very fine sandy loam, (30-48) Loamy sand | 8.2, 8.2 | | | SIW2 |
| 3 | NW-74 | 1 | 10-Mar-98 | Barren | Severely saline upto 22 inch | | (0-12) Silty clay loam, (12-24) Silt loam, (24-48) Silty clay loam | 8.6, 8.6, 8.4 | The area is a subrecent alluvial plain, sufficient area in and out of the polygon (about 50%) is lying barren and severely saline and moderately (pH 8.6) sodic and under p-canal irrigation. The cultivated part of the polygon contains level, deep, well drained, non saline, non sodic (patchy salinity is present), and medium to moderately fine textured (SIL & SICL). Such soils have good agricultural potential for limited crop and can be placed in class II | | SI |
| 3 | NW-74 | 2 | 10-Mar-98 | Aniseed field | non saline/non sodic | | (0-12) Loam, (12-30) Very fine sandy loam, (30-48) Silt loam | Paper pH 8.6, 8.4, 8.1 | | Rice with some wheat, oilseeds, dhania etc. | SI |
| 3 | NW-75 | 1 | 10-Mar-98 | Ex-rice field | non saline/non sodic | 4 | (0-18) Silt loam, (18-30) Very fine sandy loam, (30-48) Silt loam | 8.4, 8.2, 8.2, 8.2 | The area is a subrecent alluvial plain, uncommanded fields in and out of polygon severely saline, water logged and under p-canal irrigation. The cultivated soils of the polygon are level, deep, moderately well drained, (water table at 4 feet) non saline - non sodic (patchy salinity in some fields present), and medium to moderately fine textured (SIL & SICL). Such soils have good agricultural potential for limited crops and can be placed in class II land. | | SIW2 |
| 3 | NW-75 | 2 | 10-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-18) Silty clay loam, (18-42) Very fine sandy loam, (42-48) Fine sandy loam | 8.4, 8.2 | | Wheat, oilseeds, dhania, saunf etc. | SIW2 |
| 3 | NW-76 | Covered in Image No. 1 as NW 28 | | | | | | | | | SIW2 |
| 3 | NW-77 | 1 | 10-Mar-98 | Conander field | non saline non sodic | 3 | (0-18) Silty clay loam, (18-30) Silt loam, (30-42) Silty clay loam, (42-48) Silty clay | 8.4, 8.2 | The area is a subrecent alluvial level plains water logged, uncommanded area surrounding the polygon area is severely gypsiferous saline, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 3-4 feet), non saline, non sodic and moderately fine textured (silty clay | | SIW2 |
| 3 | NW-77 | 2 | 10-Mar-98 | Sarsoon field | non saline non sodic | 3 | (0-18) Silty clay loam, (18-36) Silt loam, (36-48) Silty clay | 8.4, 8.2 | | Rice some, oilseeds are also grown. | SIW2 |
| 3 | NW-78 | 1 | 15-Mar-98 | Ex-rice field | non saline/non sodic | 3 | (0-45) Silty clay, (45-48) Silty clay loam | | The area is a subrecent alluvial flat basin, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3-4 feet), non saline, non sodic and fine textured (silty clay). These soils have good agricultural potential due to workability and high water table and can be graded as class II | | SIW2 |
| 3 | NW-78 | 2 | 15-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-12) Silty clay loam, (12-48) Silty clay | 8.2, 8.2 | | Rice and wheat. | SIW2 |

Table A.1V 1 IIM Field Sample Survey Observation for Land Suitability Assessments across the South Hydrological Divisions 1997-98

| Image | Sample No. | Pl. No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (feet)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------|------|--------------|---------------------|------------------|--|--------------------|--|---|------------------------|
| | | | | | | | (0-6) Silty clay loam, (6-12) Silt loam, (12-42) Silty clay loam, (42-48) Silty clay | 8.4, 8.2 | Whole area is and out of polygon is under standing irrigation water to cool down the soils. The area is level, subrecent alluvial plain severely water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3-4 feet), non saline, non sodic and mostly moderately fine textured (SIL, SICL). Such soils have moderate to severe limitations for agricultural crops and restricted crops can be grown and can be | Rice only | SIIw2 |
| | | | | | | 4 | (0-12) Silt loam, (12-48) Fine sandy loam | 8.4, 8.2 | The area is level, subrecent alluvial plain, darksome area is slightly lower than surrounding that is lying barren and where run off accumulates the area is under p-canal irrigation and water logged. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and medium to moderately fine textured (SIL & SICL) but mostly medium textured | | SIIw2 |
| | | | | | | 4 | (0-30) Silty clay loam, (30-48) Silty clay loam+ve | 8.5, 8.4, 8.2 | The area is a level subrecent alluvial plain, water logged, dark some areas are saline, and the area is under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3 feet), non saline, non sodic (patchy salinity is present) and mostly medium in textures (SIL & VPSL). These soils have good agricultural potential for limited crops and can be placed as class II | Rice and wheat. | SIIw2 |
| | | | | | | 4 | (0-6) Loam, (6-18) Very fine sandy loam, (18-48) Loamy sand | 8.4, 8.2 | The area is a level subrecent alluvial plain, water logged, dark some areas are saline, and the area is under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3 feet), non saline, non sodic (patchy salinity is present) and mostly medium in textures (SIL & VPSL). These soils have good agricultural potential for limited crops and can be placed as class II | Rice and wheat with some oilseeds in saline fields | SIIw2 |
| | | | | | | 3 | (0-18) Silt loam, (18-24) Loamy sand, (24-42) Fine sandy loam | 8.6, 8.4, 8.2 | The area is a level subrecent alluvial plain, water logged and under tubewell and p-canal irrigation. The soils of the polygon are level, deep, somewhat excessively drained but (moderately well drained), water table at 3 feet, non saline, non sodic and mostly moderately coarse texture (SL, sometime silt loam surface). Such soils have moderate potential for agricultural crops for restricted crops and can | Rice, wheat and water melon. | SIIw2 |
| | | | | | | 3 | (0-6) Silt loam, (6-18) Loam, (18-24) Very fine sandy loam, (24-48) Loamy sand | 8.4, 8.2 | The area is a subrecent alluvial channel and backslope deposit, and under p-canal irrigation. The soils of the polygon mostly level, deep, moderately well drained (water table at 3-4), non saline, non sodic and moderately fine textured (silty clay loams) in channel position medium textured (VPSL) in darksome with slight surface | | SIIw2 |
| | | | | | | 3 | (0-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4), non saline, non sodic and medium in texture (silt loam/VPSL). These soils have good agricultural potential for limited crops and can be classified as class II land. | Rice and wheat. | SIIw2 |
| | | | | | | 4 | (0-6) Loam, (6-30) Very fine sandy loam, (30-48) Loamy sand | 8.4, 8.2 | The area is a subrecent alluvial level plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4), non saline, non sodic and medium in texture (silt loam/VPSL). These soils have good agricultural potential for limited crops and can be classified as class II land. | | SIIw2 |
| | | | | | | 4 | (0-18) Loam, (18-48) Very fine sandy loam | 8.4, 8.2 | The area is a part of subrecent alluvial channel levees remnants, water logged, and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained (water table 3-4 feet), non saline, non sodic and medium in texture (silt loam/VPSL). These soils have good agricultural potential and can be graded as class II land. Central part of the polygon is comparatively lower | Rice and wheat. | SIIw2 |
| | | | | | | 4 | (0-6) Loam, (6-24) Very fine sandy loam, (24-36) Silt loam, (36-48) Silty clay loam | 8.2, 8.2 | The area is subrecent alluvial plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam). Such soils have very high agricultural potential for classified as class I land. | Rice and wheat. | SI |
| | | | | | | 4 | (0-18) Silt loam, (18-36) Very fine sandy loam, (36-42) Silt loam, (42-48) Silty clay loam | 8.4, 8.2 | The area is subrecent alluvial level plain, severely water logged, uncommanded fields have surface salinity and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained, (water table at 4), saline, non sodic and medium in texture (silt loam/VPSL). Such soils have moderate limitations for agricultural crops and only restricted cropping can be | Rice with only some barrens. | SIIw2 |
| | | | | | | 4 | (0-12) Silt loam, (12-45) Very fine sandy loam, (45-48) Silty clay loam | 8.4, 8.2, 8.2 | The area is a level subrecent alluvial plain, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and medium to moderately fine textured (silt loam and silty clay loam). Such soils have good agricultural potential for limited crops and can be placed in class II land. (Surrounding areas are | Rice and wheat. | SIIw2 |
| | | | | | | 4 | (0-18) Silty clay loam, (18-30) Silt loam, (30-45) Very fine sandy loam, (45-48) Silty clay loam | 8.4, 8.4, 8.2, 8.2 | The area is a subrecent level alluvial plain, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and medium to moderately fine textured (Silt loam/silty clay loam). Such soils have very good agricultural potential for limited crops and can be placed in class I land. | | SI |
| | | | | | | 4 | (0-12) Silt loam, (12-48) Silty clay loam | 8.4, 8.2 | The area is a flat subrecent alluvial basin water logged, and under p-canal irrigation. The soils of the polygon are mostly nearly level, deep, moderately well drained, water table at 3-4 feet, non saline, non sodic and moderately fine textured (silty clay loam/silt loam). | Rice with little wheat on comparatively higher areas. | SIIw2 |
| | | | | | | 3 | (0-48) Silty clay loam | 8.4, 8.2, 8.2 | The area is subrecent flat basins, severely water logged and under p-canal irrigation. Surrounding areas are severely saline and water logged. The soils of the polygon are level, deep, imperfectly drained, water table 2-3 feet, slightly surface salinity, non saline, non sodic and moderately fine textured (silty clay loam). Such soils | Rice only, some matri/oilseeds are also grown. | SIIw3 |
| | | | | | | 3 | (0-36) Silty clay loam, (36-48) Silty clay | 8.4, 8.2 | The area is a subrecent alluvial flat basin, abandoned basinal fields are severely saline and under p-canal irrigation. The soils of the polygon are nearly level, deep, well drained, non saline, non sodic | | SI |
| | | | | | | 2 | (0-48) Silty clay loam | 8.4, 8.2 | | | SIIw3 |
| | | | | | | 3 | (0-48) Silty clay loam | 8.5, 8.4, 8.2 | | | SI |

Table A.IV | HMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Image | Sample No | Plt No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land Use Suitability |
|-------|-----------|---------|-----------|---|-------------------------|------------------|---|---------------|--|---|----------------------|
| 3 | NW92 | 2 | 09-Mar-98 | Wheat field | non saline/non sodic | | (0-36) Silty clay loam, (36-48) Silty clay | 8.4, 8.2 | and moderately fine textured (SICL). Such soils have very high agricultural potential for wide variety of crops and can be placed as | Rice and wheat. Some mango and date trees are present and look happy and healthy. | SI |
| 3 | NW93 | 1 | 08-Mar-98 | Sarsoon field | non saline/non sodic | | (0-30) Silt loam, (30-42) Very fine sandy loam, (42-48) Silt loam | 8.4, 8.2, 8.2 | The area is a subrecent level plain and under p-canal irrigation intensive cultivation. The soils of the polygon are level, deep, well drained, non saline (in some fields patchy salinity is visible), non sodic and medium textured (silt loam/VFSL). Such soils have very high agricultural potential for wide variety of crops and can be | Rice and wheat with some oilseed. | SI |
| 3 | NW93 | 2 | 08-Mar-98 | Ex-rice field | non saline/non sodic | | (0-18) Silt loam, (18-42) Very fine sandy loam, (42-48) Silt loam | 8.4, 8.2, 8.2 | The area is level intensively cultivated, and under p-canal and tubewell irrigation. The soils of the polygon are nearly level, deep, well to moderately well drained, (water table 3-4 feet) non saline, non sodic and medium in texture (silt loam/VFSL). Such soils have | | SIW2 |
| 3 | NW94 | 1 | 08-Mar-98 | Sarsoon intercropped with coriander field | non saline/non sodic | 3 | (0-18) Silt loam, (18-42) Very fine sandy loam, (42-48) Silt loam | 8.4, 8.2 | The area is level, intensively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are nearly level, deep, well drained, non saline, non sodic and medium to moderately fine textured (silt loam and silty clay loam). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Rice, wheat with some oilseeds and sugarcane. | SIW2 |
| 3 | NW94 | 2 | 08-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-12) Silt loam, (12-24) Silty clay loam, (24-30) Very fine sandy loam, (30-36) Silt loam, (36-48) Silty clay loam | 8.4, 8.2 | The area is level, intensively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are nearly level, deep, well drained, non saline, non sodic and medium to moderately fine textured (silt loam and silty clay loam). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | | SI |
| 3 | NW95 | 1 | 08-Mar-98 | Wheat field | non saline/non sodic | | (0-24) Silt loam, (24-36) Silty clay loam, (36-42) Very fine sandy loam, (42-48) Silty clay loam | 8.4, 8.2 | The area is a subrecent alluvial level plain water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3-4 feet), non saline, non sodic and medium to moderately fine textured (silt loam, silty clay loam). These soils have good agricultural potential for limited crops and can be graded as class II land. | | SIW2 |
| 3 | NW95 | 2 | 08-Mar-98 | Wheat field | non saline/non sodic | | (0-36) Silty clay loam, (36-42) Very fine sandy loam, (42-48) Loamy | 8.2, 8.2, 8.0 | The area is a subrecent alluvial level plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3-4 feet), non saline, non sodic and medium to moderately fine textured (silt loam, silty clay loam). These soils have good agricultural potential for limited crops and can be graded as class II land. | | SIW2 |
| 3 | NW96 | 1 | 13-Feb-98 | Gram field | non saline/non sodic | | (0-24) Silt loam, (24-30) Silty clay loam, (30-42) Very fine sandy loam, (42-48) Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial level plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and medium in texture (SIL, VFSL, Loam). These soils have good agricultural potential for limited and can be graded as class II land. | Rice, some wheat and dhania. | SIW2 |
| 3 | NW96 | 2 | 13-Feb-98 | Coriander field | non saline/non sodic | 3 | (0-12) Loam, (12-18) Silt loam, (18-36) Very fine sandy loam, (36-48) Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial level plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and medium in texture (SIL, VFSL, Loam). These soils have good agricultural potential for limited and can be graded as class II land. | | SIW2 |
| 3 | NW97 | 1 | 12-Mar-98 | Sarsoon field | non saline/non sodic | 4 | (0-12) Loam, (12-18) Silt loam, (18-36) Very fine sandy loam, (36-48) Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial level plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and medium in texture (SIL, VFSL, Loam). These soils have good agricultural potential for limited and can be graded as class II land. | | SIW2 |
| 3 | B44 | 1 | 11-Mar-98 | Sarsoon on residual moisture | non saline/non sodic | | (0-48) Silty clay loam | 8.4, 8.2 | The area is subrecent alluvial flat basin, uncommanded fields in or out of the polygon are severely saline, and under p-canal irrigation. The soils of the polygon are level, moderately well drained, non saline, non sodic and moderately fine textured (SICL). These soils have very good agricultural potential for wide variety of crops and can be classified as class I land. | Rice with some oilseeds having poor stand. | SI |
| 3 | B44 | 2 | 11-Mar-98 | Sarsoon on residual moisture | non saline/non sodic | | (0-12) Silty clay loam, (12-30) Silt loam, (30-36) Silty clay loam, (36-42) Silt loam, (42-48) Silty clay loam | 8.4, 8.2 | The area is a subrecent alluvial level plain, water logged (water table 5 to 6 feet as seen in a well but in rice season it comes near the surface level as told by the farmer) and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 5-6), non saline, non sodic and mostly moderately fine textured (SICL). These soils have good agricultural potential for | Rice with some wheat and oilseeds having poor stand. | SIW2 |
| 3 | B45 | 1 | 11-Mar-98 | Sarsoon field | non saline/non sodic | 4-5 | (0-12) Silty clay loam, (12-18) Silt loam, (18-30) Very fine sandy loam, (30-42) Silt loam, (42-48) Sandy loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, water logged uncommanded or fallow fields in or out of the polygon are severely gypiferous saline and under p-canal irrigation. The cultivated soils of the polygon are level, deep, moderately well drained, (water table 4-5), non saline, non sodic and medium textured (silt loam, VFSL, Loam). These (cultivated) soils have good agricultural potential and | Rice with some oilseeds having poor stand. | SIW2 |
| 3 | B46 | 1 | 11-Mar-98 | Barren | Surface severely saline | Saturation at 4 | (0-18) Silt loam, (18-42) Very fine sandy loam, (42-48) Silty clay loam | 8.4, 8.2 | The area is a subrecent alluvial comparatively low lying area water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table 4-5 feet, non saline, non sodic (some fields in basal position with darkstone have patchy salinity) and mostly moderately fine textured (SICL). These soils | Rice with little wheat, oilseeds, dhania, samf etc. | SIW2 |
| 3 | B46 | 2 | 11-Mar-98 | Sarsoon field | non saline/non sodic | | (0-18) Loam, (18-36) Fine sandy loam, (36-48) Sandy loam | 8.4, 8.2 | The area is a subrecent alluvial level plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table 3-4 feet, non saline, non sodic and medium textured (silt loam and loam). These soils have | | SIW2 |
| 3 | B47 | 1 | 11-Mar-98 | Sarsoon field | non saline/non sodic | 4 | (0-24) Loam, (24-42) Very fine sandy loam, (42-48) Loamy sand | 8.4, 8.2 | The area is a subrecent alluvial level plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table 4-5 feet, non saline, non sodic (some fields in basal position with darkstone have patchy salinity) and mostly moderately fine textured (SICL). These soils | | SIW2 |
| 3 | B47 | 2 | 11-Mar-98 | Oilseed field | non saline/non sodic | | (0-18) Silty clay loam, (18-48) Silty clay loam+ve | 8.2, 8.2 | The area is a subrecent alluvial flat basin, water logged, fallow fields in or out of the polygon area are severely saline, and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained (water table at 3-4 feet), non saline, non sodic and moderately fine textured (SICL). These soils have good agricultural potential for limited crops and can be classified as class | Rice. | SIW2 |
| 3 | B48 | 1 | 11-Mar-98 | Ex-rice field | non saline/non sodic | 3-4 | (0-18) Silty clay loam, (18-30) Silt loam, (30-48) Silt loam/very fine sandy loam | 8.4, 8.2 | The area is a subrecent alluvial plain and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained (water table at 3-4 feet), non saline, non sodic and medium textured (silt loam and loam). These soils have | Rice with little oilseeds and fodder. | SIW2 SIW2 |
| 3 | B49 | 1 | 11-Mar-98 | Ex-rice field | non saline/non sodic | 3 | (0-18) Loam, (18-48) Loamy sand | 8.5, 8.4, 8.2 | The area is a subrecent alluvial level plain, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 3-4 feet), non saline, non sodic and medium textured (silt loam and loam). These soils have | | SIW2 SIW2 |
| 3 | B49 | 2 | 11-Mar-98 | Ploughed field | non saline/non sodic | 4 | (0-45) Silt loam (45-48) Loamy | 8.4, 8.2 | The area is a subrecent alluvial flat basin, water logged, and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained (water table at 4 feet), non saline, non sodic and moderately fine textured (SICL). Such soils have good agricultural potential for limited crops and can be classified as class | | SIW2 SIW2 |
| 3 | B50 | 1 | 12-Mar-98 | Wheat field | non saline/non sodic | 3 | (0-18) Silty clay loam, (18-30) Silt loam, (30-48) Silty clay | 8.4, 8.2 | The area is a subrecent alluvial level sandy loam, water logged and under p-canal irrigation. The soils of the polygon are nearly level, deep, excessively internal drained, water table 3-4 feet, non saline, non sodic and moderately coarse textured (sandy loam). These soils have moderate limitations of low water and nutrient holding capacity and can be graded as class II land. | Rice and wheat. | SIW2 SIW2 |
| 3 | B50 | 2 | 12-Mar-98 | Ex-rice field | non saline/non sodic | 3 | (0-30) Silty clay loam, (30-48) Silty clay | 8.4, 8.2 | The area is a subrecent alluvial level sandy loam, water logged and under p-canal irrigation. The soils of the polygon are nearly level, deep, excessively internal drained, water table 3-4 feet, non saline, non sodic and moderately coarse textured (sandy loam). These soils have moderate limitations of low water and nutrient holding capacity and can be graded as class II land. | | SIW2 SIW2 |
| 3 | B51 | 1 | 12-Mar-98 | Gram field | non saline/non sodic | 3 | (0-12) Sandy loam, (12-30) Silt loam, (30-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial level sandy loam, water logged and under p-canal irrigation. The soils of the polygon are nearly level, deep, excessively internal drained, water table 3-4 feet, non saline, non sodic and moderately coarse textured (sandy loam). These soils have moderate limitations of low water and nutrient holding capacity and can be graded as class II land. | Rice, wheat and water melon. | SIW2 SIW2 |
| 3 | B51 | 2 | 12-Mar-98 | Wheat field | non saline/non sodic | 3 | (0-30) Silt loam, (30-48) Loamy | 8.2, 8.2 | The area is a subrecent alluvial level sandy loam, water logged and under p-canal irrigation. The soils of the polygon are nearly level, deep, excessively internal drained, water table 3-4 feet, non saline, non sodic and moderately coarse textured (sandy loam). These soils have moderate limitations of low water and nutrient holding capacity and can be graded as class II land. | | SIW2 SIW2 |

| Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Calibration Status | Land - Use Suitability | |
|------------|---------|----------------|--------------|---|-------------------------|------------------------|---|---------------------------|--|--------------------------------------|------|
| 3 | B52 | 1 | 12-Mar-98 | Unseeded field | non saline/non sodic | 3 | (0-12) Silty clay loam, (12-18) Silt loam, (18-30) Very fine sandy loam, (30-48) Loamy sand | 8.4, 8.2 | The area is a subrecent alluvial flat basin, blackspots have surface salinity, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately to imperfectly drained, water table 3-4 feet, non saline (patchy surface salinity in black spots exists), non sodic and moderately fine and medium textured (SCL, Loam) | Rice and then wheat and saunf. | SIW2 |
| 3 | B52 | 2 | 12-Mar-98 | Ploughed field | non saline/non sodic | 3 | (0-18) Loam, (18-48) Sandy loam | 8.4, 8.2 | These soils have moderate to minor limitations for agricultural | | SIW2 |
| 3 | B53 | 1 | 12-Mar-98 | Barren (natural vegetation, Larosa, chhabbar, dash) | Severely saline surface | | (0-14) Silt loam, (14-36) Sandy loam, (36-48) Silty clay loam | 8.4, 8.2 | The area is subrecent alluvial flat basin, water logged, sufficient area of the polygon is lying barren (blackstone) and severely saline and under p-canal irrigation. The soils of the polygon (cultivated) are level, deep, moderately well drained (water table at 4 feet), surface saline (partly), non sodic and medium textured (loam, silt loam) | rice with little oilseeds and saunf. | SIW2 |
| 3 | B53 | 2 | 12-Mar-98 | Coriander field | non saline/non sodic | | (0-22) Loam, (22-48) Fine sandy loam | 8.4, 8.2 | The area is subrecent alluvial flat basin, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table 1-4), non saline, non sodic and moderately fine textured (silty clay loam). These soils have good to very good | Rice and wheat. | SIW2 |
| 3 | B54 | 1 | 15-Mar-98 | Gram field | non saline/non sodic | 3 | (0-42) Silty clay loam, (42-48) Silty clay | 8.4, 8.2 | The area is a part of subrecent alluvial depression, water logged and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately drained (water table at 3 feet), non saline, non sodic and medium in texture (silt loam/VFSL). The soils have | | SIW2 |
| 3 | B54 | 2 | 15-Mar-98 | Peas field | non saline/non sodic | | (0-36) Silty clay loam, (36-48) Very fine sandy loam | 8.4, 8.2 | The area is a subrecent alluvial level plain, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (saturation at 4 feet), non saline, non sodic and medium in texture (loam, VFSL). These soils have good agricultural potential and can be graded as class II land. (These soils are fit for double cropping i.e rice and wheat but due to following reasons they are failing. Shortage of water. The owners of the land do not give seed | Rice and wheat and dhanra, saunf. | SIW2 |
| 3 | B55 | 1 | 15-Mar-98 | Ex-rice field | non saline/non sodic | 3 | (0-6) Loam, (6-12) Silt loam, (12-36) Very fine sandy loam, (36-48) Loamy sand | 8.2, 8.2 | The area is a subrecent alluvial level plain, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (saturation at 4 feet), non saline, non sodic and medium in texture (loam, VFSL). These soils have good agricultural potential and can be graded as class II land. (These soils are fit for double cropping i.e rice and wheat but due to following reasons they are failing. Shortage of water. The owners of the land do not give seed | Rice and wheat and dhanra, saunf. | SIW2 |
| 3 | B56 | 1 | 14-Mar-98 | Coriander field | non saline/non sodic | Saturation at 4 | (0-6) Loam, (6-48) Very fine sandy loam | 8.4, 8.2 | The area is a subrecent alluvial level plain, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (saturation at 4 feet), non saline, non sodic and medium in texture (loam, VFSL). These soils have good agricultural potential and can be graded as class II land. (These soils are fit for double cropping i.e rice and wheat but due to following reasons they are failing. Shortage of water. The owners of the land do not give seed | Rice and wheat and dhanra, saunf. | SIW2 |
| 3 | B57 | 1 | 14-Mar-98 | Ex-rice field | non saline/non sodic | 3 | (0-12) Silt loam, (12-22) Very fine sandy loam, (22-36) Silty clay loam, (36-48) Very fine sandy loam | 8.4, 8.2 | The area is a subrecent alluvial level plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3/4 feet), non saline, non sodic and mostly medium in texture (loam, silt loam and VFSL). These soils have moderate limitation of water logging and restricted | Rice only then some jawar/baddera. | SIW2 |
| 3 | B57 | 2 | 14-Mar-98 | Coriander field | non saline/non sodic | 3 | (0-12) Loam, (12-30) Sandy loam, (30-48) Loamy sand | 8.2, 8.2 | croppings can be practiced and has been graded as class II land. | | SIW2 |
| 3 | B58 | 1 | 14-Mar-98 | Wheat field | non saline/non sodic | | (0-36) Loam, (36-48) Silty clay | 8.4, 8.2 | The area is a part of subrecent alluvial level plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table 3-4 feet), non saline, (but patchy salinity in some fields), non sodic and medium textured (Loam, VFSL). These soils have good agricultural potential for | Rice and wheat. | SIW2 |
| 3 | B58 | 2 | 14-Mar-98 | Wheat field | non saline/non sodic | 3 | (0-12) Clay loam, (12-24) Very fine sandy loam, (24-48) Silt loam | 8.4, 8.2 | | | SIW2 |
| 3 | B59 | Dangerous area | | | | | | | | | |
| 3 | B60 | 1 | 16-Mar-98 | Wheat field | non saline/non sodic | | (0-6) Silt loam (6-18) Silty clay loam, (18-42) Silt loam/Very fine sandy loam | 8.4, 8.2, 8.2 | The area is subrecent alluvial flat basin and under p-canal irrigation. The soils of the polygon are level, deep, well drained and moderately fine textured (silty clay loam). Such soils have very high agricultural potential for wide variety of crops and can be | Rice, wheat/barley | SIW2 |
| 3 | B61 | Dangerous area | | | | | | | | | |
| 3 | B62 | 1 | 14-Mar-98 | Ploughed field | non saline/non sodic | | (0-18) Silt loam, (18-48) Silty clay loam | 8.4, 8.2 | The area is a part of subrecent alluvial level plain, under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (silty clay loam, silt loam surface). These soils have very good agricultural potential for limited crops and can be graded as class I | Rice and wheat. | SI |
| 3 | B62 | 2 | 14-Mar-98 | Wheat field | non saline/non sodic | | (0-12) Silt loam, (12-48) Silty clay loam | 8.4, 8.2 | land. | | SI |
| 3 | B63 | 1 | 14-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-6) Loam, (6-36) Sandy loam, (36-48) Loamy sand | 8.4, 8.2 | The area is a part of subrecent alluvial level plain, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 4 feet), non saline, non sodic and moderately coarse textured (sandy loam) with medium textured (loam surface). These soils have moderate limitations of lack of nutrients and water holding capacity and can be graded as | Rice and wheat. | SIW2 |
| 3 | B64 | 1 | 14-Mar-98 | Coriander field | non saline/non sodic | 3 | (0-12) Loam, (12-18) Very fine sandy loam, (18-36) Fine sandy loam, (36-48) Loamy sand | 8.4, 8.2 | The area is a part of subrecent alluvial level plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3-4 feet), non saline, non sodic and medium in texture (VFSL). These soils have moderate | | SIW2 |
| 3 | B64 | 2 | 14-Mar-98 | Wheat field | non saline/non sodic | 3 | (0-12) Loam, (12-36) Fine sandy loam, (36-42) Very fine sandy loam, (42-48) Loamy sand | 8.4, 8.2 | limitations of high water table and have moderate agricultural potential and only restricted crops can be practiced and graded as class II land. | Rice and wheat. | SIW2 |
| 3 | B65 | 1 | 14-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-12) Silty clay loam, (12-42) Silt loam, (42-48) Very fine sandy loam | 8.6, 8.4, 8.4, 8.2 | The area is a part of subrecent alluvial nearly level depression, water logged partly with surface salinity and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained (water table at 3-4 feet), non saline, non sodic (surface salinity in some fields) and medium in texture (Silt loam, loam). These soils have moderate agricultural potential due to water logging and | | SIW2 |
| 3 | B65 | 2 | 14-Mar-98 | Arava field | non saline/non sodic | 3 | (0-30) Loam, (30-42) Very fine sandy loam, (42-48) Loamy sand | 8.6, 8.5, 8.5, 8.4, 8.2 | The area is a subrecent alluvial flat basin, and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and moderately fine textured (silty clay loam). These soils have good agricultural potential and wide variety of crops, ecologically suited to the area, can be grown profitably and | Rice and some wheat. | SIW2 |
| 3 | B66 | 1 | 13-Mar-98 | Wheat field | non saline/non sodic | Saturation at 4 | (0-36) Silty clay loam, (36-48) Silt loam | 8.2, 8.2 | | Rice and wheat. | SI |

Table A.IV.1 IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides 1997-98

| Image | Sample No | Plot No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inch)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|-----------|----------|-----------|------------------------------|-------------------------------|------------------|--|--------------------|--|---|------------------------|
| 3 | B67 | 1 | 13-Mar-98 | Alfalfa field | non saline/non sodic | 3 | (0-24) Silty clay loam, (24-36) Silt loam, (36-48) Silty clay loam | 8.2, 8.2, 8.2 | The area is a subrecent alluvial flat basin, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3-4 feet), non saline, non sodic (black depressional area has surface salinity), and mostly moderately fine textured (silty clay loam). Such soils have good | Rice with little wheat and fodder | SIW2 |
| 3 | B67 | 2 | 13-Mar-98 | Sarsoon field | non saline/non sodic | Saturation at 4 | (0-48) Silt loam | 8.4, 8.2 | The area is a flat basin of subrecent alluvium material, water logged, and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained (water table at 4 feet), non saline (patchy salinity is present and moderately fine textured), non sodic and moderately fine (silty clay loam). Such soils have good agricultural potential for limited crops and can be placed in class II land. | Rice and wheat. | SIW2 |
| 3 | B68 | 1 | 09-Mar-98 | Wheat field | non saline/non sodic | | (0-6) Silt loam, (6-18) Silty clay loam, (18-24) Silt loam, (24-30) Silty clay loam, (30-48) Silt clay | 8.4, 8.2, 8.2, 8.2 | The area is a subrecent alluvial level plain, and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in textured (silt loam). These soils have very good agricultural potential and can be graded | A date orchard is also present. | SI |
| 3 | B68 | 2 | 09-Mar-98 | Wheat field | non saline/non sodic | 4 | (0-30) Silt loam, (30-48) Silty clay loam | 8.4, 8.2 | The area is a subrecent alluvial level plain, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 3-4), non saline, non sodic and moderately fine to medium textured (silt clay loam, loam, silt loam). These soils have good agricultural potential for limited crops and can be placed as class II land. | Rice and wheat. | SIW2 |
| 3 | B69 | 1 | 13-Mar-98 | Wheat field | non saline/non sodic | | (0-18) Silty clay loam, (18-36) Loam, (36-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent alluvial level plain, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 3-4), non saline, non sodic and moderately coarse textured (silt loam and SL) (mostly moderately coarse textured). These soils have moderate agricultural potential and can be placed in class II/III land. | Rice and wheat. | SIW2 |
| 3 | B70 | 1 | 13-Mar-98 | Wheat field | non saline/non sodic | 3-4 | (0-6) Loam, (6-30) Very fine sandy loam, (30-48) Silty clay loam | 8.2, 8.2 | The area is a subrecent levee channel remnant, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline (but south east corner is uncommanded and is severely saline), non sodic and medium to moderately fine textured (silt loam and silty clay loam) but major part is silty clay loam. These soils have moderate agricultural potential (mainly associated with high water table) and partly | Rice, wheat, some onion etc. | SIW2 |
| 3 | B70 | 2 | 13-Mar-98 | Wheat field | non saline/non sodic | 3-4 | (0-12) Silt loam, (12-18) Very fine sandy loam, (18-48) Fine sandy loam | 8.2, 8.2 | The area is level, intensively cultivated, water table 6 feet in a well, in few fields surface salinity is present and under p-canal irrigation. The soil of the polygon are nearly level, deep, well drained, non saline, non sodic and moderately fine to medium texture (mostly moderately fine textured). Such soils have high to very high | Rice and wheat. Some mango and guava trees are present but mango trees do not look happy. | SIW2 |
| 3 | B71 | 1 | 13-Mar-98 | Wheat field | non saline/non sodic | Saturation at 4 | (0-36) Sandy loam, (36-42) Loamy sand, (42-48) Very fine sandy loam | 8.4, 8.2 | The area is level, irrigatively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam /VFSL). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Rice and wheat. | SI |
| 3 | B71 | 2 | 13-Mar-98 | Wheat field | non saline/non sodic | Saturation at 4 | (0-12) Silty clay loam, (12-30) Silt loam, (30-48) Silty clay loam | 8.4, 8.2 | The area is level, irrigatively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam /VFSL). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Rice and wheat. | SI |
| 3 | B72 | 1 | 13-Mar-98 | Peanut field | non saline/non sodic | | (0-24) Silty clay loam, (24-36) Silt loam, (36-48) Very fine sandy loam | 8.5, 8.4, 8.2 | The area is level, irrigatively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam /VFSL). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Rice and wheat. | SI |
| 3 | B72 | 2 | 13-Mar-98 | Barren (water weeds present) | Surface severely saline | 3-4 | (0-18) Silty clay loam, (18-24) Silt loam, (24-36) Silty clay loam, (36-48) Very fine sandy loam | 8.4, 8.2 | The area is level, irrigatively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam /VFSL). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Rice and wheat. | SI |
| 3 | D8 | 1 | 08-Mar-98 | Wheat field | non saline/non sodic | | (0-6) Silt loam, (6-18) Very fine sandy loam, (18-24) Silt loam, (24-48) Sandy loam | 8.4, 8.2 | The area is level, irrigatively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam /VFSL). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Rice and wheat. | SI |
| 3 | D8 | 2 | 08-Mar-98 | Barren | Surface severely saline/sodic | | (0-18) Silty clay loam, (18-24) Silt loam, (24-36) Silty clay loam, (36-48) Very fine sandy loam | 8.4, 8.2 | The area is level, irrigatively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam /VFSL). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Rice and wheat. | SI |
| 3 | D9 | 1 | 08-Mar-98 | Ploughed field | Surface saline/non sodic | | (0-18) Silty clay loam, (18-36) Very fine sandy loam, (36-48) Loamy | 8.4, 8.2 | The area is level, irrigatively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam /VFSL). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Rice and wheat. | SI |
| 3 | D9 | 2 | 08-Mar-98 | Coriander field | non saline/non sodic | | (0-48) Silt loam | 8.4, 8.2 | The area is level, irrigatively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam /VFSL). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Rice and wheat. | SI |
| 3 | D10 | 1 | 08-Mar-98 | Wheat field | non saline/non sodic | | (0-18) Silty clay loam, (18-36) Very fine sandy loam, (36-48) Silt loam | 8.4, 8.2 | The area is level, irrigatively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam /VFSL). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Rice and wheat. | SI |
| 3 | D10 | 2 | 08-Mar-98 | Wheat field | non saline/non sodic | | (0-45) Silt loam, (45-48) Silty clay loam | 8.4, 8.2, 8.0 | The area is level, irrigatively cultivated, and under p-canal and tubewell irrigation. The soil of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (silt loam /VFSL). Such soils have very high agricultural potential for wide variety of crops and can be placed as class I land. | Rice and wheat. | SI |
| 1 | D106/1 | 1 | 13-Feb-98 | Wheat field | non saline/non sodic | | (0-18) Silty clay loam, (18-48) Very fine sandy loam | 8.2, 8.0 | The area continues a part of subrecent broad basin, water logged, some area in the polygon and sufficient area out of it, lying unploughed, are severely saline, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline-non sodic and moderately fine (SiCL) in texture. The soils have good agricultural potential for limited crops under modern management practices and can be placed in class II land. | Wheat and rice. | SIW2 |
| 1 | D107/2 | 1 | 13-Feb-98 | Wheat field | non saline/non sodic | | (0-18) Silty clay loam, (18-45) Silty clay, (45-48) Silt loam | 8.2, 8.0, 8.0 | The area is subrecent, flat depression, sufficient area of the polygon is marsh land and under p-canal irrigation. The soils (excluding marshland) of the polygon are level, deep, moderately to imperfectly drained, (water table at 3 to 4 feet) non saline -non sodic and clayey in textured (SiC/SCL). These soils have high agricultural potential for limited crops under modern management and can be placed in | Wheat and rice. | SIW2 |
| 1 | D108/3 | 1 | 13-Feb-98 | Ex-rice field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-42) Silty clay, (42-48) Silt loam | 8.2, 8.0, 8.0 | The area consists of two major landforms. The Point (No.1) represent a levees and Point (No.2) falls in flat basin and under p-canal irrigation. The soils of the point No.1 are nearly level, deep, well drained, non saline, non sodic and medium in textured (SiL/VFSL). These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. The soils of | Rice and wheat. Some fish pond are also present in depressional area (point No.2) | SIW2 |
| 1 | D109/4 | 1 | 14-Feb-98 | Wheat field | non saline/non sodic | | (0-30) Silty clay, (30-48) Silt loam | 8.4, 8.2 | | | SIW2 |
| 1 | D109/4 | 2 | 14-Feb-98 | Ex-rice field | non saline/non sodic | 4 | (0-20) Silty clay, (20-42) Silt loam, (42-48) Very fine sandy loam | 8.5, 8.4, 8.0 | | | SIW2 |

Table A IV - IIMI Field Sample Survey Observation for Land Suitability Assessments across the South Hydrological Divides 1997-98

| Image/Sample No. | Plt No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (feet)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability | |
|------------------|---------|------|--------------|--------------------------------|----------------------|----------------------|---|---------------------------|---|--|------|
| 1 | D110/5 | 1 | 14-Feb-98 | Ex-rice field | non saline/non sodic | 3 | (0-30) Silt loam, (30-48) Silty clay loam | 9.0, 8.2, 8.0 | The area falls in a depression, adjacent to marsh land, water logged, and under p-canal irrigation. The soils of the polygon are level moderately to imperfectly drained (water table at 30 to 36 inches) non saline, (surface saline, non sodic, deep, and medium to moderately fine texture (silt loam and silty clay loam) but major area consists of moderately fine textured. These soils have moderate agricultural potential for restricted crops and be placed in | | SIw2 |
| 1 | D110/5 | 2 | 14-Feb-98 | Fodder field | non saline/non sodic | 3 | (0-12) Silty clay loam, (12-48) Silty clay | 9.2, 8.2, 8.0 | The area forms a part of flat basin, major part contains surface salinity, water logged and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained, (water table at 4 feet), non saline (surface saline), non sodic and moderately fine texture and medium texture (SiCL & silt loam) but major part | Rice and wheat. | SIw2 |
| 1 | D111/6 | 1 | 14-Feb-98 | Fodder field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-24) Silty clay, (24-36) Silt loam, (36-48) Very fine sandy loam | 8.2, 8.0, 8.0 | The area is level, subrecent alluvial plain, with some severely saline fields and under s-canal irrigation and tubewell. The soils of the polygon are level, deep, moderately well drained and fine in texture (SiC/SiCL). These soils have good agricultural potential for limited crops under modern agricultural practices and can be graded as class II land. | Rice and wheat. Some ponds are also present adjacent to the polygon. | SIw2 |
| 1 | D111/6 | 2 | 14-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-30) Silt loam, (30-48) Silty clay | 8.4, 8.2, 8.0 | The area is level, subrecent alluvial plain, with some severely saline fields and under s-canal irrigation and tubewell. The soils of the polygon are level, deep, moderately well drained and fine in texture (SiC/SiCL). These soils have good agricultural potential for limited crops under modern agricultural practices and can be graded as class II land. | | SIw2 |
| 1 | RC73/1 | 1 | 24-Feb-98 | Peas field | non saline/non sodic | | (0-24) Silty clay, (24-42) Silty clay loam, (42-48) Silt loam | 8.2, 8.2, 8.0 | The area is level, subrecent alluvial plain, with some severely saline fields and under s-canal irrigation and tubewell. The soils of the polygon are level, deep, moderately well drained and fine in texture (SiC/SiCL). These soils have good agricultural potential for limited crops under modern agricultural practices and can be graded as class II land. | | SIH |
| 1 | RC73/1 | 2 | 24-Feb-98 | Peas field | non saline/non sodic | | (0-6) Silty clay loam, (6-12) Silty clay loam, (12-42) Silty clay, (42-48) Silt loam | 9.4, 8.2, 8.2 | The area is level, subrecent plain under s-canal irrigation, ground water seems of good quality as one small tubewell is watering the crop, since one year not affording the soil adversely. The soils of the polygon are level, deep, well drained, non saline, non sodic and | Rice, then wheat/oilseed. | SIH |
| 1 | RC74/2 | 1 | 24-Feb-98 | Dhanra field | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silt loam | 8.4, 8.2 | The area is level, subrecent plain under s-canal irrigation, ground water seems of good quality as one small tubewell is watering the crop, since one year not affording the soil adversely. The soils of the polygon are level, deep, well drained, non saline, non sodic and | | SI |
| 1 | RC74/2 | 2 | 24-Feb-98 | Wheat field | non saline/non sodic | | (0-48) Silt loam | 8.2 | The area is level, subrecent plain under s-canal irrigation, ground water seems of good quality as one small tubewell is watering the crop, since one year not affording the soil adversely. The soils of the polygon are level, deep, well drained, non saline, non sodic and | Rice, then wheat, oilseed etc. | SI |
| 1 | RC75/3 | 1 | 21-Feb-98 | Peas field | non saline/non sodic | | (0-18) Silt loam, (18-36) Silty clay loam, (36-48) Loam | 8.2, 8.2, 8.0 | The area is level, subrecent plain under s-canal irrigation, ground water seems of good quality as one small tubewell is watering the crop, since one year not affording the soil adversely. The soils of the polygon are level, deep, well drained, non saline, non sodic and | | SI |
| 1 | RC75/3 | 2 | 21-Feb-98 | Sarsoon field | non saline/non sodic | | (0-18) Silt loam, (18-48) Silty clay loam | 8.2, 8.2 | The area is level, subrecent plain under s-canal irrigation, ground water seems of good quality as one small tubewell is watering the crop, since one year not affording the soil adversely. The soils of the polygon are level, deep, well drained, non saline, non sodic and | Rice, wheat, oilseed, matri are raised on residual moisture but yields are poor. | SI |
| 1 | RC76/4 | 1 | 21-Feb-98 | Peas field | non saline/non sodic | | (0-18) Silt loam, (18-48) Silty clay loam | 8.2, 8.0 | The area is level, subrecent plain under s-canal irrigation, ground water seems of good quality as one small tubewell is watering the crop, since one year not affording the soil adversely. The soils of the polygon are level, deep, well drained, non saline, non sodic and | | SI |
| 1 | RC76/4 | 2 | 21-Feb-98 | Sarsoon field | non saline/non sodic | | (0-48) Silt loam | 8.2 | The area is level, subrecent plain under s-canal irrigation, ground water seems of good quality as one small tubewell is watering the crop, since one year not affording the soil adversely. The soils of the polygon are level, deep, well drained, non saline, non sodic and | Rice and wheat, then oilseeds then matri. | SI |
| 1 | RC77/5 | 1 | 21-Feb-98 | Barley field | non saline/non sodic | | (0-10) Silt loam, (10-24) Sandy loam, (24-30) Silt loam, (30-48) Sandy loam | 8.2, 8.2, 8.2 | The area is sandy levee partly but been leveled and partly still present in the sand dunes form and under s-canal and tubewell irrigation. The soils of the polygon are nearly level, deep, somewhat excessively drained, non saline, non sodic and moderately coarse with medium (silt loam) as surface soils. The soils have | | SIH |
| 1 | RC77/5 | 2 | 21-Feb-98 | Sarsoon field | non saline/non sodic | | (0-6) Sandy loam, (6-48) Fine sandy loam | 8.2, 8.2 | The area is sandy levee partly but been leveled and partly still present in the sand dunes form and under s-canal and tubewell irrigation. The soils of the polygon are nearly level, deep, somewhat excessively drained, non saline, non sodic and moderately coarse with medium (silt loam) as surface soils. The soils have | Rice, then wheat/oilseed. | SIH |
| 1 | RC78/6 | 1 | 21-Feb-98 | Barley field | non saline/non sodic | | (0-45) Silt loam, (45-48) Loam | 8.2, 8.2 | The area is nearly level and under s-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium texture (silt loam). The soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | | SI |
| 1 | RC78/6 | 2 | 21-Feb-98 | Wheat field | non saline/non sodic | | (0-30) Silt loam, (30-48) Silty clay loam | 8.2, 8.2 | The area is nearly level and under s-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium texture (silt loam). The soils have very high agricultural potential for wide variety of crops and can be graded as class I land. | Rice, then wheat (best & well irrigated) and vegetables. | SI |
| 1 | RC79/7 | 1 | 21-Feb-98 | Ex-rice field | non saline/non sodic | 4 | (0-18) Very fine sandy loam, (18-45) Silty clay, (45-48) Silty clay loam | 8.2, 8.2, 8.0 | The area is partly depressional and partly level and comparatively high and under seasonal canal irrigation but in ber garden a small tubewell was watering its show irrigable quantity of ground water. The soils in depressions are clayey and moderately well drained, non saline, non sodic but surface has been made medium by adding | | SI |
| 1 | RC79/7 | 2 | 21-Feb-98 | Dhanra field | non saline/non sodic | | (0-30) Silt loam, (30-48) Silty clay loam | 8.2, 8.2 | The area is level, and under seasonal canal irrigation. The soils of the polygon are level, deep, well drained non saline, non sodic and fine in textures (SiL & SiCL). These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. (Ground water must be explored after testing its quality.) | Rice, then wheat & oilseeds. | SI |
| 1 | RC80/8 | 1 | 14-Feb-98 | Wheat field | non saline/non sodic | | (0-12) Silt loam, (12-18) Silty clay loam, (18-24) Silty clay, (24-30) Very fine sandy loam, (30-36+) Silt loam, (12-24) Silty clay loam, (24-36) Silt loam, (36-48) Very fine sandy loam | 8.2, 8.0, 8.0, 8.0, 8.0 | The area is level, and under seasonal canal irrigation. The soils of the polygon are level, deep, well drained non saline, non sodic and fine in textures (SiL & SiCL). These soils have very high agricultural potential for wide variety of crops and can be graded as class I land. (Ground water must be explored after testing its quality.) | Rice, but barley and oilseeds are also grown but yields are poor. Ber garden are present bearing very good fruits. | SI |
| 1 | RC80/8 | 2 | 14-Feb-98 | Barley field | non saline/non sodic | | (0-6) Silt loam, (6-18) Silty clay loam, (18-30) Silty clay, (30-42) Silt loam, (42-48) Silty clay | 8.2, 8.0, 8.0, 8.0 | The area is a broad basin, and 100% cultivated, and under s-canal irrigation and level, deep, well to moderately well drained non saline, non sodic and fine in textures (silty clays). These soils have little limitations for crop production and can be graded as class I/II land. (A shallow tubewell water that was watering the land since two years, has no adverse effect on the soils, therefore good quality ground water may be explored in this area to increase the cropping | Rice | SI |
| 1 | RC81/9 | 1 | 14-Feb-98 | Ploughed field | non saline/non sodic | | (0-6) Silt loam, (6-18) Silty clay loam, (18-30) Silty clay, (30-42) Silt loam, (42-48) Silty clay | 8.2, 8.2, 8.0, 8.0 | The area is a part of flat basin under s-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC). These soils have high agricultural potential for limited crops under modern management practices and can be graded as class II land. | | SIH |
| 1 | RC82/10 | 1 | 14-Feb-98 | Onion field | non saline/non sodic | | (0-24) Silt loam, (24-48) Silty clay | 8.2, 8.0 | The area is a part of flat basin, surrounded by some sandy areas, and under s-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC). These soils have high agricultural potential for limited crops under modern management practices and can be graded as class II land. | Rice, on residual moisture other crops like oilseed, barley/wheat are also raised. | SIH |
| 1 | RC82/10 | 2 | 14-Feb-98 | Wheat field | non saline/non sodic | | (0-6) Silty clay loam, (6-18) Silty clay, (18-42) Silt loam, (42-48) Very fine sandy loam | 8.2, 8.2, 8.0, 8.0 | The area is a part of flat basin, surrounded by some sandy areas, and under s-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC). These soils have high agricultural potential for limited crops under modern management practices and can be graded as class II land. | | SIH |
| 1 | RC83/11 | 1 | 14-Feb-98 | Peas intercropped with oilseed | non saline/non sodic | | (0-20) Silty clay, (20-48) Silt loam | 8.2, 8.0 | The area is a part of flat basin, surrounded by some sandy areas, and under s-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in texture (SiC). These soils have high agricultural potential for | Rice, on residual moisture oilseeds, matri, sand are also grown but have poor yields. | SIH |
| 1 | RC83/11 | 2 | 14-Feb-98 | Peas intercropped with oilseed | non saline/non sodic | | (0-20) Silty clay, (20-48) Silt loam | 8.2, 8.0 | The area is a part of flat basin, surrounded by some sandy areas, and under s-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in texture (SiC). These soils have high agricultural potential for | | SIH |
| 1 | RC84/12 | 1 | 14-Feb-98 | Barley field | non saline/non sodic | | (0-12) Silty clay loam, (12-48) Silty clay | 8.2, 8.0 | The area is a part of flat basin, surrounded by some sandy areas, and under s-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in texture (SiC). These soils have high agricultural potential for | | SIH |

Table A IV. 1. M1 Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Image | Sample No. | Plt No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------|-----------|--------------------------|----------------------|------------------|--|-------------------------|--|---|------------------------|
| 1 | RC84/12 | 2 | 14-Feb-98 | Sarsoon field | non saline non sodic | | (0-48) Silty clay | 8.2, 8.0 | limited crops under modern management practices and can be The area is a part of flat basin of subrecent period and is under seasonal canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (SIC). These soils have high agricultural potential under modern management practices for limited crops, and can be graded | Rice | SIh |
| 1 | RC85/13 | 1 | 13-Feb-98 | Barley field | non saline non sodic | | (0-24) Silty clay, (24-48) Silty clay loam | 8.4, 8.2, 8.0 | | Rice, matri, barley, oilseeds are also sown on residual moisture. | SIh |
| 1 | RC85/13 | 2 | 13-Feb-98 | Fodder and sarsoon field | non saline non sodic | | (0-6) Silty clay loam, (6-18) Silty | 8.4, 8.2 | | | SIh |
| 1 | RC86/14 | 1 | 14-Feb-98 | Ex-rice field | non saline non sodic | 4 | (0-24) Silt loam, (24-48) Silty clay | 8.2, 8.0 | | | SI |
| 1 | RC86/14 | 2 | 14-Feb-98 | Wheat field | non saline non sodic | | (0-12) Silt loam, (12-24) Silty clay | 8.2, 8.0 | | Rice | SI |
| 1 | RC87/15 | 1 | 14-Feb-98 | Ex-rice field | non saline non sodic | 4 | (0-24) Silty clay, (24-42) Loam, (42-48) Silty clay | 8.2, 8.0, 8.0 | | | SIw2 |
| 1 | RC87/15 | 2 | 14-Feb-98 | Ex-rice field | non saline non sodic | 4 | (0-6) Silt loam, (6-42) Silty clay, (42-48) Silty clay loam | 8.2, 8.0, 8.0 | | Rice, on residual moisture some other crops like barley, oilseeds, matri are also grown but yields are very poor. | SIw2 |
| 1 | RC88/16 | 1 | 13-Feb-98 | Barley field | non saline non sodic | | (0-24) Silt loam, (24-48) Silty clay loam | 8.4, 8.4 | | | SI |
| 1 | RC88/16 | 2 | 13-Feb-98 | Fodder field | non saline non sodic | | (0-48) Silt loam | 8.4, 8.0 | | | SI |
| 1 | RC88/16 | 3 | 13-Feb-98 | Wheat field | non saline non sodic | | (0-6) Silt loam, (6-24) Silty clay, (24-48) Silt loam | 8.4, 8.2, 8.0 | | Rice | SI |
| 1 | RC89/17 | 1 | 14-Feb-98 | Wheat field | non saline non sodic | | (0-30) Silt loam, (30-42) Loamy sand, (42-48) Silty clay loam | 8.2, 8.0, 8.0 | | | SI |
| 1 | RC89/17 | 2 | 14-Feb-98 | Ex-rice field | non saline non sodic | | (0-24) Silt loam, (24-48) Very fine sandy loam | 8.2, 8.0 | | Rice and wheat. | SI |
| 1 | RC90/18 | 1 | 13-Feb-98 | Ex-rice field | non saline non sodic | | (0-6) Silt clay, (6-24) Silty clay loam, (24-48) Silty clay | 8.4, 8.2, 8.0 | | Rice, but some oilseeds, matri, saunf, dhamia, barley are also grown on residual moisture with poor yield. | SIh |
| 1 | RC91/19 | 1 | 13-Feb-98 | Ex-rice field | non saline non sodic | | (0-48) Silt loam | 8.4, 8.2 | | | SI |
| 1 | RC91/19 | 2 | 13-Feb-98 | Peas field | non saline non sodic | | (0-6) Silt loam, (6-36) Silty clay loam, (36-48) Silt loam | 8.4, 8.2, 8.0 | | Rice, some other crops like, barley oilseeds, saunf, dhamia with poor stand are also grown or residual moisture. | SI |
| 1 | RC92/20 | 1 | 20-Feb-98 | Barley field | non saline non sodic | | (0-30) Silt loam, (30-36) Silty clay loam, (36-48) Silty clay | 8.2, 8.2, 8.0 | | | SI |
| 1 | RC92/20 | 2 | 20-Feb-98 | Onion field | non saline non sodic | | (0-18) Sandy loam, (18-48) Loamy sand | 8.2, 8.0 | | Rice, some barley and onion are also grown. | SI |
| 1 | RC93/21 | 1 | 21-Feb-98 | Barley field | non saline non sodic | | (0-6) Silt loam, (6-12) Silty clay loam, (12-48) Silt loam | 8.4, 8.2, 8.2 | | | SI |
| 1 | RC93/21 | 2 | 21-Feb-98 | Wheat field | non saline non sodic | | (0-48) Silt loam | 8.2, 8.0 | | Rice, then wheat then oilseed and others. | SI |
| 1 | RC94/22 | 1 | 10-Feb-98 | Oilseed field | non saline non sodic | | (0-12) Silt loam, (12-30) Silty clay loam, (30-48) Silt loam | 8.2, 8.2, 8.2 | | | SI |
| 1 | RC94/22 | 2 | 10-Feb-98 | Oilseed field | non saline non sodic | | (0-6) Silt loam, (6-24) Silty clay loam, (24-36) Silt loam, (36-48) Silty clay loam | 8.2, 8.2, 8.2, 8.2 | | Rice | SI |
| 1 | RC95/23 | 1 | 10-Feb-98 | Vegetable field | non saline non sodic | | (0-36) Silt loam, (36-48) Silty clay loam | 8.2, 8.2 | | | SI |
| 1 | RC95/23 | 2 | 10-Feb-98 | Barley field | non saline non sodic | | (0-18) Silt loam, (18-48) Very fine sandy loam | 8.2, 8.2 | | Rice, poor to moderate crops oilseeds barley are also raised. | SI |
| 1 | RC96/24 | 1 | 10-Feb-98 | Wheat field | non saline non sodic | 6 | (0-12) Loam, (12-24) Very fine sandy loam, (24-30) Silty clay loam, (30-36) Loam, (36-48) Silty clay | 8.2, 8.2, 8.2, 8.0, 8.0 | | | SI |
| 1 | RC97/25 | 1 | 10-Feb-98 | Fodder field | non saline non sodic | | (0-6) Loam, (6-24) Silty clay loam, (24-30) Silty clay, (30-48) Silty clay loam | 8.4, 8.2, 8.2, 8.2 | | Rice, poor to moderate crops of barley, wheat, matri are also being raised. Some ber garden are present. | SI |
| 1 | RC98/26 | 1 | 10-Feb-98 | Wheat field | non saline non sodic | | (0-6) Silt loam, (6-48) Silty clay loam | 8.2, 8.2 | | | SIh |
| 1 | RC98/26 | 2 | 10-Feb-98 | Oilseed field | non saline non sodic | | (0-18) Silty clay, (18-48) Silty clay loam | 8.2, 8.2 | | Rice, poor crops of barley, oilseed are raised on residual moisture. | SIh |
| 1 | RC99/27 | 1 | 13-Feb-98 | Fodder field | Surface saline | | (0-48) Silty clay | 8.5, 8.4, 8.2 | | | SIh |

Table 4.13. 1:10 Field Sample Survey Observation for Land Suitability Assessments across the Simha Hydrological Divides : 1997-98

| Image/Sample No. | Plt. No. | Date | Present Crop | Salinization Status | Water Table (fts) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|------------------|----------|------|--------------|--|-------------------------------|--|--------------------|--|---|------------------------|
| 1 | RC99/27 | 2 | 13-Feb-98 | Fodder field | non saline/non sodic | (0-6) Silt loam, (6-24) Silty clay loam, (24-48) Silty clay | 8.4, 8.2, 8.0 | (silty clays). These soils have high agricultural potential under modern management practices for limited crops, and can be graded | Rice. | SIb |
| 1 | RC100/28 | 1 | 13-Feb-98 | Peas field | non saline/non sodic | (0-36) Silty clay, (36-45) Silty clay loam, (45-48) Silt loam | 8.4, 8.0, 8.0 | The area is a part of flat basin of subrecent period and is under seasonal canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (SiC). These soils have high agricultural potential under modern management practices and can be placed in class II land. | Rice, poor crops of sarsoon, barley, wheat, mung, saunf, dhania are also raised | SIb |
| 1 | RC100/28 | 2 | 13-Feb-98 | Sarsoon field | non saline/non sodic | (0-48) Silty clay | 8.4, 8.0 | The area is nearly level, water logged, under seasonal canal irrigation, and barren fields in the polygon or outside are severely saline. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (silty clay). These soils can produce good crops under good modern management. Such soils can be graded as class II land. | Rice, poor crops of sarsoon, barley, wheat, mung, saunf, dhania are also raised | SIb |
| 1 | RC101/29 | 1 | 08-Feb-98 | Onion intercropped with safflower field | non saline/non sodic | (0-6) Silt loam, (6-36) Silty clay loam, (36-48) Silty clay loam+vc | 8.2, 8.2, 8.0 | The area is level, and under seasonal canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (silty clay). These soils can produce good crops under good modern management. Such soils can be graded as class II land. | Rice only. On residual moisture some matri and sarsoon (oilseed) are produced but very poor condition. | SIb |
| 1 | RC101/29 | 2 | 08-Feb-98 | Ex-ricce cultivated field | non saline/non sodic | (0-24) Silty clay loam, (24-48) Silt loam | 8.8, 8.6, 8.4 | The area is level, and under seasonal canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine texture (SiC/SiCL) usually with medium textured made by panning silt on the surface. These soils have high to very high agricultural potential under modern management and can be | Rice, poor to moderate crops of wheat, barley, oilseeds are raised. | SIb |
| 1 | RC102/30 | 1 | 10-Feb-98 | Barley field | non saline/non sodic | (0-18) Silt loam, (18-48) Silty clay loam, (36-48) Silty clay loam, (20-48) Silty clay | 8.2, 8.2 | The area is level and under seasonal and tubewell irrigation (water seems of good quality). The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately coarse textured (loam/SL). Such soils have very high agricultural potential and can be graded as class I land. | Rice, wheat, barley and some onion. | SI |
| 1 | RC102/30 | 2 | 10-Feb-98 | Barley field | non saline/non sodic | (0-6) Silty clay loam, (6-18) Loam, (18-48) Fine sandy loam | 8.4, 8.4 | The area is level, surface salinity in some plowed fields and under seasonal canal irrigation. The soils of the polygon are level, deep, moderately well drained (saturation at 4 feet), non saline (in some fields surface salinity/sodicity exist), non sodic and medium textured. Such soils have very good agricultural potential under modern management and can be classified as class I land. | Rice, on residual moisture some poor crops of wheat and oilseeds are also raised. | SI |
| 1 | RC103/31 | 1 | 09-Feb-98 | Ex-ricce field | non saline/non sodic | (0-6) Silty clay loam, (6-18) Loam, (18-48) Fine sandy loam | 8.4, 8.4 | The area is level, abandoned fields outside the polygon are severely saline and under seasonal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine textured (SiC/SiCL). Such soils have good agricultural potential under modern management and can be graded as class II | Rice, some poor crops of matri and oilseed are also raised on residual moisture after harvesting rice crop. | SIb |
| 1 | RC103/31 | 2 | 09-Feb-98 | Barley field | non saline/non sodic | (0-6) Loam, (6-48) Sandy loam | 8.2, 8.2, 8.2, 8.2 | The area is clayey flat piedmont plain, has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC/C). These soils have good agricultural potential under modern management practices for | Rice and wheat (double cropping). | SIb |
| 1 | RC104/32 | 1 | 08-Feb-98 | Ex-ricce field | Surface severely saline/sodic | (0-6) Silt loam, (6-45) Very fine sandy loam, (45-48) Fine sandy loam | 8.8, 8.6, 8.2, 8.2 | The area is clayey flat piedmont plain, has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC/C). These soils have good agricultural potential under modern management practices for | Rice, some wheat, sarsoon and barseen are also sown. | SIb |
| 1 | RC104/32 | 2 | 08-Feb-98 | Ex-ricce field | non saline/non sodic | (0-6) Silty clay loam, (6-36) Silt loam, (36-48) Very fine sandy loam | 8.4, 8.2, 8.2 | The area is clayey flat piedmont plain, has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC/C). These soils have good agricultural potential under modern management practices for | Rice only. | SIb |
| 1 | RC105/33 | 1 | 08-Feb-98 | Fodder field | non saline/non sodic | (0-6) Silty clay loam, (6-18) Silty clay, (18-42) Silt loam, (42-48) Silty clay loam | 8.2, 8.2, 8.2, 8.2 | The area is clayey flat piedmont plain, has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC/C). These soils have good agricultural potential under modern management practices for | Rice with some wheat. | SIb |
| 1 | RC105/33 | 2 | 08-Feb-98 | Peas intercropped with oilseed | non saline/non sodic | (0-18) Silty clay, (18-42) Silt loam, (42-48) Silty clay loam | 8.2, 8.2, 8.2, 8.2 | The area is clayey flat piedmont plain, has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC/C). These soils have good agricultural potential under modern management practices for | Rice only. | SIb |
| 1 | NW1 | 1 | 16-Feb-98 | Fodder field | non saline/non sodic | (0-48) Clay | 8.2 | The area is clayey flat piedmont plain, has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC/C). These soils have good agricultural potential under modern management practices for | Rice and wheat (double cropping). | SIb |
| 1 | NW2 | 1 | 16-Feb-98 | Ex-ricce field | non saline/non sodic | (0-48) Clay | 8.2 | The area is clayey flat piedmont plain, has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC/C). These soils have good agricultural potential under modern management practices for | Rice only. | SIb |
| 1 | NW3 | 1 | 16-Feb-98 | Ex-ricce field | non saline/non sodic | (0-48) Clay | 8.2 | The area is clayey flat piedmont plain, has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC/C). These soils have good agricultural potential under modern management practices for | Rice only. | SIb |
| 1 | NW4 | 1 | 16-Feb-98 | Ex-ricce field | non saline/non sodic | (0-42) Clay, (42-48) Loam; sand | 8.2 | The area is clayey flat piedmont plain, has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC/C). These soils have good agricultural potential under modern management practices for | Rice only. | SIb+w2 |
| 1 | NW5 | 1 | 12-Feb-98 | Ex-ricce field | non saline/non sodic | (0-48) Clay | 8.4 | The area is part of flat clayey piedmont plain, has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textures (SiC/C). These soils have good agricultural potential under modern management practices for | Rice with some wheat. | SIb |
| 1 | NW6 | 1 | 12-Feb-98 | Ex-ricce field | non saline/non sodic | (0-48) Clay | 8.4, 8.2 | The area is part of flat, clayey, piedmont plain and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textured (silty clay/clay). These soils have high agricultural potential under modern management practices for limited crops and can be graded as class II | Rice, some wheat is also grown with fair yield. | SIb |
| 1 | NW7 | 1 | 16-Feb-98 | Barren natural vegetation (Sar, kandiro, Jaroon) | Salt crust | (0-30) Silty clay, (30-42) Silt loam, (42-48) Silty clay | 8.6, 8.4, 8.2 | The area is clayey level piedmont plain, abandoned areas are severely saline and under p-canal irrigation. The soils of the polygon are level, deep (major part is lying barren), moderately well drained (water table at 4 feet), non saline, non sodic and fine texture (SiC/C). These soils have permeability and workability problems but have good agricultural potential under modern agricultural | Rice. | SIb+w2 |
| 1 | NW8 | 1 | 12-Feb-98 | Ex-ricce field | non saline/non sodic | (0-48) Clay | 8.2 | The area consists of level, clayey piedmont plain of Kharbar Range, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in textured (SiC/clay). These soils have high agricultural potential under modern management and can be graded as class II land. | Rice, some wheat and oilseeds are also sown but stand is fair. | SIb |

Table A.IV.1. HMI Field Sample Survey: Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-99

| Image | Sample No. | PK No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Ryzime | Cultivation Status | Land - Use Suitability |
|-------|------------|--------|-----------|--|-------------------------------|------------------|--|--------------------|---|---|------------------------|
| | | | | | | | | | The area constitutes level, flat, clayey, piedmont plain, under p-canal irrigation but during summer the shortage of irrigation water is complained therefore rice cannot be grown. The soils of the polygon are level, deep, moderately well drained, non saline (patchy salinity exists), non sodic and fine in texture (silty clay/clay). These soils have high agricultural potential under modern management for | Wheat, some rice is also sown. | S2b |
| 1 | NW9 | 1 | 12-Feb-98 | Wheat field | non saline/non sodic | | (0-18) Silty clay, (18-24) Clay | 8.4, 8.4 | | | |
| | | | | | | | | | The area is a clayey flat piedmont plain and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in texture (SIC/C). These soils have good agricultural potential under modern management for limited | Rice. | S2b |
| 1 | NW10 | 1 | 16-Feb-98 | Ex-rice field | non saline/non sodic | | (0-6) Silty clay, (6-24) Clay | 8.4, 8.2 | | | |
| | | | | | | | | | The area is level, clayey, piedmont plain, abandoned areas are severely saline and under p-canal irrigation but acute shortage of irrigation water is complained. The soils of the polygon are level, deep, moderately well drained, saline, non sodic and fine in texture (SIC/C). These soils have high agricultural potential under modern | Rice, some wheat and sarsoo is also sown. | S2b |
| 1 | NW11 | 1 | 12-Feb-98 | Jawar field (fodder) | saline/non sodic | | (0-24) Silty clay | 8.4, 8.2 | | | |
| | | | | | | | | | The area is clayey flat piedmont plain, has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and fine in texture (SIC/C). These soils have good agricultural potential under modern management practices for | Rice, some wheat, oilseed are also produced. | S2b |
| 1 | NW12 | 1 | 12-Feb-98 | Ex-rice field | non saline/non sodic | | (0-6) Silty clay, (6-48) Clay | 8.2, 8.0 | | | |
| | | | | | | | | | The area is fringe of the clayey flat piedmont plain. The clayey thickness ranges from 12 - 24 inch therefore whole the polygon area is placed under clayey soils, as most of the area falls in more than 2 - 24 inch clayey matrix. The area is perennially irrigated by canal water. The soils of the polygon are level, deep, moderately well drained (water table at 4 feet), non saline (patchy salinity exists), non sodic and clayey in texture (SIC - SICL). These soils have high | Rice, somewhat, sarsoo and oilseeds are also sown. | S2b/w2 |
| 1 | NW13 | 1 | 17-Feb-98 | Wheat field | non saline/non sodic | | (0-6) Silty clay, (6-48) Very fine sandy loam | 8.4, 8.2 | | | |
| | | | | | | | | | The area is level, alluvial plain, abandoned areas are severely saline, and under p-canal irrigation. The soils (cultivated) of the polygon are level, deep, moderately well drained, non saline (patchy salinity exists), non sodic and medium to moderately fine textures (SIL & SICL) but medium texture dominates. These soils have high agricultural potential for limited crops under modern agricultural practices and can be graded as class III/land. | Rice, some wheat, dhania are also grown. | S2 |
| 1 | NW13 | 2 | 17-Feb-98 | Wheat field | non saline/non sodic | | (0-12) Silty clay, (12-48) Very fine sandy loam | 8.6, 8.4, 8.2 | | | |
| 1 | NW13 | 3 | 17-Feb-98 | Aniseed field | non saline/non sodic | 3 | (0-6) Silty clay loam, (6-48) Silty | 8.4, 8.2, 8.0 | | | |
| | | | | | | | | | The area is level, alluvial plain, abandoned areas are severely saline, and under p-canal irrigation. The soils (cultivated) of the polygon are level, deep, moderately well drained, non saline (patchy salinity exists), non sodic and medium to moderately fine textures (SIL & SICL) but medium texture dominates. These soils have high agricultural potential for limited crops under modern agricultural practices and can be graded as class III/land. | Rice, some wheat, dhania are also grown. | S2 |
| 1 | NW14 | 1 | 17-Feb-98 | Aniseed field | non saline/non sodic | | (0-42) Silt loam, (42-48) Silty clay loam | 8.2, 8.0 | | | |
| | | | | | | | | | The area is level, clayey, piedmont plain, about 50% of the polygon area is lying barren and are severely saline, and under p-canal irrigation. The soils of the polygon are nearly level, deep moderately well drained (water table at 4 feet), surface saline, non sodic and fine in texture (SIC/SICL+ve). These soils have good agricultural potential for limited crops under modern agricultural practices and can be graded as class II land. | Rice with some wheat. | S2b/w2 |
| 1 | NW14 | 2 | 17-Feb-98 | Wheat field | non saline/non sodic | | (0-6) Silty clay loam, (6-18) Silt loam, (18-24) Silty clay loam, (24-48) Very fine sandy loam | 8.4, 8.2, 8.0 | | | |
| | | | | | | | | | The area is clayey flat piedmont plain water logged has workability and low permeability problems and under p-canal irrigation. The soils of the polygon are level, deep, imperfectly drained, surface saline, non sodic and fine in texture (SIC/C). The soils have moderate agricultural potential for restricted cropping and graded as | Rice with some wheat. | S2b/w3 |
| 1 | NW15 | 1 | 17-Feb-98 | Wheat field | non saline/non sodic | | (0-6) Silty clay loam, (6-18) Silty clay, (18-24) Silty clay loam, (24-48) Silty clay | 8.4, 8.2, 8.0 | | | |
| | | | | | | | | | The area falls in the level, water logged, clayey piedmont plain workability and low permeability are the most limiting factors for this type of land, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 4 feet, non saline (but patchy salinity exists), non sodic and clayey in texture (SIC/SICL+ve). These soils have high agricultural potential for limited crops under modern management practices and can be | Rice, some wheat, dhania are also grown. | S2b/w2 |
| 1 | NW15 | 2 | 17-Feb-98 | Barren natural vegetation (Lai, kandli, kandom, debh) | Surface severely saline | 4 | (0-6) Silty clay loam, (6-18) Silt clay | 8.4, 8.2 | | | |
| | | | | | | | | | The area is level alluvial plain, water logged, abandoned areas in and outside the polygon are severely saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 4 feet, surface saline (cultivated areas), non sodic and moderately fine to medium textured (SICL and silt loams) but mostly moderately fine texture. These soils have low agricultural | Rice. | S2b/w2 |
| 1 | NW16 | 1 | 16-Feb-98 | Wheat field | non saline/non sodic | 2 | (0-24) Silty clay, (24-30) Silty clay loam, (30-48) Silty clay | 8.2, 8.2, 8.0 | | | |
| | | | | | | | | | The area is clayey flat piedmont plain water logged, abandoned areas are severely saline, and under acute shortage of canal irrigation water. The soils of the polygon are level, deep, moderately well drained, water table at 4 feet, non saline, non sodic and fine in texture (SIC/C). The soils have good agricultural potential under modern management practices for limited crops and can be placed in class II land. (Generally the farmers complain. | Rice, but due to shortage of irrigation water the yield is very poor about 20-25 m.ac | S2b/w2 |
| 1 | NW17 | 1 | 17-Feb-98 | Ex-rice field | non saline/non sodic | | (0-40) Clay, (40-48) Silty clay loam | 8.4, 8.4, 8.4, 8.2 | | | |
| | | | | | | | | | The area is level, water logged, partly surface is saline sodic, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-4 feet, surface salinity/sodicity (partly), non sodic and medium in texture (silt | Rice, but some wheat and barsoo are also sown. | S2b/w2 |
| 1 | NW17 | 2 | 17-Feb-98 | Wheat field | non saline/non sodic | | (0-24) Clay, (24-48) Very fine sandy loam | 8.4, 8.2 | | | |
| | | | | | | | | | The area is level, highly saline, irrigated by any canal, some areas are being watered by drain water and sown in oilseed, and hollows. The natural vegetation is very scanty and covers about 15-20 % of the surface area. The main vegetation consists of lai, lama, khabbal grass and some jaundi trees. The polygon was unapproachable therefore similar shade to polygon was examined in detail in its vicinity. The soils are level, deep, well to moderately well drained, severely saline, non sodic and moderately fine to medium in texture | Irrigated with drain water area in its vicinity nearly poor stand of oilseed and hollows. | N2a |
| 1 | NW18 | 1 | 17-Feb-98 | Fodder field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-42) Silt clay, (42-48) Silty clay loam | 8.2, 8.0, 8.0 | | | |
| | | | | | | | | | The area is level, highly saline, irrigated by any canal, some areas are being watered by drain water and sown in oilseed, and hollows. The natural vegetation is very scanty and covers about 15-20 % of the surface area. The main vegetation consists of lai, lama, khabbal grass and some jaundi trees. The polygon was unapproachable therefore similar shade to polygon was examined in detail in its vicinity. The soils are level, deep, well to moderately well drained, severely saline, non sodic and moderately fine to medium in texture | | |
| 1 | NW18 | 2 | 17-Feb-98 | Barren field natural vegetation (saroon, laie, kadero, kandli, debh) | Surface severely saline/sodic | 4 | (0-6) Silty clay loam, (6-30) Silt loam, (30-48) Very fine sandy loam | 8.6, 8.4, 8.2 | | | |
| | | | | | | | | | The area is level, water logged, partly surface is saline sodic, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-4 feet, surface salinity/sodicity (partly), non sodic and medium in texture (silt | | |
| 1 | NW19 | 1 | 16-Feb-95 | Ex-rice field | non saline non sodic | 4 | (0-24) Clay, (24-48) Silt loam | 8.4, 8.2 | | | |
| | | | | | | | | | The area is level, water logged, partly surface is saline sodic, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-4 feet, surface salinity/sodicity (partly), non sodic and medium in texture (silt | | |
| 1 | NW20 | 1 | 18-Feb-98 | Ex-rice field | surface salinity/non sodic | 4 | (0-18) Silt loam, (18-48) Very fine sandy loam | 9.0, 8.4, 8.4 | | | |
| | | | | | | | | | The area is level, water logged, partly surface is saline sodic, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-4 feet, surface salinity/sodicity (partly), non sodic and medium in texture (silt | | |
| 1 | NW20 | 2 | 18-Feb-98 | Wheat field | non saline/non sodic | 3 | (0-6) Silt loam, (6-48) Very fine sandy loam | 8.4, 8.2 | | | |
| | | | | | | | | | The area is level, water logged, partly surface is saline sodic, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-4 feet, surface salinity/sodicity (partly), non sodic and medium in texture (silt | | |
| 1 | NW21 | 1 | 14-Feb-98 | Barren field (natural vegetation (Lai, lama) | Surface severely salinity | | (0-24) Silt loam, (24-36) Silty clay loam, (36-48) Silt loam | 8.4, 8.4, 8.2 | | | |

Table A.IV.1. IIMI Field Sample Survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98

| Image | Sample No. | Plt No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------|-----------|---|-----------------------------------|------------------|---|-------------------------|--|--|------------------------|
| I | NW22 | 1 | 14-Feb-98 | Peas intercropped with oilseed | non saline/non sodic | 4 | (0-24) Silty clay, (24-48) Very fine sandy loam | 14, 8.2 | The area is a flat basin, uncommanded sites are severely gypiferous saline, and under p-canal irrigation. The soils of the polygon (which are partially under plough) are level, deep, moderately well drained, water table at 4 feet, non saline, (patchy saline surface) non sodic. | Rice and wheat but dominantly rice. Other crops like oilseed, mung and fodders are also grown. | SIIW2 |
| I | NW23 | 1 | 14-Feb-98 | Wheat field | non saline/non sodic | Saturation at 4 | (0-12) Silty clay, (12-36) Clay, (36-48) Loam | 5.4, 8.4, 8.2 | The area forms a broad basin, abandoned tracts are severely gypiferous saline, and is under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline (surface slightly saline), non sodic and fine in texture (SIC). These soils have high agricultural potential for limited crops under | Rice, 50 mcs ac) and wheat (first time sown) | SIIW2 |
| I | NW24 | 1 | 18-Feb-98 | Aniseed field | non saline/non sodic | 4 | (0-36) Silty clay loam, (36-48) Silty clay | 8.2, 8.2 | The area is level, water logged, abandoned areas in and outside the polygon, are severely saline but moderate sodic and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, surface saline, non sodic and moderately fine to fine textures (SICL, SIC). These soils have moderate limitations for agricultural production and only few crops can be grown and can be | Rice, some oilseeds and dhania are also grown. | SIIW2 |
| I | NW24 | 2 | 18-Feb-98 | Barren field (natural vegetation taroon, laie, oien) | Surface severely saline/sodic | 3 | (0-12) Silty clay loam, (12-24) Silty clay loam, (24-48) Silty clay | 3.2, 8.8, 8.2 | The area is level, alluvial plain, water logged, abandoned areas in and outside the polygon are severely saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-4 feet, surface is usually saline/sodic (cultivated areas, moderately fine textured (SICL)). The soils have moderate agricultural potential and restricted cropping can be grown and graded as class II land. In water logging area, after rice harvesting, soils do not come to ploughing moisture, therefore the wheat is not sown at proper time. In heavy clayey soils of pediment | Rice, some oilseeds and dhania are also grown. | SIIW2 |
| I | NW25 | 1 | 17-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-24) Silty clay, (24-42) Silty clay loam, (42-48) Silty clay | 8.5, 8.4, 8.2, 8.0 | The area is level, alluvial plain, water logged, abandoned areas in and outside the polygon are severely saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-4 feet, surface is usually saline/sodic (cultivated areas, moderately fine textured (SICL)). The soils have moderate agricultural potential and restricted cropping can be grown and graded as class II land. In water logging area, after rice harvesting, soils do not come to ploughing moisture, therefore the wheat is not sown at proper time. In heavy clayey soils of pediment | Rice, some late sowing wheat is also present | SIIW2 |
| I | NW25 | 2 | 17-Feb-98 | Ex-rice field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-24) Silty clay, (24-42) Silty clay loam, (42-48) Silty clay | 8.5, 8.4, 8.2, 8.0, 8.0 | The area is level, water logged, abandoned areas are severely saline and under p-canal irrigation. Most of the area of the polygon and surrounding is lying barren due to acute shortage of irrigation water, the area falls at the tail of the irrigating distributory. The soils of the polygon are level, deep, moderately well drained, water table at 4 feet, severely saline, non sodic and medium to fine in textures (silt loam/VFSL, SIC) but medium texture dominates. These soils have | Rice only. | SIIa3w2 |
| I | NW26 | 1 | 18-Feb-98 | Barren field (natural vegetation taroon, kandh, dush, kandro, laie) | Surface severely saline | 4 | (0-30) Silt loam, (30-36) Silty clay (36-48) Silt loam | 8.5, 8.4, 8.4, 8.2 | The area is a micro-pond, flat, slightly basinal, level plain water logged, uncommanded areas outside the polygon are severely gyp saline due to shortage of irrigation water and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 3/4 feet), non saline-non sodic (surface salinity present in sunown fields), and medium in textures (SIL/VFSL) with fine textures (SICL) surface (0-12 inch) usually. | Rice, some wheat, oilseed, dhania, sunf fodder are also sown. | SIIW2 |
| I | NW26 | 2 | 18-Feb-98 | Barren field (natural vegetation taroon, kandh, dush, kandro, laie) | Surface severely saline | 4 | (0-30) Silty clay loam, (30-48) Silt loam | 8.4, 8.4 | The area is a flat, alluvial, basinal plain water logged, uncommanded areas in or out of the polygon are severely gypiferous saline and under p-canal irrigation. The soils (cultivated) of the polygon are level, deep, moderately well drained, water table at 3-4 feet, non saline, non sodic and fine to moderately fine texture (SICL, SIC). These soils have moderate limitations for agricultural production and only restricted cropping can be | Rice, some wheat/oilseeds/fodder are also sown. | SIIW2 |
| I | NW27 | 1 | 23-Feb-98 | Ex-rice field | non saline/non sodic | 4 | (0-12) Silty clay loam, (12-36) Silt loam, (36-48) Silty clay loam | 8.2, 8.2, 8.0 | The area is level, alluvial, basinal plain water logged, uncommanded areas in or out of the polygon are severely gypiferous saline and under p-canal irrigation. The soils (cultivated) of the polygon are level, deep, moderately well drained, water table at 3-4 feet, non saline, non sodic and fine to moderately fine texture (SICL, SIC). These soils have moderate limitations for agricultural production and only restricted cropping can be | Rice, some wheat, oilseed, dhania, sunf fodder are also sown. | SIIW2 |
| I | NW27 | 2 | 23-Feb-98 | Aniseed field | non saline/non sodic | 3 | (0-12) Silty clay loam, (12-24) Silt loam, (24-36) Silty clay loam, (36-48) Silt loam | 8.2, 8.2, 8.2, 8.0 | The area is level, alluvial, basinal plain water logged, uncommanded areas in or out of the polygon are severely gypiferous saline and under p-canal irrigation. The soils (cultivated) of the polygon are level, deep, moderately well drained, water table at 3-4 feet, non saline, non sodic and fine to moderately fine texture (SICL, SIC). These soils have moderate limitations for agricultural production and only restricted cropping can be | Rice, some wheat/oilseeds/fodder are also sown. | SIIW2 |
| I | NW28 | 1 | 22-Feb-98 | Wheat field | non saline/non sodic | 3 | (0-24) Silty clay loam, (24-42) Silt loam, (42-48) Silty clay | 8.4, 8.2 | The area is level, alluvial, basinal plain water logged, uncommanded areas in or out of the polygon are severely gypiferous saline and under p-canal irrigation. The soils (cultivated) of the polygon are level, deep, moderately well drained, water table at 3-4 feet, non saline, non sodic and fine to moderately fine texture (SICL, SIC). These soils have moderate limitations for agricultural production and only restricted cropping can be | Rice, some wheat/oilseeds/fodder are also sown. | SIIW2 |
| I | NW28 | 2 | 22-Feb-98 | Sarsoon intercropped with elai | non saline/non sodic | 3 | (0-18) Silty clay loam, (18-30) Silt clay, (30-48) Silt loam | 8.2, 8.0 | The area is levelled levee, nearly level, subrecent alluvial plain water logged and under p-canal irrigation but acute shortage of irrigation water, resulting saline barrenness of sufficient land. The soils of the polygon are nearly level, deep, moderately well drained, water table at 4 feet, non saline (cultivated), non sodic and medium to moderately coarse textures (SIL/VFSL-SL) but moderately coarse | Rice, then wheat/oilseed. | SIIW2 |
| I | NW29 | 1 | 23-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-20) Sandy loam, (20-26) Silt loam, (26-48) Loamy sand | 5.2, 8.2, 8.0 | The area is subrecent level, alluvial plain, waterlogged and under p-canal irrigation. Uncommanded areas in or out of the polygon are severely gypiferous saline, forms about 50% of the polygon area. The soils (cultivated) of the polygon are level, deep, moderately well drained, water table at 4 feet, non saline, non sodic and medium textures (SIL & VFSL). The soils have good agricultural potential | Rice, then wheat. | SIIW2 |
| I | NW29 | 2 | 23-Feb-98 | Barren (lai, lana, kandh) | Surface severely saline/non sodic | 4 | (0-12) Very fine sandy loam, (12-40) Silt loam, (40-48) Loamy sand | 5.2, 8.2, 8.0 | The area is level, water logged, uncommanded areas in and outside the polygon are severely saline and sodic and under p-canal irrigation. The soils of the polygon are level, deep, moderately well to imperfectly drained, cultivated are non saline, non sodic and medium in texture (silt loams). These soils (cultivated) have | Rice, some oilseed, wheat and barseen are also sown. | SIIW2 |
| I | NW30 | 1 | 23-Feb-98 | Barren (lai, lana, kandh) | Surface severely saline/non sodic | 4 | (0-24) Silt loam, (24-48) Very fine sandy loam | 8.5, 8.4, 8.2 | The area is nearly level, water logged, partly saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 4 feet, non saline (partly saline), non sodic and fine textured (SIC SICL) etc. These soils | Rice, some wheat and oilseed are also grown | SIIW2 |
| I | NW30 | 2 | 23-Feb-98 | Aniseed field | non saline/non sodic | 4 | (0-18) Silt loam, (18-48) Loamy sand | 5.2, 8.2 | The area is level, water logged, uncommanded areas in and outside the polygon are severely saline and sodic and under p-canal irrigation. The soils of the polygon are level, deep, moderately well to imperfectly drained, cultivated are non saline, non sodic and medium in texture (silt loams). These soils (cultivated) have | Rice, some oilseed, wheat and barseen are also sown. | SIIW2 |
| I | NW31 | 1 | 18-Feb-98 | Sarsoon field | non saline/non sodic | 2 | (0-10) Silty clay loam, (10-36) Silt loam, (36-48) Silty clay loam | 8.4, 8.4, 8.0 | The area is level, water logged, uncommanded areas in and outside the polygon are severely saline and sodic and under p-canal irrigation. The soils of the polygon are level, deep, moderately well to imperfectly drained, cultivated are non saline, non sodic and medium in texture (silt loams). These soils (cultivated) have | Rice, some wheat and oilseed are also sown. | SIIW2 |
| I | NW31 | 2 | 18-Feb-98 | Barren (lai, lana, kandh) | Surface severely saline/sodic | 3 | (0-42) Silt loam, (42-48) Silty clay loam | 8.8, 8.8, 8.6, 8.6 | The area is nearly level, water logged, partly saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 4 feet, non saline (partly saline), non sodic and fine textured (SIC SICL) etc. These soils | Rice, some wheat and oilseed are also grown | SIIW2 |
| I | NW32 | 1 | 19-Feb-98 | Oilseed field | non saline/non sodic | 4 | (0-48) Silty clay | 5.5, 8.4, 8.4 | The area is level, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-5 feet, non saline, non sodic and medium textures (silt loams). These soils have moderate limitations for agricultural production and only limited crops can be grown. Such soils can be graded as class II land. | Rice, but some wheat, dhania, oilseeds and mung are also sown, giving very poor yield. | SIIW2 |
| I | NW32 | 2 | 19-Feb-98 | Fodder field | non saline/non sodic | 4 | (0-48) Silty clay | 5.4, 8.4 | The area is level, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-5 feet, non saline, non sodic and medium textures (silt loams). These soils have moderate limitations for agricultural production and only limited crops can be grown. Such soils can be graded as class II land. | Rice, but some wheat, dhania, oilseeds and mung are also sown, giving very poor yield. | SIIW2 |
| I | NW33 | 1 | 19-Feb-98 | Sarsoon field | non saline/non sodic | 3 | (0-30) Silt loam, (30-42) Silty clay loam, (42-48) Silt loam | 8.4, 8.2 | The area is level, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-5 feet, non saline, non sodic and medium textures (silt loams). These soils have moderate limitations for agricultural production and only limited crops can be grown. Such soils can be graded as class II land. | Rice, but some wheat, dhania, oilseeds and mung are also sown, giving very poor yield. | SIIW2 |
| I | NW33 | 2 | 19-Feb-98 | Sarsoon field | non saline/non sodic | 4 | (0-12) Silt loam, (12-18) Loamy sand, (18-42) Sandy loam, (42-48) Silt loam | 8.4, 8.2, 8.0 | The area is level, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-5 feet, non saline, non sodic and medium textures (silt loams). These soils have moderate limitations for agricultural production and only limited crops can be grown. Such soils can be graded as class II land. | Rice, but some wheat, dhania, oilseeds and mung are also sown, giving very poor yield. | SIIW2 |
| I | NW34 | 1 | 19-Feb-98 | Fodder field | non saline/non sodic | 3 | (0-30) Silty clay loam, (30-48) Silty clay | 8.2, 8.2 | The area is level, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, water table at 3-5 feet, non saline, non sodic and medium textures (silt loams). These soils have moderate limitations for agricultural production and only limited crops can be grown. Such soils can be graded as class II land. | Rice, but some wheat, dhania, oilseeds and mung are also sown, giving very poor yield. | SIIW2 |

Table A IV 1. 1991 Field Sample Survey. Upper portion of Land suitability maps showing soil characteristics.

| Image | Sample No. | PR No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|--------|-----------|---------------------------|---------------------------|------------------|--|--------------------|---|---|------------------------|
| 1 | NW34 | 2 | 19-Feb-98 | Wheat field | non saline/non sodic | | (0-30) Silt loam, (30-42) Silty clay loam, (42-48) Silty clay | 8.2, 8.2, 8.0 | non saline and medium in texture. The lower spots have restricted crops potential and can be graded class III land. The higher areas are a levelled levee of subrecent alluvial plain, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3-5 feet, non saline surface slatiness present in snow fields, non sodic and medium in textures (silt loam-VFSL). Such soils have moderate limitations for agricultural productions and only restricted crops can be grown and placed in II land. | Rice and some oilseed. In higher area rice and cotton are main crops. | SIW2 |
| 1 | NW35 | 1 | 23-Feb-98 | Wheat field | non saline non sodic | 4 | (0-36) Silt loam, (36-45) Very fine sandy loam, (45-48) Loamy sand | 8.2, 8.0 | | | SIW2 |
| 1 | NW35 | 2 | 23-Feb-98 | Ex-rice field | non saline non sodic | 3 | (0-18) Silt loam, (18-24) Silty clay loam, (24-30) Silty clay, (30-48) Silt loam | 5.2, 8.2, 8.2, 8.0 | | Rice then wheat. | SIW2 |
| 1 | NW36 | 1 | 18-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-18) Silt loam, (18-42) Silty clay loam, (42-48) Silt loam | 8.4, 8.2, 8.0 | | | SI |
| 1 | NW36 | 2 | 15-Feb-98 | Fodder field | non saline/non sodic | 4 | (0-42) Silt loam, (42-48) Very fine sandy loam | 8.6, 8.4, 8.4 | | Rice and wheat with some oilseeds (sarson). | SI |
| 1 | NW37 | 1 | 19-Feb-98 | Ex-rice field | non saline/non sodic | 2 | (0-24) Silt loam, (24-48) Silty clay loam | 8.4, 8.2 | | | SIW3 |
| 1 | NW37 | 2 | 19-Feb-98 | Peas field | Surface saline | 2 | (0-6) Loam, (6-42) Silty clay loam, (42-48) Silty clay | 8.6, 8.4, 8.2, 8.2 | | Rice only produced. | SIW3 |
| 1 | NW38 | 1 | 19-Feb-98 | Wheat field | non saline/non sodic | 3 | (0-6) Loam, (6-30) Sandy loam, (30-42) Silty clay loam, (42-48) Silty clay | 8.2, 8.2, 8.2, 8.0 | | | SIW2 |
| 1 | NW38 | 2 | 19-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-48) Silt loam | 8.2 | | Rice and some wheat and oilseeds are also sown. | SIW2 |
| 1 | NW39 | 1 | 18-Feb-98 | Barren (lai, lama, kandi) | Surface severely saline | 4 | (0-18) Silty clay loam, (18-48) Silty clay | 8.4, 8.4 | | | SIW2 |
| 1 | NW39 | 2 | 18-Feb-98 | Barren (lai, lama, kandi) | Surface severely saline | 4 | (0-6) Silty clay loam, (6-36) Silty clay, (36-42) Silt loam, (42-48) Silty clay, (30-36) Silt loam, (36-42) Silty clay, (42-48) Very fine sandy loam | 8.4, 8.2, 8.2, 8.2 | | Rice, some oilseeds, dhania are also sown. | SIW2 |
| 1 | NW40 | 1 | 22-Feb-98 | Ex-rice field | saline/non sodic | 4 | (0-42) Silty clay loam, (42-48) Silty clay | 8.4, 8.2 | | Rice, some wheat/barley, dhania/ sarson are also sown. | SIW |
| 1 | NW40 | 2 | 22-Feb-98 | Barren (lai, lama, kandi) | Surface severely saline | | | 8.6, 8.4, 8.2 | | | SIW |
| 1 | NW41 | 1 | 22-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-30) Silty clay, (30-36) Very fine sandy loam, (36-48) Loamy sand | 8.4, 8.2, 8.2, 8.0 | | | SIW2 |
| 1 | NW41 | 2 | 22-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-22) Silty clay loam, (22-42) Silt loam, (42-48) Loamy sand | 8.2, 8.0 | | Rice, wheat and sugarcane. | SIW2 |
| 1 | NW42 | 1 | 22-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-12) Silty clay loam, (12-18) Very fine sandy loam, (18-36) Silt loam, (36-48) Silty clay loam | 8.4, 8.2 | | | SIW2 |
| 1 | NW42 | 2 | 22-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-15) Silty clay loam, (15-24) Very fine sandy loam, (24-42) Silt loam, (36-48) Silty clay loam | 8.4, 8.2 | | Rice and wheat. | SIW2 |
| 1 | NW43 | 1 | 19-Feb-98 | Aniseed field | Slightly saline/non sodic | 3-4 | (0-6) Silt loam, (6-48) Silty clay loam | 8.4, 8.2 | | Rice. | SIW2 |
| 1 | NW44 | 1 | 20-Feb-98 | Ex-rice field | non saline/non sodic | | (0-48) Silt loam | 8.6, 8.4 | | | SI |
| 1 | NW44 | 2 | 20-Feb-98 | Aniseed field | non saline/non sodic | | (0-24) Silt loam, (24-36) Silty clay loam, (36-48) Silty clay | 8.4, 8.2, 8.2 | | Rice, then wheat then other winter crops. | SI |
| 1 | NW45 | 1 | 22-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-36) Very fine sandy loam, (36-48) Loamy sand | 8.2, 8.0, 8.0 | | | SIW2 |
| 1 | NW45 | 2 | 22-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-12) Silt loam, (12-24) Very fine sandy loam, (24-42) Silty clay loam, (42-48) Sandy loam | 8.4, 8.2 | | Rice and wheat. | SIW2 |
| 1 | NW46 | 1 | 22-Feb-98 | Wheat field | non saline/non sodic | 6 | (0-30) Silt loam, (30-36) Silty clay loam-ve, (36-48) Silty clay | 8.4, 8.2 | | | SI |
| 1 | NW46 | 2 | 22-Feb-98 | Wheat field | non saline/non sodic | | (0-4) Silt loam, (4-30) Very fine sandy loam, (30-34) Silty clay loam, (34-48) Silt loam | 8.4, 8.2 | | Rice and wheat. | SI |

Table A IV : HMI Field Sample survey Observation for Land Suitability Assessments across the Sindh Hydrological Divides (1997-98)

| Image/Sample No | Plt No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (feet)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability | |
|-----------------|---------|------|--------------|--|---------------------------------------|--|--|---|---|--|--------|
| 1 | NW47 | 1 | 24-Feb-98 | Obama field | non saline/non sodic | 3 | 5.4, 8.2 | The area is level alluvial plain of subrecent period. It is water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately drained, water at 3 feet, non saline, non sodic and mostly medium textured (silt loam) sometime these may have moderately fine textured surface upto 12 inches. The soils | | SIIw2 | |
| 1 | NW47 | 2 | 24-Feb-98 | Wheat field | non saline/non sodic | 3 | 5.4, 8.2 | The area is flat basin, of subrecent period and under p-canal irrigation. The soils of the polygon are level, deep, moderately drained (water table at 3 feet), non saline, non sodic and fine texture (SiC, SiCL+ve). These soils have moderate limitation of waterlogging and need mechanical cultivation for seed bed preparation, therefore restricted cropping can be practised and can be placed as class II land. | Rice and wheat. | SIIw2 | |
| 1 | NW48 | 1 | 24-Feb-98 | Barley field | non saline/non sodic | 3 | 8.4, 8.2, 8.2, 8.2 | The area is level alluvial plain of subrecent period and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (silt loam and silty clay loam). The soils have very high agricultural potential for wide variety of crops and can be graded as class I land. (Some patchy surface salinity is visible in some fields of moderately fine textured areas.) | | SIIw2 | |
| | NW48 | 2 | 24-Feb-98 | Peas field | non saline/non sodic | 4 | 5.4, 8.2 | The area is level alluvial plain of subrecent period and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium to moderately fine textured (silt loam and silty clay loam). The soils have very high agricultural potential for wide variety of crops and can be graded as class I land. (Some patchy surface salinity is visible in some fields of moderately fine textured areas.) | Rice, then wheat/barley oilseed, and maize. | SIIw2 | |
| 1 | NW49 | 1 | 24-Feb-98 | Fodder field | non saline/non sodic | (0-42) Silt loam, (42-48) Silty clay loam | 8.2, 8.2 | | | SI | |
| 1 | NW49 | 2 | 24-Feb-98 | Wheat field | non saline/non sodic | (0-30) Silty clay loam, (30-48) Silty clay | 8.2, 8.0 | | Rice and wheat. | SI | |
| 1 | NW50 | 1 | 22-Feb-98 | Wheat field | non saline/non sodic | (0-6) Silt loam (6-18) Silty clay loam, (18-30) Silty clay, (30-48) Silty clay loam | 8.2, 8.2 | | | SIIw2 | |
| 1 | NW50 | 2 | 22-Feb-98 | Gram field | non saline/non sodic | (0-18) Silty clay loam (18-42) Silty clay loam, (42-48) Silt loam | 8.2, 8.0 | | Rice and wheat. | SIIw2 | |
| 1 | NW51 | 1 | 20-Feb-98 | Aniseed field | non saline/non sodic | (0-12) Loam, (12-48) Fine sandy loam | 8.4, 8.2 | | | SIIw2 | |
| 1 | NW51 | 2 | 20-Feb-98 | Sarsoon field | non saline/non sodic | (0-12) Loam, (12-48) Loamy sand | 8.4, 8.2 | | Rice, then wheat then other winter crops. | SIIw2 | |
| 1 | NW52 | 1 | 14-Feb-98 | Ex-rice field | non saline/non sodic | (0-12) Silty clay (12-24) Silt loam, (24-48) Silty clay | 8.4, 8.2, 8.2 | | | SIIw2 | |
| 1 | NW52 | 2 | 14-Feb-98 | Barren (natural vegetation, lat. lana, sand) | Surface severely saline | (0-36) Silt loam, (36-48) Silty clay | 8.4, 8.2, 8.2 | | Rice and some oilseeds and fodders are also grown. | SIIw2 | |
| 1 | NW53 | 1 | 14-Feb-98 | Ex-rice field | non saline/non sodic | (0-12) Silty clay loam (12-48) Silty clay | Salt crust pH 8.6, 8. | | | SIIw2 | |
| 1 | NW53 | 2 | 14-Feb-98 | Sarsoon field | non saline/non sodic | (0-12) Silty clay loam (12-18) Silty clay, (18-30) Silty clay loam, (30-48) Silty clay | 8.4, 8.4, 8.2 | | Rice and wheat. | SIIw2 | |
| 1 | NW54 | 1 | 12-Feb-98 | Ex-rice field | non saline/non sodic | (0-6) Silty clay (6-48) Silty clay/clay | 8.4, 8.2 | | Rice, but some wheat and sarsoon is also sown but stand is poor to moderate. | SIIw2 | |
| 1 | NW55 | 1 | 12-Feb-98 | Ex-rice field | non saline/non sodic | (0-6) Silty clay (6-48) Silty clay/clay | 8.4, 8.4 | | Rice. | SIH | |
| 1 | NW56 | 1 | 11-Feb-98 | Ex-rice field | Surface has F131 non saline/non sodic | (0-48) Silty clay | 8.4, 8.2 | | | Rice | SIIIw3 |
| 1 | NW57 | 1 | 11-Feb-98 | Ex-rice field | non saline non sodic, Surface saline | (0-6) Silty clay loam, (6-20) Silty clay, (20-30) Silty clay loam, (30-42) Silty clay, (42-48) Silt loam | Salt crust pH 8.5, 8.4, 8.4, 8.2, 8.2, 8.0 | | | Rice, wheat barley oilseeds do not grow well due to high water table and salinity. | SIH |
| 1 | NW57 | 2 | 11-Feb-98 | Ploughed field | non saline/non sodic | (0-48) Silty clay loam | 8.4, 8.2 | | | SIH | |
| 1 | NW58 | 1 | 11-Feb-98 | Ex-rice field | non saline/non sodic | (0-12) Silty clay, (12-18) Silty clay loam, (18-30) Silt loam, (30-48) Silty clay loam | 8.4, 8.4, 8.2, 8.2 | | Rice, no other crops can be grown due to salinity and high water table. | SIIw2 | |
| 1 | NW59 | 1 | 11-Feb-98 | Wheat field | non saline/non sodic | (0-6) Loam, (6-24) Very fine sandy loam, (24-42) Silty clay, (42-48) Silt loam | 8.4, 8.2, 8.2, 8.2 | | | SIIw2 | |
| 1 | NW59 | 2 | 11-Feb-98 | Ex-rice field | non saline/non sodic | (0-6) Silty clay loam, (6-24) Silt loam, (24-48) Silty clay | 8.4, 8.2, 8.2 | | Rice is main crop. Poor crops of wheat/barley and sarsoon oilseed; dhana are also produced. | SIIw2 | |

| Range | Sample No. | Plt No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (Inches/Texture) | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------|-----------|---|-------------------------|------------------|---|------------------------------|---|--|------------------------|
| 1 | NW60 | 1 | 11-Feb-98 | Ex-rice field | non saline/non sodic | 4 | (0-48) Silty clay | 8.4 | The area is level, water logged, abandoned areas are severely saline, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 4 feet) slight saline, non sodic, fine textured (SIC). These soils have high agricultural potential for limited cropping under modern agricultural practices. | Rice, poor crop of oilseed are also raised. Wheat and barley can not be grown due to waterlogging and salinity. | SIW2 |
| 1 | NW61 | 1 | 09-Feb-98 | Fodder field | non saline/non sodic | 4 | (0-6) Silty clay loam (6-18) Silty clay, (18-42) Silt loam, (42-48) Very fine sandy loam | 8.4, 8.2, 8.2 | The area is level, water logged, abandoned fields are gypiferous saline, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 4 feet) non saline, non sodic, moderately fine to fine textured (SIC/SiCl). | Rice and wheat with some oilseeds/fodder. | SIW2 |
| 1 | NW61 | 2 | 09-Feb-98 | Ex-rice field | non saline/non sodic | 4 | (0-12) Silty clay, (12-18) Silt loam, (18-48) Very fine sandy loam | 8.4, 8.4, 8.2 | These soils have good agricultural potential and can be classified as class II land. | | SIW2 |
| 1 | NW62 | 1 | 10-Feb-98 | Ex-rice field | non saline/non sodic | 3 | (0-12) Loam, (12-48) Very fine sandy loam | 8.2, 8.2 | The area is level, surrounded by sandy levees on one side and other side by stagnated water, slight surface salinity, water logged and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3-4 feet), saline (surface), non sodic, medium textured/Loam/Silt loam. These soils | Rice, poor crops of barley and oilseed are standing. | SIW2 |
| 1 | NW62 | 2 | 10-Feb-98 | Ex-rice field | non saline/non sodic | 3 | (0-48) Silt loam | 8.2 | | | SIW2 |
| 1 | NW63 | 1 | 11-Jan-98 | Ex-rice field | non saline/non sodic | 3 | (0-18) Silty clay, (18-24) Silt loam, (24-48) Very fine sandy loam | 8.4, 8.4, 8.2 | The area is nearly level, waterlogged, abandoned areas are severely gypiferous saline, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 4 feet) (better than previous positions when water used to be near the surface), saline, non sodic, fine textured (SIC). These soils have high agricultural potential for limited cropping. Such soils can be graded as class II land. | Rice, poor crop of wheat/sarsoon are also being grown. | SIW2 |
| 1 | NW63 | 2 | 11-Jan-98 | Barren (natural vegetation, lai, lama, kand) | Surface severely saline | 4 | (0-6) Silty clay loam, (6-18) Silty clay, (18-30) Silty clay loam, (30-42) Silt loam, (42-48) Very fine sandy loam, (42-48) Silt loam | 8.4, 8.4, 8.2, 8.2 | The area is level, water logged, abandoned area is severely gypiferous saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 4 feet) non saline, non sodic, fine and moderately fine textured (SIC/SiCl). The soils have good agricultural potential and can be graded as class II land. | Rice and wheat. | SIW2 |
| 1 | NW64 | 1 | 09-Jan-98 | Ex-rice field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-18) Silty clay, (18-24) Silt loam, (24-48) Silt loam | 8.4, 8.4, 8.2, 8.2, 8.2 | | | SIW2 |
| 1 | NW64 | 2 | 09-Jan-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-18) Silty clay, (18-24) Silt loam, (24-48) Silt loam | 8.4, 8.2, 8.2, 8.2 | | | SIW2 |
| 1 | NW65 | 1 | 10-Jan-98 | Oilseed field | non saline/non sodic | 3-4 | (0-48) Silty clay | 8.2, 8.2 | The area is level, water logged, and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 3-4 feet), slightly saline, non sodic fine textured (SIC). These soils have moderate agricultural potential and can produce limited crops and can be placed in class II land. | Rice, wheat/barley and oilseeds. | SIW2 |
| 1 | NW65 | 2 | 10-Jan-98 | Fodder field | non saline/non sodic | 3-4 | (0-18) Silty clay, (18-42) Loam, (42-48) Silty clay | 8.2, 8.2, 8.0 | The area is level, piedmont clayey plain, water logged, uncommanded areas in and out of the polygon are severely gypiferous saline and under p-canal irrigation. The acute shortage of irrigation water and untimely and late supply, as complained by the farmers, increasing the barrenness of land. The soils of the polygon are level, deep, moderately well drained (water table 3 feet), slightly saline (cultivated), non sodic and fine textured (SIC). These soils have moderate problems of water logging alongwith | | SIW2 |
| 1 | NW66 | 1 | 25-Feb-98 | Ex-rice field | non saline/non sodic | 3 | (0-48) Silty clay | 8.4 | | Rice and wheat. | SIW2 |
| 1 | NW66 | 2 | 25-Feb-98 | Barren salt crust pH 8.8 | Surface severely saline | 3 | (0-48) Silty clay | (Salt crust pH 8.8), 8.4 | | | SIW2 |
| 1 | NW67 | 1 | 09-Feb-98 | Wheat field | non saline/non sodic | 4 | (0-6) Silt loam, (6-18) Silty clay loam, (18-30) Silty clay loam, (30-42) Silty clay, (42-48) Silt loam | 8.6, 8.4, 8.2, 8.2, 8.2, 8.2 | The area is level, waterlogged, abandoned areas are severely gypiferous saline and under p-canal irrigation. The soils of the polygon are level deep, moderately well drained (water table at 4 feet), cultivated area is slightly saline, non sodic, fine textured (SIC). The soils have good agricultural potential and can be graded as class II land. | Rice, wheat with some oilseed. | SIW2 |
| 1 | NW67 | 2 | 09-Feb-98 | Barren (severely saline) | Surface severely saline | 4 | (0-6) Silty clay loam, (6-42) Silty clay, (42-48) Silt loam | 8.4, 8.4 | | | SIW2 |
| 1 | NW68 | 1 | 09-Feb-98 | Wheat field | non saline/non sodic | 5 | (0-12) Silty clay loam, (12-48) Silty clay | 8.4, 8.4 | The area is level, waterlogged, abandoned fields in the surrounding are severely saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 4 feet) non saline (patchy salinity exist), non sodic, fine textured | Rice and wheat. | SIW2 |
| 1 | NW68 | 2 | 09-Feb-98 | Ex-rice field | non saline/non sodic | 4 | (0-48) Silty clay | 8.2 | | | SIW2 |
| 1 | NW69 | 1 | 09-Feb-98 | Barren | Surface severely saline | 3-4 | (0-6) Sandy loam, (6-36) Fine sandy loam, (36-48) Very fine sandy loam, (42-48) Silty clay | 8.6, 8.6, 8.4, 8.4 | The area is level, waterlogged, abandoned fields are severely gypiferous saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4-5 feet), slightly saline (patchy salinity exist), non sodic, mostly | Rice with some oilseed and matri. | SIW2 |
| 1 | NW69 | 2 | 09-Feb-98 | Peas field | non saline/non sodic | | (0-36) Silty clay loam, (36-48) Silty clay loam+ve | 8.4, 8.4 | The area is lying between two perennial canals therefore is water logged, slight to moderately saline, and under perennial canal irrigation. The soils of the polygon are level, deep, moderately well drained (at present the canals are closed for desilting but when these canals will flow with their full capacity the water according to the farmers information comes near the surface). Slight to moderate | Rice and wheat. | SIW2 |
| 1 | NW70 | 1 | 08-Feb-98 | Wheat field | non saline/non sodic | 4-5 | (0-18) Silt loam, (18-24) Loamy sand, (24-48) Silt loam | 8.5, 8.4, 8.2 | The area is level and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic, (fine and moderately fine textured (silty clay loam-silty clay). Such soils have good agricultural potential for limited crops under | Rice and wheat. | SIW2 |
| 1 | NW71 | 1 | 08-Feb-98 | Fodder field | non saline/non sodic | | (0-6) Silty clay, (6-30) Silty clay loam, (30-48) Silty clay | 8.4, 8.4, 8.2 | The area is level, waterlogged, abandoned fields are severely saline and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 3-4 feet) saline, non sodic, medium textured. Such soils have restricted choice for | Main crop is rice with some poor stand of fodder and sarsoon (oilseed) raised on residual moisture after harvesting rice crop. | SIW2 |
| 1 | NW72 | 1 | 08-Feb-98 | Barren field (natural vegetation lai, lama, kand) | Surface severely saline | Saturation at 3 | (0-6) Silt loam+ve, (6-18) Silt loam, (18-48) Very fine sandy loam | 8.4, 8.4, 8.2 | | | SIW2 |
| 1 | NW72 | 2 | 08-Feb-98 | Fodder field | non saline/non sodic | Saturation at 4 | (0-6) Silt loam, (6-48) Sandy loam | 8.4, 8.4, 8.4 | The area falls in submont piedmont alluvium and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 4 feet), non saline, non sodic and fine textured (SIC). Such soils have good agricultural potential and can be graded | Rice and wheat. | SIW2 |
| 2 | DT-1 | 1 | 21-May-98 | Ploughed field | non saline/non sodic | 4 | (0-30) Silty clay, (30-48) Loamy sand | 8.4, 8.2 | | | SIW2 |

Table A IV : IIMF Field Sample Survey Observations for Land Suitability Assessments across the Sindh Hydrological Divides 1997-98

| Survey | Sample No. | Plt No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches/Texture) | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|--------|------------|----------------------------------|-----------|---|-------------------------|------------------|---|---------------|--|--|------------------------|
| 2 | DT-2 | 1 | 21-May-98 | Ploughed field | non saline/non sodic | 4-5 | (0-18) Silty clay, (18-24) Loam, (24-48) Sandy loam | 8.2 | The area falls in covered meander bars/levees with fine textured top or broad basin and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 4-5 feet), non saline, non sodic and fine textured (SiCL). Such soils have good agricultural potential and can be graded as class II land. | Rice and wheat. | SIHw2 |
| 2 | DT-3 | 1 | 21-May-98 | Ploughed field | non saline/non sodic | | (0-48) Silty clay | 8.2 | The area falls in a subrecent alluvial broad basin and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and moderately fine and fine textured (SiC and SiL) but SiCL dominates. Such soils have good agricultural potential under modern management and can be graded | Rice and wheat. | SIH |
| 2 | DT-4 | 1 | 21-May-98 | Ploughed field | non saline/non sodic | | (0-48) Silty clay loam | 8.2 | The area falls in a subrecent alluvial broad basin and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and moderately fine textured (SiCL). | | |
| 2 | DT-5 | 2 | 21-May-98 | Ploughed field | non saline/non sodic | | (0-48) Silty clay loam | 8.2 | Such soils have good to very good agricultural potential under | Rice, wheat and melon in surrounding. | SI |
| 2 | DT-5 | Covered in Image No. 13 as DT 4) | | | | | | | | | SI |
| 2 | DT-6 | 1 | 21-May-98 | Barren field (natural vegetation late. late. lands) | Surface severely saline | | (0-6) Silt loam, (6-30) Very fine sandy loam, (30-48) Loamy sand | 8.2 | The area constitutes shallowly covered and deeply covered bars/levees. Shallowly covered bars have very permeable substratum and being near of a canal remains water logged for major part of the year and nothing can be grown there due to severe salinity associated with high water table (Point No. 1, water table at 4-5 feet) while the deeply covered bars/or channels have no salinity | Non saline area is producing rice and wheat. | SIHw2 |
| 2 | DT-6 | 2 | 21-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silty clay loam, (6-20) Silt loam, (20-48) Silty clay loam | 8.2 | The area is a part of depositional area of channel levee remnant and under p-canal irrigation. The soils of the polygon are nearly level, deep, moderately well drained (water table at 4/5 feet) non saline, non sodic and medium textured (SiL) with moderately fine textured surface (SiCL). Such soils have good agricultural potential | | |
| 2 | DT-7 | 1 | 21-May-98 | Ex-rice field | non saline/non sodic | 4 | (0-6) Silty clay loam, (6-30) Silt loam, (30-36) Silty clay loam, (36-48) Loamy sand | 8.2 | The area falls in a subrecent covered meander bars/levees, usually underlain by sandy material and under p-canal irrigation. The soils of the polygon are level, deep to moderately deep (underlain by sand), moderately well drained, (water table at 4-3 feet) non saline, non sodic and medium to moderately coarse textured (Silt loam+ve. | Rice only. | SIHw2 |
| 2 | DT-8 | 1 | 21-May-98 | Ploughed field | non saline/non sodic | 4 | (0-6) Loam, (6-30) Sandy loam, (30-48) Loamy sand | 8.2 | The area falls in a subrecent covered meander bars/levees, usually underlain by sandy material and under p-canal irrigation. The soils of the polygon are level, deep to moderately deep (underlain by sand), moderately well drained, (water table at 4-3 feet) non saline, non sodic and medium to moderately coarse textured (Silt loam+ve. | Rice with little wheat (due to water logging). | SIHw2 |
| 2 | DT-8 | 2 | 21-May-98 | Ploughed field | non saline/non sodic | 3 | (0-12) Silty clay loam, (12-36) Very fine loam, (36-48) Loamy sand | 8.2 | The area falls in subrecent covered meander bars/levees, usually underlain by sandy material and under p-canal irrigation. The soils of the polygon are level, moderately deep to deep, underlain by sand, somewhat excessively drained (water table at 4 feet), non saline, non sodic, and moderately coarse textured (SL) with medium | | |
| 2 | DT-9 | 1 | 19-May-98 | Ploughed field | non saline/non sodic | 4 | (0-12) Loam, (12-24) Sandy loam, (24-48) Loamy sand | 8.2 | The area occupies a subrecent alluvial broad basin position and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 4-5 feet), non saline, non sodic and moderately fine textured (SiCL). Such soils have good to very good agricultural potential and can be graded as class II land. | Rice and wheat. | SIHw2 |
| 2 | DT-10 | 1 | 19-May-98 | Ploughed field | non saline/non sodic | 4 | (0-22) Silty clay loam, (22-28) Silt loam, (28-36) Very fine sandy loam, (36-48) Loamy sand | 8.2 | The area falls in the subrecent alluvial level plain contains patchy salinity in cultivated area, sufficient area is lying barren with severe salinity and sodicity in surrounding and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (saturation 4 feet, non saline (patchy salinity is present), non sodic and medium textured (L & SiL). Such soils have good agricultural | Rice and wheat. | SIHw2 |
| 2 | DT-11 | 1 | 19-May-98 | Ex-wheat field | non saline non sodic | 4 | (0-22) Loam, (22-48) Very fine sandy loam | 8.2 | The area falls in the subrecent alluvial broad basin and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic and mostly fine with little moderately fine textured (SiC & SiCL). Such soils have good agricultural potential under modern management and can be graded | Rice is only grown otherwise in general rice and wheat are main crops. | SIH |
| 2 | DT-12 | 1 | 20-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty clay | 8.2 | The area falls in subrecent alluvium and physiographically in channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table at 4/5 feet), non saline, non sodic (patchy salinity) and medium textured (Loam). Such soils have good agricultural potential and | Rice and wheat. | SIHw2 |
| 2 | DT-12 | 2 | 20-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty clay | 8.2 | The area consists of subrecent alluvial channel levee fill and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 4/5 feet), non saline, non sodic and medium textured (Loam). Such soils have good agricultural | Rice and wheat. | SIHw2 |
| 2 | DT-13 | 1 | 19-May-98 | Ploughed field | non saline/non sodic | 4 | (0-36) Loam, (36-42) Silty clay loam, (42-48) Sandy loam | 8.2 | Interpreted-Moderately fine to Medium textured (SiCL/SiL) well drained, no salinity/sodicity | | SI |
| 2 | DT-14 | 1 | 19-May-98 | Ploughed field | non saline/non sodic | | (0-48) Loam | 8.2 | The area occupies subrecent covered bars/levees usually underlain by sandy material, barren parts are severely saline and under p-canal irrigation. The cultivated soils of the polygon are level, deep, well drained (at present), non saline, non sodic, and medium textured (silt loam, loam/VFSL). Such soils have very high agricultural potential | Rice and wheat. | SI |
| 2 | DT-14 | 2 | 19-May-98 | Ploughed field | non saline/non sodic | 4 | (0-24) Loam, (24-48) Silt loam | 8.2 | The area falls in subrecent alluvial flat basin, unconsolidated areas are clayey and severely saline/sodic, dense, and under p-canal irrigation. The cultivated soils of the polygon are level, deep, well drained (at present) non saline, non sodic (patchy salinity in few fields) and fine textured (SiC). Such soils have good agricultural potential and can be graded as class II land. | Rice and wheat. | SIH |
| 2 | DT-15 | Dangerous area. | | | | | | 9.6, 9.6, 8.8 | | | SI |
| 2 | DT-16 | 1 | 18-May-98 | Ex-wheat field | non saline non sodic | | (0-20) Loam silt loam, (20-42) Very fine sandy loam, (42-48) Loamy sand | 8.2 | The area falls in subrecent alluvial flat basin, unconsolidated areas are clayey and severely saline/sodic, dense, and under p-canal irrigation. The cultivated soils of the polygon are level, deep, well drained (at present) non saline, non sodic (patchy salinity in few fields) and fine textured (SiC). Such soils have good agricultural potential and can be graded as class II land. | Rice and wheat. | SI |
| 2 | DT-17 | 1 | 18-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silty clay loam, (6-42) Silty clay, (42-48) Silty clay loam | 8.2 | The area falls in subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present) non saline, non sodic and medium textured (SiL, VFSL). These soils have very high agricultural potential and can be graded | Rice and wheat. | SI |
| 2 | DT-17 | 2 | 18-May-98 | Barren field | Severely saline/sodic | | (0-6) Silty clay loam, (6-42) Silty clay, (42-48) Loamy sand | 9.6, 9.6, 8.8 | | | SIH |
| 2 | DT-18 | 1 | 18-May-98 | Ploughed field | non saline non sodic | | (0-30) Silt loam, (30-42) Very fine sandy loam, (42-48) Silt loam | 8.2 | The area falls in subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present) non saline, non sodic and medium textured (SiL, VFSL). These soils have very high agricultural potential and can be graded | Rice and wheat. | SI |
| 2 | DT-18 | 2 | 18-May-98 | Ploughed field | non saline non sodic | | (0-6) Silty clay loam, (6-30) Silt loam, (30-48) Very fine sandy loam | 8.2 | | Rice and wheat. | SI |

| Image | Sample No. | Plt No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches/Texture) | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------------------------------|-----------|--------------------|----------------------|------------------|---|-----|--|---------------------------------|------------------------|
| 2 | DT-19 | 1 | 18-May-98 | Maize field | non saline/non sodic | | (0-24) Silty clay loam, (24-36) Silty clay, (36-48) Silt loam | 8.2 | The area falls in subrecent alluvial level broad basin and under p-canal irrigation. The soils of the polygon are level, deep, well drained (water table 5-7 feet in a well) non saline, non sodic and moderately fine textured (SICL). These soils have good agricultural potential and can be graded as class II land. (Ground water seems of good quality as rice nursery is being grown with this water) | Rice and wheat | SIH |
| 2 | DT-20 | 1 | 18-May-98 | Ex-wheat field | non saline/non sodic | | (0-6) Loam, (6-12) Silt loam, (12-24) Very fine sandy loam, (24-48) Silt loam Silty clay loam | 8.2 | The area falls in a subrecent alluvial level plain uncommanded areas are severely saline/sodic and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic (patchy salinity is present), and medium textured (silt loam/VFSL). Such soils have very high agricultural potential | Rice and wheat | SI |
| 2 | DT-21 | 1 | 18-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silt loam, (6-24) Very fine sandy loam, (24-42) Silt loam, (42-48) Silty clay loam | 8.2 | The area falls in the subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic, and medium textured (silt loam/VFSL). Such soils have very high agricultural potential and | Rice and wheat | SI |
| 2 | DT-22 | 1 | 16-May-98 | Ex-wheat field | non saline/non sodic | | (0-36) Silty clay, (36-42) Silt loam, (42-48) Silty clay loam | 8.2 | The area falls in the subrecent piedmont alluvium and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic, and mostly fine textured (silty clay). These soils have good agricultural potential and can be graded as | Rice and wheat | SIH |
| 2 | DT-23 | 1 | 17-May-98 | Ex-wheat field | non saline/non sodic | | (0-6) Loam, (6-24) Silt loam, (24-48) Sandy loam | 8.2 | The area falls in the subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained (present), non saline, non sodic, and medium in textured (Silt loam). Such soils have very high agricultural potential and can be graded as | Rice and wheat | SI |
| 2 | DT-24 | 1 | 17-May-98 | Ploughed field | non saline/non sodic | | (0-24) Loam, (24-48) Fine sandy loam | 8.2 | The area is a part of subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present) non saline, non sodic and medium textured (Loam). Such soils have very high agricultural potential for wide variety of crops, ecologically suited to the area and can be graded as class I land. | Rice and wheat | SI |
| 2 | DT-24 | 2 | 17-May-98 | Ploughed field | non saline/non sodic | | (0-24) Loam, (24-42) Fine sandy loam, (42-48) Very fine sandy loam | 8.2 | | | SI |
| 2 | DT-25 | 1 | 16-May-98 | Ploughed field | non saline/non sodic | | (0-20) Silt loam, (20-24) Silty clay loam, (24-48) Silt loam | 8.2 | The area falls where piedmont and river alluvium are merging with each others. The piedmont alluvium is lying underneath and texturally varies from silt loam to silty clay loam. These are subrecent deposition and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present) non saline, non sodic and medium textured (SIL) partly having fine to moderately | Rice and wheat | SI |
| 2 | DT-25 | 2 | 16-May-98 | Ploughed field | non saline/non sodic | | (0-12) Clay, (12-30) Silt loam, (30-48) Silt clay loam | 8.2 | | | SI |
| 2 | DT-26 | 1 | 17-May-98 | Ploughed field | non saline/non sodic | | (0-6) Loam, (6-18) Silt loam (18-30) Very fine sandy loam, (30-42) Silty clay loam, (42-48) Silt loam | 8.2 | The area falls in the subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic, and medium textured (Silt loam-Very fine sandy loam) Such soils have very high agricultural potential and can be graded as class I land. (The people complain about water logging but at present the soils are well drained and with the sweet | Rice and wheat | SI |
| 2 | DT-27 | 1 | 16-May-98 | Ploughed field | non saline/non sodic | | (0-20) Silty clay loam, (20-42) Silt loam, (42-48) Very fine sandy loam | 8.2 | The area constitutes a part of subrecent alluvium of Karhar Ranges and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline, non sodic, and moderately fine textured (SICL). Such soils have very good to good | Rice and wheat | SI |
| 2 | DT-28 | 1 | 17-May-98 | Ploughed field | non saline/non sodic | | (0-30) Silt loam, (30-48) Silt loam Silty clay loam | 8.2 | The area is a part of the subrecent alluvial level plain and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic, and medium textured (SIL). Such soils have very high agricultural potential and can be graded as class I land. (Ground water seems of good quality) | Rice and wheat | SI |
| 2 | DT-29 | 1 | 16-May-98 | Ploughed field | non saline/non sodic | | (0-24) Silt loam, (24-48) Very fine sandy loam | 8.2 | The area falls in subrecent alluvial covered bars/levees and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present when canal supply is closed), non saline, non sodic, and medium textured (SIL, VFSL). Such soils have very high agricultural potential for wide variety of crops and can be graded as | Rice and wheat | SI |
| 2 | DT-30 | 1 | 16-May-98 | Ex-wheat field | non saline/non sodic | | (0-24) Silty clay, (24-48) Silt loam | 8.2 | The area falls in subrecent piedmont alluvium and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, non saline, non sodic, and mostly fine textured (SiC). Such soils have good agricultural potential and can be graded as class II land. (small private tubewell are present) | Rice and wheat | SIH |
| 2 | DT-30 | 2 | 16-May-98 | Ex-wheat field | non saline/non sodic | | (0-6) Silty clay loam, (6-20) Silty clay, (20-30) Silt loam, (30-48) Very fine sandy loam | 8.2 | | | SIH |
| 2 | DT-31 | 1 | 16-May-98 | Ploughed field | non saline/non sodic | | (0-24) Sandy loam loam, (24-48) Loamy sand | 8.2 | The area occupies subrecent levee position in channel levee remnant physiographic unit, surrounded by channels and under p-canal irrigation. The soils of the polygon are level, moderately deep to deep underlain by sandy material, somewhat excessively drained, non saline, non sodic and moderately coarse textured (sandy loam usually with medium textured Loam) surface. These soils are low in inherent fertility due to the low in water and nutrients holding | Wheat and rice | SIH |
| 2 | DT-31 | 2 | 16-May-98 | Ploughed field | non saline/non sodic | | (0-24) Sandy loam Loam, (24-48) Loamy sand | 8.2 | | | SIH |
| 2 | B-1 | 1 | 23-May-98 | Ploughed field | non saline/non sodic | | (0-36) Silty clay loam, (36-48) Silt loam | 8.2 | The area falls in subrecent alluvial flat basin and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, non saline, non sodic, and mostly moderately fine textured (SICL). Such soils have very good | Rice, wheat and some vegetables | SI |
| 2 | B-1 | 2 | 23-May-98 | Ex-vegetable field | non saline/non sodic | | (0-6) Silty clay loam, (6-36) Silt loam, (36-48) Very fine sandy loam | 8.2 | | | SI |
| 2 | B-2 | 1 | 23-May-98 | Ploughed field | non saline/non sodic | | (0-12) Silty clay loam, (12-20) Loam, (20-36) Very fine sandy loam, (36-48) Sandy loam | 8.2 | The area falls in the subrecent alluvial channel levee remnant, and under p-canal irrigation. The soils of the polygon are nearly level, moderately deep to deep (underlain by sand), well drained, non saline, non sodic, and medium to moderately coarse textured (L, SIL/VFSL & SL). Such soils have good agricultural potential | Rice and wheat | SI |
| 2 | B-2 | 2 | 23-May-98 | Ploughed field | non saline/non sodic | | (0-6) Loam, (6-20) Sandy loam, (20-48) Loamy sand | 8.2 | | | SIH |
| 2 | B-3 | Covered in image No. 13 as B111 | | | non saline/non sodic | | | | | | |

Table A IV - I BMD Field Sample Survey Observation for Land Suitability Assessments across the South Hydrological Divides 1997-98

| Image | Sample No. | Plt. No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches) / Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-------|------------|---------------------------------|-----------|----------------|---|------------------|---|----------------|---|---|------------------------|
| | B-4 | 1 | 24-May-98 | Barren | Severely saline/sodic | | 0-48) Silt loam | 10.0, 5.6, 8.4 | The area falls in the subrecent alluvial channel levee remnant. unconsolidated areas are severely saline/sodic (point No.1) and medium texture (SIL) and under p-canal irrigation. The cultivated area of the polygon is level, deep, well drained, non saline, non sodic (patchy salinity present) and moderately coarse in texture. | | SI |
| | B-4 | 2 | 24-May-98 | Ploughed field | non saline/non sodic | | (0-24) Sandy loam, (24-36) Silt loam, (36-45) Very fine sandy loam, (45-48) Fine sandy loam | 8.4 | The area falls in the subrecent alluvial broad basins (partly on the fringes of basins and have patchy salinity) and under p-canal irrigation. The soils of the polygon are nearly level, deep, underlain by sand, well drained (at present), non saline, non sodic, and moderately fine to medium textured (SICL/SIL). Such soils have | Rice and wheat and saline/sodic soils are lying barren. Ground water seems of good quality. | SI |
| | B-5 | 1 | 24-May-98 | Ploughed field | non saline/non sodic | | (0-20) Silt loam, (20-42) Very fine sandy loam, (42-48) Loamy sand | 8.2 | The area falls in the subrecent alluvial broad basins (partly on the fringes of basins and have patchy salinity) and under p-canal irrigation. The soils of the polygon are nearly level, deep, underlain by sand, well drained (at present), non saline, non sodic, and moderately fine to medium textured (SICL/SIL). Such soils have | Rice and wheat with some melon (kharboozas) | SI |
| | B-5 | 2 | 24-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silt loam, (6-24) Silty clay loam, (24-42) Silt loam, (42-48) Silty clay loam | 8.2 | The area falls in the subrecent alluvial broad basins (partly on the fringes of basins and have patchy salinity) and under p-canal irrigation. The soils of the polygon are nearly level, deep, underlain by sand, well drained (at present), non saline, non sodic, and moderately fine to medium textured (SICL/SIL). Such soils have | Rice and wheat with some melon (kharboozas) | SI |
| | B-6 | 1 | 22-May-98 | Ploughed field | non saline/non sodic | | (0-12) Loam, (12-24) Sandy loam, (24-30) Very fine sandy loam, (30-48) Loamy sand | 8.2 | The area falls in the subrecent alluvial channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep to moderately deep (underlain by sand), somewhat excessively drained, non saline, non sodic, and moderately coarse textured (SL) with medium | Rice and wheat | SIIs |
| | B-6 | 2 | 22-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silt loam, (6-24) Very fine sandy loam, (24-48) Loamy sand | 8.2 | The area falls in the subrecent alluvial channel levee remnant, during canal supply days the area remain water logged especially channel position and under p-canal irrigation. The soils of the polygon are nearly level, deep, well drained (at present), non saline, non sodic, and medium textured (Loam, silt loam, VFSL). Such | Rice and wheat | SI |
| | B-7 | 1 | 23-May-98 | Ploughed field | non saline/non sodic | | 0-36) Loam, (36-48) Very fine sandy loam | 8.2 | The area falls in the subrecent alluvial channel levee remnant, during canal supply days the area remain water logged especially channel position and under p-canal irrigation. The soils of the polygon are nearly level, deep, well drained (at present), non saline, non sodic, and medium textured (Loam, silt loam, VFSL). Such | Rice and wheat | SI |
| | B-7 | 2 | 23-May-98 | Lucern field | non saline/non sodic | | (0-12) Silt loam, (12-36) Very fine sandy loam, (36-48) Loamy sand | 8.2 | The area falls in the subrecent alluvial channel levee remnant, during canal supply days the area remain water logged especially channel position and under p-canal irrigation. The soils of the polygon are nearly level, deep, well drained (at present), non saline, non sodic, and medium textured (Loam, silt loam, VFSL). Such | Rice and wheat | SI |
| | B-8 | 1 | 23-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silty clay loam, (6-30) Silt loam, (30-48) Loamy sand | 8.2 | The area falls in the subrecent alluvial level plains and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic, and medium textured (SIL). Such soils have good agricultural potential and can be graded as class I/II land. (According to the information provided by the | Rice and wheat | SI |
| | B-8 | 2 | 23-May-98 | Ploughed field | non saline/non sodic | | 0-48) Silt loam | 8.2 | The area falls in the subrecent alluvial level plains and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic, and medium textured (SIL, Loam). Such soils have good agricultural potential and can be graded as class I/II land. | Rice and wheat | SI |
| | B-9 | 1 | 23-May-98 | Ploughed field | non saline/non sodic | | (0-24) Loam, (24-48) Silt loam | 8.2 | The area falls in the subrecent alluvial level plains and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic, and medium textured (SIL, Loam). | Rice and wheat | SI |
| | B-9 | 2 | 23-May-98 | Ploughed field | non saline/non sodic | | (0-36) Silt loam, (36-48) Very fine sandy loam | 8.2 | The area falls in the subrecent alluvial channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, somewhat excessively drained, partly non saline, non sodic (Point No.1), while (Point No.2) (whitish tone are severely saline/sodic, and moderately coarse textured (SL). Such soils (Point No.1) have very good agricultural potential and can be graded as class I land. | Rice and wheat | SI |
| | B-10 | Covered in Image No.13 as B 106 | | | | | | | | | SI |
| | B-11 | 1 | 23-May-98 | Ploughed field | non saline/non sodic | | (0-6) Loam, (6-42) Fine sandy loam, (42-48) Loamy fine sand | 8.2 | The area falls in the subrecent alluvial channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, somewhat excessively drained, partly non saline, non sodic (Point No.1), while (Point No.2) (whitish tone are severely saline/sodic, and moderately coarse textured (SL). Such soils (Point No.1) have very good agricultural potential and can be graded as class I land. | (Point No. 1) Rice and wheat. (Point No.2) Rice crop. | SI |
| | B-11 | 2 | 23-May-98 | Ploughed field | Severely saline/sodic | 4 | (0-36) Sandy loam, (36-48) Loamy sand | 9.6, 9.6 | The area falls in subrecent alluvial covered meandering bar/levees and under p-canal irrigation. The soils of the polygon are level, deep, somewhat excessively drained to well drained, non saline, non sodic and moderately coarse textured (SL) with medium and moderately fine textured (L, SICL). Such soils have good agricultural potential and can be graded as class II land. | | NI64 |
| | B-12 | 1 | 24-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silty clay loam, (6-24) Sandy loam, (24-42) Loam, (42-48) Loamy sand | 8.2 | The area falls in subrecent alluvial covered meandering bar/levees and under p-canal irrigation. The soils of the polygon are level, deep, somewhat excessively drained to well drained, non saline, non sodic and moderately coarse textured (SL) with medium and moderately fine textured (L, SICL). Such soils have good agricultural potential and can be graded as class II land. | | SIIs |
| | B-12 | 2 | 24-May-98 | Ex-wheat field | non saline/non sodic | | (0-20) Loam, (20-30) Sandy loam, (30-48) Very fine sandy loam | 8.2 | The area falls in subrecent alluvial channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic and moderately fine textured (SICL). Such soils have very high agricultural potential and can be graded as class I land. | Wheat and rice | SIIs |
| | B-13 | Covered in Image No. 13 as B113 | | | | | | | | | SIIs |
| | B-14 | 1 | 22-May-98 | Ex-wheat field | non saline/non sodic | | (0-6) Silt loam, (6-30) Loam, (30-36) (36-48) Silt loam | 8.2 | The area falls in subrecent alluvial channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic and moderately fine to medium textured (SICL, L) but dominantly moderately fine textured. Such soils have very good to good agricultural potential | | SI |
| | B-14 | 2 | 22-May-98 | Ploughed field | non saline/non sodic | | (0-20) Silt loam, (20-30) Silty clay loam, (30-36) Silt loam, (36-42) Very fine sandy loam, (42-48) | 8.2 | The area falls in subrecent alluvial broad basin channel and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and fine in texture (SIC). Such soils have good agricultural potential under modern management. | Rice, wheat and some vegetables | SI |
| | B-15 | 1 | 22-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silty clay loam, (6-48) Silty clay | 8.2 | The area falls in subrecent alluvial broad basin channel and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and fine in texture (SIC). Such soils have good agricultural potential under modern management. | Rice and wheat | SIIs |
| | B-16 | 1 | 23-May-98 | Ploughed field | non saline/non sodic | | (0-30) Silty clay loam, (30-36) Silt loam, (36-48) Very fine sandy loam | 8.2 | The area falls in subrecent alluvial broad basin level plains, and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic and mostly moderately fine textured (SICL). Such soils have very high agricultural potential and can be graded as class I land. | Rice and wheat | SI |
| | B-16 | 2 | 23-May-98 | Ploughed field | non saline/non sodic | | (0-24) Silt loam, (24-42) Silty clay loam, (42-48) Very fine sandy loam, (48+) Loamy sand | 8.2 | The area falls in subrecent alluvial broad basin and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, (at present) non saline, non sodic and mostly moderately fine textured (SIC). Such soils have good agricultural potential under modern management and can be graded | | SI |
| | B-17 | 1 | 20-May-98 | Ploughed field | non saline/non sodic | | (0-24) Silty clay loam, (24-48) Silty clay | 8.2 | The area falls in subrecent alluvial broad basin and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, (at present) non saline, non sodic and mostly moderately fine textured (SIC). Such soils have good agricultural potential under modern management and can be graded | Rice with some wheat | SIIs |
| | B-18 | 1 | 20-May-98 | Ploughed field | non saline non sodic salt crust present with pH 8.0 | | 0-36) Silt loam, (36-42) Silty clay loam, (42-48) Very fine sandy loam | 8.6, 8.2 | The area occupies subrecent channel levee remnant with patchy salinity on the banks of channel and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic (patchy salinity in few fields present), and moderately fine to medium textured (SICL & SIL), but moderately fine texture dominates. Such soils have very good agricultural potential and can be graded as class I land. | | SI |
| | B-18 | 2 | 20-May-98 | Ploughed field | non saline/non sodic | | (0-24) Silty clay loam, (24-42) Very fine sandy loam, (42-48) Loamy sand | 8.2 | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, (at present) non saline, non sodic and mostly moderately fine textured (SIC). Such soils have good agricultural potential under modern management and can be graded | Rice and wheat | SI |
| | B-19 | 1 | 22-May-98 | Ex-wheat field | non saline/non sodic | | (0-6) Silt loam, (6-42) Very fine sandy loam, (42-48) Loamy fine sand | 8.2 | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, (at present) non saline, non sodic and mostly moderately fine textured (SIC). Such soils have good agricultural potential under modern management and can be graded | | SI |
| | B-19 | 2 | 22-May-98 | Ex-wheat field | non saline/non sodic | | (0-12) Silt loam, (12-22) Very fine sandy loam, (22-48) Loamy very fine sand | 8.2 | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well to moderately well drained, (at present) non saline, non sodic and mostly moderately fine textured (SIC). Such soils have good agricultural potential under modern management and can be graded | Rice, wheat with some vegetables and melons, ground water seems of good quality | SI |
| | B-20 | 1 | 22-May-98 | Ploughed field | non saline/non sodic | | (0-22) Silt loam, (22-30) Sandy loam, (30-48) Loamy sand | 8.2 | The area falls in subrecent alluvial channel levee remnant and under p-canal irrigation. The soils of the polygon are level, | | SIIs |

Table A. IV. I. IIMI Field Sample Survey Observation for Land Suitability Assessments across The South Hydrological Divides 1997-98

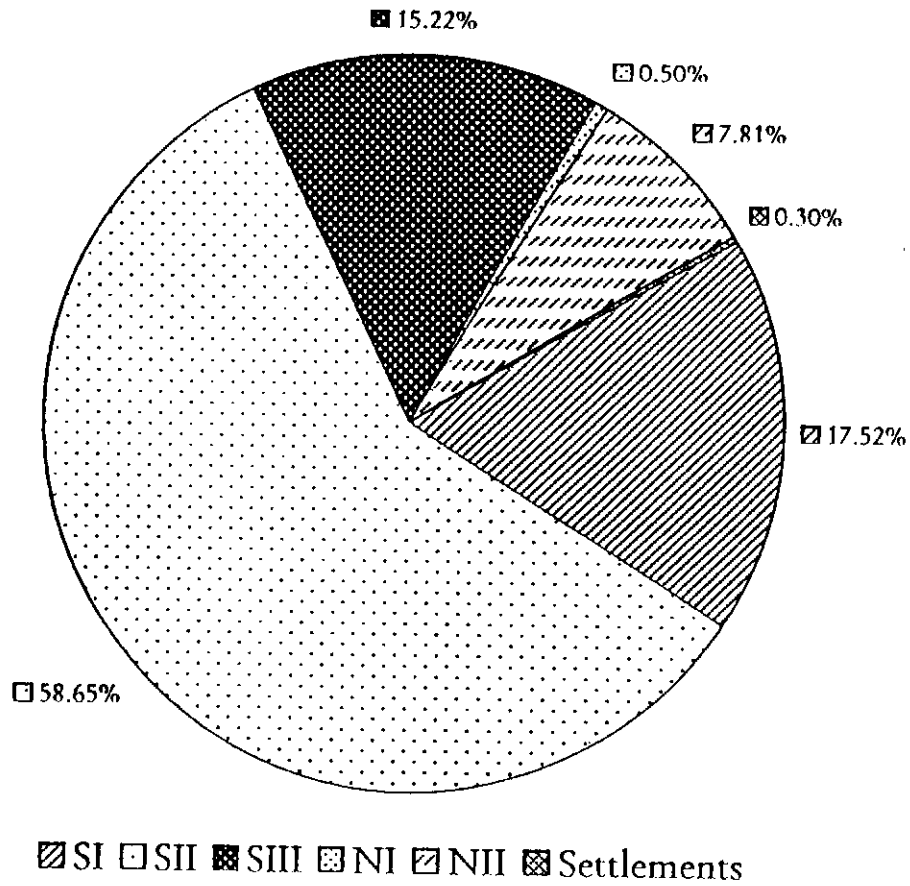
| Language | Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|----------|------------|---------|-----------|--------------------------|-----------------------|------------------|---|---------------|--|--|------------------------|
| | B-20 | 2 | 22-May-98 | Ploughed field | non saline/non sodic | | (0-6) Loam, (6-22) Silty loam, (22-36) Loamy very fine sand (36-48) Loamy sand | 8.2 | moderately deep to deep (underlain by sand), somewhat excessively to well drained, non saline, non sodic and moderately to coarse textured (SL) with medium top (Sil, L). Such soils have good | Rice and wheat. | SI |
| | B-21 | 1 | 20-May-98 | Ex-wheat field | non saline/non sodic | | (0-30) Silty clay loam, (30-48) Silt loam | | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are nearly level, deep, well drained, non saline, non sodic and medium to moderately fine textured (Sil, L and SiCL) but medium texture dominates. Such soils have very good agricultural potential and can be graded as | Rice and wheat. | SI |
| | B-21 | 2 | 20-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silt loam, (6-18) Loam, (18-36) Very fine sandy loam (36-48) Loamy sand | | The area falls in subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained (water table 4 feet), non saline, non sodic and medium textured (Sil, L) with moderately fine textured top 8-12 inches. Such soils have good agricultural potential and can be | Rice and wheat. | SIw2 |
| | B-22 | 1 | 20-May-98 | Ploughed field | non saline/non sodic | 4 | (0-12) Silt loam, (12-20) Loam, (20-36) Silt loam, (36-48) Very fine sandy loam | 8.2 | The area falls in channel levee remnant of subrecent period and usually underlain by sand and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium in texture (Sil & VPSL). Such soils have very high agricultural potential and can be graded as class I land. | Rice and wheat. | SI |
| | B-23 | 1 | 20-May-98 | Ex-wheat field | non saline/non sodic | | (0-20) Loam, (20-36) Very fine sandy loam (36-48) Loamy sand | 8.2 | The area falls in subrecent channel levee remnant, water logged, patchy surface salinity and under p-canal irrigation. The soils of the polygon are level, deep, moderately well drained, (water table at 4 feet) non saline, non sodic (surface salinity/sodicity in some fields present) and moderately fine to medium textured (SiCL & Sil) but former dominates. Such soils have good agricultural potential and | Rice and wheat. | SIw2 |
| | B-23 | 2 | 20-May-98 | Ex-wheat field | non saline/non sodic | | (0-20) Silty clay loam, (20-36) Silt loam, (36-42) Very fine sandy loam, (42-48) Loamy sand | 8.2 | The area falls in subrecent alluvial level covered bars/levees and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (Sil, & VPSL). Such soils have very high agricultural potential and can be | Rice and wheat. | SI |
| | B-24 | 1 | 19-May-98 | Ploughed field | non saline/non sodic | 4 | (0-12) Silty clay loam, (12-20) Loam, (20-30) Loamy sand, (30-48) Silt loam/Very fine sandy loam | 8.2 | The area falls in subrecent alluvial level covered bars/levees and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (Sil, & VPSL). Such soils have very high agricultural potential and can be | Rice and wheat. | SI |
| | B-24 | 2 | 19-May-98 | Ploughed field | non saline/non sodic | 4 | (0-24) Silt loam, (24-36) Very fine sandy loam, (36-48) Loamy sand | 8.2 | The area constitutes a part of the subrecent channel levee remnant and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic and mostly medium textured (Silt loam). Such soils with present condition have very high agricultural potential and can be graded as class I land. (Ground water seems of good quality.) | Rice and wheat. | SI |
| | B-25 | 1 | 18-May-98 | Ploughed field | non saline/non sodic | | (0-6) Loam, (6-20) Silty clay loam (20-30) Silt loam, (30-48) Very fine sandy loam | 8.2 | The area falls in subrecent alluvial level plains and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic and medium textured (Sil, & VPSL). Such soils have very high agricultural potential and can be graded as class I land. (Small tubewells are present, ground water seems of | Rice and wheat. | SI |
| | B-26 | 1 | 17-May-98 | Fallow field | non saline/non sodic | | (0-12) Loam/Sandy loam, (12-24) Silt loam (24-48) Silty clay loam | 8.2 | The area falls in subrecent alluvial level plains and under p-canal irrigation. The soils of the polygon are level, deep, well drained (at present), non saline, non sodic and medium textured (Sil, & VPSL). Such soils have very high agricultural potential and can be graded as class I land. (Small tubewells are present, ground water seems of | Rice and wheat. | SI |
| | B-26 | 2 | 17-May-98 | Ploughed field | non saline/non sodic | | (0-12) Silt loam, (12-24) Very fine sandy loam, (24-42) Silt loam, (42-48) Silty clay loam | 8.2 | The area lies in the subrecent alluvial level plains (slightly depressional) and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and mostly medium textured (Sil/VPSL) partly with moderately fine textured (SiCL) surface (5-12 inch). Such soils have very high agricultural potential under modern management practices and can | Rice and wheat. | SI |
| | B-27 | 1 | 17-May-98 | Ploughed field | non saline/non sodic | | (0-22) Silt loam, (22-30) Very fine sandy loam, (30-42) Silty clay loam, (42-48) Silt loam | 8.2 | The area lies in the subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (Sil). Such soils have very high agricultural potential and can be | Wheat, cotton, and sugarcane. In the surrounding areas some banana and mango gardens are also present. | SI |
| | G-1 | 1 | 26-May-98 | Sugarcane field | non saline/non sodic | | (0-36) Silt loam, (36-48) Silty clay loam | 8.2 | The area lies in the subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (Sil). Such soils have very high agricultural potential and can be | Wheat, cotton, and sugarcane. | SI |
| | G-2 | 1 | 26-May-98 | Ploughed field | non saline/non sodic | | (0-24) Silt loam | 8.2 | The area lies in the subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (L, Sil). Such soils have very high agricultural potential and can be | Wheat and cotton. | SI |
| | G-2 | 2 | 26-May-98 | Ploughed field | non saline/non sodic | | (0-6) Silt loam, (6-36) Loam, (36-42) Very fine sandy loam, (42-48) Silty clay loam, (12-24) Loam, (24-30) Very fine sandy loam, (36-48) Loamy sand | 8.2 | The area falls in the subrecent alluvial level plains and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (L, Sil). Such soils have very high agricultural potential and can be graded as class I land. | Wheat, cotton, sugarcane, and vegetables. Some mango and date palm orchards are also present. | SI |
| | G-3 | 1 | 26-May-98 | Ploughed field | non saline/non sodic | | (0-36) Silt loam, (36-48) Silty clay loam | 8.2 | The area falls in the subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SiCL). Such soils have good to very good agricultural potential under modern management practices and can be graded as class I II land. The uncommodated area (Point No.2) are level, humocly and lying barren bearing jai and dab vegetation as they are higher and irrigation water under | Cultivated areas bearing wheat and cotton. | SI |
| | G-3 | 2 | 26-May-98 | Ploughed field | non saline/non sodic | | (0-36) Silt loam, (36-48) Silty clay loam | 8.2 | The area lies in the subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and moderately fine textured (SiCL). Such soils have very high agricultural potential under modern management and can be graded as class I land. | Wheat and cotton. | SI |
| | G-4 | 1 | 26-May-98 | Okra field (lady finger) | non saline/non sodic | | (0-6) Silty clay loam, (6-24) Loam, (24-30) Silt loam, (30-48) Very fine sandy loam | 9.6, 9.6, 8.8 | The area falls in the subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and moderately fine textured (L, Sil). Such soils have non very little limitations to grow well all the ecologically suited crops and can be graded as class I land. | Wheat, cotton, sugarcane. | SI |
| | G-5 | 1 | 26-May-98 | Ploughed field | non saline non sodic | | (0-24) Very fine sandy loam, (24-30) Silt loam, (30-48) Very fine sandy loam | 8.2 | | | SI |
| | G-5 | 2 | 26-May-98 | Barren field | Severely saline/sodic | | (0-24) Silty clay loam, (24-48) Silty clay loam | 8.2 | | | SI |
| | G-6 | 1 | 26-May-98 | Ex-wheat field | non saline/non sodic | | (0-6) Silty clay loam, (6-24) Loam, (24-30) Sandy loam, (30-48) Loam sand | 8.2 | | | SI |
| | G-7 | 1 | 26-May-98 | Ex-wheat field | non saline/non sodic | | (0-24) Silt loam, (24-48) Silty clay loam | 8.2 | | | SI |
| | G-7 | 2 | 26-May-98 | Ex-wheat field | non saline/non sodic | | | 8.2 | | | SI |

Table 11.1. ISM Field Sample Survey Description for Land Suitability Assessment across the South Hydrological District 1998-99

| Image | Sample No. | PH No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land Use Suitability |
|-------|------------|--------|-----------|-----------------|----------------------|------------------|---|----------|--|--|----------------------|
| | G-8 | 1 | 25-May-98 | Sugarcane field | non saline/non sodic | | (0-24) Silty clay loam, (24-48) Silt loam | 8.2 | The area lies in the subrecent alluvial broad basin and is under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and moderately fine textured (Silty clay loam). Such soils have very high agricultural potential for wide varieties of crops and can be graded as class I. | Wheat, cotton and sugarcane | SI |
| | G-9 | 1 | 25-May-98 | Ploughed field | non saline/non sodic | | (0-12) Silt loam, (12-42) Very fine sandy loam, (42-48) Silt loam/Silty clay loam | 8.2 | The area lies in the subrecent alluvial slightly depressional and under p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (Silt loam and VFSL) partly with light SiCL surface. Such soils have very high agricultural potential for wide varieties of crops and can be graded as class I. | Wheat and cotton | SI |
| | G-10 | 1 | 25-May-98 | Mango field | non saline/non sodic | | (0-36) Silt loam, (36-48) Very fine sandy loam | 8.2 | The area lies in the subrecent alluvial level plains and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (Silt loam and VFSL). Such soils have very high agricultural potential including fruit orchards ecologically suited to the area and can be graded as class I land. | Wheat and cotton, some sugarcane. Few fruit orchards of mango and banana also exist. | SI |
| | G-11 | 1 | 25-May-98 | Sugarcane field | non saline/non sodic | | (0-36) Silt loam, (36-48) Very fine sandy loam | 8.2 | The area occupies the alluvial level plains of subrecent period and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (Silt loam and VFSL). Such soils have very high agricultural potential for wide variety of crops including fruit orchards ecologically suited to the area and can be graded as class I land. | Wheat, cotton, sunflower and sugarcane. Dracopalm and mango garden are also present. | SI |
| | G-12 | 1 | 25-May-98 | Ploughed field | non saline/non sodic | | (0-36) Silty clay loam, (36-48) Silt loam | 8.5, 8.4 | The area occupies slightly depressional position in the subrecent alluvial plain and is being irrigated by p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic but in few fields patchy salinity/sodicity is present, and moderately fine (light) textured (SiCL-ve). Such soils have very high agricultural potential excluding the fields with patchy salinity and | Wheat, cotton and sugarcane. | SI |
| | G-12 | 2 | 25-May-98 | Ploughed field | non saline/non sodic | | (0-30) Silty clay loam, (30-48) Very fine sandy loam | 8.2 | The area falls in the subrecent alluvial channel levee remnants and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL/VFSL). Such soils have very high agricultural potential and | Wheat, cotton and sugarcane. | SI |
| | G-13 | 1 | 26-May-98 | Ex-wheat field | non saline/non sodic | | (0-24) Silt loam, (24-36) Very fine sandy loam, (36-48) Loamy sand | 8.2 | | | SI |
| | G-13 | 2 | 26-May-98 | Ex-wheat field | non saline/non sodic | | (0-24+) Loam | 8.2 | | | SI |

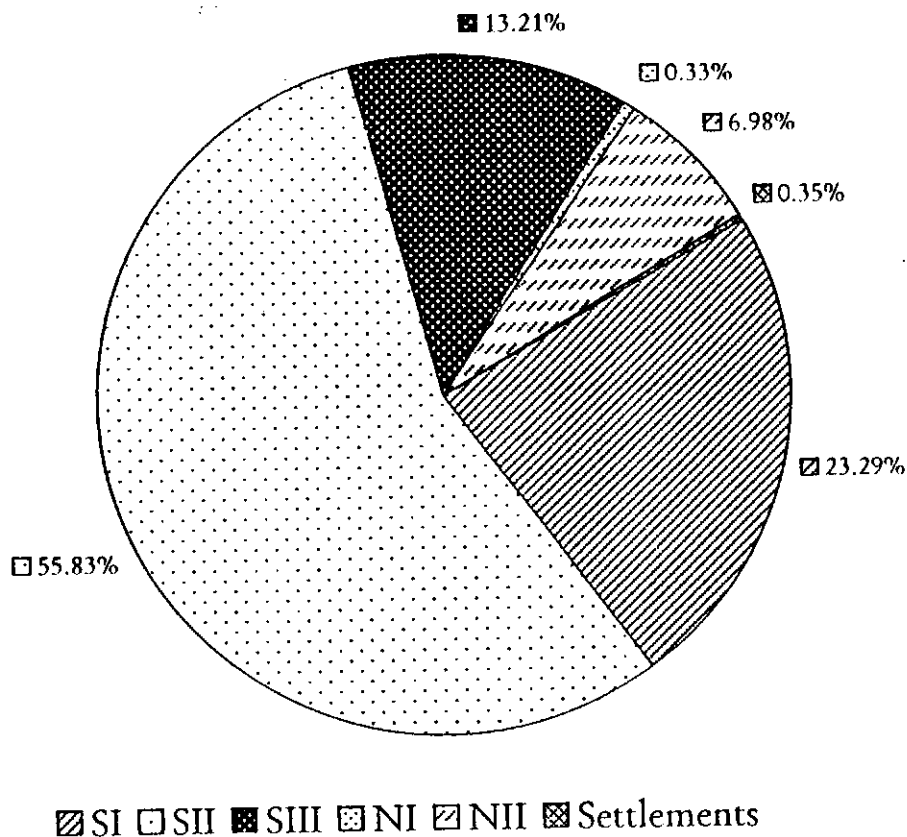
Table A.IV.1 IIMI Field Sample Survey Observations for Land Suitability Assessments across the Sindh Hydrological Divides, 1997-98.

| Image No. | Sample No. | Pit No. | Date | Present Crop | Salinization Status | Water Table (ft) | Depth (inches)/Texture | pH | Description of the Regime | Cultivation Status | Land - Use Suitability |
|-----------|------------|---------|-----------|----------------|----------------------|------------------|--|----------|---|-----------------------------|------------------------|
| 2 | G-12 | 1 | 25-May-98 | Ploughed field | non saline non sodic | | (0-36) Silty clay loam, (36-48) Silt loam | 3.3, 3.4 | The area occupies slightly depressional position in the subrecent alluvial plain and is being irrigated by p-canal irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic but in few fields patchy salinity sodicity is present, and moderately fine (light) textured (Ss, L, ve). Such soils have very high agricultural potential excluding the fields with patchy salinity and can be graded as class I land. | Wheat, cotton and sugarcane | SI |
| 2 | G-12 | 2 | 25-May-98 | Ploughed field | non saline non sodic | | (0-36) Silty clay loam, (36-48) Very fine sandy loam | 3.2 | | | SI |
| 2 | G-12 | 1 | 26-May-98 | Ex-cult field | non saline non sodic | | (0-24) Silt loam, (24-36) Very fine sandy loam, (36-48) Loamy sand | 4.2 | The area falls in the subrecent alluvial channel levee remnant and under p-canal and tubewell irrigation. The soils of the polygon are level, deep, well drained, non saline, non sodic and medium textured (SIL, VNSL, L). Such soils have very high agricultural potential and can be graded as class I land. | Wheat, cotton and sugarcane | SI |
| 2 | G-12 | 2 | 26-May-98 | Ex-cult field | non saline non sodic | | (0-24) L loam | 3.2 | | | SI |



| Key to Land Use Suitability Classification | | |
|--|---|-----------|
| Suitability Class | Description | Area (ha) |
| SI | Highly suitable land - without significant limitations for a given use. | 903564 |
| SII | Moderately suitable land - with moderate limitations for a given use. | 3025787 |
| SIII | Marginally suitable land - with severe limitations for a given use. | 787724 |
| NI | Currently not suitable land - with limitations for a given use, but is reclaimable. | 26239 |
| NII | Permanently not suitable land - unreclaimable for a given use. | 404354 |
| Settlements | | 17959 |

Figure IV.2. Areal Extent (in hectares) and Percentages of Land Use Suitability Classes for the Sindh Hydrological Divides, 1967-75.



| Key to Land Use Suitability Classification based on IIMI Sample Sites | | |
|---|---|------------------|
| <i>Suitability Class</i> | <i>Description</i> | <i>Area (ha)</i> |
| SI | Highly suitable land - without a significant limitations for a given use. | 1203294 |
| SII | Moderately suitable land - with moderate limitations for a given use. | 2884151 |
| SIII | Marginally suitable land - with severe limitations for a given use. | 682256 |
| NI | Currently not suitable land - with limitations for a given use but are reclaimable. | 17151 |
| NII | Permanently not suitable land - with unreclaimable limitations for a given use. | 360544 |
| Settlements | | 18231 |

Figure IV.3. Areal Extent (in hectares) and Percentages of Land Use Suitability Classes for the Sindh Hydrological Divides, 1997-98.

Table A.IV.2a. Areal Extent (in ha) and Percentages of Land Use Suitability Classes and Sub-classes for the Sindh Hydrological Divides, 1967-75.

| Suitability Classes | Suitability Sub-Classes | Begari | Pinjari | Lined Channel | Fuelti | Rice | Jamrao | Ghotki | Khairpur West | Khairpur East | Dadu | North West | Nara | Desert | Rohri | Total Area (ha) | Percentage | Area of Each Suitability Class | Percentage of Suitability Classes |
|------------------------|-------------------------|--------|---------|---------------|--------|--------|--------|--------|---------------|---------------|--------|------------|--------|--------|---------|-----------------|------------|--------------------------------|-----------------------------------|
| SI | SI1s1 | 2549 | 9285 | 1963 | 13432 | 3635 | 123622 | 31858 | 15729 | 32251 | 45042 | 34658 | 31597 | 24998 | 415895 | 903564 | 17.5 | 903564 | 17.5 |
| | SI1w2 | 34328 | | | | 17600 | | | 3995 | | | | 666 | 13344 | 20968 | 143101 | 2.8 | 3025787.0 | 58.6 |
| SII | SI1bs1 | | | | | | | | 3304 | | | | 28324 | | 4243 | 35871 | 0.7 | | |
| | SI1bs2 | 37177 | | | 153271 | 197284 | | | | | 31248 | 227012 | 18126 | 57934 | 24248 | 714875 | 13.8 | | |
| | SI1hw2 | 154711 | 81432 | 55509 | 145296 | 40548 | 37110 | | 31240 | 35369 | 35369 | | 2615 | 14276 | 24248 | 242583 | 4.7 | | |
| | SI1bsw2 | | | | | | 24920 | 107210 | 51505 | 77544 | 48432 | | 275863 | | 565559 | 1598918 | 31.0 | | |
| | SI1lhw3 | | 12579 | 2994 | 4437 | 2218 | | | | | 521 | | | | 676 | 33425 | 0.5 | 78774.0 | 15.2 |
| SIII | SI1bs+w2 | | | | 219655 | | | | | | | | | | | 219655 | 4.3 | | |
| | SI1lhw+hw2 | | 163912 | 78480 | 1827 | | | 29414 | | 11287 | | 79324 | 74335 | | 3198 | 443937 | 8.6 | | |
| NI | SI1ls | 41057 | 500 | | 2081 | 1639 | | 15413 | 4533 | 5642 | 393 | | | 9123 | 15354 | 100687 | 1.9 | | |
| | NI1hs4 | 10374 | | | | | | | | | | | | | | | | | |
| NII | NI1s | 13380 | | | | 1334 | 24615 | 43379 | | 63083 | 300 | 9167 | 51069 | 3664 | 15865 | 26239 | 0.5 | 26239 | 0.5 |
| | NI1lw | 5958 | 9879 | 3555 | 3218 | 11054 | 10686 | 649 | 1214 | 3057 | 7725 | 1237 | 39168 | 314 | 76687 | 298578 | 5.8 | 404354 | 7.8 |
| | NI1lg | | 2103 | | | | | | | 1211 | | | 1035 | | 3813 | 101427 | 2.0 | | |
| Settlements | | 3129 | 3417 | 170 | 1783 | 2032 | | 247 | 657 | | 700 | 3700 | | | 3124 | 17959 | 0.3 | 17959 | 0.3 |
| Total Surveyed Area | | 41663 | 280167 | 144671 | 389926 | 233082 | 402269 | 381237 | 124177 | 227938 | 235246 | 37608 | 603320 | 129853 | 1156530 | 5165627 | 100.0 | | |
| Total Un-Surveyed Area | | | 164386 | 42592 | 15359 | | | | | | | | 44357 | | | 266894 | | | |
| Gross Area | | 441663 | 444693 | 187263 | 405285 | 233082 | 402269 | 381237 | 124177 | 227938 | 235246 | 437608 | 647677 | 129853 | 1156530 | 5432521 | | | |

A.IV.a. Ghotki Canal Command

Ghotki Canal command comprises 381,237 ha of gross area, 90 percent being part of the Indus River plain and the remainder being a sandy desert (Tharparkar Desert). The river plain consists of medium textured level plains (46%), clayey basins or channel infills (40%), sandy levels/bars (1.5%) and the remaining (11%) is made up of desert, marshlands and settlements. Land use is dominated by the major crops like wheat, cotton and sugarcane. Fruit orchards, particularly mango gardens, are also present.

HMI sample coverage included 103 sites (surveyed during March to June 1998) with 230 auger observations to the depth of 120 cm. Generally, the soils are deep, level, well to moderately well-drained, calcareous, and with good organic matter, structure and porosity. About 36 percent are normal soils, mostly medium textured, with pH value ranging from 8.0 to 8.4; 41 percent are clayey soils with high watertable (90-200 cm) and normal pH (8.0-8.4), including a small area 5.8 percent with severe salinity and pH of 8.5 due to gypsiferous nature of the soils. Out of the remaining area, 10.5 percent comprises medium textured, moderately gypsiferous saline soils associated with high watertable and 1.6 percent is sandy with normal pH values.

For suitability classification, the main soil characteristics like texture, salinity, sodicity and groundwater table conditions have been considered, wherein the soils have been classified into 4 classes and further subdivided into 6 subclasses due to their different limitations (Table A.IV.3). Their description is detailed below:

SI: This class forms highly suitable medium textured land without any limitation for growing a wide variety of crops, including fruit orchards and vegetables with high yields. It covers 13,595 ha (35.7%) of the gross area, mainly along the southeast and northwest boundaries of the command. Such soils must be intensively cultivated with balanced inputs.

SIHw2: This group of soils constitutes moderately suitable clayey land and cover 133,710 ha (35%), mostly within the central reaches of the command (from Ubaro to Sanghar). Its limitations stem from low permeability (that affects workability) and high watertable conditions. To lower watertables, an improved regional drainage system is needed; other limitations, like low permeability and difficult workability, can be overcome by avoiding excess irrigation and deploying mechanical cultivation with addition of organic waste in any form. With these measures, the deep rooted crops, like cotton, can also flourish.

SIH3w2: It is a moderately suitable medium textured soil in which moderate levels of gypsiferous and saline conditions are associated with high watertables (90-200 cm). Spread over 40,329 ha (10.5% of the gross area), its major extent covers the southeast and northern sides of Mirpur Mathelo, and also many scattered patches in the northern part of the command. Towards reclamation purposes, lowering of ground watertable is essential whereby, in addition to high delta crops, salt tolerant crops (oilseeds) could also be grown. Based on sample observations, there is evidence to suggest that improved drainage may already have affected a change whereby, areas with watertables below 200 cm depth have reverted to SI land suitability status.

Table A-IV.A.3. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Ghotki Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Left Bank.

| Suitability Class | Sub-Classes | | | | | | Settlements | Total Area (ha) | Percentage |
|--------------------|-------------|----------|-----------|-------|-------|------|-------------|-----------------|------------|
| | SIhw2 | SIIIs3w2 | SIIIhs4w2 | SIIIs | NIIIs | NIIw | | | |
| SI | | | | | | | 135951 | 35.7 | |
| SII | 133710 | 40329 | | | | | 174039 | 45.6 | |
| SIII | | | 22069 | 6294 | | | 28363 | 7.4 | |
| NII | | | | | 40690 | 2027 | 42717 | 11.2 | |
| Settlements | | | | | | 167 | 167 | 1 | |
| Total (Gross Area) | | | | | | | | 381237 | 100 |

SIHhs4w2: These soils are severely gypsiferous and saline, clayey in texture, and associated with high watertable conditions. Classified as marginally suitable land, it has a total expanse of 22,069 ha (5.8% of the gross area), mainly in scattered tracts to the south and south east of Ghotki town. For reclamation, lowering of groundwater is essential to facilitate leaching of salts. As these soils have low permeability and difficult workability, a combination of measures (to include irrigation and organic waste application in any form and some gypsum) will produce quick and better results.

SIHs: This classification category, covering 6,294 ha, falls under marginally suitable lands with mostly sandy soils forming complex topographic associations. The limitations are due to excessive permeability within strata that promote low water and nutrient-holding capacity. Treatment with humic and organic matter is the recommended way to improve root zone moisture availability for crop growth. Additionally, split doses of fertilizers, frequent light irrigations and sowing of drought-resistant crops are the desirable ways to improve yields. In the Ghotki command, these soils occur to the north near the Indus River, and some scattered spots to the southwest of Ubaro town.

NIIs: Permanently not suitable lands include:

NIIs: Sandy desert and sand dunes located along the southeastern boundary of the command and covering 40,690 ha (10.7%).

NIIW: These are marshlands, in scattered occurrence. Their total area is 2,027 ha.

Urban land: 167 ha (approximately 0.1%)

A-IV-b. Begari Canal Command

Of the 441,663 ha of gross area contained within the Begari Canal command, 98 percent forms part of the river alluvium and the remaining comprises the piedmont alluvials local to the area between Jacobabad and Garhi Khairo. The latter soils are exclusively clayey. The command area constitutes 45.5 percent level plains (medium textured), 45.2 percent broad basins and channel infills (mostly clayey), 5.7 percent bars/levees (sandy loams, very fine sandy loams) and the rest dunelands, marshlands and urban land. The crops grown are rice, wheat and oilseeds, but rice dominates.

One-hundred-and-twenty-one sites were visited as part of the IIMI sample surveys during April-May, 1998, where 250 augered observations were made on physical and chemical properties of the soils. The soils are level, deep, calcareous, mottled, and have good structure and porosity. About 37 percent of the soils are normal without any limitation; 36 percent of the soils with clayey contents have high watertable; 9 percent of the soils, also clayey, are affected with moderate to severe salinity (the pH value of most of the saline soils does not go above 8.5 due to their gypsiferous nature); 8.6 percent of the soils with medium texture have moderate salinity; and, finally, 5.7 percent of the soils are sandy that, together with 3.7 percent area under settlements, comprise the agriculturally unproductive land.

The land suitability assessment classified the entire command into 5 classes that have been further divided into 7 subclasses based on current limitations to land use (Table A.IV.4). The respective classifications are described below:

SI: This class comprises highly suitable medium textured lands without any limitation to land use and having very high economic potential. The productive realizations from these soils are directly related to the balance of inputs and management prevails. These soils cover 162,583 ha (36.8%) of the gross command and are scattered widely, including some concentrated occurrence to the south around Sultankot and Rustam towns.

SIHw2: This subclass forms moderately suitable clayey land with main limitations of low permeability, difficult workability and high groundwater tables. It extends over an area of 159,313 ha (36% of the gross area), mostly the central part of the command from Kandhkot to Garhi Khairo. For such soils, cropping practices must account for drainage requirements and avoid heavy irrigations; organic matter additions and mechanical cultivation are also recommended.

SIIs3: These soils are part of the moderately suitable medium textured lands affected by moderate levels of salinity. Their areal extent is 38,047 ha (8.6% of the gross area) and are scattered widely with major concentration near Jacobabad. For reclamation purposes, high delta/salt tolerant crops under canal irrigation are preferred. There is evidence to suggest that many tracts have, thus, been reclaimed and reverted to SI status.

SIIs3: This subclass comprises moderately suitable clayey land with low permeability, difficult workability and moderate salinity. It covers 32,260 ha (7% of the gross area) and are distributed across the entire command (major concentration near Jacobabad). The reclamation practices require both biological and chemical means towards immediate improvement of the land.

SIIs: These are sandy soils categorized as marginally suitable land. Its major hazards are rapid permeability and low water and nutrient-holding capacity. On such lands, addition of organic matter, small split doses of fertilizers, frequent light irrigations, and mainly growing of drought-resistant crops are the preferred agricultural practices.

NIIs4: These soils are currently not suitable due to severe limitations of low permeability, difficult workability and salinity (partly saline-sodic). These soils require a combination of biological and chemical means towards land improvement. Initially, brackish water can be used, but after 2 to 3 flood irrigations, good quality water is essential with amendments. Such soils should be reclaimed on second priority only.

NIIs/NIW: These are permanently not suitable lands and include:

| | |
|-------------------------------|------------------|
| NIIs: Sand dunes | 11,878 ha (2.7%) |
| NIW: Marshlands/water bodies | 1,476 ha (0.3%) |
| Area under human settlements: | 3,135 ha (0.7%) |

Table A-IV.4. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Begari Canal Command based on IMI Surveys during 1997-98, Lower Indus Basin, Right Bank.

| Suitability Class | Sub-Classes | | | | | | | | Settlements | Total | Percentage |
|-------------------|-------------|-------|-------|-------|-------|-------|------|------|-------------|-------|------------|
| | SIhw2 | SIIs3 | SIIs3 | SIIs3 | SIIs3 | NIhs4 | NIIs | NIhw | | | |
| SI | | | | | | | | | 162583 | 36.8 | |
| SII | 159313 | 38047 | 32260 | | | | | | 229620 | 52.0 | |
| SIII | | | | 25087 | | | | | 25087 | 5.7 | |
| NI | | | | | 7884 | | | | 7884 | 1.8 | |
| NII | | | | | | 11878 | 1476 | | 13354 | 3.0 | |
| Settlements | | | | | | | | 3135 | 3135 | 0.7 | |
| Total Gross Area | | | | | | | | | | | |
| | | | | | | | | | 441663 | 100.0 | |

A.IV.c. Desert Canal Command

The gross area extends over 129,853 ha, and is predominantly made up of river alluvium. The remaining area (20%) is piedmont clayey alluvium, derived from the Kirthar Range. The physiography is constituted by 29 percent medium textured level plains, 64 percent broad clayey basins and channel infills, 4 percent sandy bars/levees, and the remaining 3 percent sand dunes and marshlands.

Forty seven sample sites were visited during the months of April and May, 1998. The auger-assisted investigations showed that 73 percent of the soils are normal and 19 percent moderately saline/sodic (textures varying from silty to fine silty material).

The gross area of the Desert Canal was classified into the following 4 classes and 6 subclasses of land suitability (Table A.IV.5).

SI: This class consists of highly suitable medium textured lands without significant limitations to crop growth, including vegetables and fruit orchards with high yields. It covers 25,539 ha (19.7 percent of gross area), mostly confined to the southeast near the tail of the command. For sustainable production, these soils must be kept under continuous cropping.

SIH: This class has moderately suitable clayey land with main hazards of low permeability and difficult workability. It is most extensive and spans 69,618 ha (53% of the gross area), mostly concentrated along the northern boundary of the command. Towards increased productivity, addition of organic matter and avoidance of over-irrigation are essential.

SIIs3: This is a group of moderately suitable medium textured soils with moderate salinity/sodicity. The areal extent is 11,918 ha (9 percent of the gross area) covering areas to the north of Usta Mohammad, but a few patches are also present in the western tail of the command. To reclaim these soils, excessive irrigation of good quality water is required to leach down the salts. Since the last surveys by the SSoP, large areas have been reclaimed and converted to SI class land. After reclamation, these soils must not be left fallow for long periods.

SIHs3: This category of soils comprises moderately suitable clayey lands with hazards of low permeability, difficult workability and moderate salinity/sodicity. Its areal coverage is 13,140 ha (10 percent of the gross area), mostly to the south; however, its main occurrence is along the confluence of the river and piedmont plains. The reclamation requirements are similar to unit SIIs3, with addition of organic matter and mechanical cultivation at proper moisture levels.

SIIs: This class comprises marginally suitable sandy land with excessive drainage and partly complex topography. The coverage (5,429 ha, 4 percent of the gross area) is mainly to the north of Usta Mohammad. A few patches are also present in the tail of the command. The soil has limitations to productive growth of crops due to rapid permeability of the stratum, low water and nutrients holding capacity and low inherited fertility. Towards improvement of such soils, addition of organic matter in any form, small *bunded* fields, split doses of

Table A-IV.5. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Desert Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Right Bank.

| Suitability Class | Sub-Classes | | | | | | Total | Percentage |
|-------------------|-------------|-------|-------|-------|------|-------|--------|------------|
| | SIH | SIIs3 | SIIs3 | SIIs3 | SIIs | NIIfw | | |
| SI | | | | | | | 25539 | 19.7 |
| SII | 69618 | 11917 | 13140 | | | | 94675 | 72.9 |
| SIII | | | | 5429 | | | 5429 | 4.2 |
| NII | | | | | 3753 | 457 | 4210 | 3.2 |
| Total Gross Area | | | | | | | 129853 | 100 |

fertilizers, frequent light irrigations, and mainly, drought-resistant crops are the recommended strategies.

NII/NIIw: It is permanently not suitable land due to severe limitations of land use, and include:

NII: Sand dunes, 3,753 ha (3% of the gross area)
NIIw: Marshlands, 457 ha (0.3%)

A.IV.d. Dadu Canal Command

The Dadu Canal command covers a gross area of 235,246 hectares and mostly comprises river plain sediments; remaining, about 15-20 percent, forms the piedmont plain. The river plain constitutes 43 percent level plain, 55 percent basins and channel infills, a small area of about 0.4 percent levees/bars and the remaining sand dunes, marshlands and inhabited areas. The major land use is cultivation of rice, sugarcane and wheat.

Of the 17 sample sites surveyed in the north and north-east of Dadu city during February and June 1998, 43 percent of the soils were medium textured and 55 percent clayey (including clayey piedmont area). About 47.5 percent of the command area had normal soils with no salinization. The irrigation suitability classification rankings and their respective areal coverages (Table A.IV.6) are described below:

SI: It is highly suitable medium textured land without any significant limitation to established land use. It covers 64,622 ha (27.5%) of the command, mostly to the south of Dadu city around Saiyidabad and Sachwan.

SIIh: This category contains moderately suitable clayey land with low permeability and difficult workability; both these limitations can be tackled easily by avoiding heavy irrigation and applying mechanical cultivation with the addition of organic waste in any form. The coverage area is 46,000 ha (19.6 percent), mostly to the south and west of Dadu. A significant patch of these soils occurs at the northern boundary (in the piedmont plain).

SIIhw2: This group of soils is constituted by moderately suitable clayey lands with high watertables (90-200 cm). The total areal coverage of this class is 56,570 ha (24 percent) concentrated in the center of the command near Dadu. Suggested land improvements are similar to the ones for class SIIh.

SIIhs3: This class has moderately suitable clayey land with moderate salinity/sodicity. It widely covers about 7,411 ha (11.6 percent) of the gross area. These soils can be improved through over application of irrigation waters, addition of gypsum or sulfuric acid and organic wastes. Thereafter, these soils should be kept under continuous cropping.

SIIIs3w2: These are medium textured, moderately saline (mainly gypsiferous) soils associated with high watertables. The distribution of 37,021 ha (16 percent of the gross area) is mostly

Table A-IV.6. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Dadu Canal Command based on IMI Surveys during 1997-98, Lower Indus Basin, Right Bank.

| Suitability Class | Sub-Classes | | | | | | | | Settlements | Total Area (ha) | Percentage | |
|-------------------|-------------|-------|-------|---------|-------|------|-------|------|-------------|-----------------|------------|-----|
| | SIH | SIHw2 | SIHs3 | SIIs3w2 | SIHw3 | SIII | NIIIs | NIIw | | | | |
| SI | | | | | | | | | | 64622 | 27.5 | |
| SII | 46007 | 56570 | 27411 | 37021 | | | | | | 167009 | 71 | |
| SIII | | | | | 351 | 882 | | | | 1233 | 0.5 | |
| NII | | | | | | | 196 | 1296 | | 1492 | 0.6 | |
| Settlements | | | | | | | | | | | | |
| Total Gross Area | | | | | | | | | | | 235246 | 100 |

to the northwest near the town of Johi; also, scattered patches occur to the north of Dadu. The gypsiferous salinity of these soils needs excessive irrigation with good quality water; saline sodic tracts require chemical amendments and growth of kallar grass. Since the earlier surveys by SSoP, large areas have been reclaimed to SI class.

SIIIhw3: This class occupies small clayey land (351 ha) at the southern boundary with very high watertables. The land is marginally suitable for irrigated agriculture and requires local drainage for productive realizations.

SIIIs: These are marginally suitable sandy soils with complex topography near the tail of the command area. After leveling, such soils need addition of organic matter in any form for their improvement. Split doses of fertilizers and frequent light irrigation with drought-resistant crops would give moderate to good yields.

NIIIs/NIIw: It is permanently not suitable land and consists of the following two subclasses:

NIIIs: Sand dunes, 196 ha

NIIw: Marshlands, 1,296 ha

Urban land: 890 ha

A.IV.e. Rice Canal Command

This canal command occupies a gross area of 233,082 ha, with river plains comprising clayey basins and channel infills (85.5 percent), medium textured level plains (9.2 percent), levees/sand dunes (1.0 percent) and marshlands and urban lands (4.3 percent). Major land use is rice cultivation under seasonal canal irrigation. Some oilseeds are also grown on residual moisture, but yields are very poor. The soils are level, deep, moderately well-drained to seasonally imperfectly-drained, distinctly mottled, calcareous, with good subsoil structure and porosity. However, continuous growing of rice has made the surface layer less permeable. About 75 percent of the command has normal soils and another 20 percent is moderately saline, both dominated by clayey and silty textures. The pH value does not exceed 8.5 because of the gypsiferous soils.

Given the above set of limitations, the soils of the Rice Canal command have been grouped into 4 classes and 7 sub-classes that are listed in Table A.IV.7 and described below.

SI: It is a highly suitable medium textured land covering about 10,132 ha (4.4 percent of the gross area). This class occupies level surface that is comparatively higher than surroundings. It mainly occurs near the small town of Badrah, with some scattered presence along the western boundary of the command. These soils have no limitations to cultivation and a wide variety of crops are ecologically suited to these areas. Such lands should be intensively cultivated with balanced inputs. The area remains under flood irrigation due to rice cultivation for six months of the Kharif season. Depressions are prone to ponding for extended periods, wherein orchards may be avoided completely.

Table A-IV.7. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Rice Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Right Bank.

| Suitability Class | Sub-Classes | | | | | | | Settlements | Total Area (ha) | Percentage |
|-------------------|-------------|-------|-------|------|--------|------|------|-------------|-----------------|------------|
| | SIIh | SIIh3 | SIIh | SIIh | SIIhw3 | NIIh | NIIw | | | |
| SI | | | | | | | | | 10132 | 4.4 |
| SII | 161805 | 11118 | 35449 | | | | | | 208372 | 89.4 |
| SIII | | | | 1140 | 2207 | | | | 3347 | 1.4 |
| NII | | | | | | 1067 | 9369 | | 10436 | 4.5 |
| Settlements | | | | | | | | 795 | 795 | 0.3 |
| Total Gross Areas | | | | | | | | | 233082 | 100 |

SIHh: This class comprises moderately suitable clayey-textured land that is most extensive throughout the command and covers 161,805 ha (69.4% of the gross area). It has moderate limitations of low permeability coupled with difficult workability. During the rice growing season, these soils are ponded due to the rapid rise of the subsurface water levels. These limitations can be overcome by avoiding excessive irrigation and addition of organic matter, green manure and city garbage to improve the tilth. Field drains or change of cropping pattern are recommended to keep seasonal watertables low.

SIIs3: This category constitutes medium textured lands with moderate gypsiferous salinity. Across the 11,118 ha (4.8 percent of the gross area) of patchy occurrence, the soils occupy comparatively higher positions in the basins and channels. Sample surveys indicated that previously gypsiferous saline areas have been reclaimed to SI status. However, saline-sodic areas need application of gypsum or sulphuric acid, together with cultivation of Kallar grass, for their reclamation. During reclamation, high delta and salt-tolerant crops, like rice and sugarcane, should be preferred.

SIHhs3: This group of soils comprise moderately suitable clayey lands with moderate gypsiferous salinity throughout the canal command (coverage area 35,449 ha or 15.2 percent of the gross area). Land reclamation procedures are the same as for SIIs3, wherein good yields of a wide variety of crops can be obtained.

SIHIs: These areas (1,140 ha) are sandy and marginally-suitable for irrigation due to severe limitations of high permeability and low nutrient-holding capacity. This can be improved with the addition of organic matter or city garbage. Small *bunded* fields, split doses of fertilizers and high frequency of irrigations are required for sustainable production. In fact, drought resistant crops should be preferred (oilseed, melons). The occurrence is in a few scattered patches in the northwest part of the canal command

SIHhw3: The 207 ha of this marginally-suitable clayey land have a consolidated presence in the southwest corner of the canal command adjacent to the marshlands. The main limitation is high watertable that stays between 30-90 cms. Under the circumstances, only rice can survive, that too with low yield.

NII: It is permanently not suitable lands.

NIIs: A few scattered sand dunes exist, occupying 1,067 ha in the north western corner of the command.

NIIw: These are marshlands, scattered throughout the command, but their major concentration is in the southwest corner where they cover 9,369 ha (4.0 percent of the gross area).

A.IV.f. North West Canal Command

The 437,608 ha of gross area within this canal command is 60 percent river plain and the

remainder is part of the piedmont alluvium. The broad clayey basins and channels form dominant physiographic units and comprises about 71 percent of the gross area. The remaining physiographic units, mostly occurring within riverain tracts and medium in texture, are level plains (about 25.8 percent), coarse textured levees and bars (about 2.3 percent) and marshlands/urban lands. The clayey land, because of moisture retentivity, inhibits early sowing of wheat, which invariably depresses productivity. A double cropping system is highly desirable to overcome this limitation, especially since the area has perennial canal supplies.

During IIMI sample surveys, 100 sites were visited in the months of February-April, 1998. Based on field investigations, the soils were observed to be deep, level to nearly depressional, moderately well-drained to seasonally imperfectly-drained, faintly to distinctly mottled, calcareous with good sub-soil structure and porosity. Continuous rice cultivation has made surface layer less permeable. About 79 percent of the soils are normal, dominantly clayey and silty with pH value ranging from 8.0 to 8.5; 9.7 percent are moderately saline and medium textured and 10.7 percent are severely saline clayey-textured. The salinized areas also have high watertables. The areas having salinity with sodicity are rare and their pH value ranges from 8.5 to 10.0.

The soil characteristics such as texture, salinity and high ground watertables were ranked together (Table A.IV.8) for irrigation suitability assessments as follows:

SI: It is a highly suitable medium textured land, comprising about 70,493 ha (16 percent of the gross area). Intensive cultivation of rice results in raised groundwater levels in some low lying areas. The class is confined to riverain parts and occupies mostly central portions of the command around the town of Shahdadtot.

SIHh: This subclass comprises moderately suitable clayey land spread over 264,236 ha and is extensively distributed throughout the command. Its major limitations are low permeability and difficult workability that can be overcome by avoiding over-irrigation and mechanical cultivation at proper moisture levels, respectively. Addition of organic matter as farm manure, green manure or city garbage can improve the tilth.

SIIs3w2: These soils are moderately suitable, medium textured, moderately saline, dominantly gypsiferous, and associated with high watertables. The coverage (42,733 ha, 9.7 percent of the gross area) is mostly in river alluvium and generally occupies the north and south-western part (around the town of Hussainabad). Much of the land previously belonging to this category of classification has improved to SI status. The saline-sodic soils are rare.

SIHhs4w2: It is a marginally suitable clayey land with severe salinity (gypsiferous with minor sodic occurrence), and is associated with high watertables. Most of the 46,769 ha in this category are in the southwest near the confluence of the river and the piedmont alluvials. The gypsiferous saline soils are porous and support leaching of salts, however drainage is a prerequisite for the reclamation of saline-sodic patches. Presently, even rice cultivation is difficult to sustain on these soils.

Table A-IV.8. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the North West Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Right Bank.

| Suitability Class | Sub-Classes | | | | | | Settlement | Total | Percentage |
|-------------------|-------------|---------|------|---------|------|-----|------------|-------|------------|
| | SIh | SIIs3w2 | SIIs | SIIs4w2 | NIIs | NIw | | | |
| SI | | | | | | | 70493 | 16.1 | |
| SII | 264236 | 42733 | | | | | 306969 | 70.1 | |
| SIII | | | 5955 | 46769 | | | 52724 | 12.1 | |
| NII | | | | | 3987 | 785 | 4772 | 1.1 | |
| Settlements | | | | | | | 2650 | 0.6 | |
| Total Gross Area | | | | | | | 437608 | 100 | |

SIIs: This class comprises marginally suitable sandy tracts with complex topography.

NI: Permanently not suitable lands include:

NIIs: Sand dunes = 3,987 ha (0.9%)

NIhw: Marsh lands = 785 ha (0.2%)

A.IV.g Khairpur East Canal Command

About 70 percent of the 207,983 ha in the Khairpur East Canal command comprise the river alluvium and remainder forms margins of the Thar Desert. The river plain is made up of clayey basins and channel infills (40.4%), medium textured level plains (21.6%), bars/levees (4.4%) and marshlands plus gravelly land (4.0%). The Thar Desert margins consist of longitudinal and modified sand ridges with some valleys of clayey soils. Main crops grown are cotton, wheat and sugarcane. Date palm, mango and a few banana gardens are also present.

Forty-one sample areas were investigated for soil characteristics during March and June, 1998. Excluding the unproductive areas, the soils are level, deep, calcareous and porous with good structure. About 20 percent of the command consists of normal medium textured soils without any limitation, 37.7 percent clayey soils with high watertables, 4.3 percent saline with pI ranging from 8.0 percent to 8.8 percent (some are of gypsiferous, dominated by silty and clayey sand), 4.4 percent sandy soils and the remaining 33.6 percent are agriculturally unproductive (to include aeolian sands, marshlands and gravelly lands).

Based on the above characteristics of the gross area of the canal command, 4 major irrigation suitability land classifications were assessed (Table A.IV.9). These classes have been subdivided further into 7 subclasses to portray additional limitations for agriculture, and are discussed below.

SI: These soils are medium textured and very responsive to modern management practices and crop inputs. The 41,430 ha (20 percent of the gross area) of these soils occur mostly in the north-western part of the command.

SIhw2: This category represents moderately suitable clayey land with limitations of low permeability, difficult workability and high groundwater tables. Hence, these soils are not suited for deep rooted crops. Area-wise, they are most extensive and cover 78,319 ha (37.7% of the gross area), with major concentrations occurring in the northwest part of the command. Avoidance of over-irrigation and addition of organic waste, in any form, will realize sustainable productions from the land.

SIh3w2: This group of soils forms part of the moderately suitable medium textured lands with main limitation of moderate levels of salinity (partly saline-sodic) associated with high watertables. This restricts cultivation to only salt-tolerant and shallow rooted crops. The soils cover 3,365 ha (1.6% of the gross area) in the northern part of the command. During

Table A-IV.9. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Khairpur East Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Left Bank.

| Suitability Class | Sub-Classes | | | | | | Total Area (ha) | Percentage |
|-------------------|-------------|---------|-------|---------|------|------|-----------------|------------|
| | SIHw2 | SIHs4w2 | SIHh3 | SIHs4w2 | SIHs | NIHw | | |
| SI | - | - | - | - | - | - | 12811 | 3.3 |
| SII | 146857 | - | - | - | - | - | 146857 | 37.7 |
| SIII | - | 2305 | 5169 | 218187 | 2162 | - | 227823 | 58.4 |
| NI | - | - | - | - | - | 2435 | 2435 | 0.6 |
| Total | | | | | | | 389926 | 100 |

Note: The remaining area 15359 ha is not being irrigated because of its very poor drainage conditions.

sample surveys, it was observed that large tracts had been reclaimed over time through leaching only.

SIIs: These are sandy soils with complex topography and form marginally suitable sandy land with severe limitations of rapid permeability, low water and nutrient-holding capacity. The land area is 9,085 ha (4.4 percent of the gross) covering the north and northwestern boundary of the command.

SIHs4w2: This marginally suitable subclass (covering 5,619 ha) consists of clayey land with limitations of severe salinity (partly saline-sodic), low permeability, difficult workability, and high watertables. The coverage is local to the north and north-western part of the command in the form of small scattered patches.

NI: These hazardous tracts of land are permanently not suitable due to severe limitations to agricultural land use. They cover 70,120 ha across the following sub-classes:

NIIs: These are sandy margins over 61,615 ha along the south-eastern boundary of the command.

NIW: Marshlands/waterbodies 7,008 ha

NIIG: Rocky/gravelly land 1,497 ha

A.IV.h Khairpur West Canal Command

The 124,177 ha gross area of the command is part of the sub-recent Indus River alluvium. It comprises 23 percent medium textured level plain, 73.9 percent clayey basin and channel infills, 1.5 percent bars/levees and marshlands and urban areas (1.7%). Cultivation of cotton, wheat and sugarcane is common, but the area is known more for the large tracts of date palms, bananas and mangoes.

Based on the field investigations across 34 sample sites, local to the northern half of the command, about 18 percent of the soils were normal with no salinity or drainage related hazard, 59 percent were dominantly clayey soils with the limitation of high watertables, and 21 percent had moderate salinity (some saline-sodic patches with pH between 8.5-10.0) consisting of clayey and silty soils. The irrigation land suitability rankings for the canal command are listed in Table A.IV.10 and are discussed below.

SI: This class covers 20,446 ha (16.5 percent of the gross area) and occurs mostly close to the northern, southern and north-western boundaries of the command. These soils must be intensively cultivated with balanced inputs and sown preferably to cash crops, including fruit orchards.

SIW2: This group of soils is medium textured and is only moderately suitable for irrigation purposes due to high watertables. Fruit orchards, in particular, cannot thrive on this land.

Table A-IV.10. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Khairpur West Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Left Bank.

| Suitability Class | Sub-Classes | | | | | | Settlements | Total Area (ha) | Percentage |
|-------------------|-------------|--------|--------|-------|-------|-------|-------------|-----------------|------------|
| | SIIw2 | SIIhw2 | SIIhs3 | SIIs3 | SIIIs | NIIfw | | | |
| SI | | | | | | | 20446 | 16.5 | |
| SII | 3150 | 70370 | 21365 | 4864 | | | 99749 | 80.3 | |
| SIII | | | | | 1865 | | 1865 | 1.5 | |
| NII | | | | | | 1520 | 1520 | 1.2 | |
| Settlements | | | | | | 597 | 597 | 0.5 | |
| Total Gross Area | | | | | | | | 124177 | 100 |

The coverage (315 ha) is evenly distributed across the entire command in the form of small patches.

SIHw2: This class (covering 70,370 ha) comprises clayey land with high groundwater tables; this limitation renders these soils to be moderately suitable for irrigated agriculture. Other limitations due to its clayey nature, like low permeability and difficult workability, can be redressed by avoiding excessive irrigations and addition of organic wastes. At present, approximately all the crops in the area are being harvested with good yields, especially for the date-palm orchards.

SIHs3: These are moderately saline clayey soils under moderately suitable class of lands and occupy 21,365 ha scattered throughout the canal command. Improved management of these soils includes addition of organic wastes and tractor ploughing for better tilth and porosity.

SIIs3: It is medium textured land with moderate salinity (mostly gypsiferous) and is classified as moderately suitable. Its coverage (4,864 ha), in some scattered patches, is limited only to the northern part of the command. Towards reclamation, heavy doses of good quality irrigation waters for high delta crops. During sample soil surveys, it was observed that large areas of such soils have been reclaimed and reverted to SI.

SIIs: This sandy land forms marginally suitable land due to excessive root zone drainage. Addition of organic wastes in any form could improve its surface structure to enhance water and nutrient-holding capacity. Such soils require split doses of fertilizers, frequent irrigations and growing of drought-resistant crops for crop management.

NIHw: Permanently not suitable land due to severe limitation of very poor drainage. This class covers 1,520 ha amongst sheltered creeks in mostly the central part of the command.

A.IV.i. Rohri Canal Command

More than 95 percent of the 1,156,530 ha gross area of the Rohri Canal command consists of alluvial material, whereas the tail portions are part of the estuary plain of the river Indus. The command comprises 43 percent level plain, 52 percent broad basins/channel-infills, and the remainder as levees and agriculturally unproductive lands (sand dunes). Main crops are wheat, cotton sugarcane and a substantial portion under fruit orchards of mango and banana.

A total of 175 sample sites were part of the IIMI soil-related investigations (15 sites not visited but extrapolated) conducted at different times during the months of December 1997-June 1998. These investigations revealed that the command (including estuary plain) comprised 41.2 percent medium textures (silt loams, loams, very fine sandy loams), 52.8 percent clayey textures (silty clays and heavy silty clay loams), 0.3 percent sandy textures (sandy loams and loamy very fine sands) and the remainder 5.7 percent as agriculturally unproductive land including sand dunes, marshlands and inhabited areas. Moreover, 39.2

percent soils were normal without hazards of salinity or high watertables, 48.2 percent were dominantly clayey with high watertable, and 6.6 percent had moderate to severe salinity. The irrigation land use suitability classifications, based on five classes and 10 subclasses are given in Table A.IV.11, and are discussed below.

SI: This class has highly suitable medium textured lands covering 453,221 ha (39.2 percent of the gross area), with major concentrations in the middle of the command (from Shahdadpur to Tando Allah Yar).

SIhw2: This subclass consists of moderately suitable medium textured lands with high groundwater tables and cover an area of 6,914 ha to the south of Naushero Feroze.

SIhs3: This category has moderately suitable medium textured lands with moderate salinity (mostly gypsiferous) that adversely affects the germination of seeds and crop yields. The areal extent is 22,666 ha and has scatterings mostly local to the eastern fringes of the command boundary. Due to rather simple reclamation requirements of leaching of salts, large tracts have been reclaimed and converted to SI status. After reclamation, such soils must remain under continuous cropping.

SIhw2: This group of soils consists of moderately suitable clayey land with high watertables. Main limitations are low permeability, difficulty in seed bed preparation and hindrance to penetration for deep-rooted crops. This subclass extends to cover 548,600 ha, mainly in the northern and southern parts of the canal command.

SIhs3: These soils constitute moderately suitable clayey land with limitations of low permeability, difficult workability and moderate salinity (mostly gypsiferous). Their areal coverage is 31,586 ha and occur mainly between the towns of Naushero Feroze and Shahdadpur.

SIHhw3: This subclass constitutes marginally suitable clayey land with very high watertable (30-90cm) and its poor drainage is the main hazard to grow crops. It has small hectareage of 1,690 ha (0.2%) and mostly lies in the north of Nawabshah City. Its improvement lies only in improved regional drainage system, along with field drains.

SIHhs4w2: This category forms marginally suitable severely saline clayey lands with high watertables along the southwestern boundary of the canal command. These estuary plain soils have unstable mass and also suffer from severe salinization. Effective drainage can be the only redeeming feature for agriculture in this regime with areal coverage of 12,621 ha.

SIIs: This sub-class beholds a small pocket (3,983 ha) of sandy land forms, mostly to the north of Nawabshah city, with marginally suitable status due to low inherent fertility.

NIhs4: This is currently not suitable clayey land due to dense subsoils that are spread over 9,267 ha, mainly in the central part of the command between Tando Adam and Tando Ghulam Ali. Such soils must be reclaimed with canal water supplies to allow for moderate level of agricultural activities to proceed.

Table A-IV.11. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Rohri Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Left Bank.

| Suitability Class | Sub-Classes | | | | | | | | | | Settlements | Total | Percentage |
|-------------------|-------------|-------|--------|-------|-------|---------|------|-------|-------|-------|-------------|---------|------------|
| | SIW2 | SIIs3 | SIHw2 | SIHs3 | SIHw3 | SIHs+w2 | SIIs | NIHs4 | NIIs | NIW | | | |
| SI | | | | | | | | | | | | 453221 | 39.2 |
| SII | 6914 | 22666 | 548599 | 31586 | | | | | | | | 609765 | 52.7 |
| SIII | | | | | 1690 | 12621 | 3983 | | | | | 18294 | 1.6 |
| NI | | | | | | | | 9267 | | | | 9267 | 0.8 |
| NII | | | | | | | | | 46203 | 15270 | | 61473 | 5.3 |
| Settlements | | | | | | | | | | | 4510 | 4510 | 0.4 |
| Total Gross Area | | | | | | | | | | | | 1156530 | 100 |

NII: It consists of permanently not suitable land and retains the following subclasses.

NIIIs: Sand dunes

NIIw: Marshlands, mainly to the north of Tando Allah Yar (15,270 ha)

Urban Land: 4,510 ha (0.4%)

A.IV.j Nara Canal Command

About 83 percent of the 647,677 ha gross area of the Nara Canal comprises river alluvium and the remainder overlaps margins of the Thar Desert. From amongst the 61 sample sites established for HMI surveys, only 16 could be visited; information on the remaining 45 sites was culled from the reconnaissance level interpretations done by the SSoP. The sample sites visited showed 24 percent of the area to be medium textured level plains and covered sandy bars, 58.7 percent clayey broad basins and channel infills, and the remainder included 7 percent of sandy desert (encompassing a few clayey valleys) and 10 percent marshlands. The main crops grown are wheat, cotton, sugarcane with some orchards of mango and date palm. Some areas of the canal command are under lift irrigation.

About 15 percent of the soils in the areas visited were free of deleterious effects of waterlogging and salinity; in the remaining areas, 48 percent had high watertables across clayey soils with moderate level of salinity and another 17 percent were made up of sandy desert, marshes and gravelly lands. The irrigation land suitability classifications are listed in Table A.IV.12 and are described below.

SI: This class covers 75,709 ha (12.5 of the gross area), and remains suited to a fairly wide mix of crops and orchards.

SIIw2: This subclass forms moderately suitable medium textured lands due to high groundwater tables. It covers 38,581 ha, mostly as scattered patches throughout the command. Improved drainage is a prerequisite for sustainable agriculture over these soils.

SIIs3w2: This category of soils consists of moderately suitable medium textured lands having moderate salinity (mostly gypsiferous) associated with high groundwater tables. These soils occur in scattered patches covering 28,255 ha gross area of the canal command. Reclamation requires a combination of effective drainage and high delta/salt-tolerant crops. Over-application of irrigation waters must be avoided on these lands.

SIHw2: This subclass comprises moderately suitable clayey lands having high groundwater tables as a major limitation to fulsome productivity. These soils are most extensive (256,134 ha) in the command and require provision of drainage antecedent of other land reclamation steps.

Table A-IV.12. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Nara Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Left Bank.

| Suitability Class | Sub-Classes | | | | | | | | | | Total | Percentage |
|-------------------|-------------|---------|--------|-------|-------|-------|---------|-------|-------|------|--------|------------|
| | SIw2 | SIIs3w2 | SIHw2 | SIH | SIIs3 | SIHs3 | SIHs+w2 | NIIIs | NIIw | NIIg | | |
| SI | | | | | | | | | | | 75709 | 12.5 |
| SII | 38581 | 28255 | 256134 | 15895 | 2791 | 3438 | | | | | 345094 | 57.2 |
| SIII | | | | | | | 79218 | | | | 79218 | 13.1 |
| NII | | | | | | | | 42730 | 59541 | 1028 | 103299 | 17.2 |
| Total Gross Area | | | | | | | | | | | 603320 | 100 |

SIHh: These are moderately suitable clayey lands that cover 15,895 ha to the north and east of the command. For such soils, addition of organic matter, careful use of irrigation water and mechanical cultivation at proper moisture level are the redeeming features for improved land management.

SIIs3: This subclass forms moderately suitable medium textured lands in the foot of the sand dunes. These soils have moderate salinity (mostly gypsiferous) and are distributed over 2,791 ha of the canal command. Following standard reclamation procedures, such soils must not be left fallow.

SIHs3: This group of soils (covering 3,438 ha) comprise moderately suitable clayey lands with moderate salinity. Saline-sodic patches may be reclaimed through gypsum amendments, along with addition of organic matter and mechanical cultivation.

SIHs4w2: These soils have been classified as marginally suitable clayey lands due to severe limitations of permeability, difficult workability and salinity (mostly gypsiferous) associated with high groundwater tables. Their geographic distribution (79,218 ha) requires effective drainage system to support 2-3 heavy irrigations with sweet water to wash away the salts. Areas not so reclaimed may benefit from addition of gypsum and organic matter. Here, over irrigations must be avoided.

NI: This class is permanently not suitable and includes the following subclasses.

NIh: Thar Desert margins and sand dunes (42,730 ha)

Marshlands: 59,541 ha

NIg: Gravelly land (1,028 ha)

A.IV.k Jamrao Canal Command

Jamrao Canal offtakes from the main Nara Canal and geographically covers a gross area of 400,269 ha. About 84 percent of its commanded regime is dominated by the river alluvials and the remainder is sandy desert (scattered sand dunes). The river plain is made up of 57 percent clayey basins and channel infills, 33 percent medium textured level plains and 10 percent mix of sandy areas, marshlands and urban lands. Major cultivations are sugarcane, cotton, wheat and vegetables. Good mango orchards on well-drained soils are also present.

Although 73 sample sites had been originally marked for field visits by IIMI staff during Dec. 1997-Jan. 1998, only 35 could be visited and the remainder were interpreted and classified in accordance with the soil associations prepared by the SSoP at reconnaissance level. Excluding the sandy areas, the soils are generally deep, level to nearly level, moderately well-drained to well-drained calcareous, structured and porous. The normal soils (mostly clayey and silty) are dominant and comprise 77 percent of the area; their pH ranges from 8.0 to 8.4. About 9 percent of the soils are moderately saline and clayey, whereas another 5 percent are moderately saline medium textured soils associated with high watertables. The soils have

been grouped into 3 land suitability classes, which have further been subdivided into 6 subclasses (Table A.IV.13), and are described below.

SI: This class comprises medium textured lands covering 112,939 ha. Some low-lying areas in the northern part of the command, where the canal has a sandy permeable stratum, are prone to high watertables.

SIIs: As moderately suitable clayey land, this class covers some 48 percent of the gross area. The soils have low permeability and are not recommended for orchards.

SIIs3: This category forms moderately suitable clayey-textured land with moderate salinity that is mainly gypsiferous and constitutes about 9 percent of the command. It occupies significant areas along the eastern boundary of the command (some scattered patches around Mirpur Khas city). The gypsiferous salinity can be suppressed through the cultivation of high delta crops under heavy canal irrigation, however, saline-sodic patches, if any, will require chemical amendments, like gypsum or sulfuric acid. Tractor ploughing at proper moisture level and addition of organic waste in any form are very useful for the improvement of soil's filth and porosity.

SIIs3w2: This group of soils has been classified as moderately suitable medium textured land due to moderate salinity associated with high watertables. It consists of 20,642 ha and occurs mainly in the northern part of the command, with a few scattered patches along the eastern boundary. At present, poor crops of wheat and oil seeds are being harvested.

NI: It is permanently not suitable land and has the following sub-classes:

NIIs: Sandy desert and scattered sand dunes, mainly in the northern part that cover 21,507 ha.

NIIs w: These are marshlands, mostly near the Jamrao Regulator (14,355 ha)

Urban Land: 1,840 ha.

A.IV.1 Fuleli Canal Command

Nearly 95 percent of the irrigated command (389,926 ha) is part of the estuary plain. The dominant physiographic unit is silty estuary level plain (59%) deposited by spill flats; other land forms are silty to clayey river level plains (40%), 0.5 percent estuary bars/levees and the remaining is poorly drained areas and surface waterlogged bodies. The main land use is cultivation of sugarcane, wheat, rice and tomato.

HMI sample surveys were conducted against 37 sites during the month December 1997. Assessments show that 3.3 percent of the irrigated land has normal silty soils without significant limitations for agricultural use; 39 percent clayey soils with high watertables (including some depressions over 1.3% of the land) with watertable at 30-90 cms; 56.6 percent silty soils, including 10-15 percent clayey soils that are severely salinized and associated with high watertables ($pH < 8.5$ due to the gypsiferous nature of the root zone).

Table A-IV.13. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Jamrao Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Left Bank.

| Suitability Class | Sub-Classes | | | | | Settlements | Total Area (ha) | Percentage |
|-------------------|-------------|-------|---------|-------|-------|-------------|-----------------|------------|
| | SIHh | SIHs3 | SIHs3w2 | NIIs | NIIW | | | |
| SI | | | | | | | 112939 | 28.2 |
| SII | 193781 | 35205 | 20642 | | | | 249628 | 62.4 |
| NI | | | | 21507 | 14355 | | 35862 | 8.9 |
| Settlements | | | | | | 1840 | 1840 | 0.5 |
| Total Gross Area | | | | | | | 400269 | 100 |

In general, the canal command is mostly under the influence of sea and is affected by salinity and groundwater tables that seasonally fluctuate between 120 to 240 cms. Its climate is arid to semi-arid tropical marine. Towards irrigation suitability rankings, the command has been classified into 4 classes, which have been further subdivided into 6 sub-classes (Table A.IV.14) and are described as follows.

SI: These are highly suitable silty soils covering 12,811 ha of the irrigated regime near the Tando Mohammad Khan and Matli Basins.

SIHw2: An elongated area of 146,857ha that has been classified as moderately suitable due to high watertables wherein good crop yields are much dependent on effective drainage. It is scattered throughout the command; however, major occurrence is to the east.

SIHw2: A small area of 2,305 ha comprising marginally suitable clayey lands because of severe gypsiferous salinity associated with high watertables. Lowering of the watertables is difficult due to very low permeability of the soils, otherwise gypsiferous salinity is not a problem, which can be removed by applying a few heavy irrigations together with a small quantity of gypsum. At present, the area has poor crops of sugarcane and wheat. It occurs in small patches near Badin and the northern boundary of the command.

SIHw3: These clayey soils are classed as marginally suitable due to very high watertables over an area of 5,169 ha. Geographically, they are scattered throughout the command, but the significant occurrence is along the eastern boundary of the command.

SIH4w2: This class has the largest distribution of 218,187 ha, and forms marginally suitable silty soils (alongwith 10-15 percent inclusion of clayey soils that are less salinized and can be classified as SIHw2-Moderately suitable land) associated with severe salinity and high watertables. Severe salinity and low organic matter have made the soil mass unstable and less pervious to water intrusion; this is in addition to the seasonal rise of the watertables that makes the area seasonally imperfectly drained. Because of proximity to the sea, the gradient is very low and difficult to manage towards drainage. Accordingly, for such soils, mostly in the western part of the command, it is better to maintain groundwater at up to 1 meter depth and grow sugarcane during the wet season.

SIHs: These are marginally suitable sandy soils.

NIHw: This subclass (2,435 ha) is permanently not suitable land due to very poor drainage.

A.IV.m Pinyari Canal Command

Against a gross area of 444,693 ha, IIMI sample assessments, aided by satellite imagery, were limited to 280,107 ha. Up to 90 percent of the surveyed area constitutes estuary plains and the remainder is river deposits. The physiography has 5.4 percent medium textured level plains formed by river alluvium, 91 percent clayey broad basins and channel infills of estuary deposits (including some river alluvium) and 0.2 percent bars/levees and spill flats

Table A-IV.14. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Fuleli Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Left Bank.

| Suitability class | Sub-Classes | | | | | | Total Area (ha) | Percentage |
|-------------------|-------------|---------|-------|---------|------|------|-----------------|------------|
| | SIHw2 | SIHs4w2 | SIHh3 | SIHs4w2 | SIHs | NIHw | | |
| SI | - | - | - | - | - | - | 12811 | 3.3 |
| SII | 146857 | - | - | - | - | - | 146857 | 37.7 |
| SIII | - | 2305 | 5169 | 218187 | 2162 | - | 227823 | 58.4 |
| NII | - | - | - | - | - | 2435 | 2435 | 0.6 |
| Total | | | | | | | 389926 | 100 |

Note.: The remaining area 15359 ha is not being irrigated because of its very poor drainage conditions.

of the river and sea, respectively. The remaining 3.4 percent consists of marshlands, gravel and urban lands. The major crops grown are sugarcane, wheat and some rice.

Thirteen sample sites were visited in the command of the Pinyari Canal during the month of December, 1997. The soils were generally observed to be deep, level, moderately well to imperfectly drained (seasonal water fluctuation ranging from 120-240 cms) and having low permeability. Approximately 42 percent of the soils are moderately well to imperfectly drained, and another 49 percent severely salinized that are also associated with high watertables.

The command is mainly influenced by the sea. Accordingly, the soils have been grouped into 4 classes that are further subdivided into 6 subclasses (Table A.IV.15) and are described below.

SI: This class constitutes highly suitable medium textured land without any limitation to grow a wide variety of crops that are ecologically suited to the area. The scattered patches cover 15,144 ha and are local to the northern part between Hyderabad and Daro.

SIHw2: This group of soils constitute moderately suitable clayey lands that have low permeability, difficult workability and high watertables across 105,803 ha.

SIHs4w2: These soils are classed as marginally suitable due to clayey texture, severe salinity and associated high watertables. This classification is most extensive within the Pinyari command (136,513 ha) and is distributed throughout (more to the southwest and east). Watertable management is imperative for this low gradient environment where, otherwise, flushing of gypsiferous salts is not problematic.

SIHw3: This category consists of marginally suitable clayey lands with limitations of very high groundwater tables that are local to the south-western side of Mirpur Battoro. These soils require improved drainage, organic matter, mechanical cultivation and avoidance of over-irrigation.

SIHs: This subclass has marginally suitable sandy land covering 487 ha.

NI: Permanently not suitable land that includes the following subclasses:

NIHw: Very poorly drained lands, marshlands (3,777 ha)

NIHg: Occurs mostly in the south, comprising rocky and gravelly land (2,235 ha)

Urban Land: 3,479 ha

A.IV.n Akram Wah (Lined Channel) Command

The command has a gross area of 187,263 ha, against which 144,671 ha were part of the IIMI sample survey. The remainder could not be covered due to remissions in satellite image coverage. The surveyed area is dominated by estuary plains and between 5-10

Table A-IV.15. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Pinyari Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Left Bank.

| Suitability Class | Sub-Classes | | | | | | | Settlements | Total Area (ha) | Percentage |
|-------------------|-------------|--------|-------|-------|------|------|------|-------------|-----------------|------------|
| | SIW2 | SIHw2 | SIHs3 | SIIs3 | SIIs | NIIw | | | | |
| SI | | | | | | | | 15144 | 5.4 | |
| SII | 105803 | | | | | | | 105803 | 37.8 | |
| SIII | | 136513 | 12669 | 487 | | | | 149669 | 53.4 | |
| NII | | | | | 3777 | 2235 | | 6012 | 2.1 | |
| Settlements | | | | | | | 3479 | 3479 | 1.3 | |
| Total Gross Area | | | | | | | | | 280107 | 100 |

Note: . The remaining command 164586 ha remained uninvestigated due to non-availability of satellite image coverage.

$$\text{Gross area: } 280107 + 164586 = 444693$$

percent of the land is part of the river plains. The major physiographic unit is level to nearly-level clayey broad basins and channel infills (96%), 1.5 percent are medium textured level spill flats, and the remaining, about 2.2 percent, include marshland and urban areas. The area is generally sown to sugarcane, wheat and tomato.

Only four sample sites could be visited as part of the HMI soils investigations and the remaining 27 sites were interpreted in accordance with data retained by the SSoP on reconnaissance level interpretations. The limited investigations, during the month of December 1997, provided updated information on salinity, waterlogging, and land use. The mixed inference from different sources of data shows that the command has only 1.5 percent normal medium textured land without any limitation, 47.4 percent clayey land with high groundwater tables, 49 percent clayey soils with severe salinity and high watertables. The irrigation land suitability classification appears in Table A.IV.16; the details are discussed below.

SI: This class is medium textured and covers 2,274 ha along the eastern boundary of the command. These soils must remain under intensive cultivation as a means to retaining high productivity levels.

SIHw2: This group is mostly local to the western part of the command (covering 6,488 ha) and consists of clayey soils with moderately suitable ranking due to high groundwater tables, low permeability, and difficult workability. Addition of organic matter in any form will improve its tilth.

SIHs4w2: This classification, ranked as marginally suitable, is primarily made up of clayey soils with severe salinity and high watertables. It covers 70,755 ha that are scattered across the entire command, but is geographically more significant to the east and south. Lowering of the already high groundwater tables is difficult due to very low permeability of the soils and related gradients.

SIHw3: These soils are clayey in texture with very high groundwater tables due to which they have been ranked as marginally suitable. Areas consistent with this category are distributed across 3,745 ha that mainly occur in the northern part of the canal command.

NIHw: This subclass is permanently not suitable due to very poor drainage. The 2,842 ha in this ranking are scattered throughout the canal command.

Urban land: 168 ha.

Table A-IV.16. Irrigation Land Suitability Assessments and Corresponding Areal Coverages for the Akram Wah Canal Command based on IIMI Surveys during 1997-98, Lower Indus Basin, Left Bank.

| Suitability Class | Sub-Classes | | | | Settlements | Total Area (ha) | Percentage |
|--|-------------|---------|---------|------|-------------|-----------------|------------|
| | SIIhw2 | SIIIhw2 | SIIIhw3 | NIIw | | | |
| SI | | | | | | 2274 | 1.5 |
| SII | 64887 | | | | | 64887 | 44.9 |
| SIII | | 70755 | 3745 | | | 74500 | 51.4 |
| NII | | | | 2842 | | 2842 | 2 |
| Settlements | | | | | 168 | 168 | 0.2 |
| Total Gross Area (Surveyed and extra pulated Area) | | | | | | 144671 | 100 |

Note: The remaining 42592 ha were not interpreted due to non-availability of area satellite images.
or satellite coverage. G.A = 144671 + 42592 = 187263 ha