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**Study of changing socio-economic conditions of land use /cover areas in parts of
South-West Punjab**

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Abstract

The study area lies in Eco region 2 (M9E1), between geo-coordinates $30^{\circ}00'$ to $30^{\circ}15'$ N & $76^{\circ}30'$ to $76^{\circ}45'$ E, covering 577.86 sq km area of south west Punjab (Bhatinda and Muktsar districts) a part of the vast Trans-Gangetic Plain region of the Indo-Gangetic alluvial plain. The villages mainly affected were Thiri, Fakarsar, Danewala, Ratharyan, Abulkharana, Tappakhera, Dewankhera, Adhnian, Sahnakhera and Pajawa. 42.5% farmers felt that their income had declined sharply due to increasing salinity and waterlogging problems on their lands. 27.5% farmers agreed that their children did not have sufficient work as cultivation was no longer a possibility and were facing unemployment. Marriages of their children were no longer possible because of decreased incomes and no source of employment. Families of other villages were unwilling to marry men and women from these villages as they could see no source of alternate income. 12.5 % farmers interviewed felt that these were overriding problems. Additionally 17.5% farmers are facing the problem of debt, as they are unable to repay loan taken from banks, societies and moneylenders. It is emphasized that waterlogging, salinity and secondary salinity in the villages of Muktsar and Bhatinda have reached the socio-economic crisis in a critical situation.

Keywords: Salinity, Secondary salinity, Trans Gangetic Plain & Water logging

Introduction

The common statistical analyses done in MS excel software. The secondary data were collected from the published records, ICAR website, PAU, Ludhiana, CSSRI reports & other related departments. The major methodologies are divided in two parts:

(i) Preparation of questionnaires

The necessity for acquiring such information was felt on the basis of secondary information and the type of information acquired by direct observation during the reconnaissance field visit. The major information were collected about land use, yield, labour and social life (marriages)

(ii) Sorting out of tabulation of field data

The socio-economic data randomly collected from the 24 villages of Muktsar and Bhatinda districts respectively were compiled, sorted out, and then tabulated. The criterion of sorting out of the data was based on the condition of changes on the land use/ land cover and their impact based on the response recorded from each house- holds.

Result & Discussion

The detail surveyed works are discussed in below:

(1) Field data collection and analysis

The socio-economic data collected from the affected area eighty farmers were randomly selected who were working in the fields of villages of the study area and were interviewed for their socio- economic information. The villages were mainly affected are Thiri, Fakarsar, Danewala, Ratharyan, Abulkharana, Tappakhera, Dewankhera, Adhnian, Sahnakhera and Pajawa. Socio economic information was collected as per profarma. Data were compiled, sorted out & tabulated. The criteria of sorting out of the data were based on the condition of changes on the land use/ land cover and their impact.

In order to find out the impact of the social changes among various land use/ land cover types, socio-economic responses were collected from different households of different villages belongs to the study area. The impacts related to the salinity and the subsequent changes in among land use / land cover types were observed from the sample data collected in the study area. The major problems observed are:

Farmers becoming as labour

Due to increase in salinity and waterlogging, the agricultural land loosing there potential and becoming unproductive. It has caused high cost to farming and low to marginally low profit. Farmers are finding it difficult to support their family. Therefore, farmers are leaving farming and opting as labourer work to earn income to support their family.

Migration of farmers from villages

Because of severe salinity and waterlogging in some field of the area, these fields are of not use for producing agricultural crops. These fields are left as barren land. So, the farmers who are owner of these fields have become landless farmer. So, these farmers are left with no choice but to move from village to urban/ town area in search of job for their livelihood.

Increasing in debt to the farmers

Farmers in these villages have taken loan from banks, moneylenders and societies for agriculture for cultivating and trying to improve their lands. Cost of agriculture has increased and productivity of the soil has declined due to salinity and waterlogging.

Social obligation

Because ofDue to financial stress, farmers were finding it very difficult to meet expenses of agriculture, reclamation as well as other social obligations. Salinity and waterlogging problems are bringing in very low crop yields or failure of crops. Income from agriculture has declined and farmers are looking even for alternate jobs.

Salinity and waterlogging is not a problem of single farmer but of many farmers land a large part of village lands get affected. Degradation of lands affects socio economic conditions of the whole village or entire blocks. Development of salinity and waterlogging increase with time. The economic problems of the farmers that seen overwhelming in the face of increasing adversely.

These problems (Table 1 & Fig.1) are discussed below

(a) Low agricultural income

42.5% farmers feel that their income has declined sharply due to salinity and waterlogging problem in their field. As all the family members are engaged in farming, so income of the family whole has declined.

(b) Increasing unemployment for youth

Farmers say that their land is no more fit for agriculture due to salinity and waterlogging and they do not have sufficient work on this field. Their children are therefore engaged not in the field for agricultural activities. 27.5% farmers agreed that their children have no work in the field and are unemployed.

(c) Marriage problem

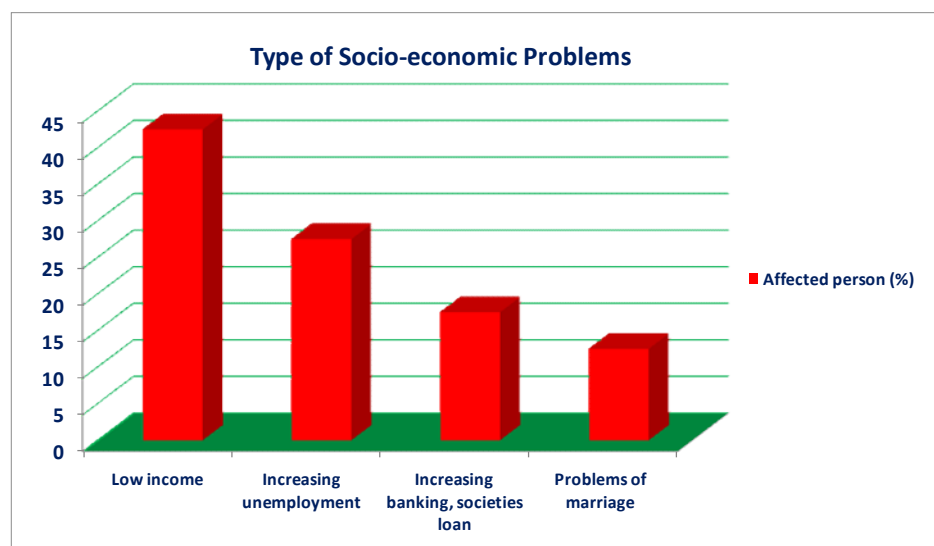
With this income, farmers are not able to support their families. Marriages of their children cannot be solemnized as nobody wants to get their daughters to their family. Though feel socially boycotted by societies. 12.5 % farmers interviewed this problem.

(d) Increasing banking, society's loan

17.5% farmers are in debt. They are not able to repay loans taken from banks, societies and moneylenders.

Table 1. Responses to type of socio-economic problem base on survey data

Sl. No.	Type of socio-economic Problems	No. of person	(%)
1	Low income	34	42.5
2	Increasing unemployment	22	27.5
3	Increasing banking, societies loan	14	17.5
4	Problems of marriage	10	12.5
	Total	80	80.0

**Fig. 1. Socio-economic problems (affected person in %)**

Increasing salinity and waterlogging may worsen the situation in the future. It will not only reduce the agriculture production but affect the socio – economic problems of the farmers; increasing affecting the lives and livelihoods of the farming communities.

Conclusion

The area lies in Eco region 2 (M9E1), between geo-coordinates $30^{\circ} 00'$ to $30^{\circ} 15' N$ & $76^{\circ} 30'$ to $76^{\circ} 45' E$. Covering 577.86 sq km area of south west Punjab (Bhatinda and Muktsar districts) a part of the vast Trans-Gangetic Plain region of the Indo-Gangetic alluvial plain. Secondary salinization develops as a result of prolonged irrigation, poor quality of irrigation water, farming methods and cropping patterns. It is also referred to as human or irrigation-induced salinity. The economic survey is essential part for study because the affected areas socio-economic status changes due to affected agribusiness related works.

The socio-economic data collected from the affected area eighty farmers were randomly selected from the study area and were interviewed for their socio- economic status. The villages mainly affected were Thiri, Fakarsar, Danewala, Ratharyan, Abulkharana, Tappakhera, Dewankhera, Adhnian, Sahnakhera and Pajawa. 42.5% farmers felt that their income had declined sharply due to increasing salinity and waterlogging problems on their lands. 27.5% farmers agreed that their children did not have sufficient work as cultivation was no longer a possibility and were facing unemployment. Marriages of their children were no longer possible because of decreased incomes and no source of employment. Families of other villages were unwilling to marry men and women from these villages as they could see no source of alternate income. 12.5 % farmers interviewed felt that these were overriding problems. Additionally 17.5% farmers are facing the problem of debt, as they are unable to repay loan taken from banks, societies and moneylenders. Secondary salinization and waterlogging have increased the woes of the farmers of the region. With poor crops, no source of income and socially boycotted they have no source of respite.

It is emphasized that waterlogging, salinity and secondary salinity in the villages of Muktsar and Bhatinda have reached the socio-economic crisis in a critical situation.

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