

1. Introduction

South Gujarat occupies the most predominant position in the irrigation map of Gujarat. The Ukai- Kakrapar (UKC) is the biggest multi-purpose project in South Gujarat built on river Tapi. Prior to inception of canal, the whole tract had a predominant monocropping of cotton, sorghum, pigeon pea and orchard crops with pulses on residual moisture. With creation of perennial irrigation facility, double and multiple cropping like sugarcane, banana, summer paddy, vegetables and orchard *etc.* came in to existence. Due to adoption of unscientific soil and water management practices in these crops, the ill effects like water logging, secondary salinization *etc.* has been arised. Further, the lack of concept of agricultural drainage in this area has aggravated the problems of water logging and secondary salinization. As a result of this, presently 15 per cent land of the UKC has adversely affected and another 25 per cent area is critical from water logging point of view. Because of this situation, a steady decline in productivity of existing crops is observed.

In view of the above problems, with the major objectives of development of proper soil and water management technologies for the mandate crops of command area, the Main Irrigation Research Station was established at Navsari during 1969. Subsequently, a net work centre of ICAR co-ordinate project for research on new cropping pattern and water use in Ukai- Kakrapar command area was established during 1970. For strengthening research in the areas of soil and water management, some plan schemes funded by State Government were also sanctioned and are in operation under this unit. Similarly, need based ICAR adhoc, PFDC, NARP, NATP, FPARP (Phase I & II) and other agencies including foreign funded projects related to soil and water management aspects were also successfully completed. Apart from this, technologies related to management of coastal salt affected soils are also being carried out by the department. Recently the department has also developed technologies related to waste management and developing various value added products especially from banana pseudostem under the NAIP recently completed.

ABOUT THE UNIT

Location

Navsari is located at about 12 km East of Arabian sea near historical place Dandi, where Mahatma Gandhi launched the Salt Movement during 1942. Geographically, it lies between 20⁰57' N latitude, 72⁰54' E longitude and at an altitude of about 10 m.

Climate

Navsari falls under agro-ecological situation III of South Gujarat heavy rainfall zone I. It is characterized by fairly warm summer, mild winter and warm humid monsoon with an average rainfall of 1500 mm.

Soil

The soil of research farm is placed under the order Inceptisols and sub group Vertic Ustochrepts. It is deep and moderately drained clay soil containing predominantly montmorillonitic minerals.

Infrastructure

Farm

- | | | |
|------------------------------------------|---|--------|
| ➤ Total area | : | 20 ha. |
| ➤ Area under cultivation | : | 19 ha. |
| ➤ Irrigated area (Tubewell + Canal) | : | 19 ha. |
| ➤ Area under road, buildings <i>etc.</i> | : | 01 ha. |

Others

- Well equipped plant, soil and water samples analysis laboratory
- Computer centre with internet facility
- Display centre
- Conference hall with modern AV aids
- Adequate vehicles and tractors facility