सातवीं लघु सिंचाई गणना रिपोर्ट
SEVENTH MINOR IRRIGATION CENSUS REPORT VOLUME – II, PART – II

ANDHRA PRADESH, ARUNACHAL PRADESH, CHHATTISGARH, JHARKHAND, KARNATAKA, KERALA, MAHARASHTRA, MANIPUR, MEGHALAYA, MIZORAM, NAGALAND, ODISHA, PUNJAB, RAJASTHAN, TAMIL NADU, TELANGANA, TRIPURA, UTTAR PRADESH AND UTTARAKHAND, AND THE UNION TERRITORY OF JAMMU AND KASHMIR

सत्यमेव जयते



भारत सरकार
Government of India
जल शक्ति मंत्रालय
Ministry of Jal Shakti
जल संसाधन, नदी विकास और गंगा संरक्षण विभाग
Department of Water Resources, River Development & Ganga Rejuvenation
लघु सिंचाई (सांख्यिकी) शाखा
Minor Irrigation Statistics Wing

7th Minor Irrigation Census

(Volume II, Part II)

(Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Jharkhand, Karnataka, Keralam, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttar Pradesh and Uttarakhand, and Jammu and Kashmir)



Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Minor Irrigation (Statistics) Wing

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MESSAGE

Water is a critical input for agricultural productivity and food security, particularly in arid and semi-arid regions. Minor Irrigation Schemes play a vital role in the irrigation and agricultural sectors of the country and offer distinct advantages, including shorter gestation periods, relatively lower capital requirements, and quicker benefits to farmers. At the same time, changing rainfall patterns, fluctuations in groundwater levels, variations in river flows, technological progress, and increasing water demand underline the need for periodic assessment of Minor Irrigation Schemes to support informed planning, policy formulation and decision-making.

Precise and authentic statistics on minor irrigation are vital for framing future plans of action, policy-making, and research. Systematic enumeration, protection, conservation, and rejuvenation of the minor irrigation schemes are essential to ensure long-term economic, social, and environmental sustainability.

With a view to maintain an accurate and robust data base on irrigation schemes, the Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, has undertaken the 7th Minor Irrigation (MI) Census, apart from the 2nd Census of Water Bodies, the 1st Census of Major and Medium Irrigation (MMI) Projects, and the 1st Census of Springs, using 2023-24 agricultural year as reference year, covering all States and Union Territories.

On the occasion of World Water Day 2026, the Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, published a brief analytical report (Volume II – Part 1) presenting results from the 7th Minor Irrigation (MI) Census for the five States/UTs, viz., Assam, Bihar, Delhi, Ladakh and Sikkim, which completed the census activities ahead of schedule. The present publication (Volume II – Part 2) pertaining to the States of Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Jharkhand, Karnataka, Keralam, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttar Pradesh and Uttarakhand, and the Union Territory of Jammu and Kashmir, were successfully brought out during India International Water Week.

I congratulate the entire team of the MI (Stat.) Wing of DoWR, RD & GR, along with the officers of the States and UT Administrations and NIC, for undertaking the valuable task of conducting the 7th Minor Irrigation Census and bringing out the results/findings after thorough data scrutiny and data validation.

The publication showcases selected State-level indicators and preliminary insights from finalised data on minor irrigation schemes, with the objective of encouraging data-driven planning, policy formulation, and decision-making in the water resources sector.

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Message

Water remains the cornerstone of agricultural growth and food security, especially in regions where scarcity defines everyday life. In this context, Minor Irrigation Schemes have emerged as a crucial support system for farmers. Their strength lies in their efficiency: they demand less capital, deliver results faster, and shorten the time between investment and benefit.

Yet, the landscape of water management is constantly shifting. Irregular rainfall, declining groundwater reserves, changing river dynamics, technological innovations, and rising demand for water all highlight the importance of regularly evaluating these schemes. Reliable data is not just useful — it is indispensable for shaping policies, guiding research, and ensuring that irrigation strategies remain sustainable in the long run.

Recognizing this, the Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, launched a comprehensive effort to build a robust database. The 7th Minor Irrigation Census, alongside the 2nd Census of Water Bodies, the 1st Census of Major and Medium Irrigation Projects, and the 1st Census of Springs, uses the agricultural year 2023–24 as its reference point and spans every State and Union Territory.

On the occasion of the World Water Day 2026, the Ministry released an analytical report (Volume II – Part 1) highlighting early findings from five States/UTs — Assam, Bihar, Delhi, Ladakh, and Sikkim — that successfully completed their census activities ahead of schedule. The present report (Volume II – Part 2), pertaining to the States of Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Jharkhand, Karnataka, Keralam, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttar Pradesh and Uttarakhand, and the Union Territory of Jammu and Kashmir, was successfully brought out during India International Water Week.

The achievements reflect the dedication of States/UT officers, the Minor Irrigation (Stat.) Wing, NIC, and the Department itself, who worked tirelessly to carry out this demanding exercise. The publication presents key indicators and preliminary insights, serving both as recognition of the progress made and to foster data-driven planning, informed policymaking, and sustainable decision-making in the water resources sector.

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MINISTRY OF JAL SHAKTI
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FOREWORD

Agriculture remains the backbone of India's economy and a highly water-intensive sector, making efficient management of irrigation resources vital for food security and sustained growth. The Minor Irrigation Schemes have proven to be a transformative force, offering resilience against climatic vagaries and generating employment that fuels rural development. A comprehensive and reliable database on minor irrigation is essential for effective planning, policy formulation and informed decision-making.

The Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, has been conducting the Census of Minor Irrigation structures on a quinquennial basis since 1986–87. The Minor Irrigation Census is carried out in the rural areas of all States and Union Territories and covers all groundwater and surface water-based irrigation structures with a Culturable Command Area (CCA) of up to 2,000 hectares. To date, six such censuses have been completed with reference years 1986–87, 1993–94, 2000–01, 2006–07, 2013–14, and 2017–18.

The Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD & GR), Ministry of Jal Shakti, has undertaken the 7th Minor Irrigation Census, apart from the 2nd Census of Water Bodies, along with the 1st Census of Major and Medium Irrigation Projects and the 1st Census of Springs, using 2023-24 agricultural year as reference year, in all States and Union Territories. These censuses are being conducted in a paperless, fully digital mode through a mobile application, which is expected to result in significant savings in terms of time and cost, while ensuring data quality.

On the occasion of the World Water Day, 2026, Volume II – Part 1 of the Report of the 7th Minor Irrigation Census, prepared by the Minor Irrigation Statistics Wing of this Department, was published for the five States/UTs, viz., Assam, Bihar, Delhi, Ladakh and Sikkim. The present publication (Volume II – Part 2) is in respect of the States of Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Jharkhand, Karnataka, Keralam, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttar Pradesh and Uttarakhand, and the Union Territory of Jammu and Kashmir, successfully brought out during India International Water Week.

I am confident that the findings contained in the present publication will serve as a valuable resource for planners, policy makers, researchers, agricultural scientists, administrators, and all stakeholders committed to strengthening India's irrigation infrastructure and agricultural economy. By showcasing selected State-level indicators and early insights from the finalised data, the present report demonstrates the value of collaborative implementation and supports evidence-based planning and management of water resources.

(Archana Varma)

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Preface

The Minor Irrigation (MI) Census is a critical statistical exercise that provides a comprehensive and reliable evidence base for planning, policy formulation, and sustainable management of water resources in the country. The data generated by the census supports informed decision-making in the minor irrigation sector, improves water use efficiency, and strengthens the overall framework for water resources management.

The Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD & GR), Ministry of Jal Shakti, has undertaken the 7th Minor Irrigation Census, apart from the 2nd Census of Water Bodies, along with the 1st Census of Major and Medium Irrigation Projects and the 1st Census of Springs, using 2023-24 agricultural year as the reference year, across all States and Union Territories. These censuses have been conducted in a paperless, fully digital mode, leveraging technology to enhance data quality, timeliness, and operational efficiency.

On the occasion of the World Water Day, 2026, this Department has published Volume II – Part 1 of the 7th Minor Irrigation Census data of the five States/UTs, namely, Assam, Bihar, Delhi, Ladakh and Sikkim, that completed the census activities.

The present publication (Volume II – Part 2) of the 7th Minor Irrigation Census pertaining to the States of Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Jharkhand, Karnataka, Keralam, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttar Pradesh and Uttarakhand and the Union Territory of Jammu and Kashmir, is brought out during India International Water Week 2026. It provides results of State-wise census data by specific types of schemes, viz., dug-wells, shallow, medium and deep tube-wells, surface flow and lift schemes.

Shri V. L. Kantha Rao, IAS, the then Secretary, along with Smt. Archana Varma, IAS, Secretary, Department of Water Resources, River Development and Ganga Rejuvenation, have been a constant source of inspiration and guidance for the finalization of results and the preparation of this report.

The Census Commissioners of the States/UTs have completed the stupendous task of conducting field work with dedication and focus. We express our sincere gratitude to them. A special word of appreciation goes to the then Additional Director General, Mrs. Pally Kundu, who provided outstanding leadership in the conduct and completion of the entire census process.

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ABBREVIATIONS

BLO : Block Level Officer

CSS : Centrally Sponsored Scheme

CWC : Central Water Commission

DES : Directorate of Economics & Statistics

DLO : District Level Officer

FOD : Field Operation Division

GIS : Geographical Information System

LGD: Local Government Directory

MMI : Major and Medium Irrigation

NIC : National Informatics Centre

NSSO : National Sample Survey Office

RMIS : Rationalization of Minor Irrigation Statistics

SLO: State Level Officer

SWIC: State Water Informatics Centre

1. INTRODUCTION

1.1. India has been primarily an agricultural country for ages. Water management is a crucial factor for agricultural output and food security. With the country's varied climate and limited water resources, efficient irrigation systems are crucial for food security and boosting crop yields.

1.2. MI schemes are a lifeline for many, especially small and marginal farmers, by providing timely, reliable and assured irrigation in supplementing agriculture throughout the year. Minor irrigation schemes are quick to implement, cost-effective, and benefit farmers directly. Moreover, they have the advantage of a short gestation period, require a smaller investment, and deliver benefits to farmers immediately. It acts as a critical buffer against rainfall variability and climate-induced risks. These schemes provide irrigation to help in sustaining agricultural production over the past years, especially in regions with limited coverage of MMI projects.

Background

2.1. Water being a State subject, steps for augmentation, conservation and efficient management of water resources are primarily undertaken by the respective State Governments and Union Territories. In order to supplement the efforts of the State Governments, the Central Government provides technical and financial assistance to them through various schemes and programmes for the development of this sector.

2.2. In the States, no single Government Department is involved in the development of minor irrigation works and a large number of private works are being constructed over the years in the States with or without support from the State Government. Therefore, the coordination and monitoring of information about minor irrigation works becomes difficult at the State level. A detailed census of minor irrigation works was first recommended by the Planning Commission in 1970. The National Commission on Agriculture examined in detail the status of minor irrigation in India and recommended that a census of irrigation sources be conducted every five years.

2.3. Keeping this in view, a central scheme “Rationalisation of Minor Irrigation Statistics (RMIS)” was launched in 1987-88 with 100% Central assistance to the States/UTs. In 2017-18, this centrally sponsored scheme (CSS) was renamed as ‘Irrigation Census’.

2.4. For the implementation of the scheme, each State/UT identifies a Nodal Department for the collection, compilation and dissemination of information for the State. State Statistical Cells are generally created within the Nodal Department, so identified by the State Government. These Cells assist the Head of the Nodal Department or Census Commissioner in the State in organising, coordinating and supervising the Census as and when planned by the Ministry.

2.5. So far, six MI censuses have been conducted with reference years 1986-87, 1993-94, 2000-01, 2006-07, 2013-14 and 2017-18. In 2017-18, for the first time, the scope of the "Irrigation Census" scheme was expanded to include the Census of Water Bodies, in convergence with the Minor Irrigation Census, with the objective of developing a national database of all water bodies. Now, the scope of the Irrigation Census scheme has further expanded to include Spring, Major, and Medium Irrigation Projects, covering all irrigation schemes in the country.

Objective

3.1 The main objectives of the 'Irrigation Census' Scheme are:

i. To build up a comprehensive and reliable database in the minor irrigation sector for effective planning and policymaking, including water use efficiency, water budgeting, etc.

ii. To provide benchmark data up to the village level under Minor Irrigation Census.

iii. To provide a statistical frame of minor irrigation schemes for carrying out future surveys.

iv. To build a national-level database of Major and Medium Irrigation Projects since water resources projects are planned, formulated, implemented and maintained by the State Governments.

Scope & Coverage

4.1 Minor Irrigation Census is the complete enumeration of all minor irrigation schemes located within the geographical boundaries of the country. A scheme having a Culturable Command Area of up to 2,000 hectares individually is classified as a minor irrigation scheme. The census also covers irrigation schemes intended solely for groundwater recharge.

4.2 There are two types of minor irrigation schemes: groundwater schemes and surface water schemes. Groundwater schemes include dug wells and tube wells/bore wells. Surface water schemes include surface flow and surface lift schemes. Schemes which are `permanently not in use' for irrigation purposes in 2017-18 or before were not covered in this Census. The information during the Census was collected through three schedules, namely (i) Surface Water Schemes, (ii) Ground Water Schemes and (iii) Village Schedule.

4.3 The 7th MI Census was conducted only in rural areas of the whole of the Indian Union, and the village is the primary area unit of enumeration. The Census has used Local Government Directory (LGD) codes as on 12.02.2025 to list all villages in the country

which have been developed by Ministry of Panchayati Raj. The hierarchy used is State/ District/ Sub District (Development Block)/villages in rural area.

Methodology of 7th Minor Irrigation Census

5.1. The 7th MI Census has been conducted entirely digitally through a mobile application, eliminating the need for paper-based data collection. To ensure smooth execution, nodal departments were designated in States/UTs, including the designation of State Level Officers (SLOs), District Level Officers (DLOs), Block Level Officers (BLOs), and Enumerators. The SLO is responsible for creating user accounts at the district level, which will cascade down to block-level officers, who assign villages to enumerators. Each village/ward is assigned to a single enumerator, ensuring no duplication.

5.2. The 2nd Census of Waterbodies has been conducted in convergence with the 7th Minor Irrigation Census using the 2023-24 agricultural year as the reference year. The enumerator begins the survey by capturing all water bodies within the village, then canvases the Surface Water schedule, the Ground Water schedule, and finally the Village schedule. The mobile application, functioning in both online and offline modes, is used for data collection, requiring enumerators to capture latitude/longitude and images of each scheme. While data entry and scrutiny will be carried out digitally, scrutiny takes place on an online portal developed by NIC. The data collected by the respective States/UTs has been examined at the Central level. The detailed process flow for the census work is provided in the manual for the 7th MI Census.

Implementation

6.1. **Coordination**: A Steering Committee in each State with the Secretary of the Nodal Department for the conduct of MI and water body census as Chairman and members from the CWC, State Departments of Revenue, Irrigation, Water Resources, Panchayati Raj, State Planning, DES, Rural Development and State head of NSSO (FOD) for overseeing various activities of Census. A technical Sub Committee under the Chairmanship of the Regional Chief Engineer of CWC, in charge of the State, to provide technical inputs and guide the State Nodal Statistical Cell during the Census operations (with members from CGWB and State Water Informatics Centre (SWIC)).

6.2. **Training:** Six two-day regional training workshops were held from December 2024 to January 2025 in Agartala (for North-Eastern States), Bengaluru (for Southern States), Lucknow and Chandigarh (for Northern States), Jaipur (for Western States), and Kolkata (for Eastern States). These sessions covered interpreting parameters in the MI schedule, filling schedule fields via the mobile app, and using the web app for deployment at the village, block, district, and state levels. On the second day, participants gained hands-on experience through field visits for spring enumeration.

Resource persons from the central team, including Minor Irrigation (Statistics) DoWR, RD&GR, and the National Informatics Centre (NIC), contributed their expertise. Thereafter, the State Government imparted training to the respective district and block functionaries.

6.3. **Scrutiny**: Validation checks are built into the Mobile Application, and BLO needs to ensure the correctness of the data before submitting the schedule to a higher level. The edit option in the schedule is available to BLO and enumerators. Once the BLO submits the village schedule, all schedules for the respective villages will be available to the DLO, SLO, and the Ministry. DLO needs to see the scrutiny reports generated in the portal for schedules and revert the schedules to BLO wherever corrections are required.

6.4. **Progress Monitoring**: Progress Monitoring was done at each level through the Dashboard and Task Monitoring module available in the web portal. Task Monitoring shows village-wise progress of the census work for each Block/District/State at the respective logins of Block, District, State, and Centre users. Detailed step-by-step instructions and audiovisuals prepared by NIC to demonstrate the use of the Mobile and Web application were shared with States/UTs.

6.5. **Help and Support**: A dedicated call centre and web-based helpdesk are available for resolving queries by the field functionaries. A web-based helpdesk module was incorporated in the web portal, and BLO/DLO and SLO can raise queries through the system.

Methodological Changes From 6th To 7th Mi Census

7.1 The following are the methodological changes adopted in the 7th MI Census compared to the 6th MI Census.

i. Paperless and end-to-end digital solution with a mobile application for data collection and a web application for management and validation processes

ii. Recording Latitude, Longitude and images of all schemes

iii. Use of reverse GIS technology for ensuring accurate recording of Lat/Long of all schemes wherever village boundaries are available

iv. Use of LGD-coded villages/wards for preparing the frame of the census

v. Pre-population of previous census data in the mobile application for ease of data collection, which helps in modifying existing schemes/water bodies.

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2. STATE/UT REPORTS

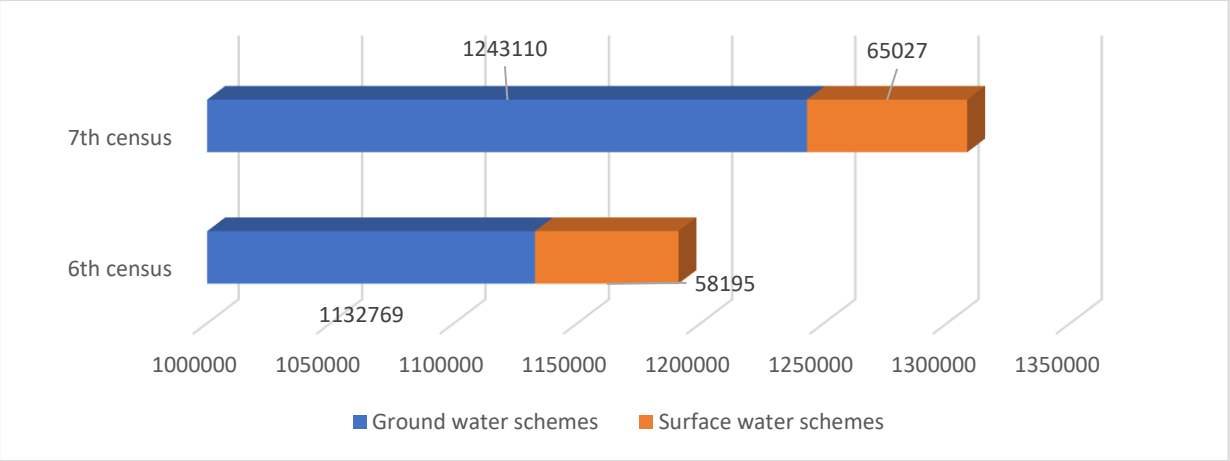
The 7th Minor Irrigation Census was launched in April 2025. In this State/UT Report, twenty States/UTs that completed their census work earlier have been considered: Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Jharkhand, Karnataka, Keralam, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Tripura, Uttar Pradesh and Uttarakhand, and the Union Territory of Jammu and Kashmir. Key findings of this Census in respect of these States/UTs, along with an analysis and comparison with the 6th MI Census, are summarised below.

2.6 ANDHRA PRADESH

1. Number of MI Schemes

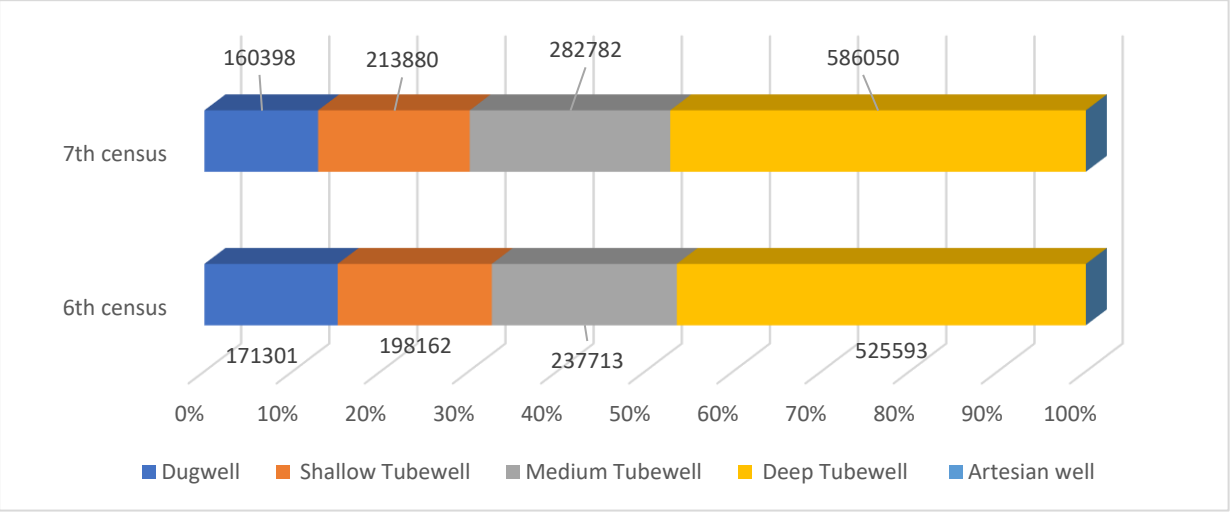
1.1 Andhra Pradesh reported **13,08,137** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **95.03% (12,43,110 schemes)** are Ground Water schemes and the remaining **4.97% (65,027 schemes)** are Surface Water schemes. It reflects that Ground Water schemes are prominent in Andhra Pradesh owing to the topography of the region. A comparison with the 6th Minor Irrigation Census reveals **9.84% increase** in the total number of schemes, from 11,90,964 in the 6th Census to 13,08,137 in the 7th Census.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



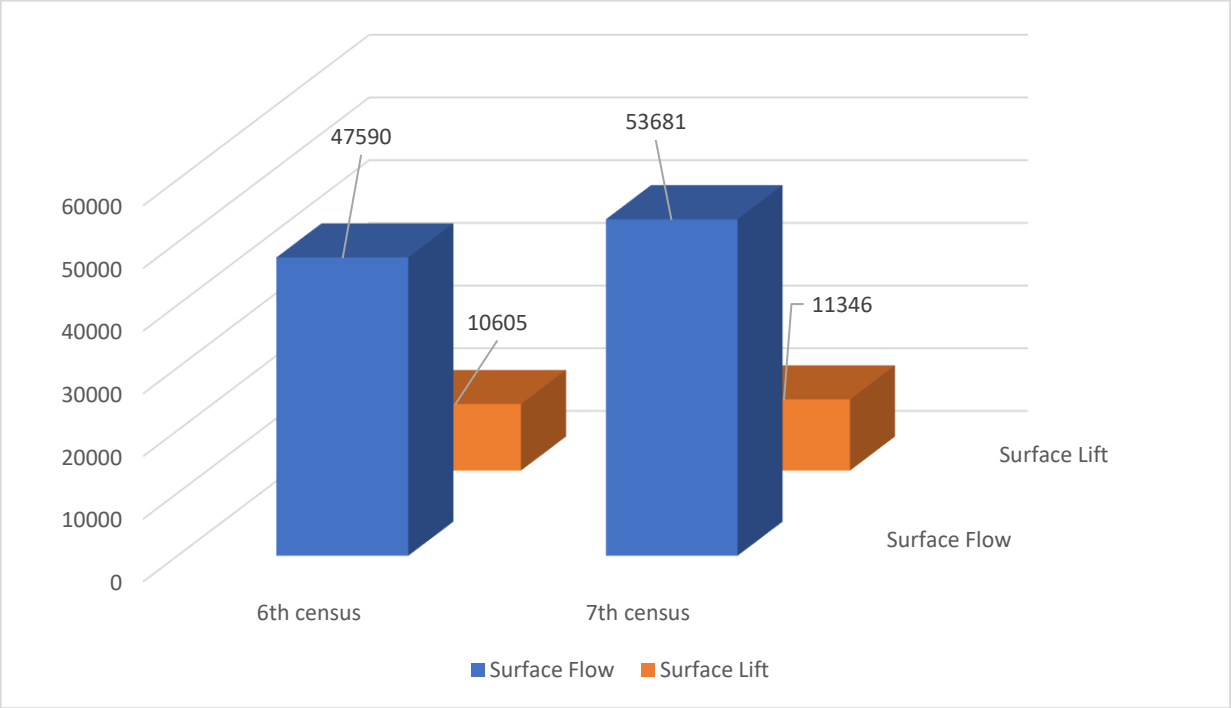
1.2 The number of Ground-water schemes increased from 11,32,769 to 12,43,110, they continued to account for close to 95% of the total schemes. Within the Ground-water category, the increase was primarily driven by Deep Tubewell which is shown in the chart given below.

Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



1.3 Surface water schemes increased significantly from 58,195 to 65,027 schemes. Within this category, Surface Flow Schemes remained the predominant type, increasing from 47,590 to 53,681 schemes.

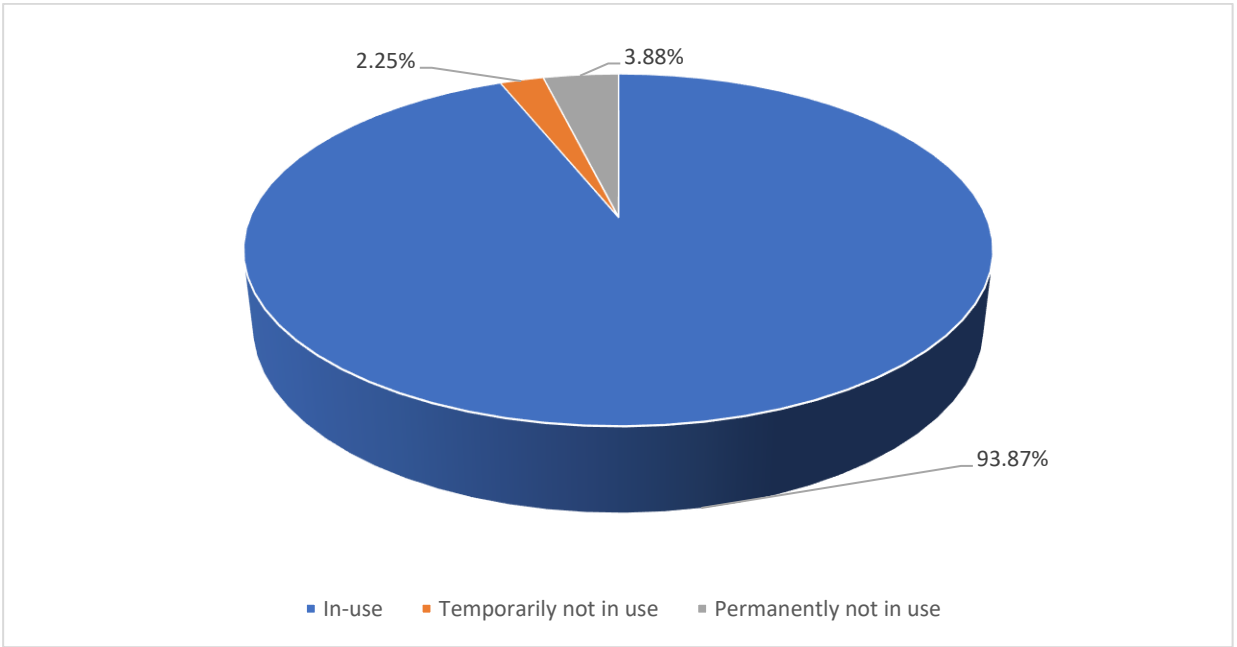
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 Out of the total 13,08,137 MI schemes, **93.87%** are currently 'In Use', **3.88%** are 'Permanently not in use', and **2.25%** are 'Temporarily not in use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

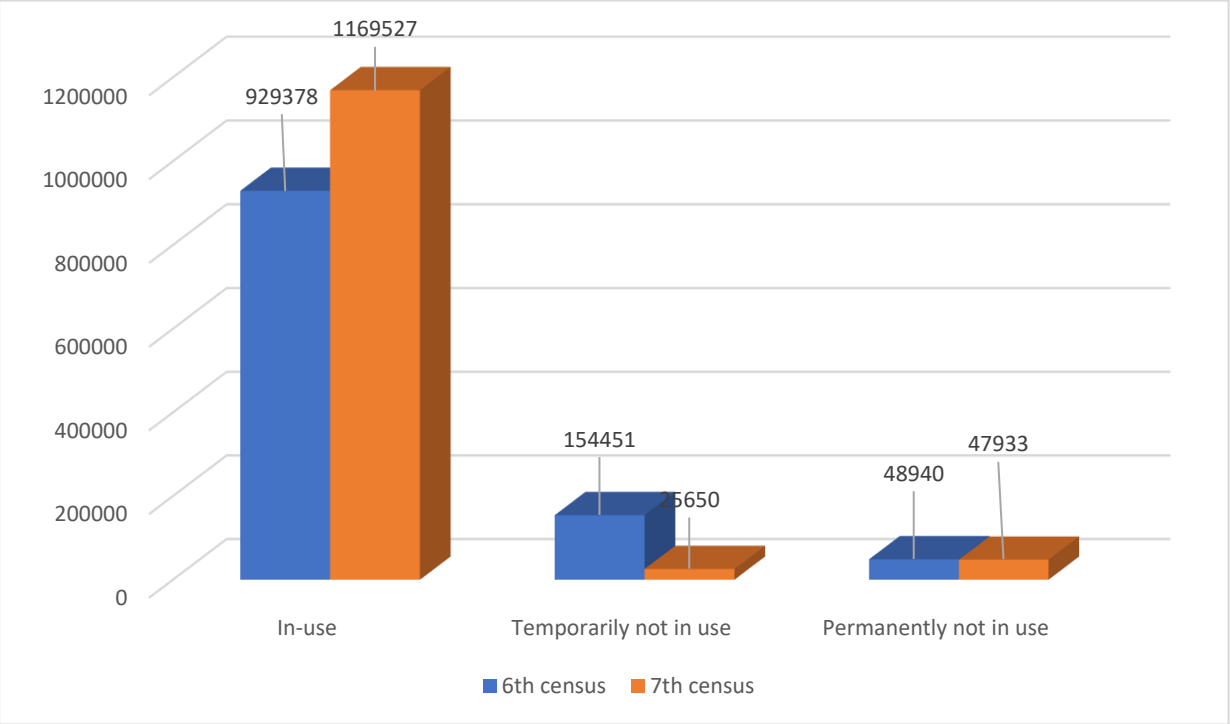
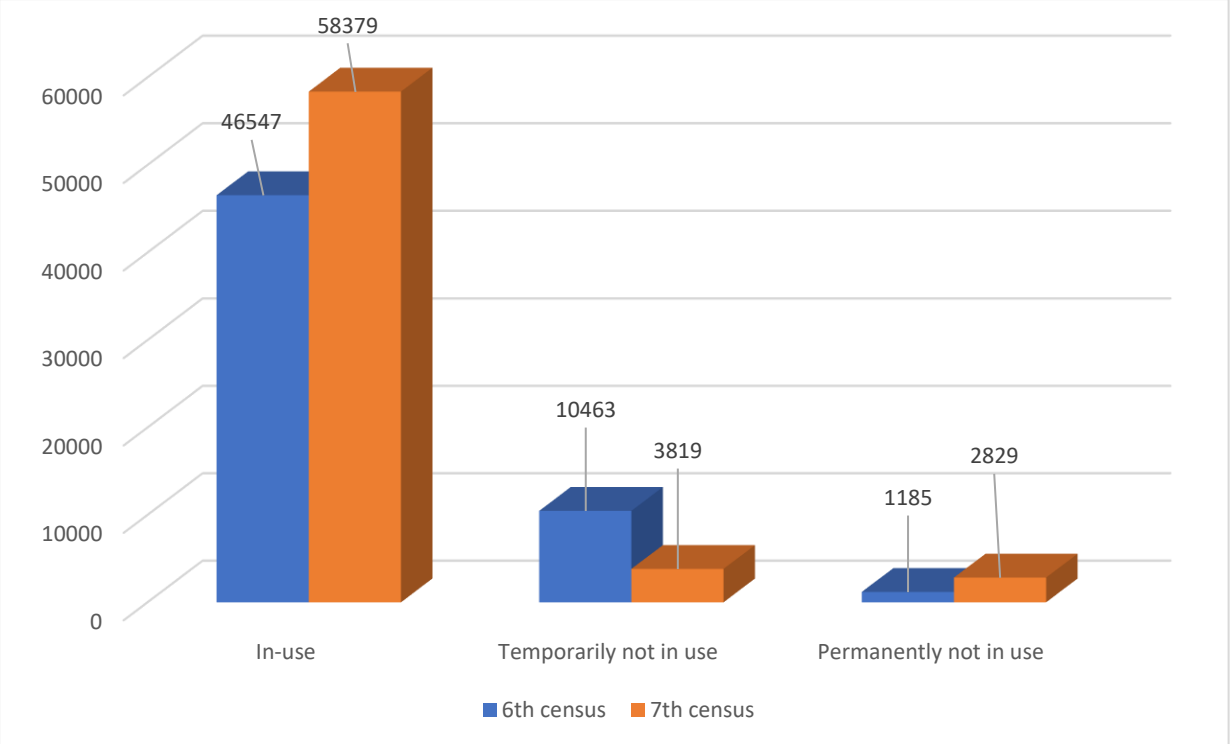


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

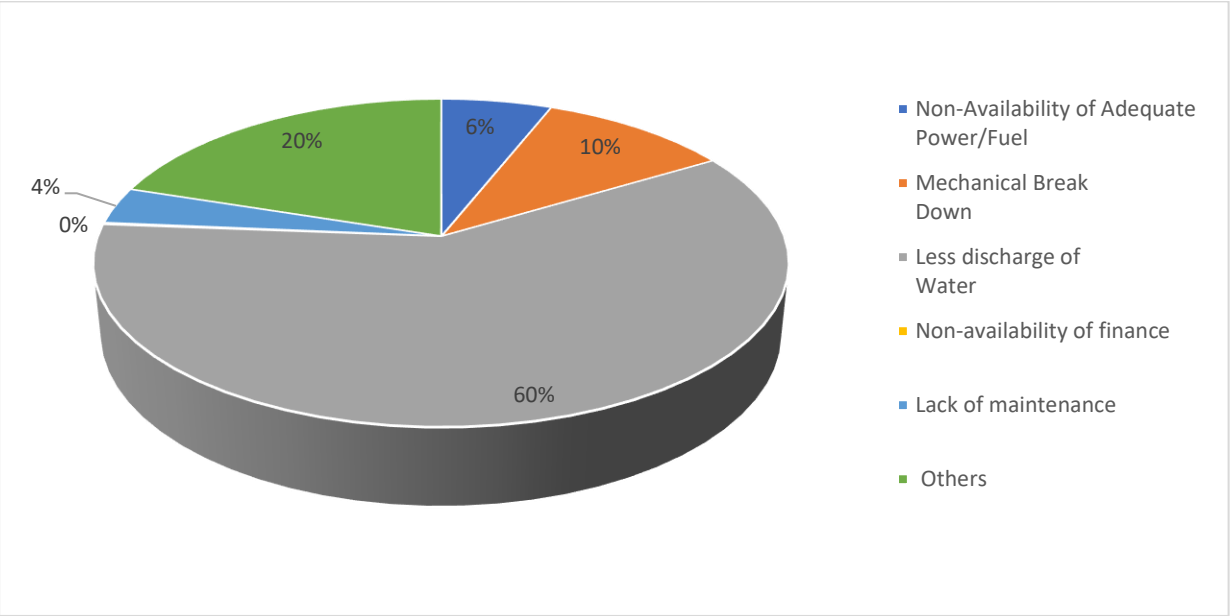


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, a total of 25,650 Ground-water (GW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes is shown in chart 7.

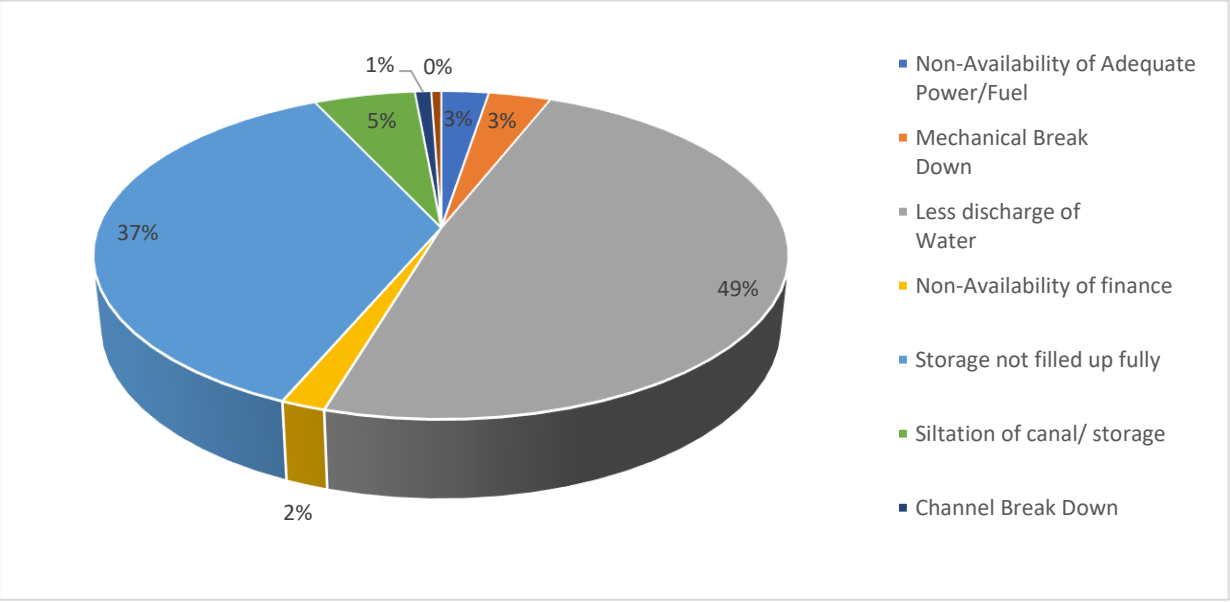
Chart 7: Reason wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, a total of 3,819 surface water (SW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water schemes is shown in chart 8.

Chart 8: Reason- wise percentage share of 'Temporarily Not-In Use' Surface Water Schemes



3.3 Reason of 'Permanently Not In Use' GW Schemes

As per 7th Census, a total of 47,933 Ground-water (GW) schemes were reported 'Permanently Not in Use'. 'Dried up' is accounted as one of the major reasons of ground water and surface water schemes. Reason wise percentage distribution of 'Permanently Not-In Use' GW Schemes and SW Schemes is given in chart 9 and chart 10 below.

Chart 9: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes

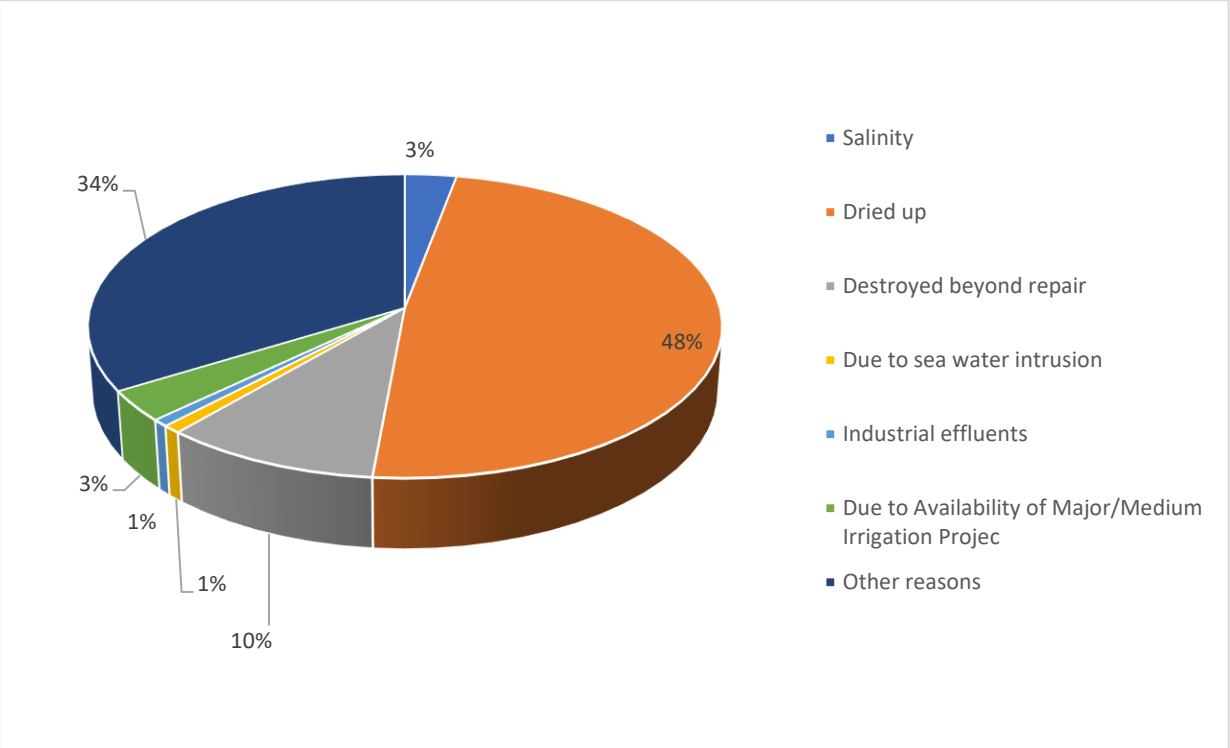
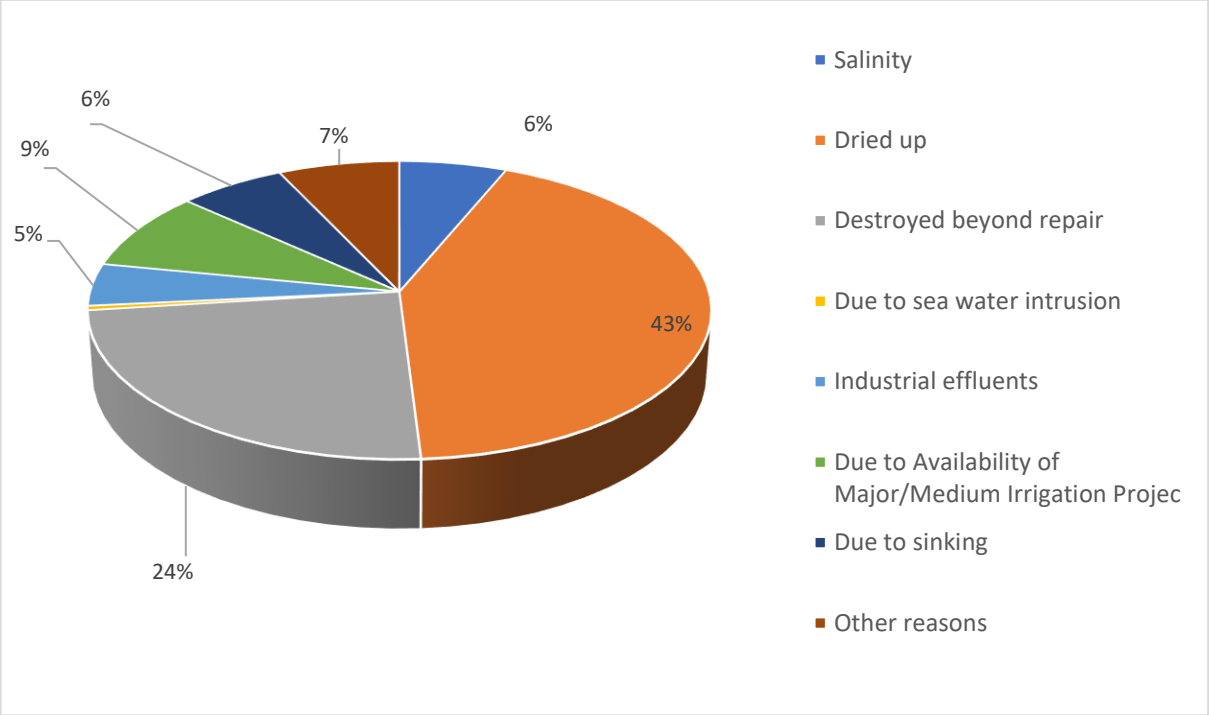


Chart 10: Reason wise percentage distribution of 'Permanently Not-In Use' Surface Water Schemes



4. Ownership of MI Schemes

4.1 Out of **13,08,137** MI schemes in Andhra Pradesh, significant number of the schemes approx. 96% are owned by Individual Farmers and Group of farmers. This shows that farmers are getting

noticeable benefit from MI schemes. Ownership Categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers), are shown in Charts 11, 12 and 13 respectively.

Chart 11: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

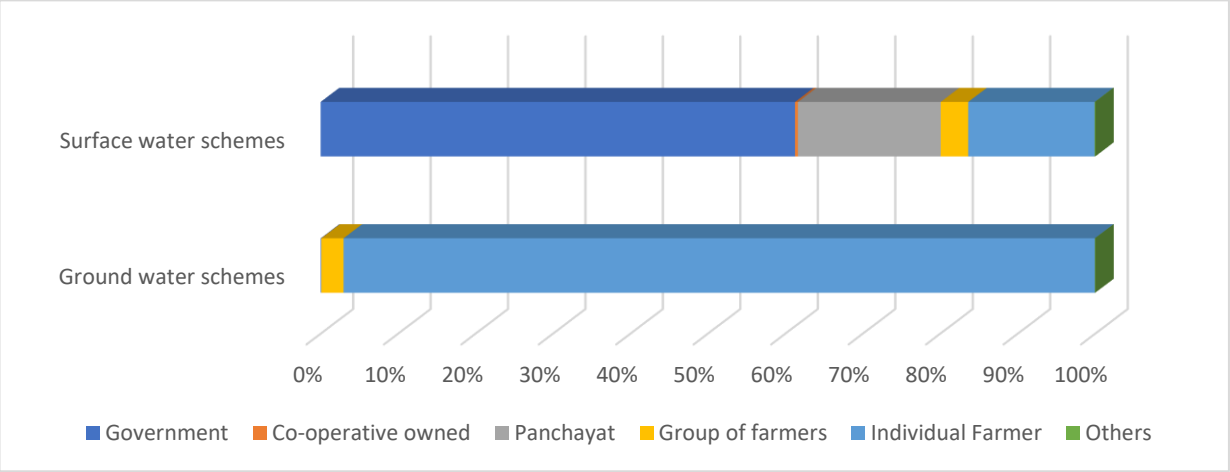


Chart 12: Ownership of Ground Water Schemes (Number)

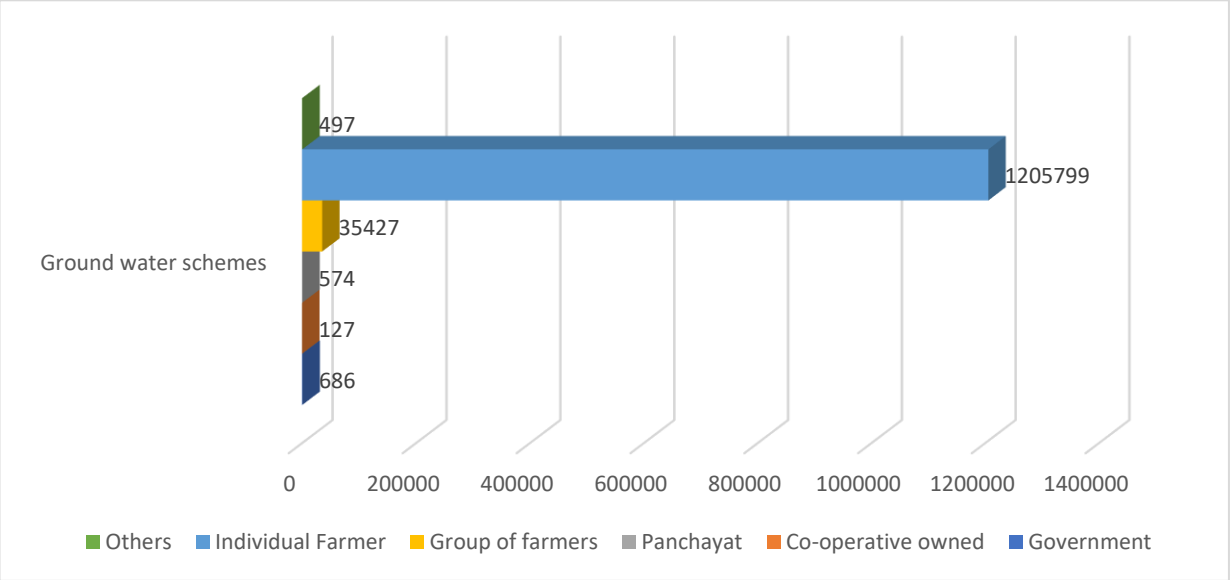
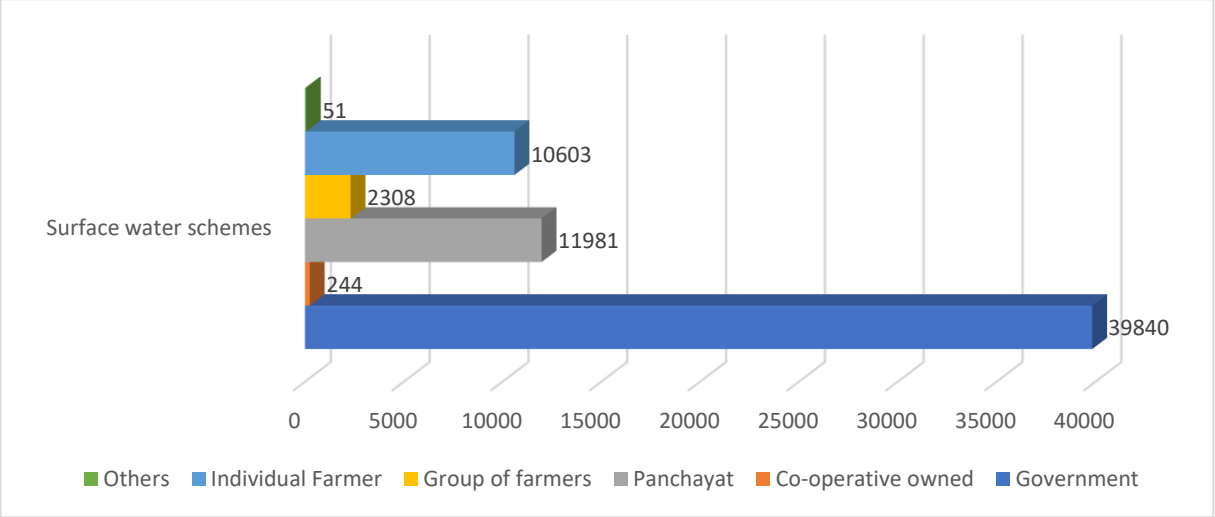


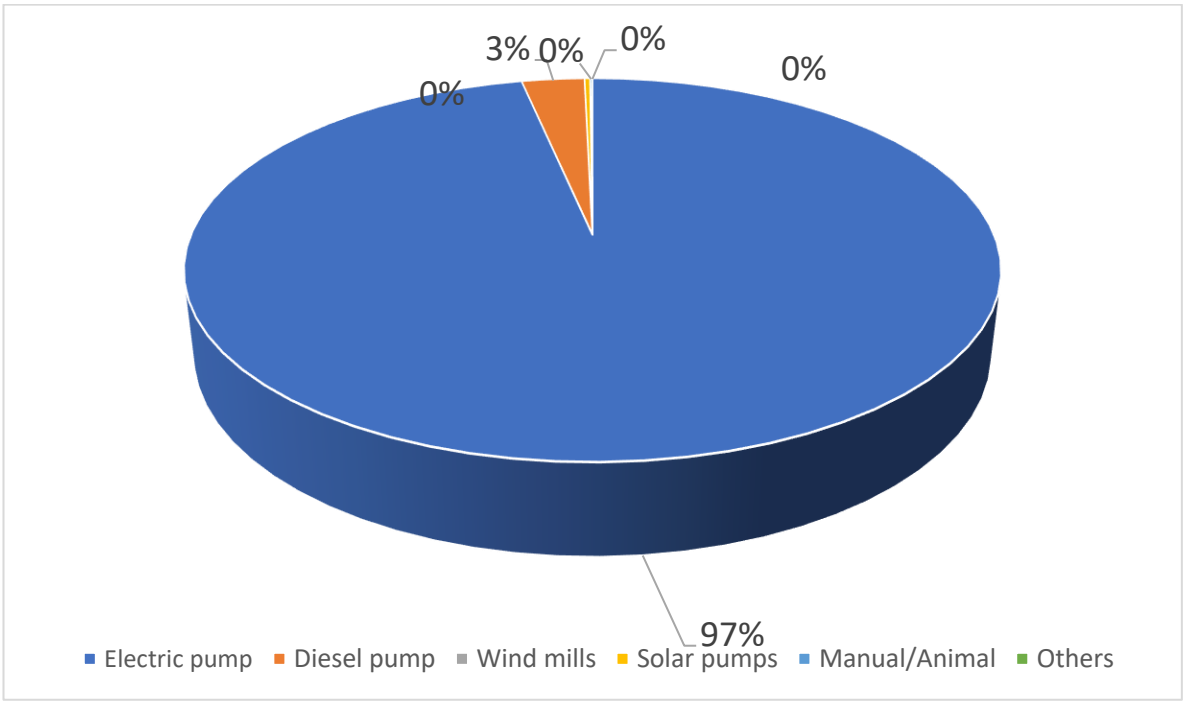
Chart 13: Ownership of Surface Water Schemes (Number)



5. Source of Energy

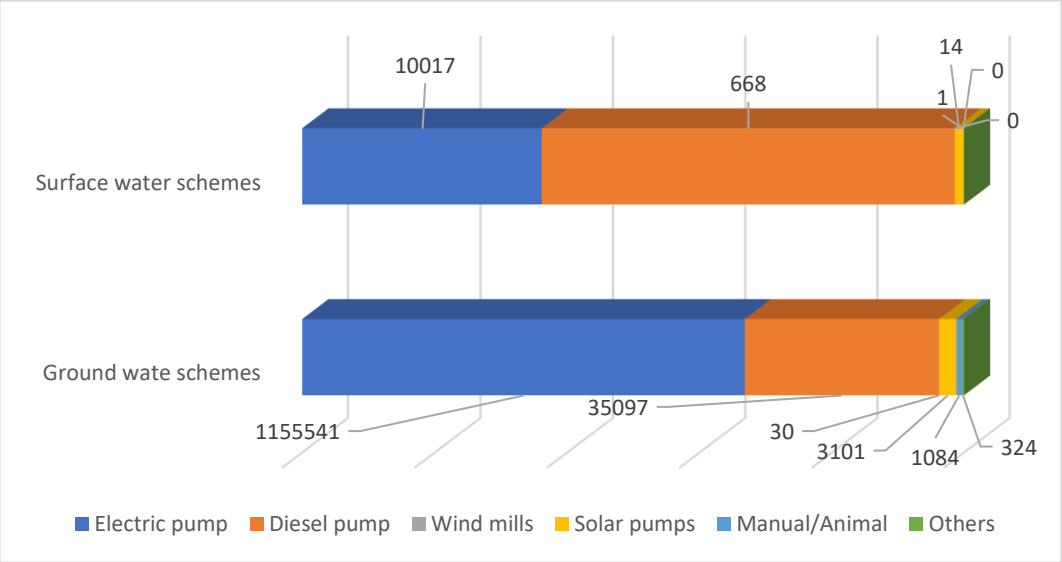
5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. The number of such schemes is 12,05,877. Out of these, majority of schemes (96.66%) are using Electricity as source of energy followed by Diesel pumps (2.96 %) and Solar pumps (0.26%) in the 7th MI Census.

Chart 14: Percentage distribution of MI schemes by Source of Energy



5.2 Percentage of surface lift and ground water irrigation scheme by source of energy is given in chart 14.

Chart 15: Number of Ground Water vs Surface Water Schemes by Source of Energy



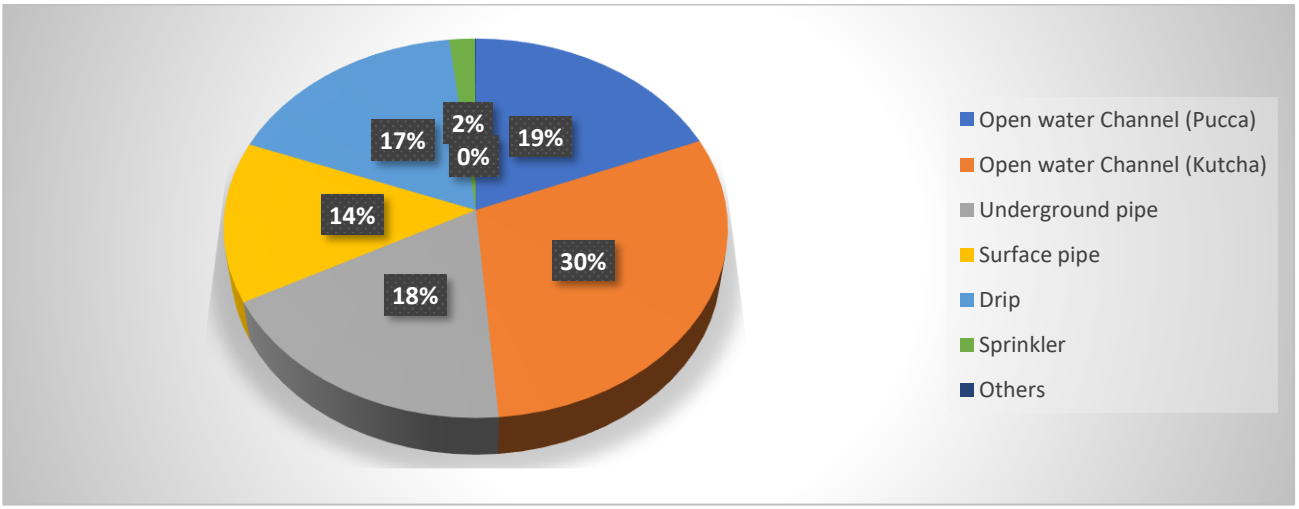
6. Water Distribution Methods

6.1. As per the 7th Census, out of total of 12,27,906 'In Use' schemes, only 58,379 (4.75%) were Surface Water schemes, while 11,69,527 (95.25%) were Ground Water schemes. In terms of water distribution method, Open Water Channel (Kutcha) was the predominant mode of water distribution, accounting for 29.9% of the total, followed by Open Water Channel (Pucca) (18.78%), Underground pipe (18.54%) and surface pipe (13.65% while, Drip and Sprinkler together accounted for approx. 19% share in distributing water.

6.2. Among Ground Water schemes, Open Water Channel (Kutcha) was the most commonly used water distribution method (3,30,162 schemes), followed by Underground pipe (222178), open water channel pucca (218182 schemes), drip (211808 schemes) and Surface pipe (1,64,641 schemes). Surface Water schemes were also predominantly served through Open Water Channel (Kutcha) (36,970 schemes).

6.3 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 16 below.

Chart 16: Percentage distribution of MI Schemes by type of Water Distribution Methods

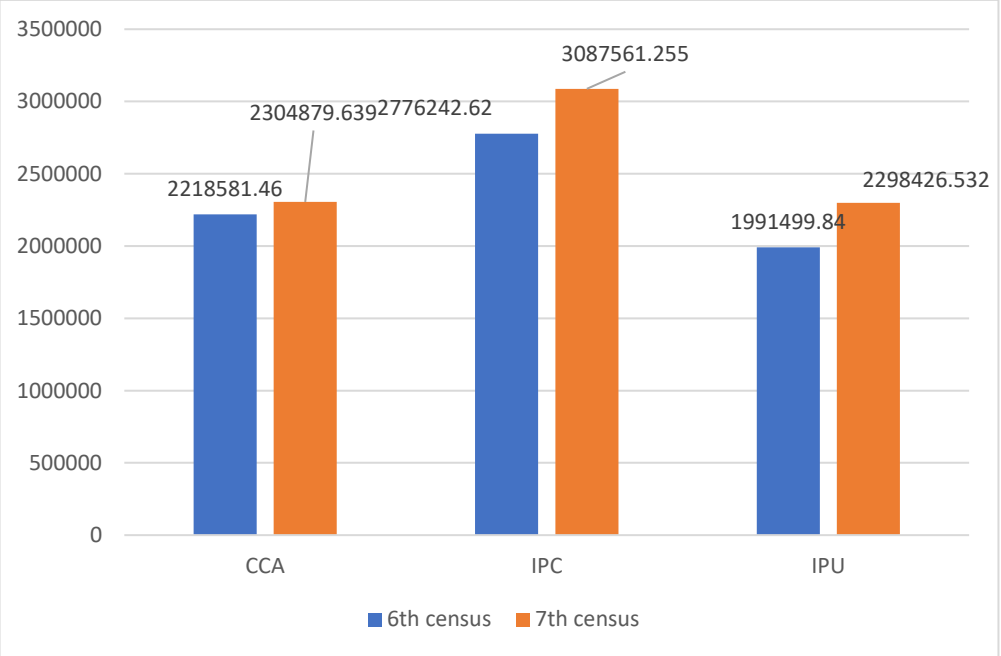


7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 There has been an increase in the Culturable Command Area (CCA), Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU) in the State from 6th to 7th MI Census. The CCA increased by 3.89%, while the IPC increased by 11.21% during the same period. The IPU registered a rise of 15.41% in the 7th MI Census over the 6th Census.

7.2 The IPU-to-IPC ratio increased from 0.7173 (71.73%) in the 6th Census to 0.7444 (74.44%) in the 7th Census, indicating a higher level of utilisation of the irrigation potential created.

Chart 17: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census



8. Underutilization of 'In Use' Schemes

8.1 It is observed in the previous rounds of MI censuses that many 'In Use' schemes remain underutilized due to various constraints. As per the 7th MI Census, 1,35,882 schemes out of 12,27,906 'In Use' schemes in Andhra Pradesh were underutilized for various reasons, while the remaining 88.93% of the 'In Use' schemes were functioning without any reported constraints.

8.2 Out of 11,69,527 'In Use' Ground-water schemes, 1,24,142 schemes were under-utilised on account of various reasons shown in Chart 18. As per the 7th Census, out of 58,379 'In Use' SW schemes, 11,740 Surface Water schemes were reported as underutilised. The percentage distribution of Surface Water schemes by reason for underutilisation is shown in the Chart 19 below.

Chart 18: Percentage distribution of Ground Water schemes by reason for underutilisation

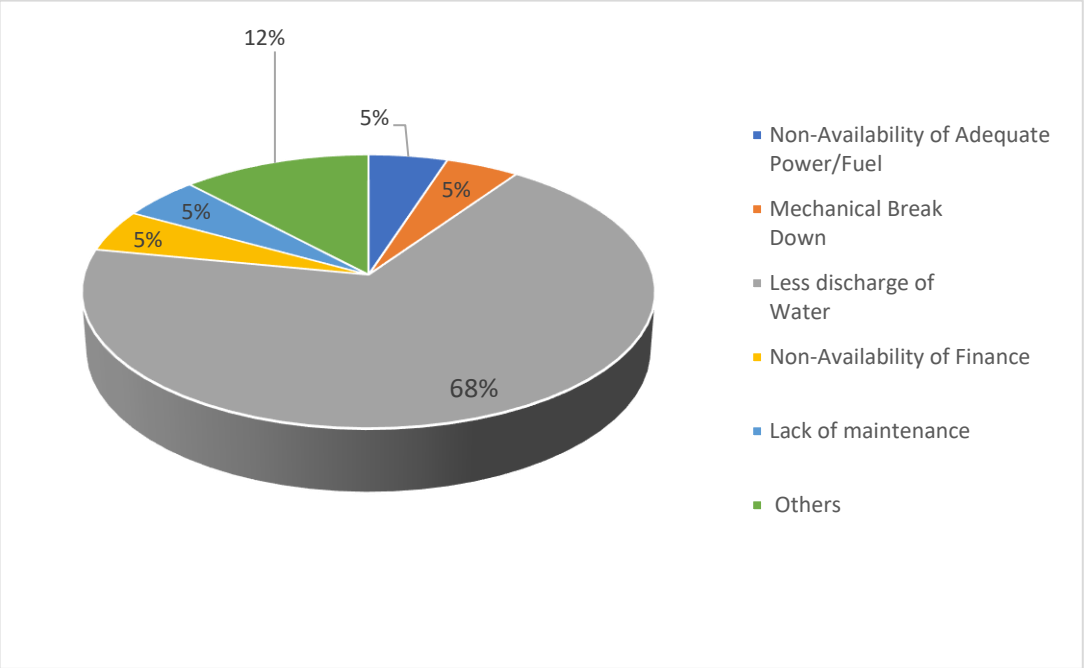
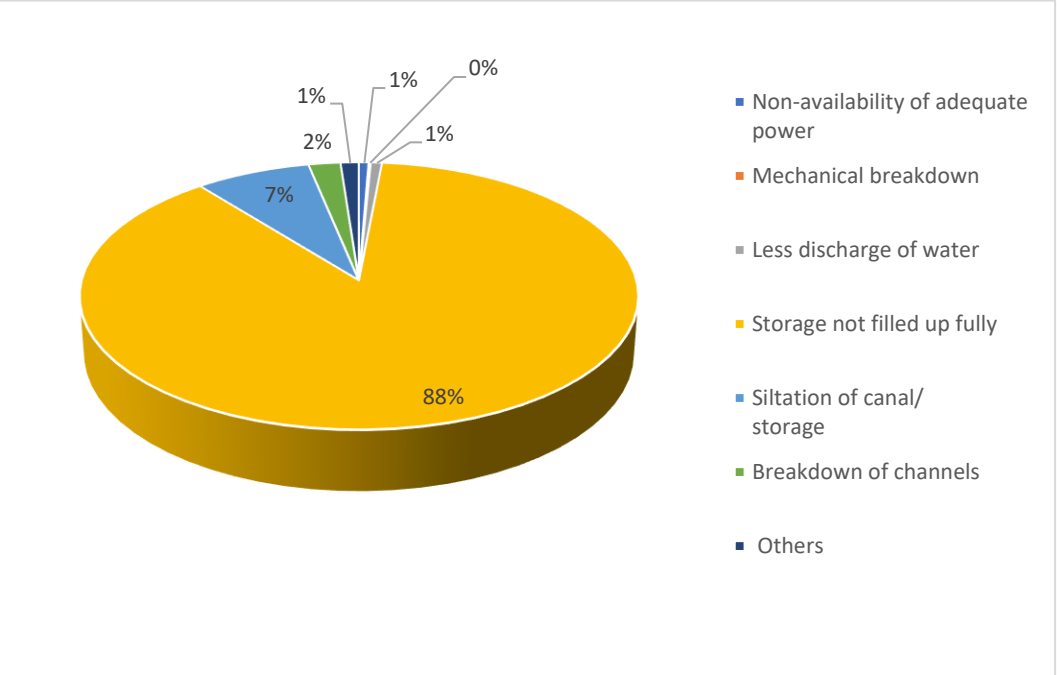


Chart 19: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 3,907 irrigation schemes, all of which were surface water schemes, indicating that all Ground-water recharge activities were carried out through surface water schemes.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 13,618 Minor Irrigation schemes, constituting about 1.04% of the total schemes in Andhra Pradesh, were also used for drinking water supply.

Key Parameters of 7th MI Census — Andhra Pradesh

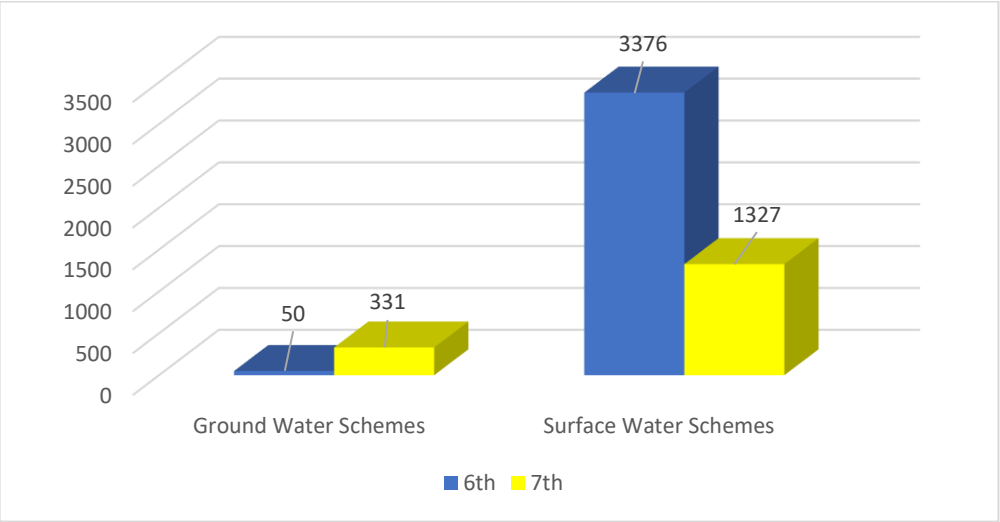
Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	160398			12.90%
	Shallow Tubewell	No.	213880			17.21%
	Medium Tubewell	No.	282782			22.75%
	Deep Tubewells	No.	586050			47.14%
	Ground Water	No.	**1243110**			95.03
	Surface Flow	No.	53681			82.55
	Surface Lift	No.	11346			17.45
	Surface Water	No.	**65027**			4.97
	Total schemes	No.	**1308137**			100.00
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	1456069	848811	2304880	
	IPC	Ha	2020977	1066584	3087561	
	IPU	Ha	1664541	633885	2298427	
	IPC of In Use schemes	Ha	1932944	996907	2929851	
	IPU of In Use schemes	Ha	1649141	626599	2275740	
	% Ratio of IPU to IPC	%	82	59	74	
	Gap in IPC and IPU	Ha	283802.2	370308.28	654110.5	
Ownership	Government	No.	686	39840	40526	3.10
	Co-Operative Owned	No.	127	244	371	0.03
	Panchayat	No.	574	11981	12555	0.96
	Group of farmers	No.	35427	2308	37735	2.88
	Individual farmer	No.	1205799	10603	1216402	92.99
	Others	No.	497	51	548	0.04
	Total	No.	1243110	65027	1308137	100.00
Water Distribution methods (In Use schemes)	Open Water Channel	No.	218182	12457	230639	18.78
	Open Water Channel	No.	330162	36970	367132	29.90
	Underground pipe	No.	222178	5525	227703	18.54
	Surface Pipe	No.	164641	2986	167627	13.65
	Drip	No.	211808	128	211936	17.26
	Sprinklers	No.	21970	164	22134	1.80
	Others	No.	586	149	735	0.06
	Total	No.	1169527	58379	1227906	100.00

2.7 ARUNACHAL PRADESH

1. Number of MI Schemes

1.1 Arunachal Pradesh reported **1,658** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **80% (1,327 schemes)** are Surface Water schemes and the remaining **20% (331 schemes)** are Ground Water schemes.

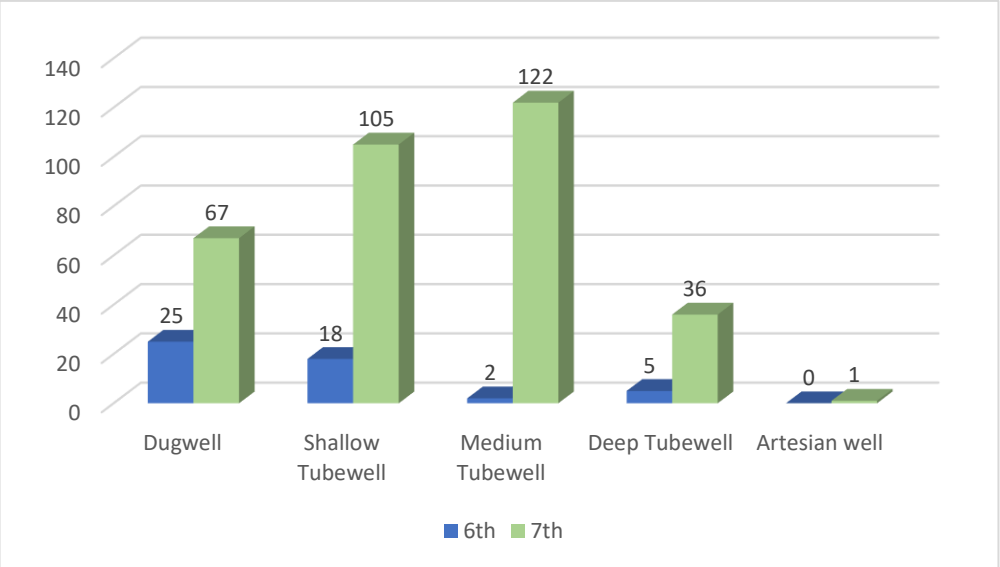
Chart 1: Number of Ground Water and Surface Water Schemes 6th vs 7th MI Census



1.2 A comparison with the 6th Minor Irrigation Census reveals a massive **increase** of 562% of ground water schemes in the region and a **decline** of 61% in the surface water schemes. Overall Minor Irrigation schemes in Arunachal Pradesh declined by 52% from 3,426 in 6th MI census to 1,658 in 7th MI census.

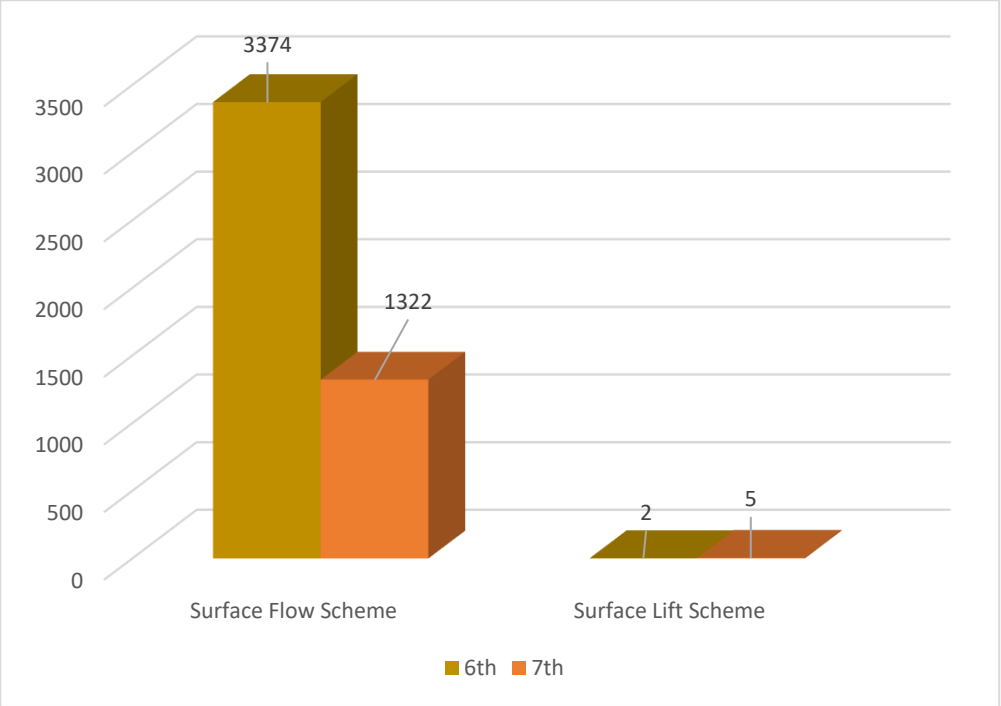
1.3 Under Ground Water schemes Dugwells increased by 168%, Shallow tube wells increased by 483%, Medium tube wells increased by 6000%, Deep tube wells increased by 620% during the same period.

Chart 2: Number of Ground Water Schemes by Type —6th vs 7th MI Census



1.4 Surface flow schemes have been decreased by 61% since the 6th MI census, which is a significant decline in the numbers. But surface lift schemes increased by about 150%.

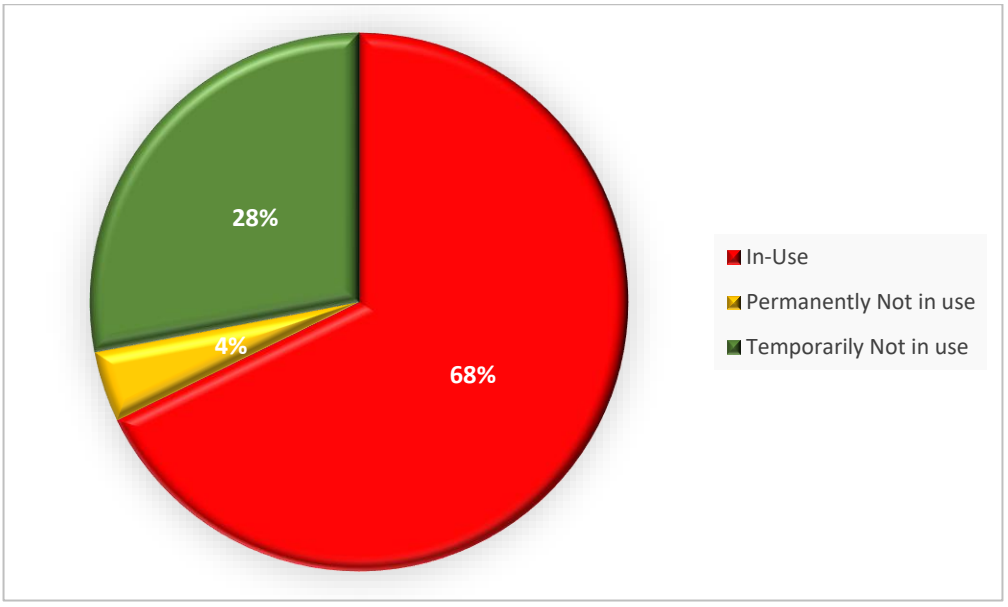
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 Out of the total **1,658** MI schemes, **68% (1,124) schemes** are currently 'In Use', **4% (70) schemes** are 'Permanently Not In Use', and **28% (464) schemes** are 'Temporarily Not In Use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 A comparison with 6th MI Census reveals that 'In-Use' ground water schemes in the State increased by **1133%.** However, 'In use' Surface Water schemes in Arunachal Pradesh declined by 65%.

A comparative picture of number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 6th vs 7th MI Census

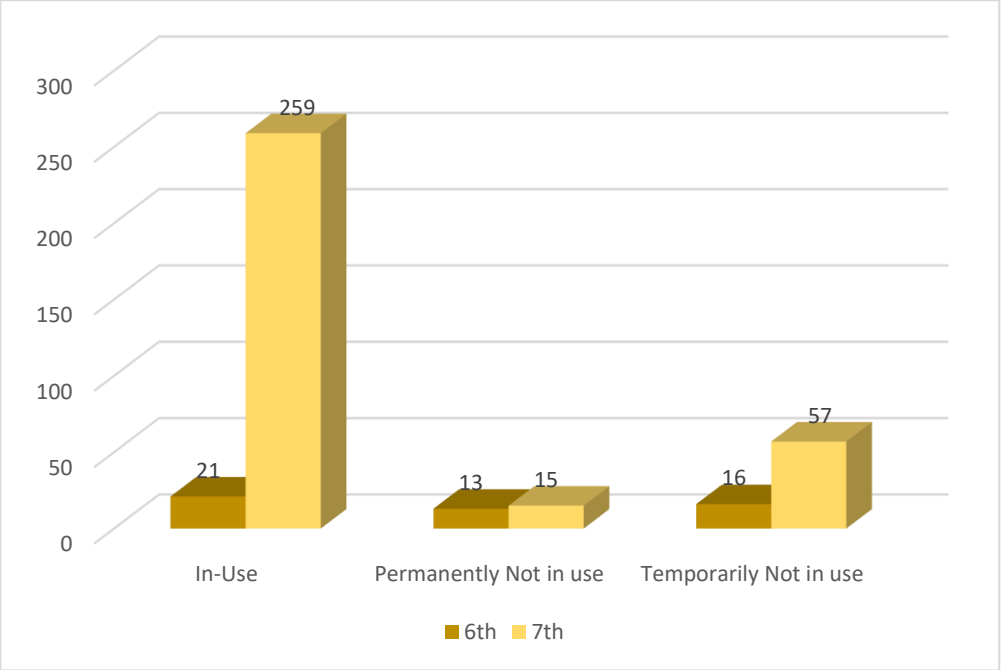
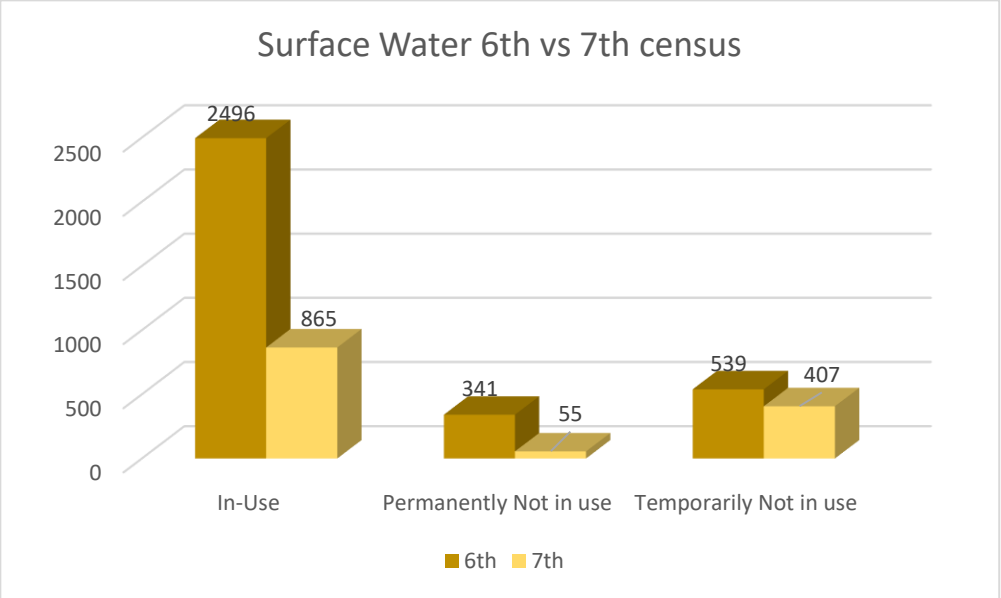


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

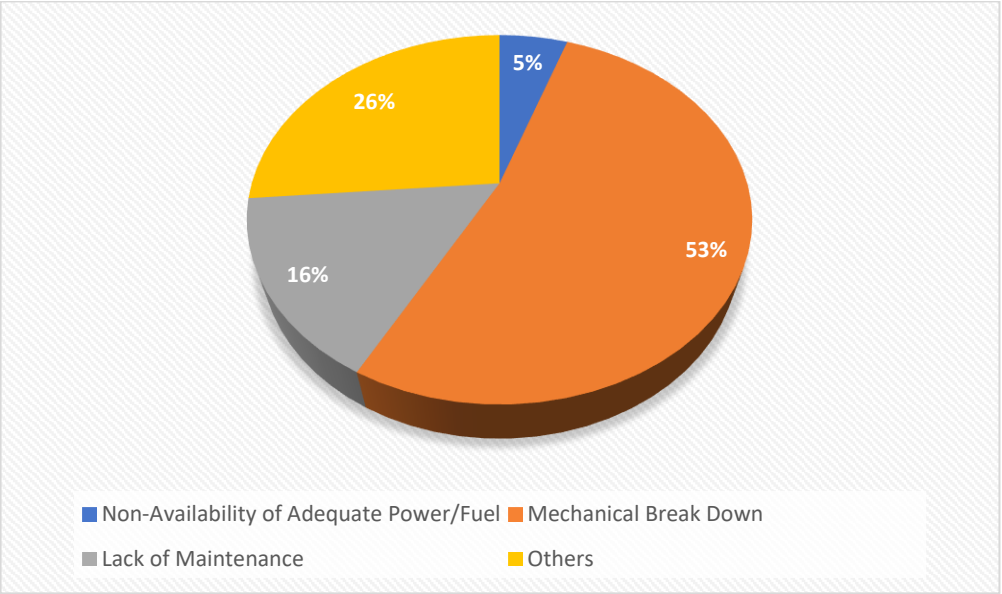


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, majority of Ground Water schemes around 53% are 'Temporarily not in use' due to mechanical breakdown, 16% are 'Temporarily not in use' because of lack of maintenance and 5% are 'Temporarily not in use' because of inadequate power or fuel supply. The Reason of "Temporarily Not in Use' GW schemes is shown in chart 7.

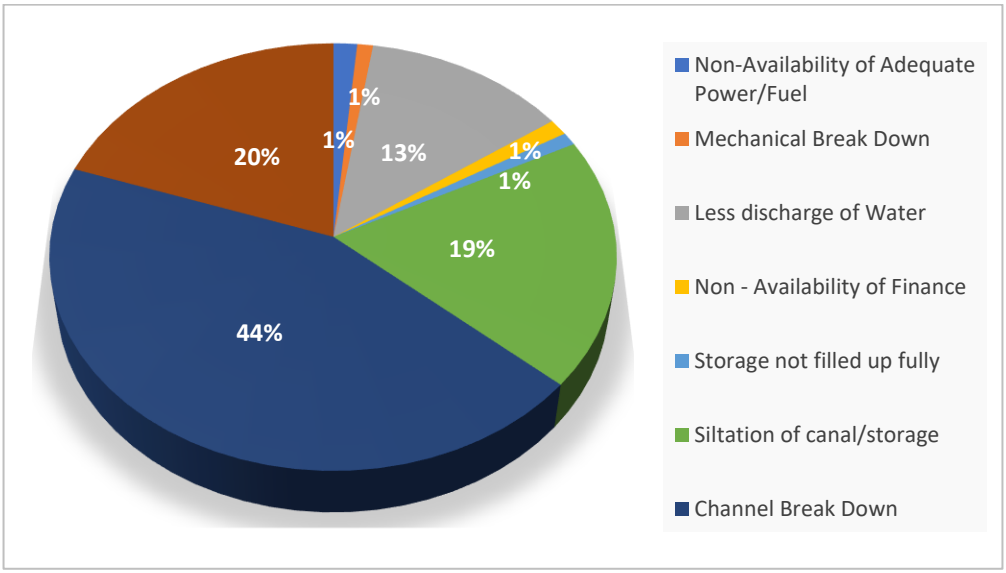
Chart 7: Reasons wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, 44% of the surface water bodies are temporarily not in use due to Channel break Down and rest because of Siltation of canal/storage, less discharge of water, inadequate power or fuel supply, mechanical breakdown, storage not filled up fully and non-availability of finance. The Reason of "Temporarily Not in Use' SW schemes is shown in chart 8.

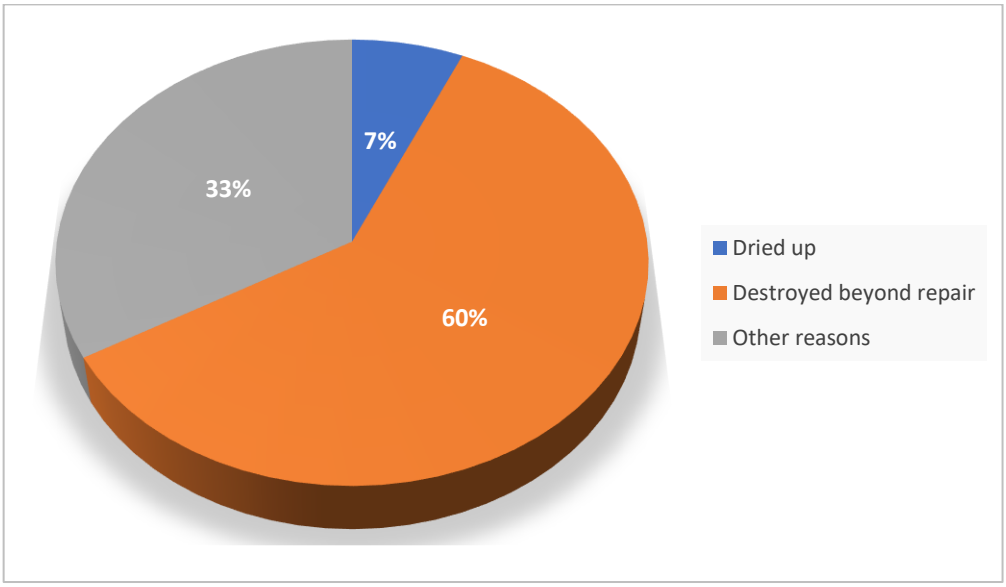
Chart 8: Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water Schemes



3.3 Reason of 'Permanently Not In Use' GW Schemes

As per 7th Census, 60% of ground water schemes have become unusable because of getting destroyed beyond repair, and remaining due to dried up and other reasons. The Reason of "Permanently Not in Use' GW schemes is shown in chart 9.

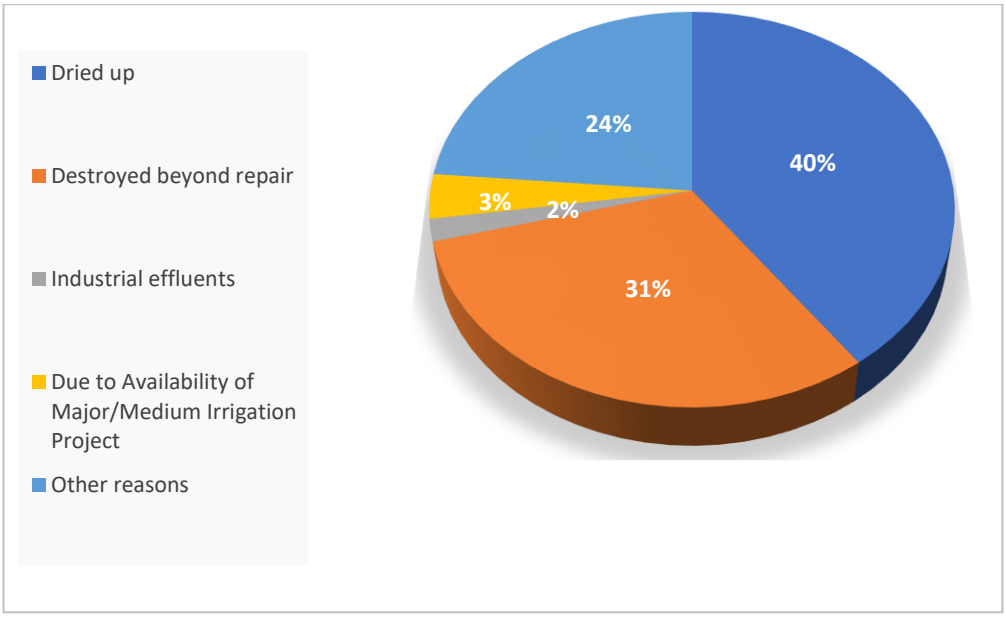
Chart 9: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes



3.4 Reason of 'Permanently Not In Use' SW Schemes

As per 7th census, **24%** of surface water schemes have become unusable because of being dried up, destroyed beyond repair, availability of Major Medium Irrigation Projects and other reasons. The Reason of "Permanently Not in Use' SW schemes is shown in chart 10

Chart 10: Reason-wise percentage distribution of 'Permanently Not-In Use' Surface-water Schemes



4. Ownership of MI Schemes

4.1 Out of **1,658** MI schemes in Arunachal Pradesh, 68% of the Ground Water schemes are owned by individual farmers, highlighting private dominance on Ground water bodies, followed by 19.6% owned by Government, 8.8% by Group of Farmers, 1.5% by Panchayat and the remaining 2.1% by Other bodies. Among the Surface Water schemes 51.4% are owned by group of farmers, 35% by Government, 5% by individual farmer, 4.8% by Panchayat, 0.5% by co-operatives, and the remaining

3.3% by other bodies. Ownership Categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers), are shown in Charts 11, 12 and 13 respectively.

Chart 11: Percentage distribution of Ownership Categories — Ground Water vs Surface Water

Schemes

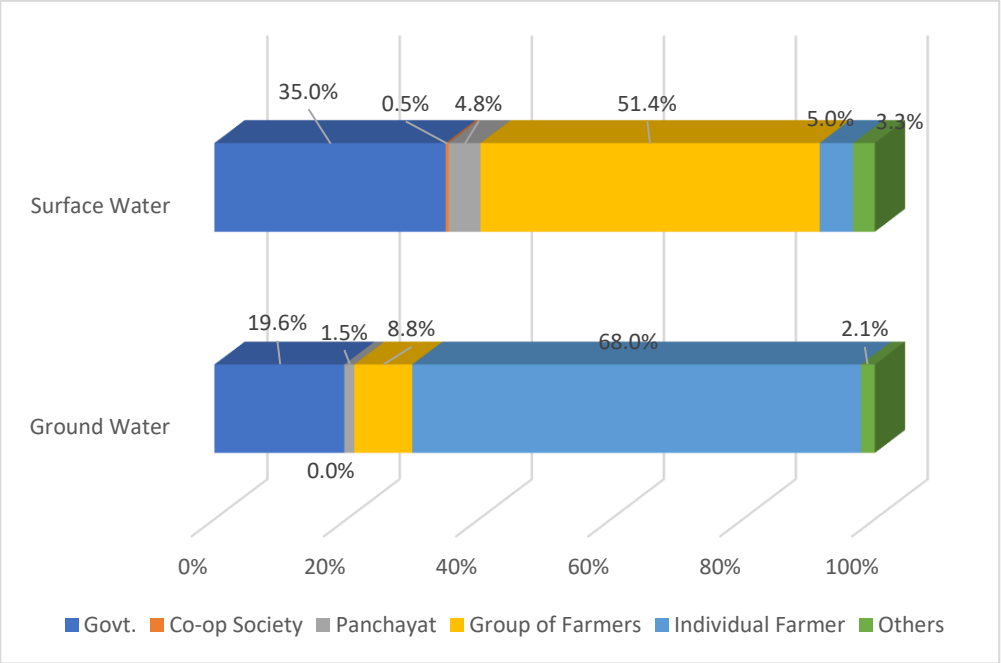


Chart 12: Ownership of Ground Water Schemes (Number)

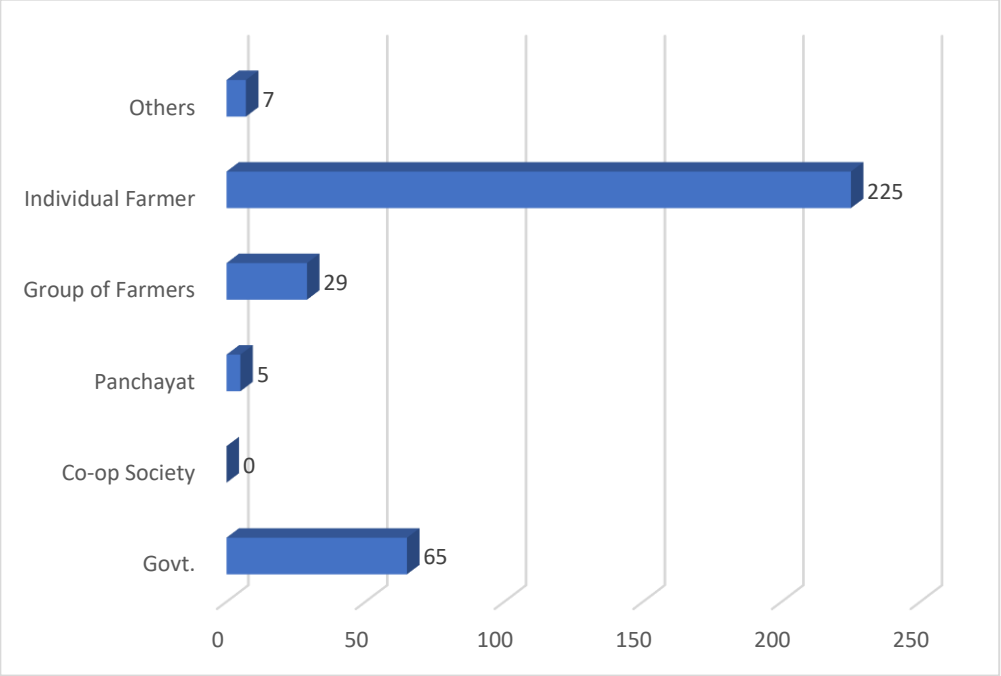
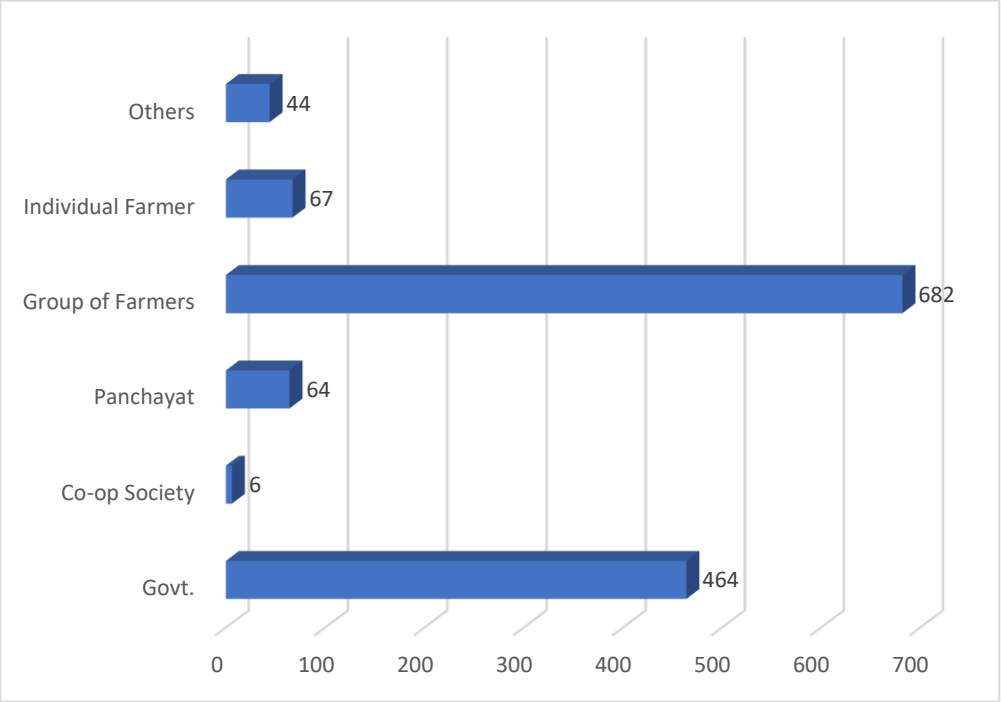


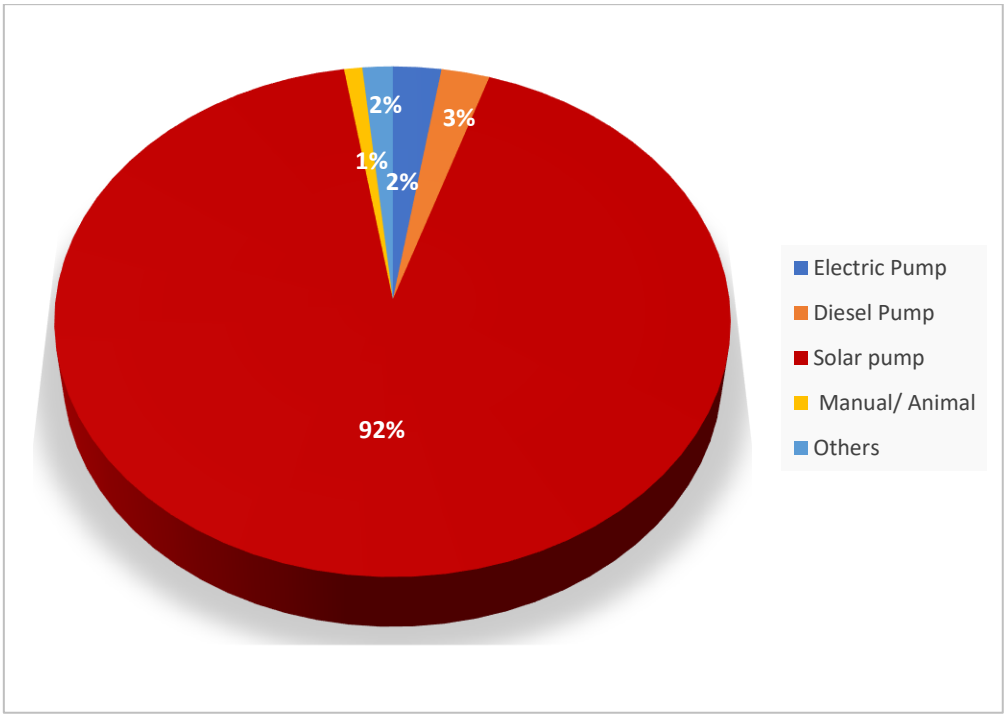
Chart 13: Ownership of Surface Water Schemes (Number)



5. Source of Energy

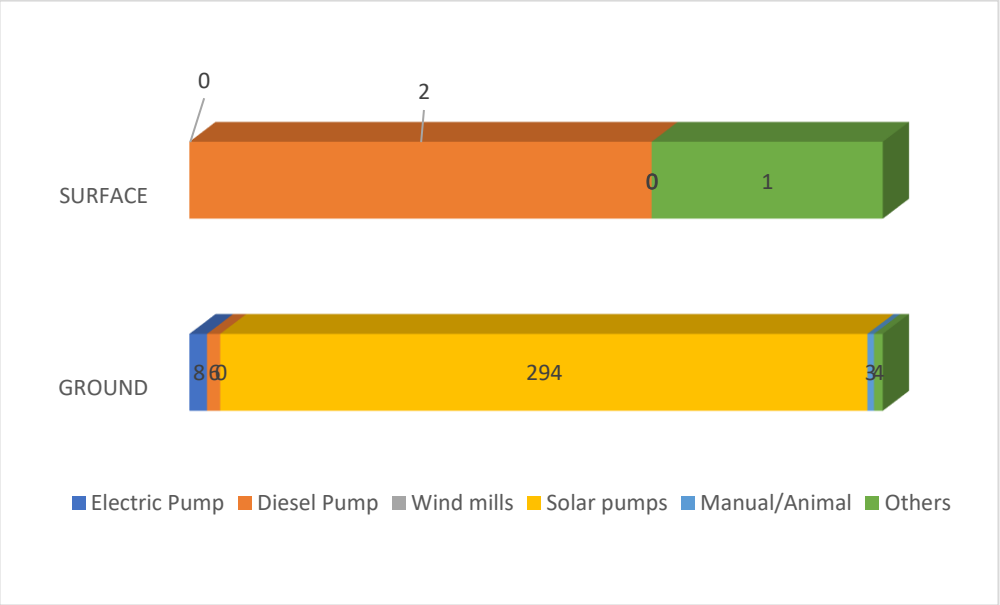
5.1 The information on 'Source of Energy' was collected for all the in use and temporarily not in use Ground Water and Surface Lift schemes. Out of them, majority of schemes (92%) are using Solar Pump. Percentage distribution of MI schemes by Source of Energy is shown in chart 14.

Chart 14: Percentage distribution of MI schemes by Source of Energy



5.2 Number of surface lift and ground water irrigation scheme by source of energy is given in chart 15.

Chart 15: Number of Ground Water vs Surface Water Schemes by Source of Energy



6. Water Distribution Methods

6.1. As per the 7th Census, out of total of 1,124 'In Use' schemes, 865 (77%) were Surface Water schemes while only 259 (23%) were Ground Water schemes. In terms of water distribution method for Ground water schemes, Surface pipe accounted for 37% of the total 'In use' schemes.

6.2. Among Surface Water schemes, Open Water channel (lined/pucca) was the majorly use water distribution method accounting for 47% of the total 'In use' schemes, followed by 46% using Open water channel (unlined/kutcha), 5% used Surface pipe, and remaining used other water distribution methods.

6.3 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 16 and chart 17 respectively.

Chart 16: Percentage distribution of Ground Water schemes by Water distribution method

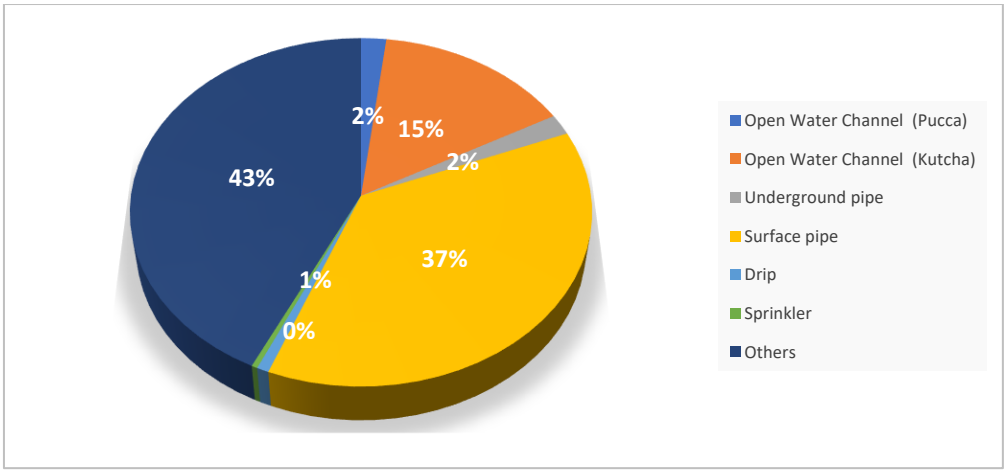
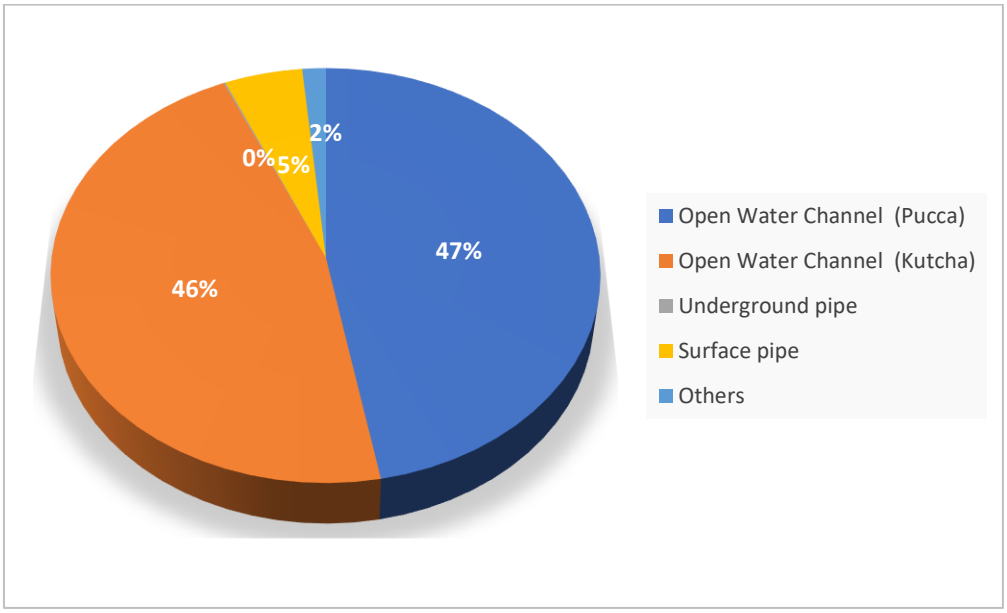


Chart 17: Percentage distribution of Surface Water schemes by Water distribution method

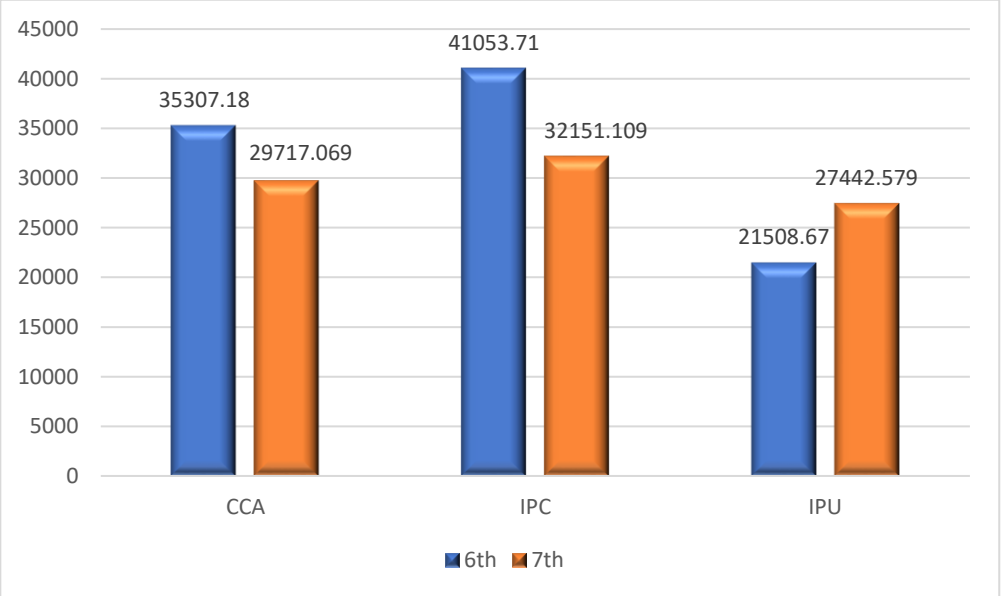


7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 There has been a decline in the Culturable Command Area (CCA), it has declined by 15.8% in Arunachal Pradesh as compared to 6th MI Census. Irrigation Potential Created (IPC) has declined by 21.6%, Irrigation Potential Utilization (IPU) has shown significant increase of 27.5% in Arunachal Pradesh.

7.2 The IPU-to-IPC ratio improved from 0.52 (52%) in the 6th Census to 0.85 (85%) in the 7th Census, indicating a higher level of utilisation of the irrigation potential created since the previous MI Census. The **CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census are shown in Chart 18.**

Chart 18: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census



8. Underutilization of 'In Use' Schemes

8.1 In Arunachal Pradesh, **57 (22%)** Ground water scheme remain underutilized out of the 259 'In Use' ground water schemes. Among them, 53% were under-utilized because of mechanical breakdown, and rest due to lack of maintenance and other reasons, are shown in chart 19 given below.

8.2 Out of 1,327 Surface water schemes, **223 (16.80%)** were underutilised. 44% of Surface water schemes were under-utilized because of Siltation of canal/storage, 42% because of breakdown of channels, 11% because of storage not filled up fully and rest due to other reasons, are shown in chart 20.

Chart 19: Percentage distribution of Ground Water schemes by reason for underutilisation

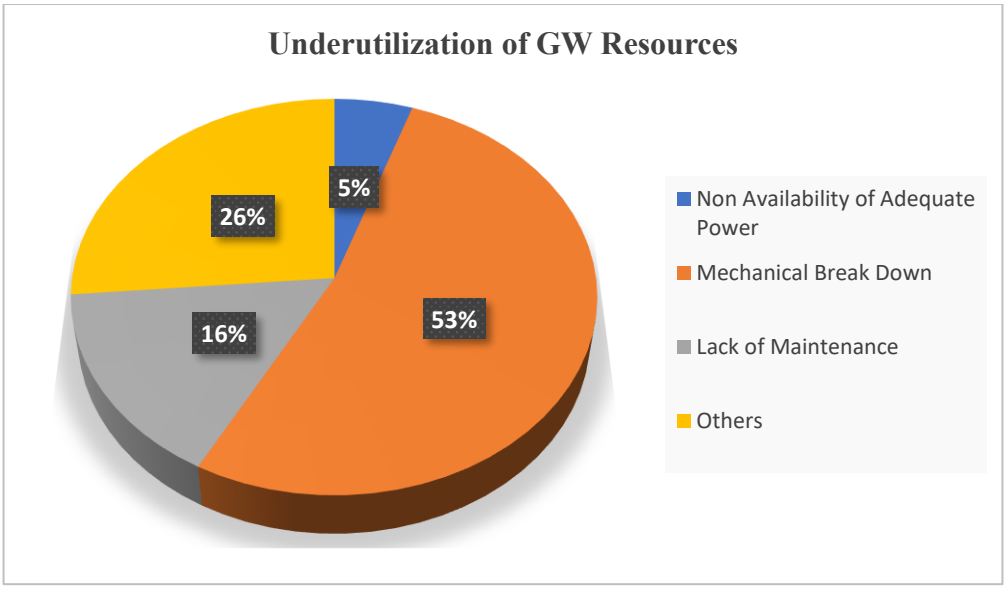
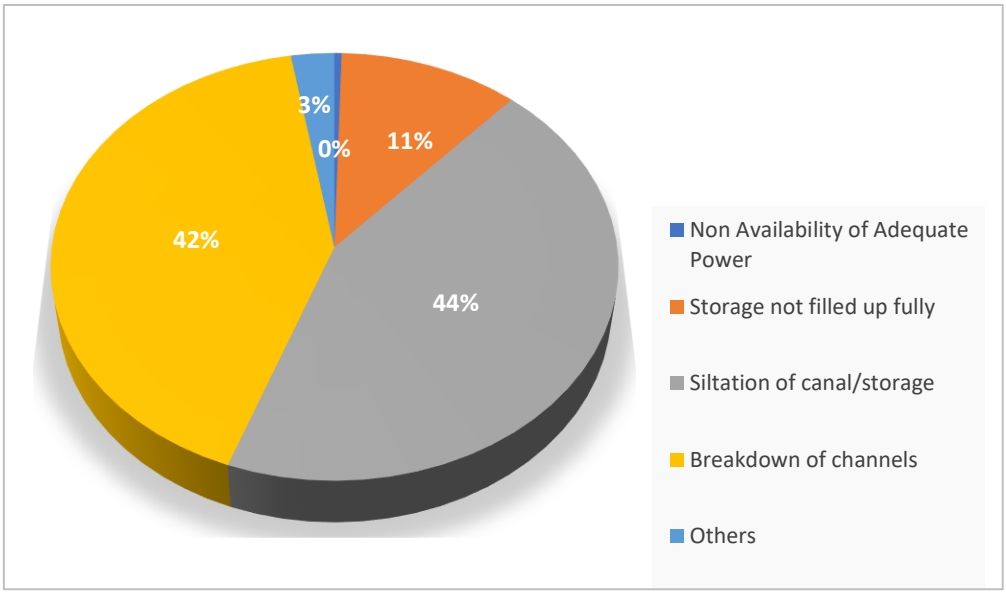


Chart 20: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 13 Minor Irrigation schemes, all of which were Surface Water schemes.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 197 ground water schemes and 66 surface water schemes were used for drinking water purposes, indicating the key role of ground water schemes for providing drinking water in the state of Arunachal Pradesh.

Key Parameters of 7th MI Census — Arunachal Pradesh

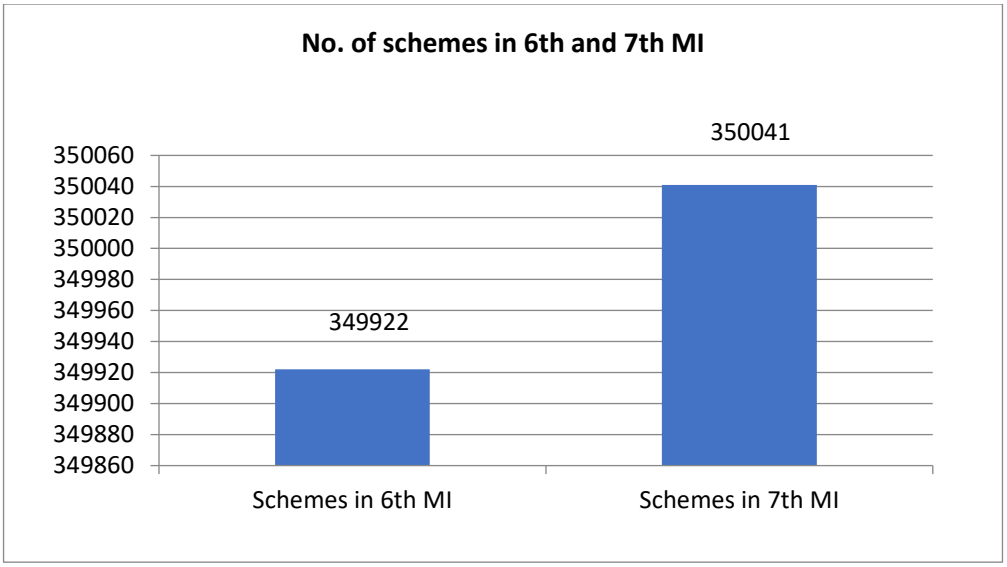
Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	67			4.04
	Shallow Tubewell	No.	105			6.33
	Medium Tubewell	No.	122			7.36
	Deep Tubewells	No.	36			2.17
	Artesian Well	No.	1			0.06
	Ground Water schemes	No.	331			19.96
	Surface Flow	No.	1322			79.73
	Surface Lift	No.	5			0.30
	Surface Water schemes	No.	1327			80.04
	Total schemes	No.	1658			**100.0**
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	3412.26	26304.81	29717.07	
	IPC	Ha	3859.82	28291.29	32151.11	
	IPU	Ha	3418.53	24024.049	27442.58	
	IPC of In Use schemes	Ha	2571.89	19587.41	22159.3	
	IPU of In Use schemes	Ha	2405.66	17124.749	19530.41	
	% Ratio of IPU to IPC	Ha	88.56%	84.91%	85%	
	Gap in IPC and IPU	Ha	441.29	4267.241	4708.53	
Ownership	Individual ownership	No.	225	67	292	17.6
	Group of Farmers	No.	29	682	711	42.9
	Public owned	No.	65	464	529	31.9
	Co-Operative Owned	No.	0	6	6	0.4
	Panchayat Owned	No.	5	64	69	4.2
	Others	No.	7	44	51	3.0
	Total	No.	331	1327	1658	**100.0**
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	5	407	412	36.6
	Open Water Channel (unlined/kutcha)	No.	39	401	440	39.1
	Underground pipe	No.	5	1	6	0.5
	Surface Pipe	No.	96	43	139	12.3
	Drip	No.	2	0	2	0.17

Parameter		Unit	Value			%
	Sprinklers	No.	1	0	1	0.08
	Others	No.	111	13	124	11.03
	Total	No.	259	865	1124	**100.0**

2.8 CHHATTISGARH

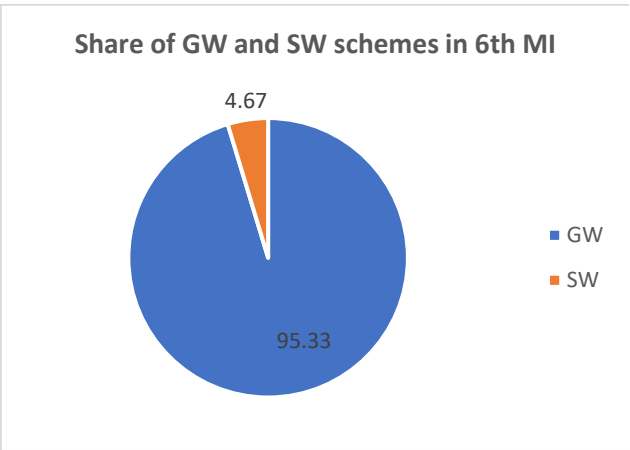
1. Number of MI Schemes

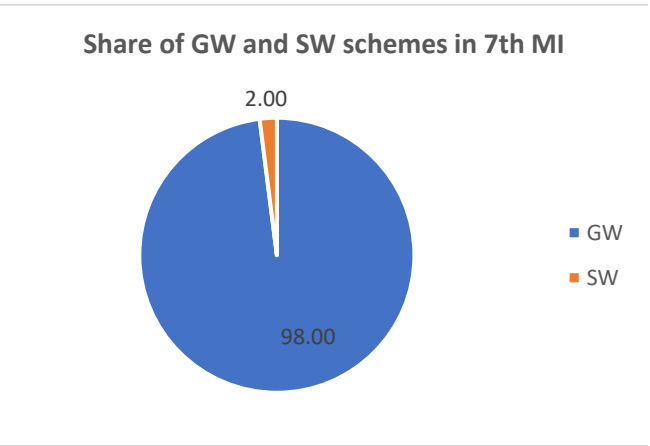
1.1. As per the 7th Census of Minor Irrigation (MI) schemes with reference year 2023-24, Chhattisgarh has 350041 MI schemes comprising of 97.9% (343023) Ground Water (GW) schemes and 2.1% (7018) Surface Water (SW) schemes. There is an increase to the tune of 0.03 % in 7th MI census as compared to the 349922 schemes in 6th MI census in the State of Chhattisgarh.



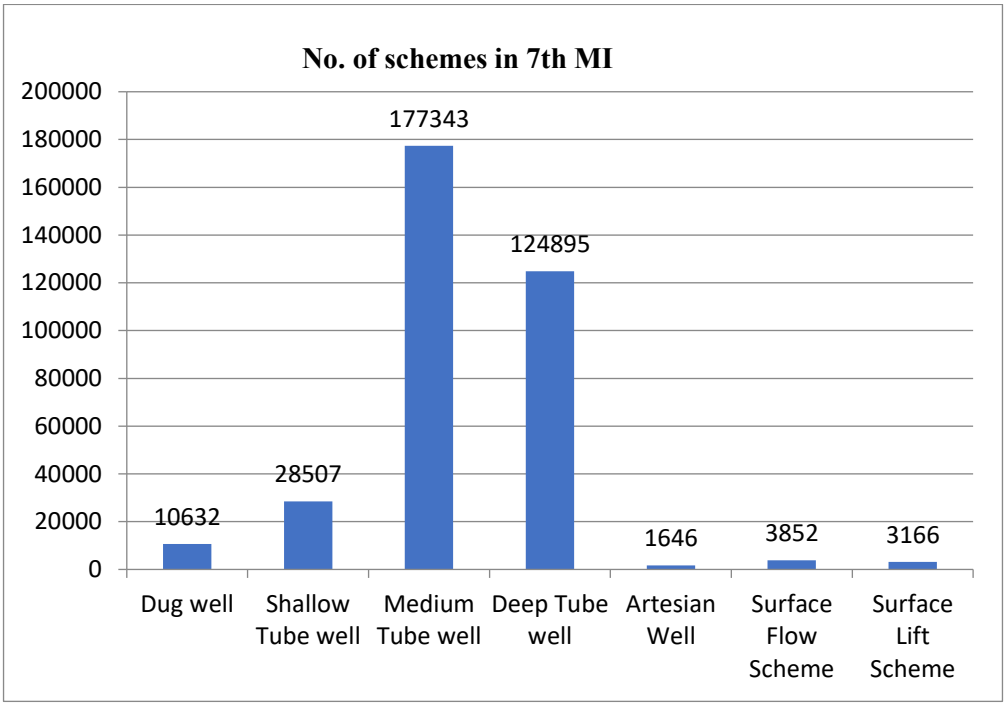
1.2. The State Government has reported increase of 2.83% (9436) in Ground Water schemes and a decline of 57.04 % (9317) in Surface Water schemes during 7th MI census as compared to the 333587 GW schemes and 16335 SW schemes recorded in 6th census.

1.3. Share of Ground Water Schemes in the State of Chhattisgarh has increased from 95.3% in 6th MI Census to 98.0% in 7th MI Census whereas share of Surface Water Schemes declined from 4.7% in 6th Minor Irrigation Census to 2.0% in 7th MI Census as shown in the pie chart given below.



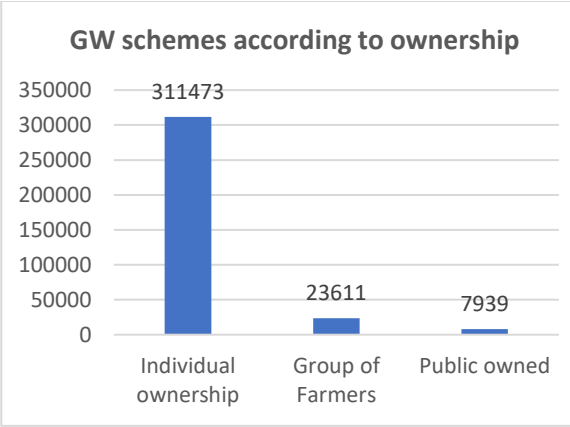


1.4. Out of the 350041 MI Schemes reported in Chhattisgarh, 51.7% (177343) are medium tube well followed by 36.4% (124895) deep tube well and 8.3% (28507) shallow tube well schemes. Distribution of different Ground Water and Surface Water schemes is shown in the chart given below.



2. Ownership of MI Schemes

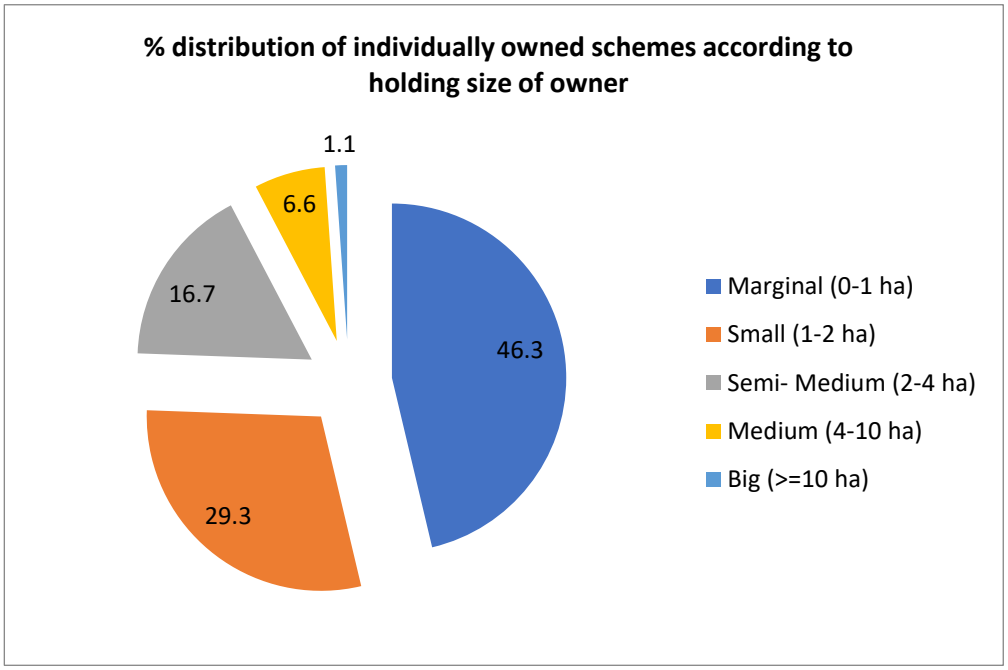
2.1. Out of 350041 MI Schemes, majority of the schemes i.e. 89.5% (313112) continue to remain under individual ownership, 3.6% (12534) schemes are public owned and 7.0% (24395) schemes are owned by group of farmers. Among 343023 GW schemes, 83.5% (311473) schemes are individually owned whereas among 7018 SW schemes 4595 (65.5%) are Publically owned. Most of Ground water schemes in Chhattisgarh are owned by individual farmers which is also shown in the figure given below. This shows that individual farmers are getting maximum benefit from ground water schemes.





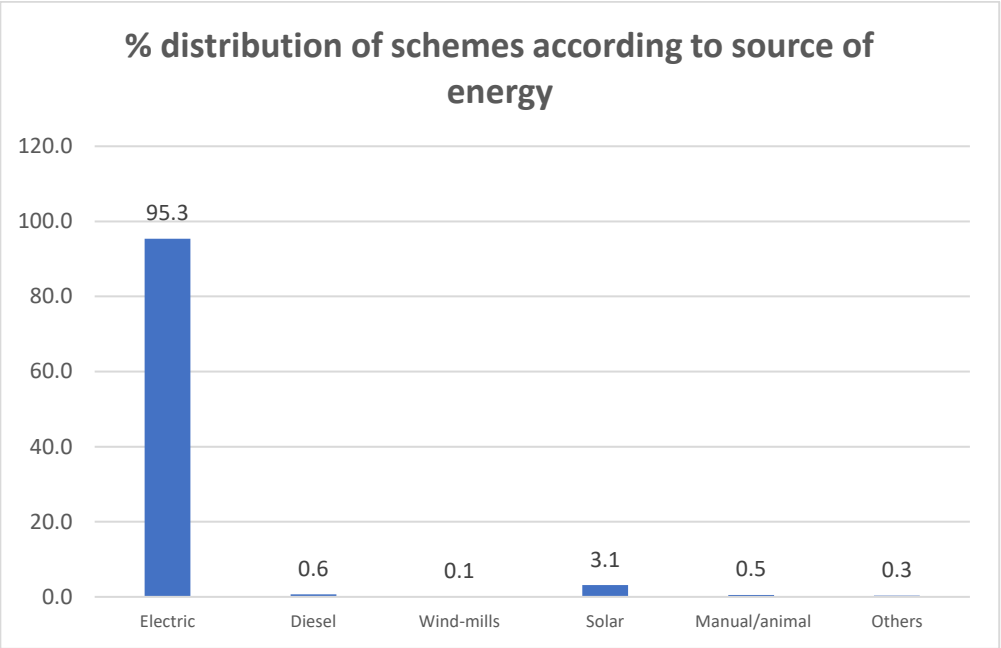
2.2. Out of the total 313112 individually owned schemes, based on holding size of owner, small and marginal farmers (having less than 2 hectares) still own a major share of 75.6 % in MI Schemes. Rest of the 24.4% schemes are owned by Semi-Medium farmers to big farmers with holding

size more than 2 hectares which is shown in the pie chart given below. This emphasizes the need for strengthening the network of MI Structures for irrigation purposes which will play crucial roles of improving the livelihood of small and marginal farmers.



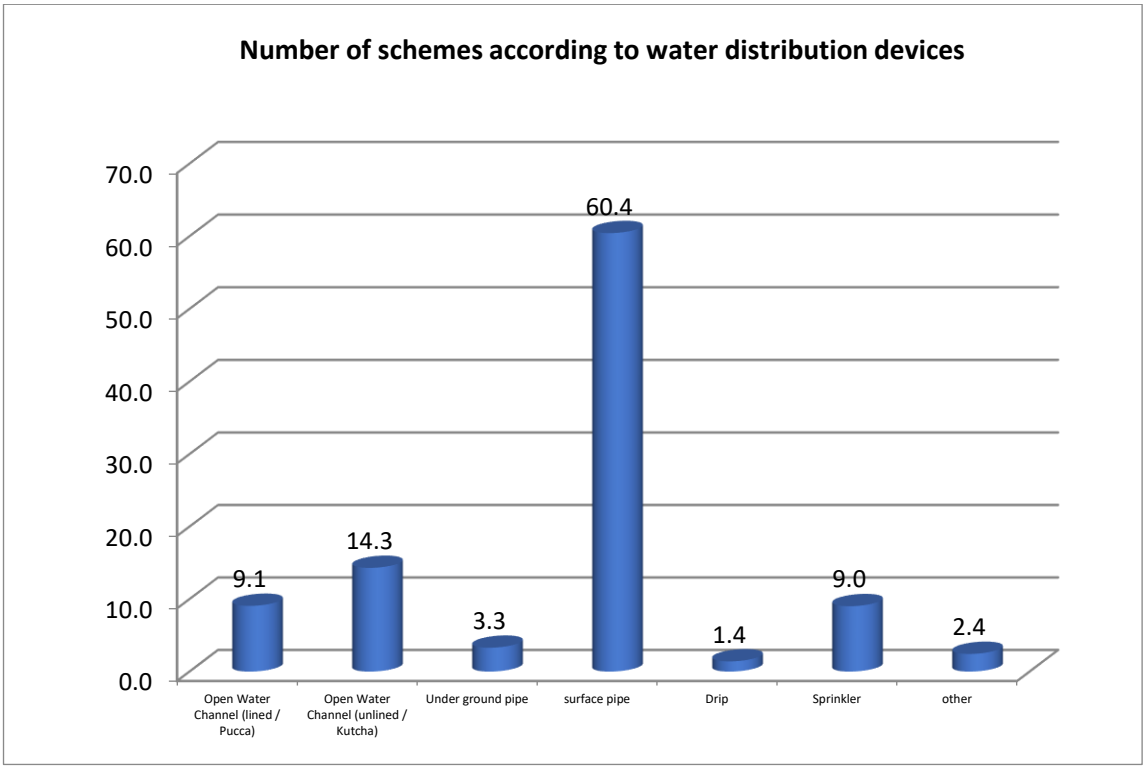
3. Source of energy

3.1. The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. The number of such schemes is 345236. Out of these schemes, majority of schemes i.e 95.3% (329097) schemes are using electricity as source of energy followed by diesel pumps in 0.6% (2208) schemes. In rest of the cases, 3.1% (10745) schemes are using solar pump followed by 0.5% (1797) manual/animal, 0.1% (308) wind miles and the remaining 0.3% (1081) schemes are using other devices as source of energy for lifting water. The percentage distribution of schemes according to source of energy is shown in the chart given below.



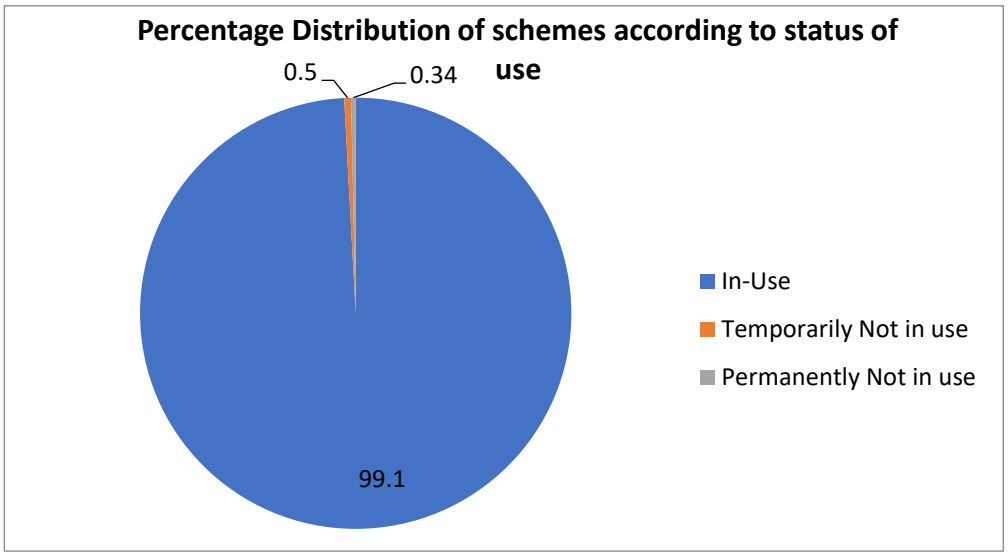
4. Water distribution device

4.1 As per the 7th MI Census, the percentage share of MI Schemes which distribute water through surface pipe is 60.4% (209890) followed by 14.3% (49678) open water channel (unlined/kutcha) and 9.1% (31645) open water channel (lined/pucca). The percentage share of schemes according to water distribution devices is depicted in the figure given below.

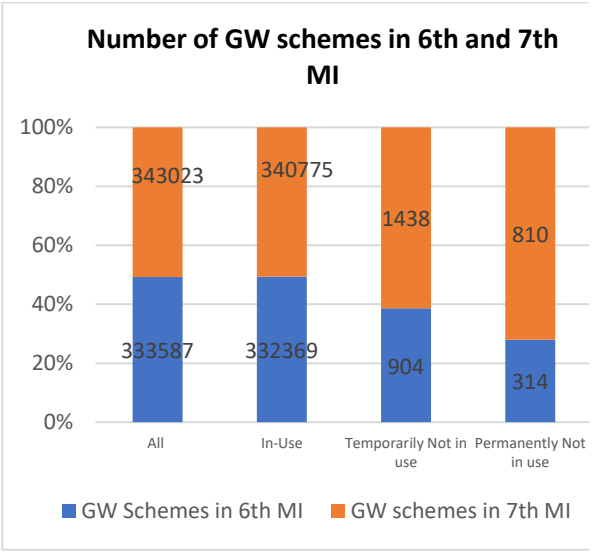


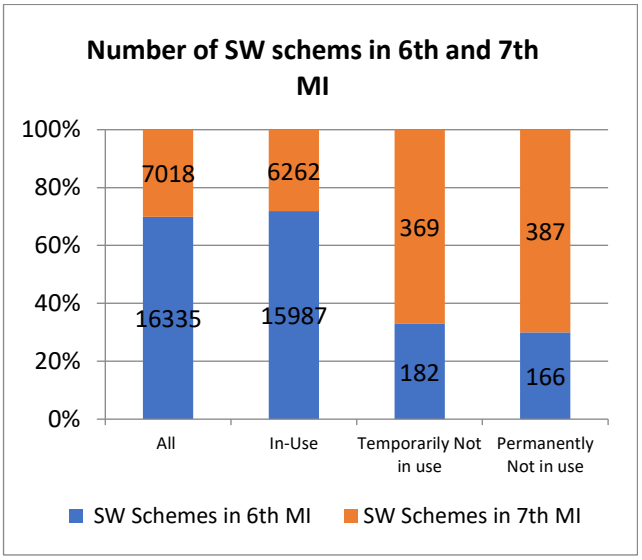
5. Status of MI schemes

5.1. Out of total number of 350041 MI Schemes, 99.1% (347037) are 'In Use', 0.5% (1807) are ' temporarily Not in Use' and only 0.34 % (1197) are 'Permanently Not in Use' Schemes which is depicted in the pie chart given below.



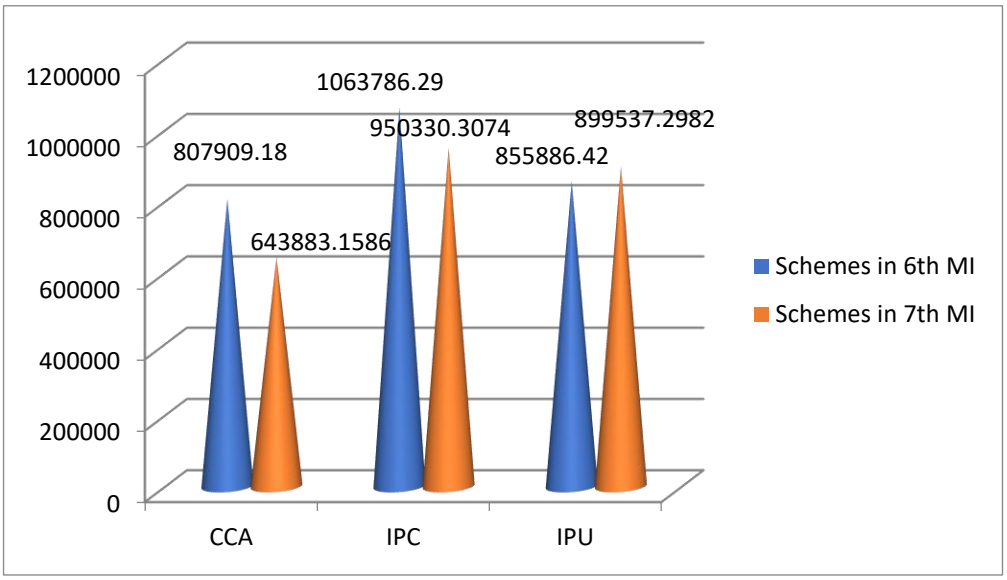
5.2. Out of 1807 ' temporarily not In Use' Schemes, 1438 are Ground Water Schemes and 369 are Surface Water Schemes. Among 1197 'Permanently not in Use' Schemes, 810 are GW Schemes and 387 are SW Schemes. Status of GW and SW schemes during 6th and 7th MI census is shown in the graphs given below:





6. Irrigation Potential Created (IPC) and Irrigation Potential Utilized (IPU)

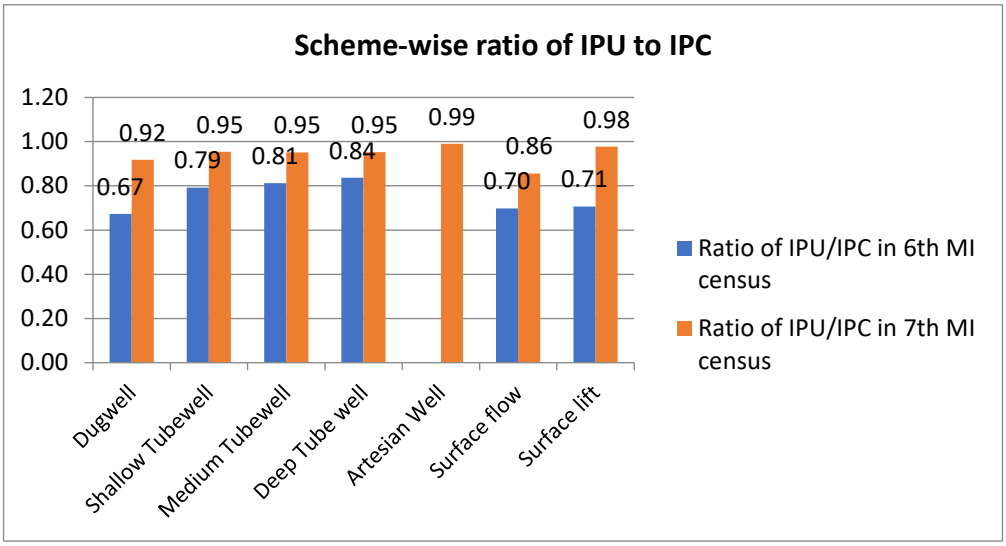
6.1. There has been a decrease of 10.67 % in the irrigation potential created from minor irrigation structures in the State during 7th Minor Irrigation Census as compared to 6th Minor Irrigation Census since IPC is decreased from 1063786.29 hectares during 6th MI census to 950330.31 hectares during 7th MI census. However, Irrigation potential utilized was 855940.35 hectares during 6th MI Census in Chhattisgarh, which has increased to 899537.29 hectares 7th MI Census. A comparative chart showing Culturable Command Area (CCA), IPC and IPU of schemes during 6th and 7th MI census is shown in the chart given below.



6.2. As per 7th MI Census, 874706.32 hectares irrigation potential is created through Ground Water schemes and 75623.99 hectares through Surface Water schemes. Irrigation potential utilized is 832479.32 and 899537.3 hectares for GW and SW schemes respectively. This shows that 95 % of the potential created through Ground Water schemes has been utilized while percentage utilization in respect of Surface Water schemes is 92 %. The scheme-wise ratio of IPU to IPC in Chhattisgarh is presented in the table given below.

Scheme-wise ratio of IPU to IPC			
	IPC	**IPU**	**Ratio of IPU/IPC**
Dugwell	19629.1872	18021.295	0.92
Shallow Tubewell	62693.9279	59799.9384	0.95
Medium Tubewell	454034.5561	432233.5065	0.95
Deep Tube well	333540.6947	317661.3504	0.95
Artesian Well	4807.951	4763.232	0.99
Surface flow	56021.6534	47906.7938	0.86
Surface lift	19602.3371	19151.1821	0.98

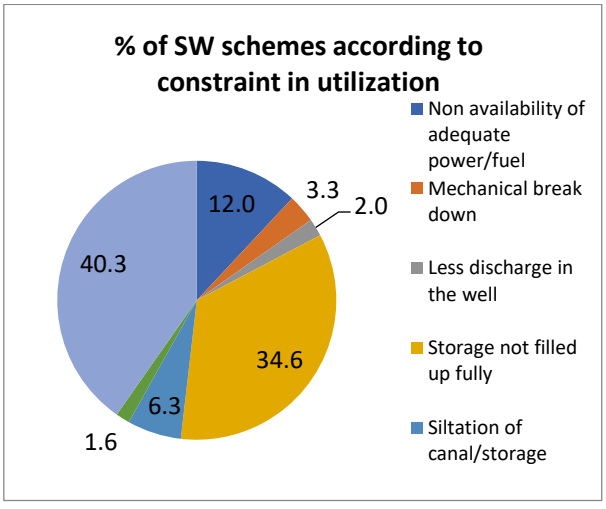
6.3. If we analyse further at scheme level, artesian wells have the highest IPC & IPU followed by medium/deep/shallow tube wells schemes. If we see ratio of IPU to IPC in 7th MI census in different type of schemes, all the schemes show more than 90% utilization of the potential created. A comparative chart showing scheme-wise ratio of IPU/IPC in the 7th and 6th MI census is given below.

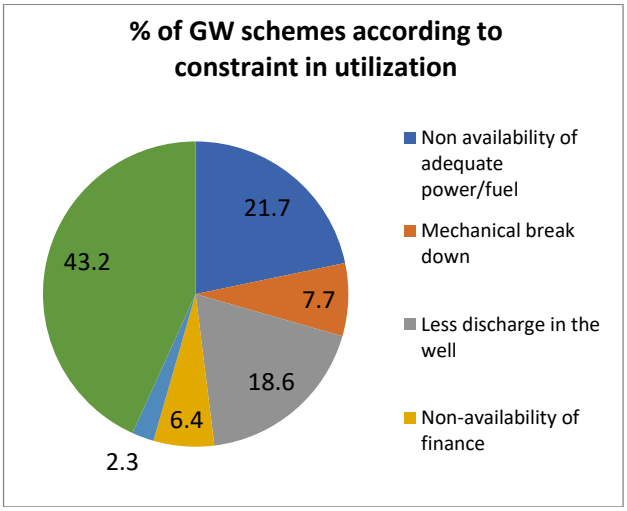


7. Under-utilization of In Use Schemes

7.1. It is observed in the previous rounds of MI censuses that many 'In use' schemes are underutilized due to various constraints. As per the 7th MI Census, 8963 (2.6%) schemes out of 347037 'In Use' schemes in Chhattisgarh are underutilised due to several reasons. Remaining 97.4% 'In Use' MI Schemes are functioning without any constraints.

7.2. Among 8963 under-utilized schemes, 8228 are Ground Water schemes and 735 are Surface Water schemes. The major factor contributing to constraints in utilization of GW schemes is reported as less discharge of water followed by mechanical breakdown, non-availability of adequate power, non-availability of finance, lack of maintenance and other reasons. On the other hand, the SW schemes are underutilized due to less discharge of water, storage not filled up fully, mechanical breakdown, non-availability of adequate power, siltation of canal/ storage, break-down of channels and other reasons. The percentage distribution of reasons of under-utilization of GW and SW schemes is shown in chart given below.





Key Parameters of 7th MI Census - Chhattisgarh						
Parameter		**Unit**	**Value**			**%**
Number of schemes	Dugwells	No.	10632			3.04
	Shallow Tubewell	No.	28507			8.14
	Medium Tubewell	No.	177343			50.66
	Deep Tubewells	No.	124895			35.68
	Artesian Wells	No.	1646			0.47
	Ground Water Schemes	No.	343023			98.00
	Surface Flow	No.	3852			1.10
	Surface Lift	No.	3166			0.90
	Surface Water Schemes	No.	7018			2.00
	Total Schemes	No.	350041			100.00
			GW	**SW**	**Total**	
CCA, IPC and IPU	**CCA**	Ha	584007	59877	643883	
	IPC	Ha	874706	75624	950330	
	IPU	Ha	832479	67058	899537	
	IPC of in use schemes	Ha	869747	72779	942526	
	IPU of in use schemes	Ha	830405	65823	896227	
	% Ratio of IPU wrt IPC	%	**95.17**	**88.67**	**94.66**	
	Gap in IPC and IPU	Ha	**42227**	**8566**	**50793**	
Ownership	Individual ownership	No.	311473	1639	313112	89.45
	Group of Farmers	No.	23611	784	24395	6.97
	Public owned	No.	7939	4595	12534	3.58
	Total	No.	343023	7018	350041	100.00
Social Status of Individual Owner	SC	No.	27169	152	27321	8.73
	ST	No.	69007	825	69832	22.30
	OBC	No.	190679	496	191175	61.06
	Others	No.	24618	166	24784	7.92
	Total Individual	No.	311473	1639	313112	100.00
Water Distribution Devices	Open Water Channel (Lined/ Pucca)	No.	30605	860	31465	9.07
	Open Water Channel (unlined/ kutcha)	No.	48789	889	49678	14.31
	Underground pipe	No.	11199	240	11439	3.30

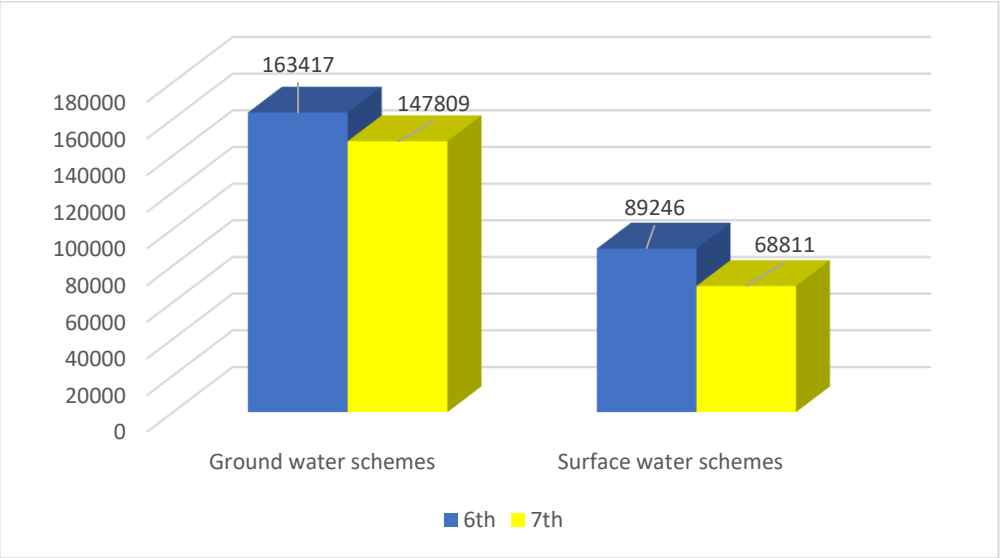
Key Parameters of 7th MI Census - Chhattisgarh						
Parameter		**Unit**	**Value**			**%**
	Surface Pipe	No.	207019	2871	209890	60.44
	Drip	No.	4880	19	4899	1.41
	Sprinklers	No.	31378	68	31446	9.03
	Others	No.	6905	1315	8220	2.44
	Total	No.	340775	6262	347037	100.00

2.9 JHARKHAND

1. Number of MI Schemes

1.1 Jharkhand reported **2,16,620** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **68% (1,47,809 schemes)** are Ground Water schemes and the remaining **32% (68,811 schemes)** are Surface Water schemes.

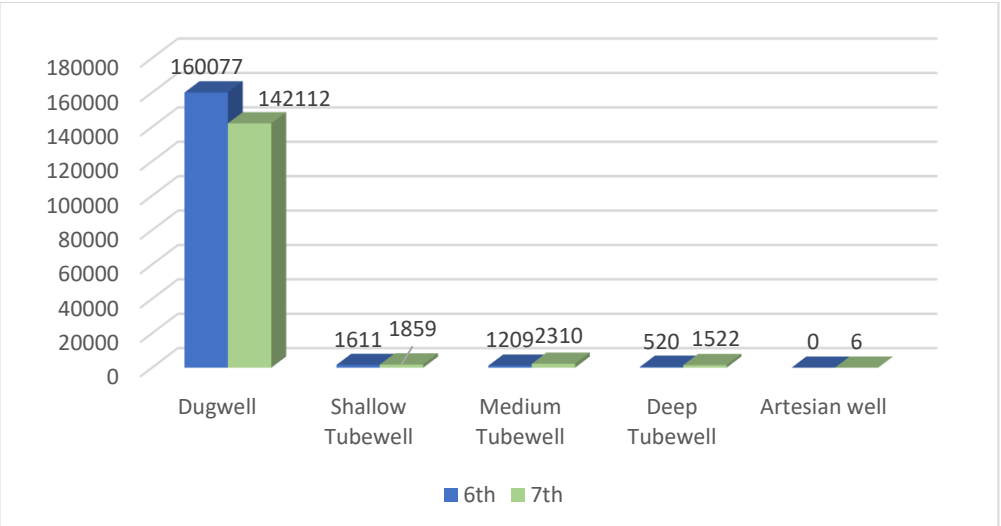
Chart 1: Number of Ground Water and Surface Water Schemes 6th vs 7th MI Census



1.2 A comparison with the 6th Minor Irrigation Census reveals a significant decline 9.5% of ground water schemes in the State and a **decline** of 22.8% in the surface water schemes. Overall Minor Irrigation schemes in Jharkhand declined by 14% from 2,52,663 in 6th MI census to 2,16,620 in 7th MI census.

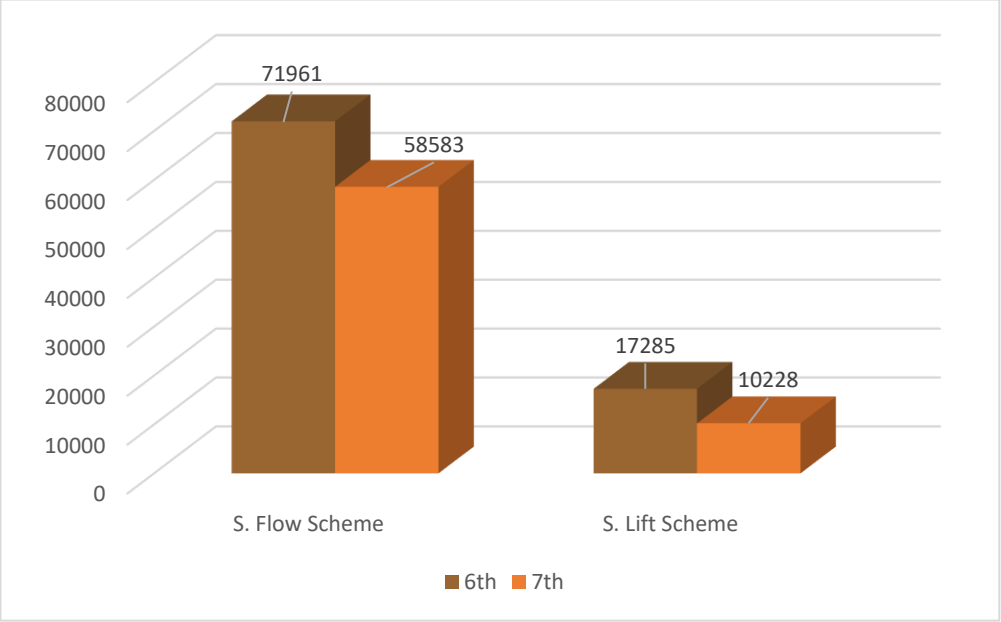
1.3 In Ground Water resources since 6th MI Census, Dugwells decreased by 11%, Shallow tube wells increased by 15%, Medium tube wells increased by 91%, Deep tube wells increased by 193%. Overall, though dug wells saw a decrease in Jharkhand, tubewells/borewells showed considerable increase.

Chart 2: Number of Ground Water Schemes by Type —6th vs 7th MI Census



1.4 Surface flow schemes have been decreased by 18.5% since the 6th MI census, and Surface lift schemes also decreased by 41% since the 6th MI census indicating Surface water schemes decreased significantly in Jharkhand.

Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census

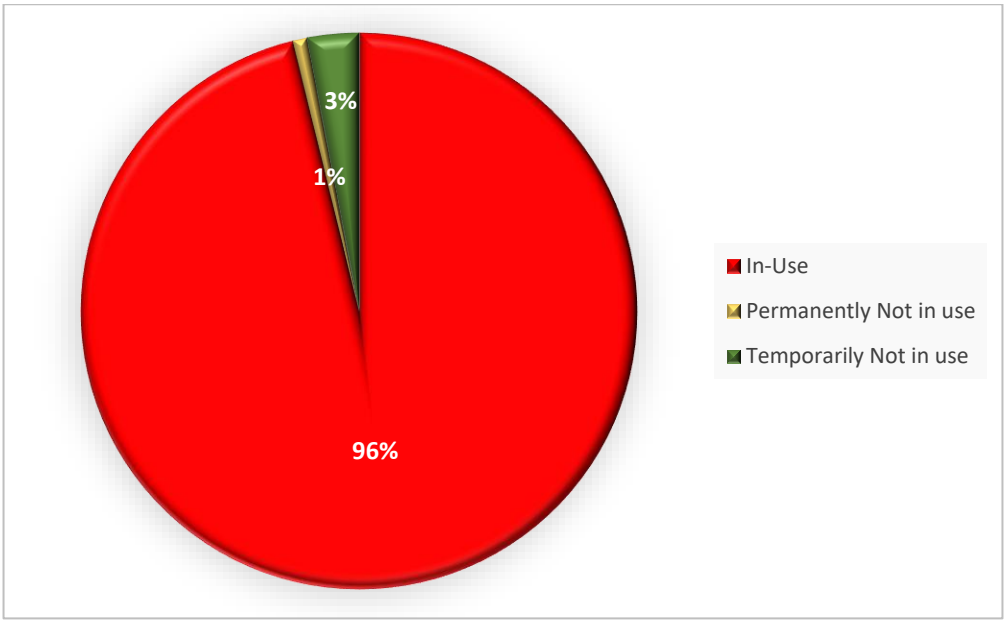


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2. Use Status of MI Schemes

2.1 Out of the total **2,16,620** MI schemes, **96% (2,08,396) schemes** are currently 'In Use', **1% (1,798) schemes** are 'Permanently Not In Use', and **3% (6,426) schemes** are 'Temporarily Not In Use'. This indicates a good portion of MI schemes are currently in use in Jharkhand.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 A comparison with 6th MI Census reveals that 'In-Use' ground water schemes in the State decreased by **10.6%.** 'In use' Surface Water schemes in Jharkhand also declined by 25%. A

comparative picture of Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 6th vs 7th MI Census

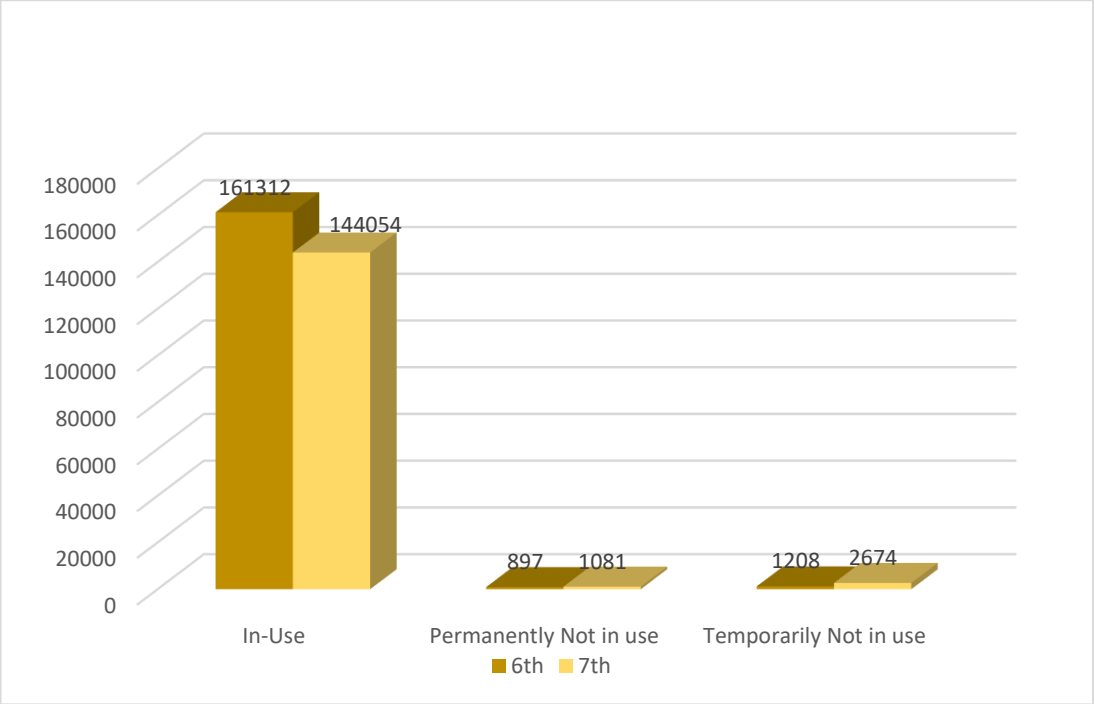
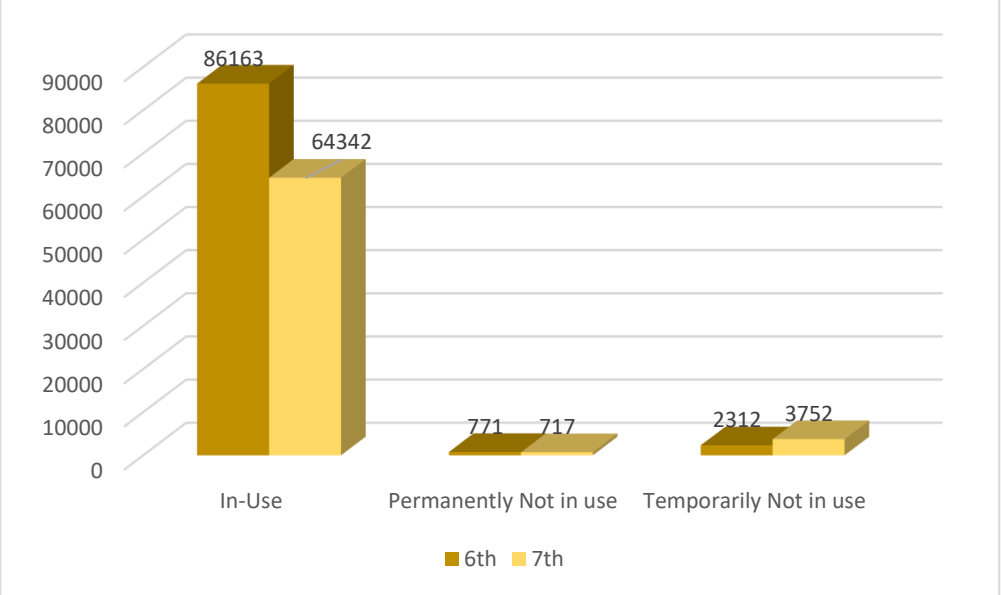


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

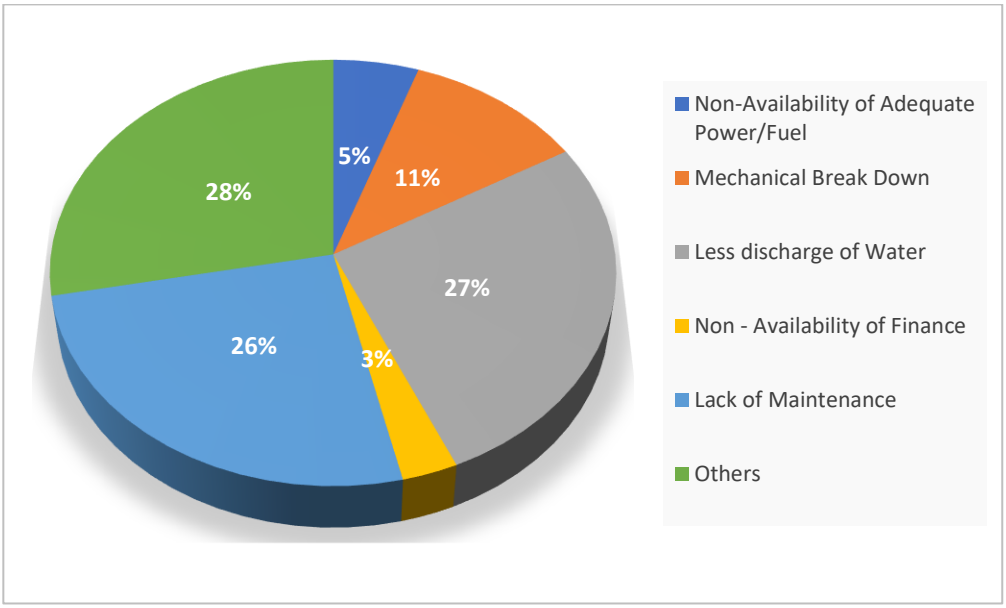


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, ground water schemes are 'Temporarily Not in Use' because of less discharge of water, lack of maintenance, mechanical breakdown, inadequate power/fuel supply and remaining because of non-availability of finance and other reasons. Reason wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes is shown in chart 7.

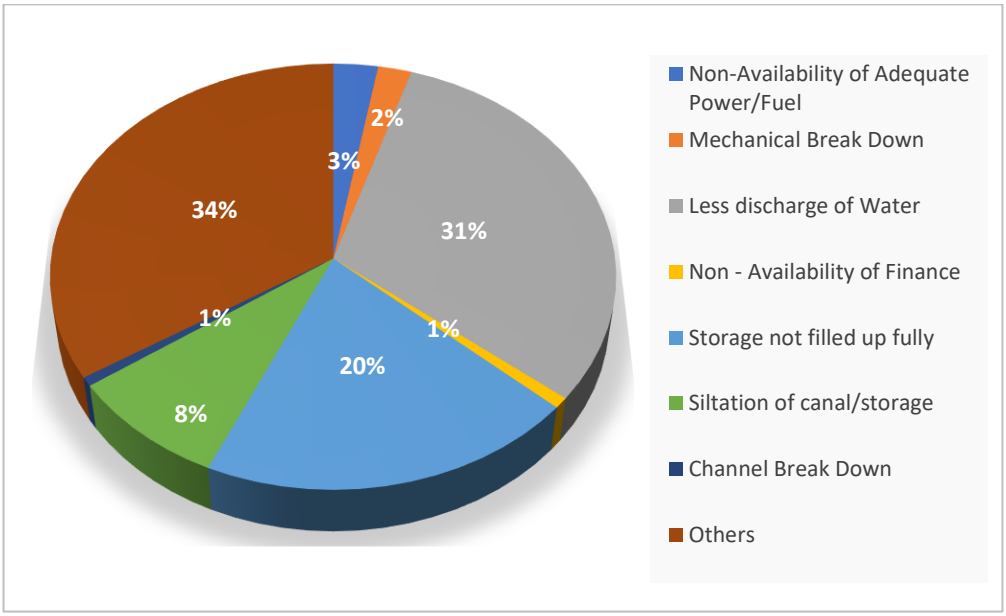
Chart 7: Reason wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, surface water bodies are temporarily not in use less, discharge of water, storage not filled up fully, siltation of canal/storage, inadequate fuel/power supply, mechanical breakdown, channel breakdown and the remaining to non-availability of finance and other reasons. Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water Schemes is shown in chart 8.

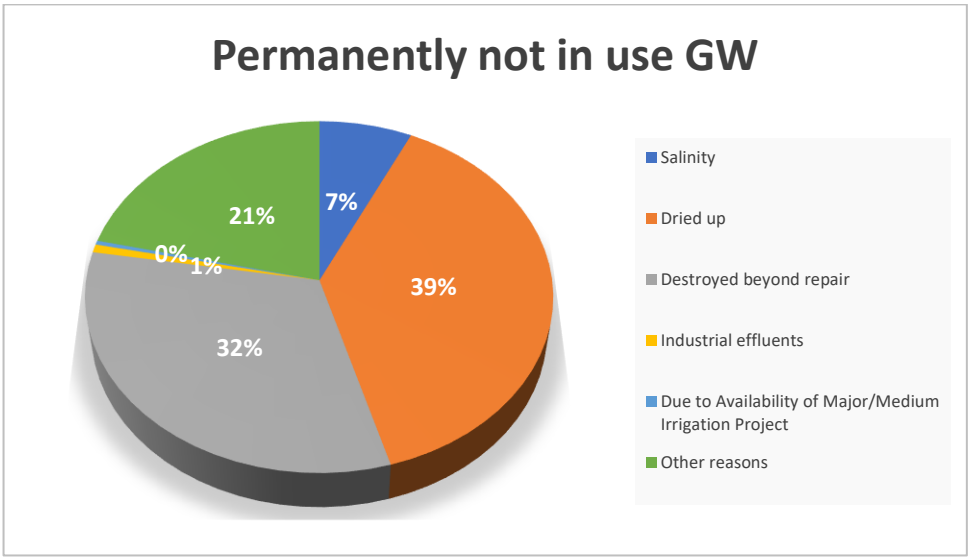
Chart 8: Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water Schemes



3.3 Reason of 'Permanently Not In Use' GW Schemes

As per 7th Census, 39% of ground water schemes have become unusable because of drying up, 32% because of getting detroyed beyond repair and remaining due to other reasons. Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes is shown in chart 9.

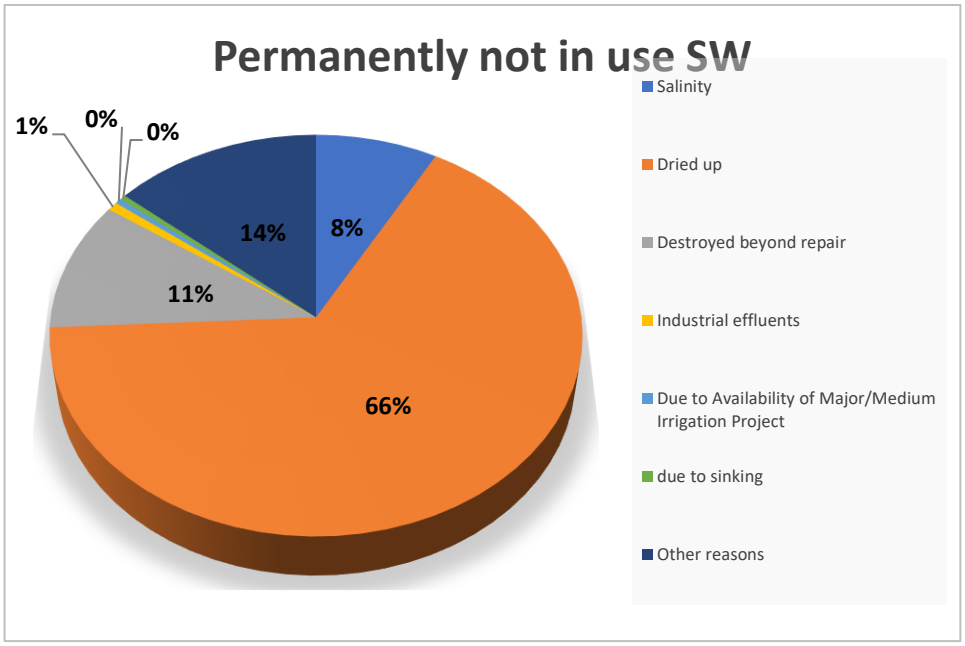
Chart 9: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes



3.4 Reason of 'Permanently Not In Use' SW Schemes

As per 7th census, **66%** of surface water schemes have become unusable because of drying up, remaining due to other reasons. Reason-wise percentage distribution of 'Permanently Not-In Use' Surface-water Schemes is shown in chart 10.

Chart 10: Reason-wise percentage distribution of 'Permanently Not-In Use' Surface-water Schemes



4. Ownership of MI Schemes

4.1 Out of **2,16,620** MI schemes in Jharkhand, 34.8% of the Ground Water schemes are owned by individual farmers, 3.8% by group of farmers. Overall, 31.6% of Ground water schemes are owned by Government, 21.4% by Panchayats and 1.3% by Co-operative societies and the remaining 7.1% are owned by other bodies. Overall, 54.3% of Ground water schemes are owned by public bodies, indicating dominance of public ownership over ground water resources in Jharkhand.

Among the Surface Water Schemes in Jharkhand, 35.2% are owned by Government, 23.3% are owned by Panchayats and 1.5% by co-operatives society. Overall, 60% of surface water schemes are owned by public bodies indicating dominance of public ownership over surface water schemes too in Jharkhand. 16.8% surface water schemes are owned by individual farmers, 13.6% by group of farmers. The private ownership over the surface water schemes in Jharkhand account for about 30.5% and the remaining 9.5% are owned by other bodies.

Chart 11: Percentage distribution of Ownership Categories — Ground Water vs Surface Water

Schemes

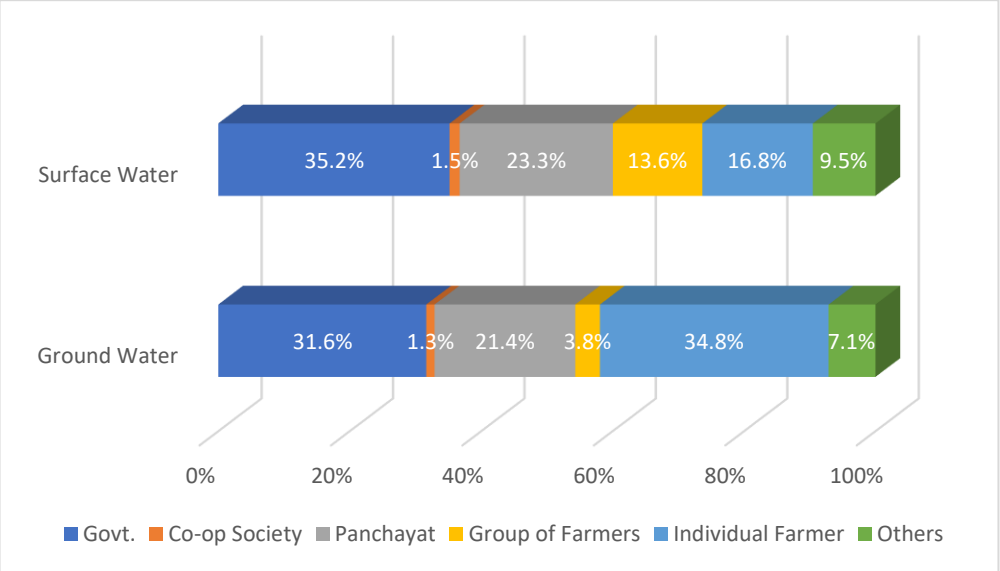


Chart 12: Ownership of Ground Water Schemes (Number)

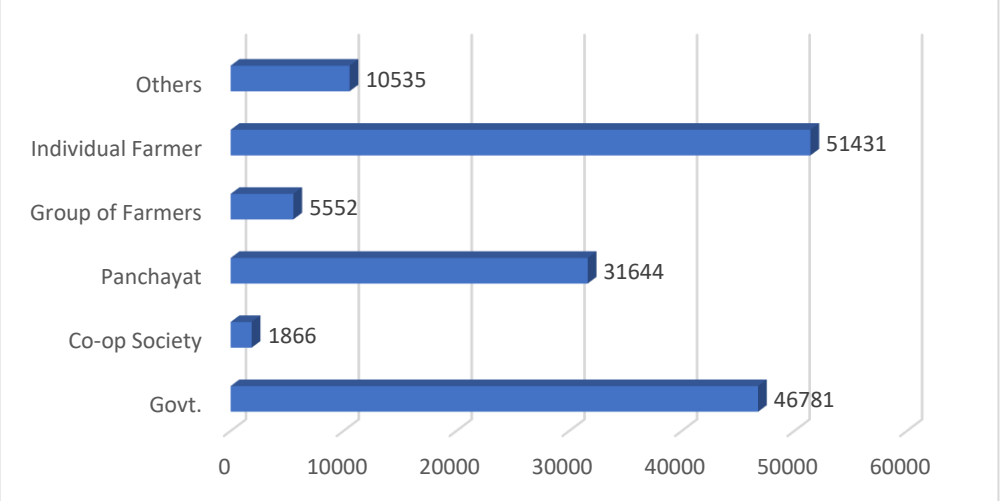
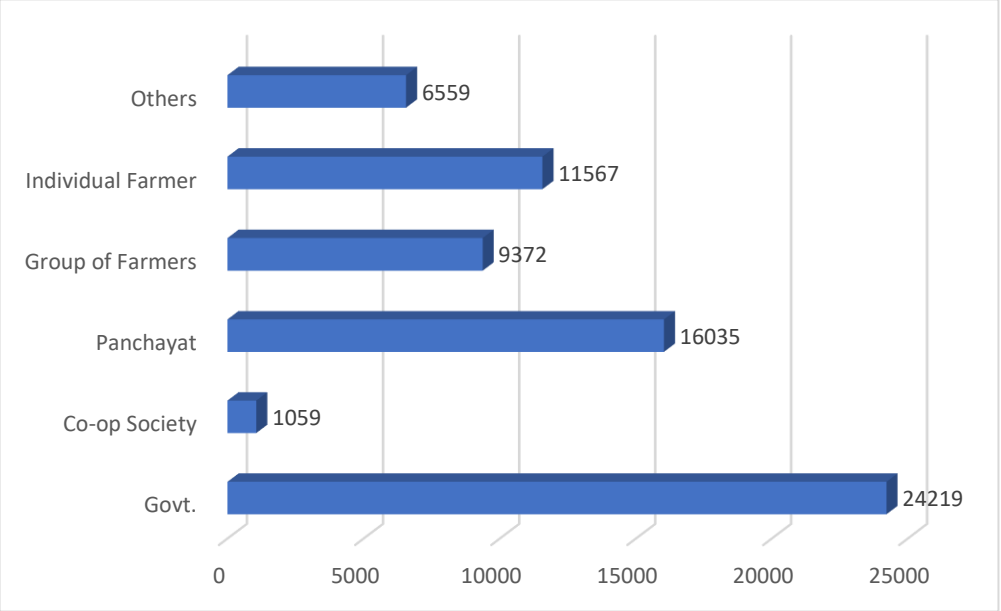


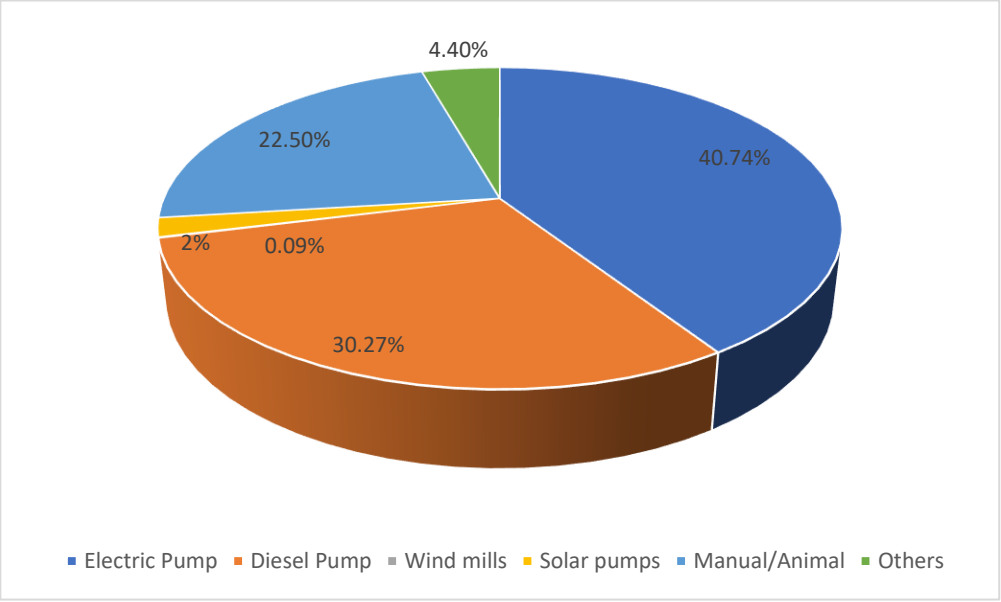
Chart 13: Ownership of Surface Water Schemes (Number)



5. Source of Energy

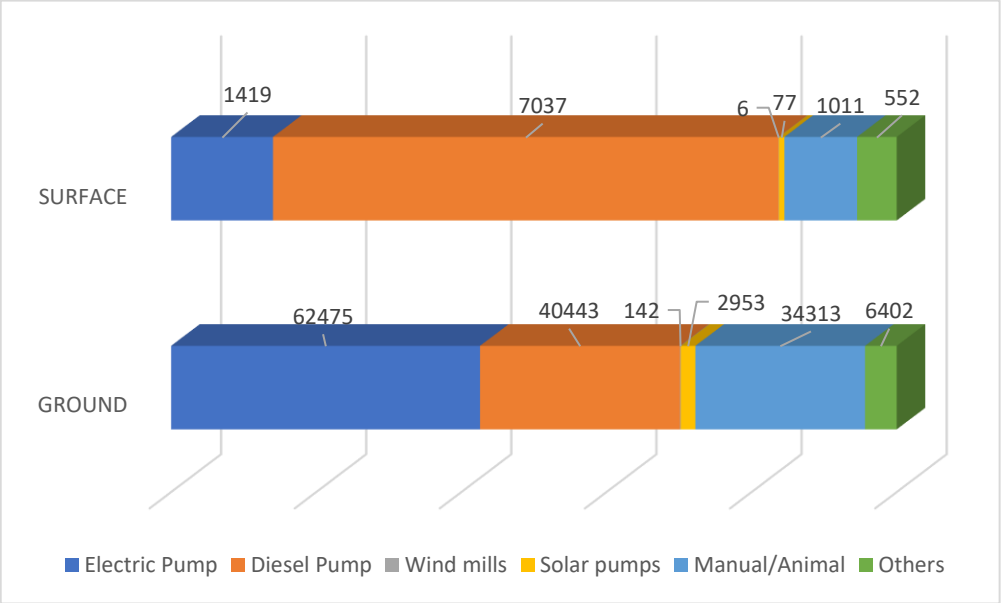
5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. Out of them, 40.74% are using Electric pump, 30.27% are using Diesel Pump and remaining used other sources of energy for lifting of water.

Chart 14: Percentage distribution of MI schemes by Source of Energy



5.2 Number of surface lift and ground water irrigation scheme by source of energy is given in chart 15.

Chart 15: Number of Ground Water vs Surface Water Schemes by Source of Energy



6. Water Distribution Methods

6.1. As per the 7th Census, out of the total 2,08,396 'In Use' schemes, 1,44,054 (69%) were Ground Water schemes while 64,342 (31%) were Surface Water schemes. In terms of water distribution method for Ground water schemes, 50% of them used Surface Pipe and remaining 50% used Open Water Channel (unlined/kutcha), Open Water Channel (lined/pucca), Underground Pipe, along with drip, sprinklers and others as their water distribution methods.

6.2. Among Surface Water schemes, 38% schemes uses Surface Pipe, 32% uses Open water channel (unlined/kutcha), and rest 30% uses Open Water channel (lined/pucca), Underground Pipe along with drip, sprinklers and others as their water distribution methods.

6.3 The percentage distribution of Ground Water schemes and Surface Water schemes by type of water distribution method is shown in the chart 16 and chart 17 respectively.

Chart 16: percentage distribution of Ground Water

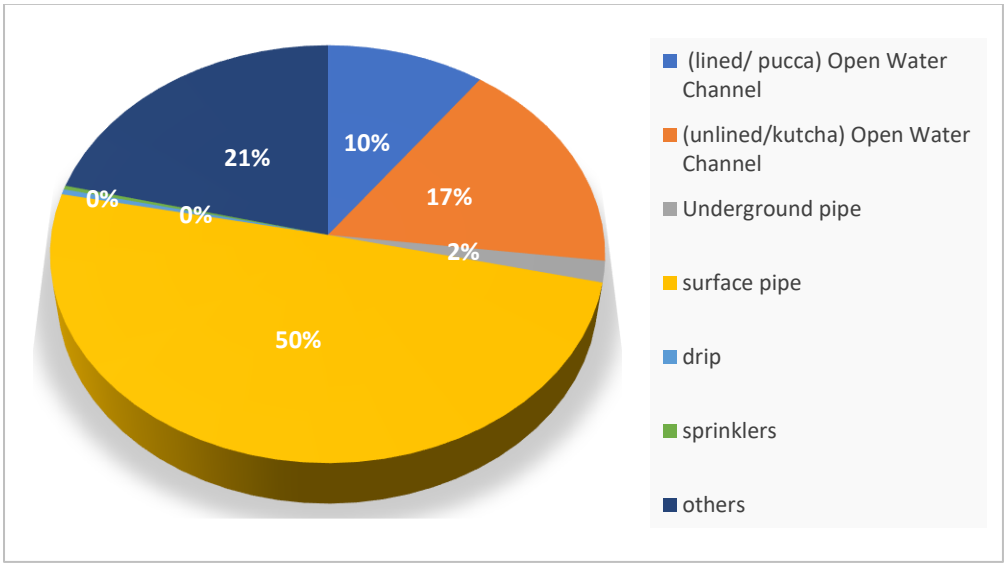
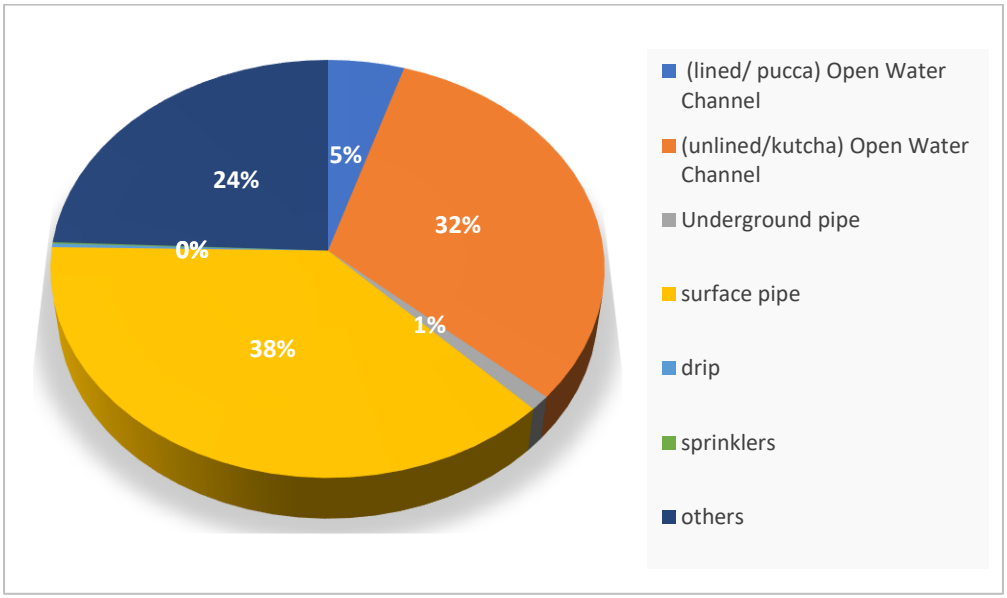


Chart 17: percentage distribution of Surface Water

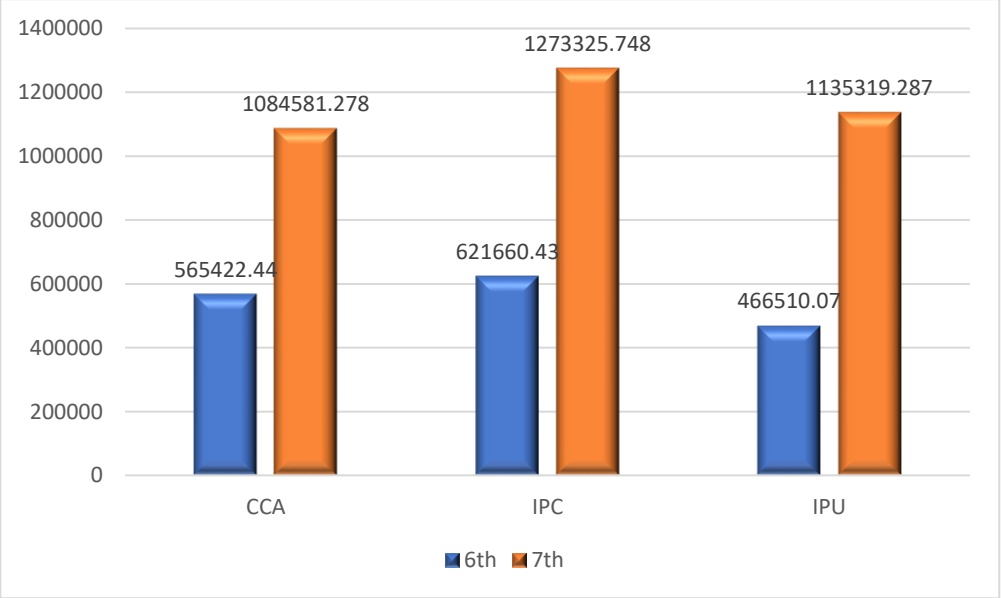


7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 There has been an increase in the Culturable Command Area (CCA) by 92% in Jharkhand as compared to 6th MI Census. Irrigation Potential Created (IPC) and Irrigation Potential Utilization (IPU) also increased by 105% and 143% respectively.

7.2 The IPU-to-IPC ratio increased from 0.75 (75%) in the 6th Census to 0.89 (89%) in the 7th Census, indicating a higher level of utilisation of the irrigation potential created since the previous MI Census.

Chart 18: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census



8. Underutilization of 'In Use' Schemes

8.1 In Jharkhand, **20712 (14%)** Ground water scheme remain underutilized out of the 1,44,054 'In Use' ground water schemes. 38% of the schemes were under-utilized because of other reasons, 25%

because of inadequate fuel/power supply, 16% because of lack of maintenance, 13% because of less discharge of water, 4% because of mechanical breakdown and the remaining 4% because of non-availability of finance.

8.2 Out of 64,342 In Use Surface water schemes, **11649 (18%)** were underutilised. 37% of Surface water schemes were under-utilized because of Siltation of canal/storage, 28% because of storage not filled up fully, 25% because of other reasons, 5% because of inadequate power supply, 3% because of less discharge of water, 1% because of mechanical breakdown, 1% because of breakdown of channels.

Chart 19: Percentage distribution of Ground Water schemes by reason for underutilisation

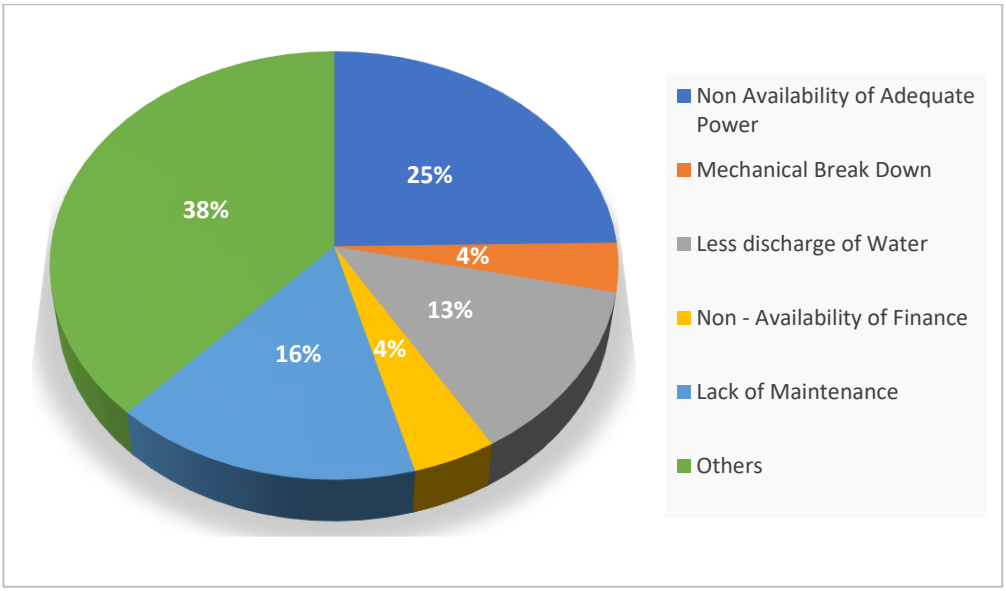
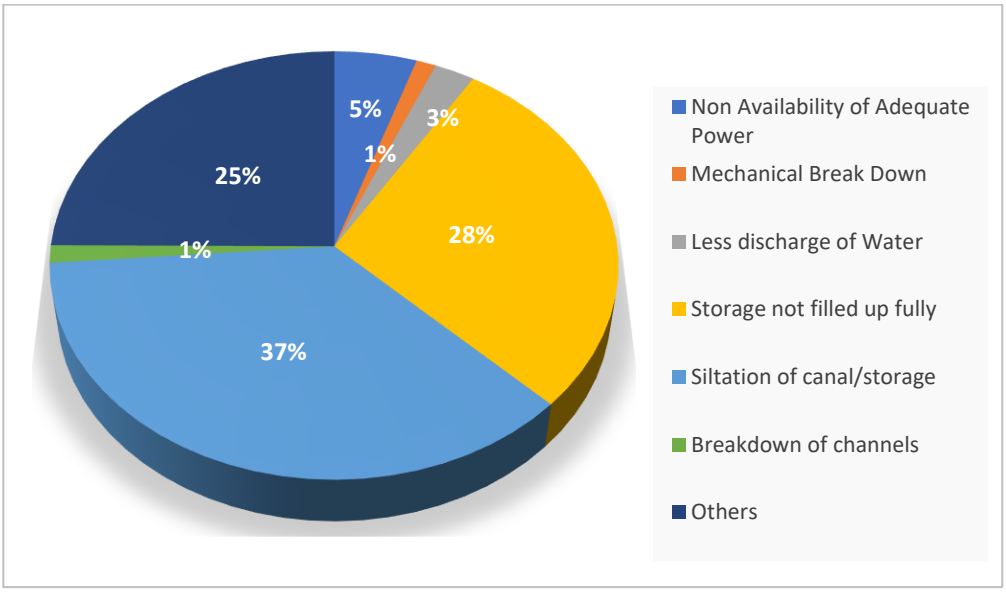


Chart 20: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 20,702 Minor Irrigation schemes, out of which 14,745 schemes are ground water schemes and 5957 are surface water schemes, which indicates that ground water schemes play a major role in ground water recharge.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 46,353 Minor Irrigation schemes are used for drinking water purpose, out of which 42790 are ground water schemes and 3563 are surface water schemes which indicates that ground water schemes play a major role in providing drinking water in Jharkhand.

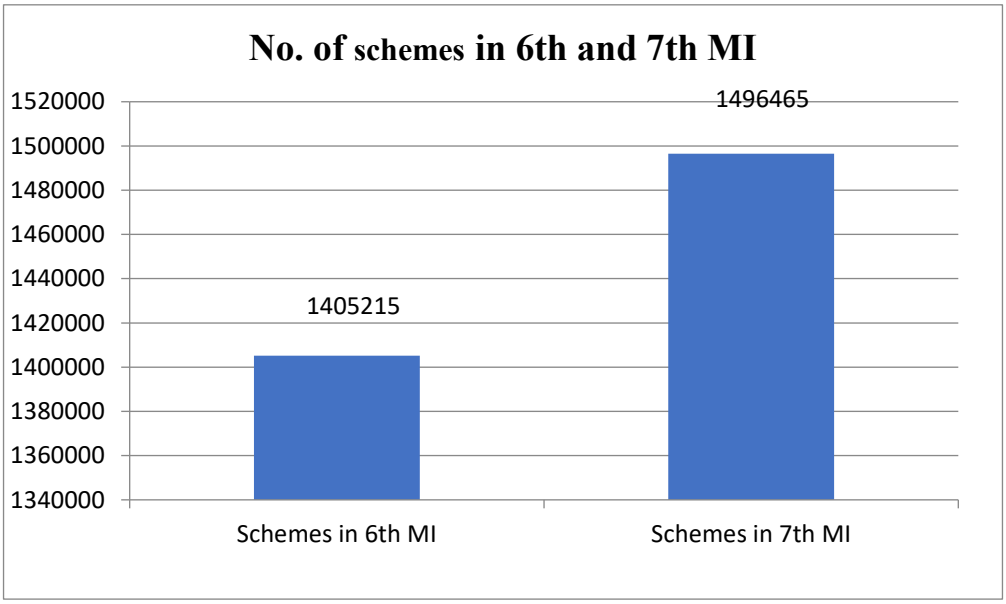
Key Parameters of 7th MI Census — Jharkhand

Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	142112			65.60
	Shallow Tubewell	No.	1859			0.86
	Medium Tubewell	No.	2310			1.07
	Deep Tubewells	No.	1522			0.70
	Artesian Well	No.	6			0.001
	Ground Water schemes	No.	147809			68.23
	Surface Flow	No.	58583			27.04
	Surface Lift	No.	10228			4.72
	Surface Water schemes	No.	68811			31.77
	Total schemes	No.	216620			**100.0**
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	608156.9705	476424.3078	1084581.278	
	IPC	Ha	722430.8049	550894.9434	1273325.748	
	IPU	Ha	655574.1148	479745.1726	1135319.287	
	IPC of In Use schemes	Ha	710220.0824	519686.2608	1229906.343	
	IPU of In Use schemes	Ha	648171.135	456070.5465	1104241.682	
	% Ratio of IPU to IPC	Ha	90.7	87.08%	89%	
	Gap in IPC and IPU	Ha	66856.6901	71149.7708	138006.461	
Ownership	Individual ownership	No.	51431	11567	62998	29.1
	Group of Farmers	No.	5552	9372	14924	6.9
	Public owned	No.	46781	24219	71000	32.8
	Co-Operative Owned	No.	1866	1059	2925	1.4
	Panchayat Owned	No.	31644	16035	47679	22.0
	Others	No.	10535	6559	17094	7.8
	Total	No.	147809	68811	216620	**100.0**
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	14545	3117	17662	8.0
	Open Water Channel (unlined/kutcha)	No.	24306	20416	44722	21.0

Parameter		Unit	Value			%
	Underground pipe	No.	2377	721	3098	1.0
	Surface Pipe	No.	71424	24174	95598	46.0
	Drip	No.	580	172	752	0.001
	Sprinklers	No.	424	71	495	0.001
	Others	No.	30398	15671	46069	22.0
	Total	No.	144054	64342	208396	**100.0**

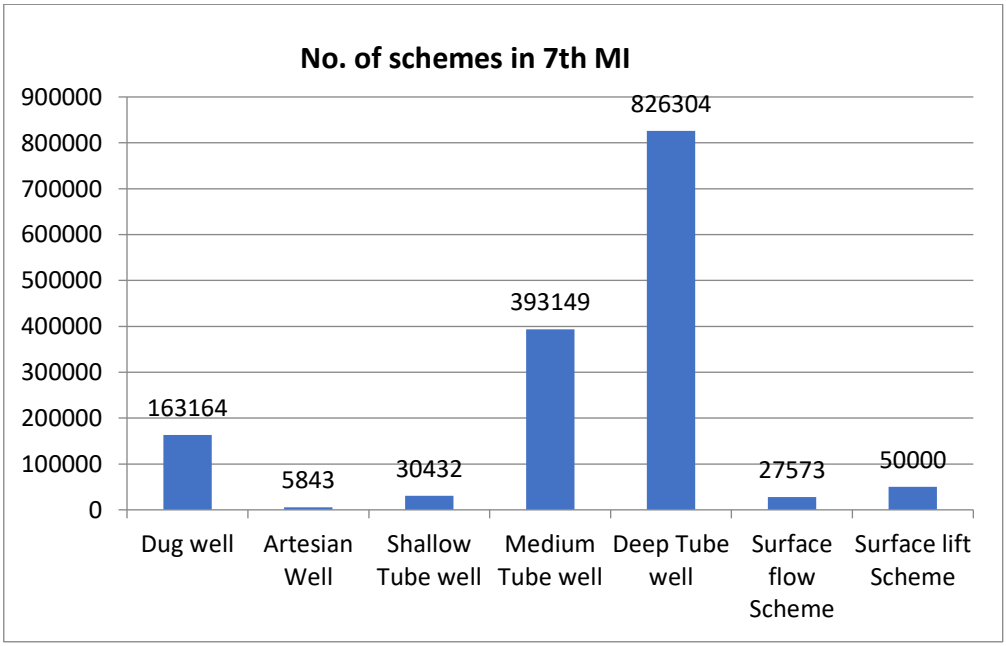
2.10 KARNATAKA

1.1. As per the 7th Census of Minor Irrigation (MI) schemes with reference year 2023-24, Karnataka has 14,96,465 MI schemes comprising of 94.8% (14,18,892) Ground Water (GW) schemes and 5.1% (77,573) Surface Water (SW) schemes. There is an increase to the tune of 6.5% with 14,96,465 MI schemes in 7th MI census as compared to the 14,05,215 schemes in 6th MI census in the State of Karnataka.



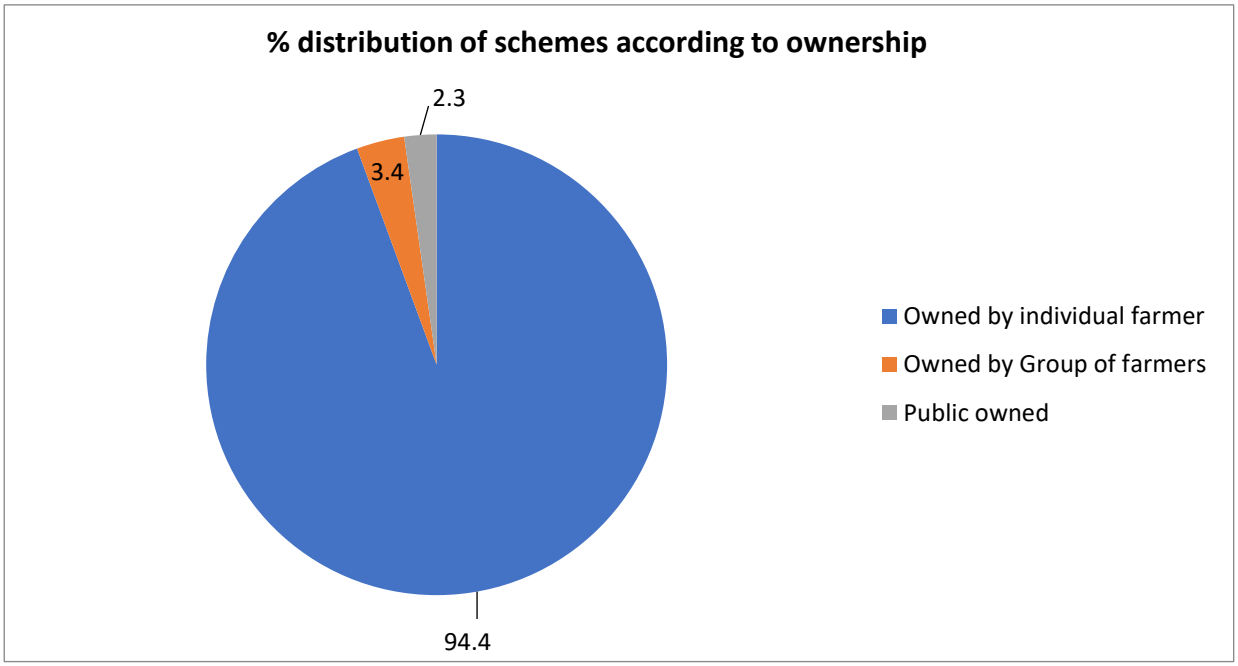
1.2. The State Government has reported an increase of 11.1% (1,41,640) in GW schemes and decline of 39.3 % (50,390) in SW schemes during 7th MI census as compared to the 12,77,252 GW schemes and 1,27,963 SW schemes recorded in 6th census.

1.3. Out of the 14,96,465 MI schemes reported in Karnataka, 55.2% (8,26,304) are deep tubewell followed by 26.3% (3,93,149) medium tube wells and 10.9% (1,63,164) dug well schemes. Distribution of different GW and SW schemes is shown in the chart given below.

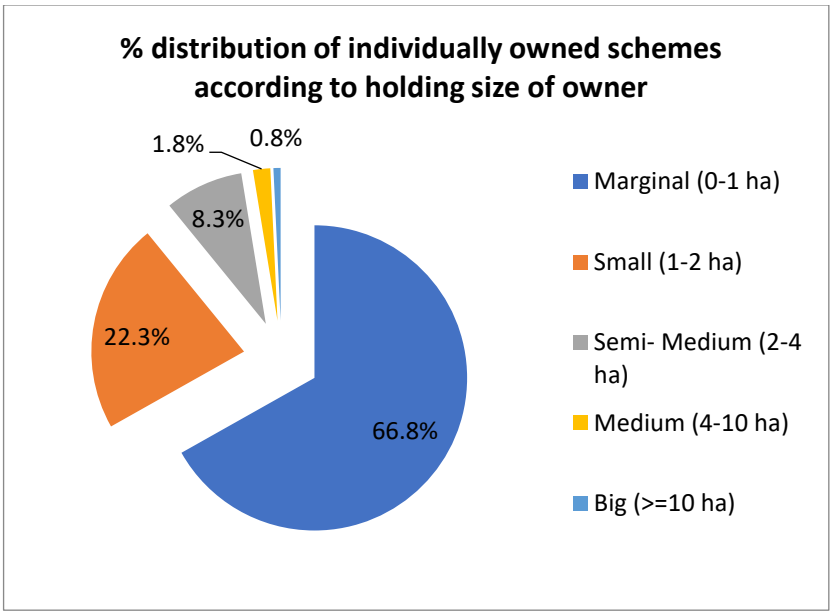


8.10. OWNERSHIP OF MI SCHEMES

2.1. Out of 14,96,465 MI schemes, majority of the schemes i.e. 94.4% (14,12,458) are under individual ownership, 3.4% (50,257) schemes are owned by groups of farmers followed by 2.3% (33,750) schemes are publicly owned. Among 14,18,892 GW schemes, 95.5% (13,55,937) schemes are under individual ownership whereas among 77,573 SW schemes, 72.9% (56,521) are under individual ownership. The percentage distribution of MI schemes according to type of ownership is shown in the chart given below.

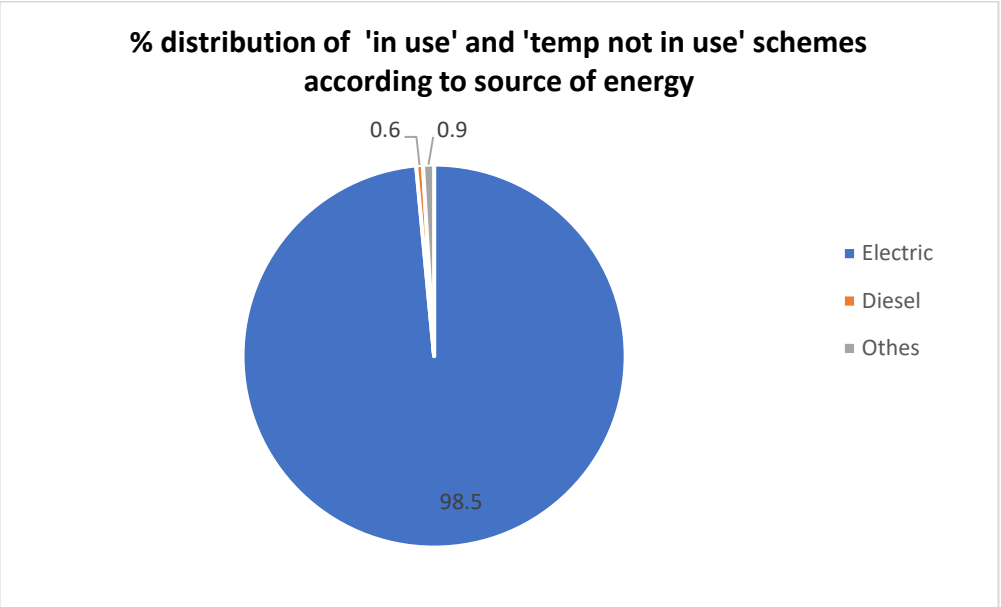


2.2. Out of 14,75,413 individually owned schemes, based on holding size of owner, 89.1% (13,14,772) of the MI schemes are owned by marginal and small farmers (having less than 2 hectare) whereas remaining 10.9% (1,60,641) schemes are owned by semi-medium, medium and big farmers (having more than 2 hectares) as depicted in the chart given below.



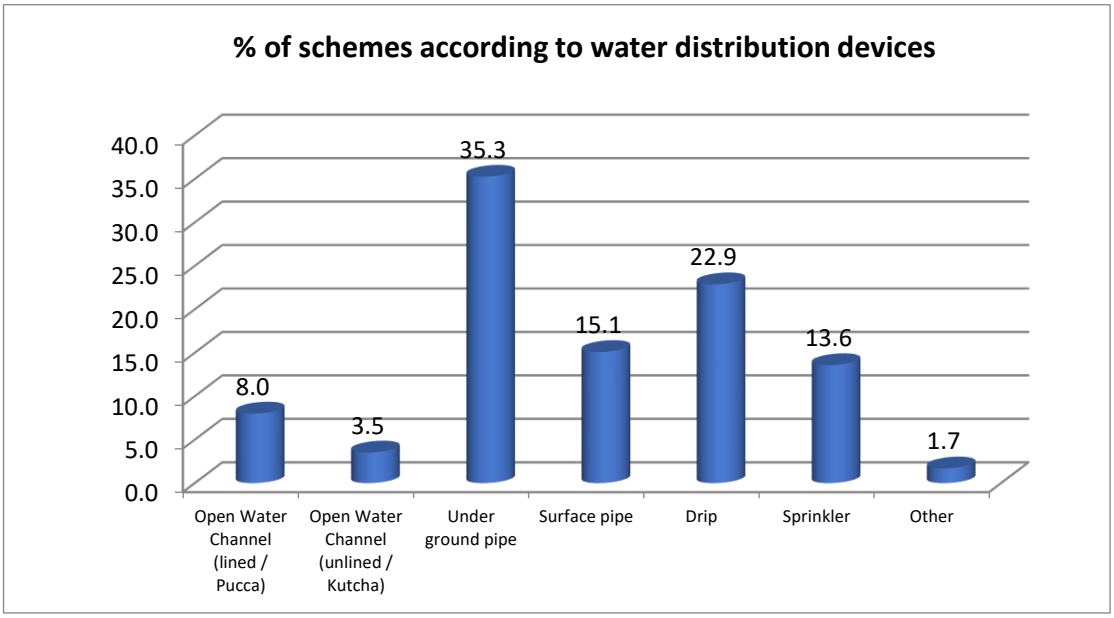
8.11. SOURCE OF ENERGY

3.1. The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. The number of such schemes is 14,54,487. Out of these (14,54,487) schemes, majority of schemes i.e. 98.5% (14,32,713) schemes are using electricity as source of energy followed by diesel pump in 0.6 % (8,282) schemes. While rest of the 0.9% (13,492) schemes are using other sources including manual/animal, solar pumps, wind mills etc. The percentage distribution of schemes according to source of energy is shown in the chart given below.



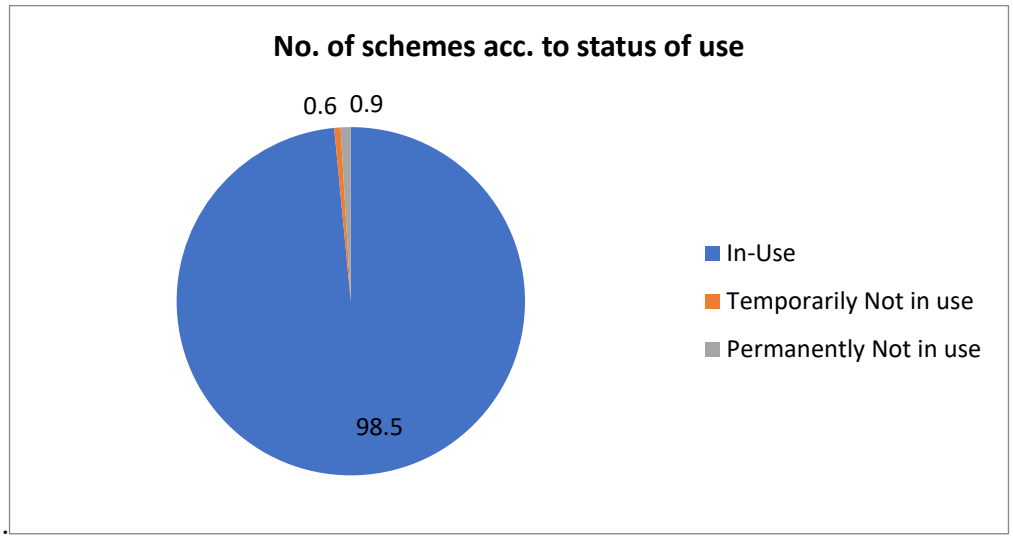
8.12. WATER DISTRIBUTION DEVICE

4.1. As per the 7th MI Census, the percentage share of MI schemes which distribute water through underground pipe is 35.3% (5,22,639), followed by 22.9% (3,39,131) drip, 15.1% (2,23,633) surface pipe, 13.6% (2,01,208) sprinklers, 8.0% (1,18,618) open water channel (lined/pucca), 3.5% (52,196) open water channel (unlined/kutcha) and 1.7% (25,003) other devices. The percentage share of schemes according to water distribution devices is depicted in the figure given below.

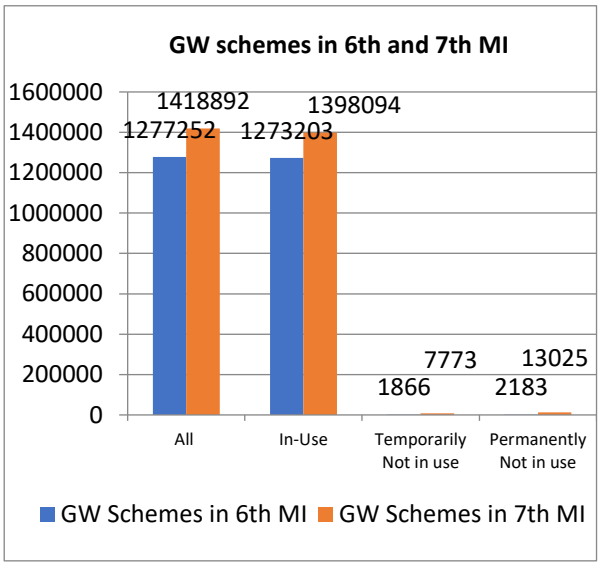


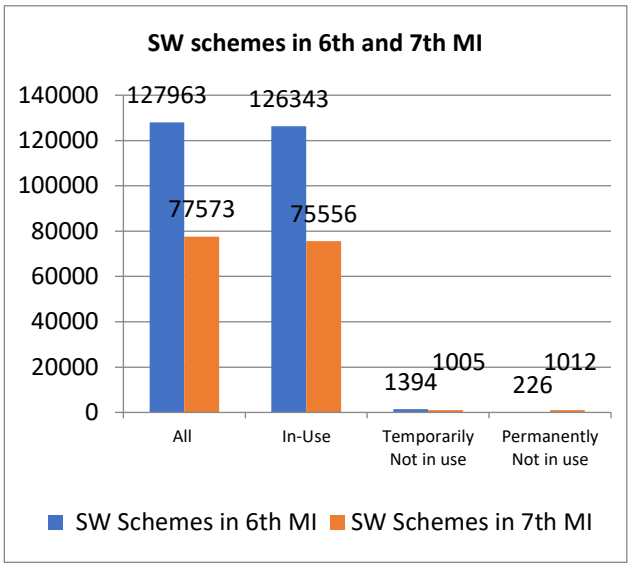
8.13. STATUS OF MI SCHEMES

5.1. Out of 14,96,465 MI schemes, 98.5% (14,73,650) are 'in use', 0.6% (8,778) are 'temporarily not in use' and 0.9% (14,037) are 'permanently not in use' schemes which is depicted in the pie chart given below.



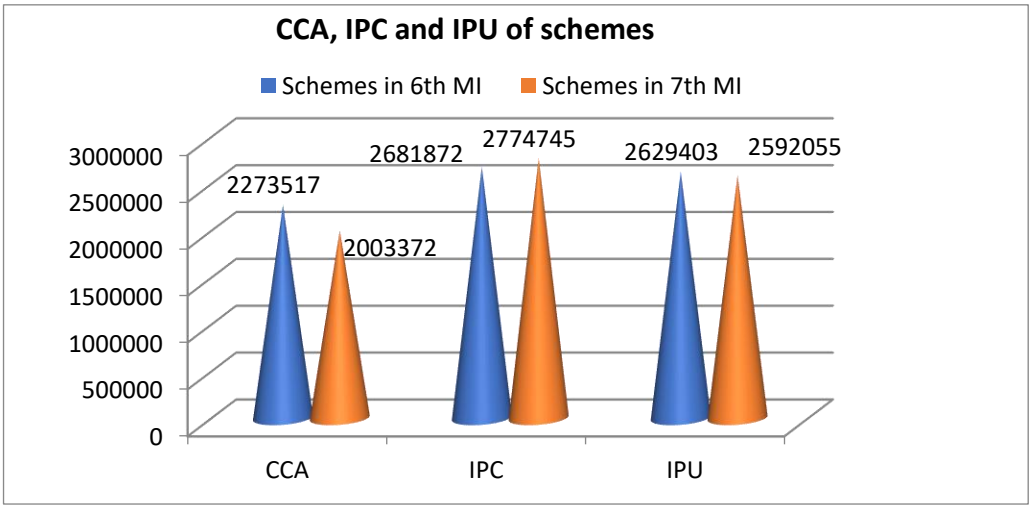
5.2. Out of 8,778 'temporarily not in use' schemes, 7,773 are GW schemes and 1,005 are SW schemes. Among 14,037 'permanently not in use' schemes, 13,025 are GW schemes and 1,012 are SW schemes. Status of GW and SW schemes during 6th and 7th MI census is shown in the graphs given below:





8.14. IRRIGATION POTENTIAL CREATED (IPC) AND IRRIGATION POTENTIAL UTILIZED (IPU)

6.1. There has been an increase of 3.46% in the Irrigation Potential Created from minor irrigation schemes in the State during 7th Minor Irrigation Census as compared to 6th Minor Irrigation Census since IPC has increased from 26,81,872 hectares during 6th MI census to 27,74,745 hectares during 7th MI census. During 6th MI census, Irrigation potential utilized was 26,29,403 hectares in Karnataka, which is decreased by 1.42% during 7th MI Census. A comparative chart showing Culturable Command Area (CCA), IPC and IPU of schemes during 6th and 7th MI census is shown in the chart given below.

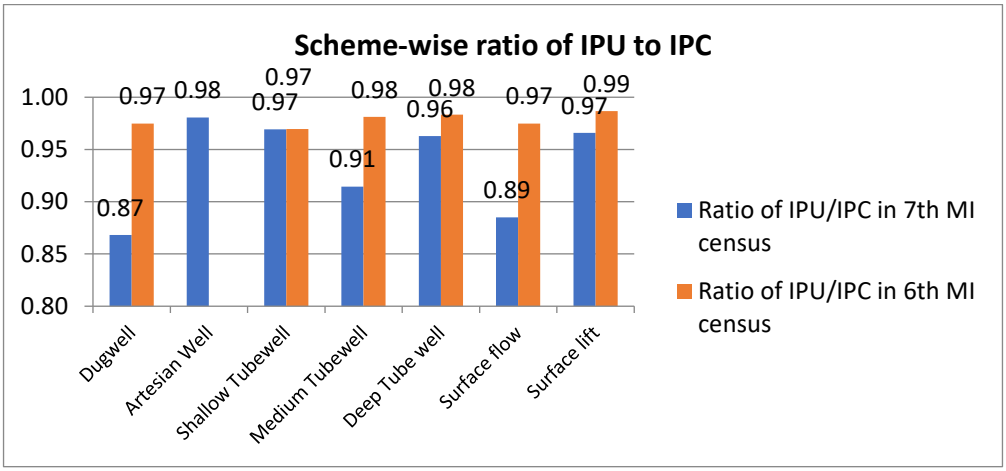


6.2. As per 7th MI Census, 23,73,174 hectares irrigation potential is created through GW schemes and 4,01,571 hectares through SW schemes. Irrigation potential utilized is 22,22,831 hectare and 3,69,223 hectares for GW and SW schemes, respectively. This shows that 93.6 % of the potential created through GW schemes has been utilized while percentage utilization in respect of SW schemes is 91.9%. The scheme-wise ratio of IPU to IPC in Karnataka is presented in the table given below.

Scheme-wise ratio of IPU to IPC in Karnataka			
	IPC	**IPU**	**Ratio of IPU/IPC**
Dugwell	287144	249277	0.87

Scheme-wise ratio of IPU to IPC in Karnataka			
	IPC	IPU	Ratio of IPU/IPC
Artesian Well	11139	10922	0.98
Shallow Tubewell	53228	51590	0.97
Medium Tubewell	730955	668429	0.91
Deep Tube well	1290708	1242614	0.96
Surface flow	230672	204157	0.89
Surface lift	170899	165067	0.97

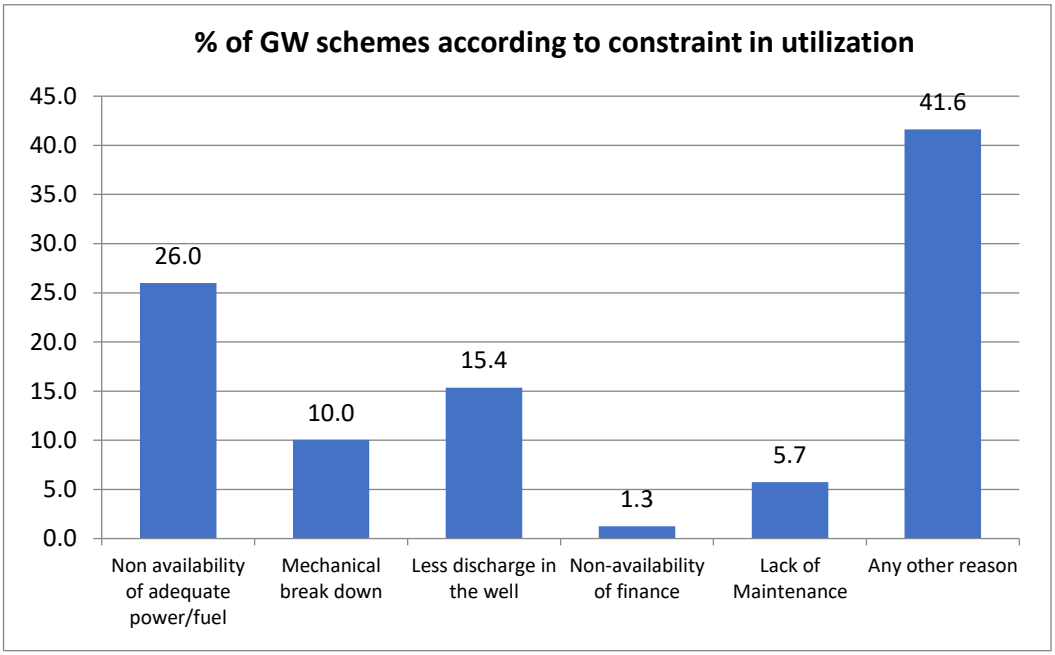
6.3. Artesian wells have the highest IPC to IPU ratio followed by shallow tubewell along with surface lift schemes. If we see ratio of IPU to IPC in 7th MI census in different type of schemes, all the schemes show more than 87% utilization of the potential created. A comparative chart showing scheme-wise ratio of IPU/IPC in the 7th and 6th MI census is given below.

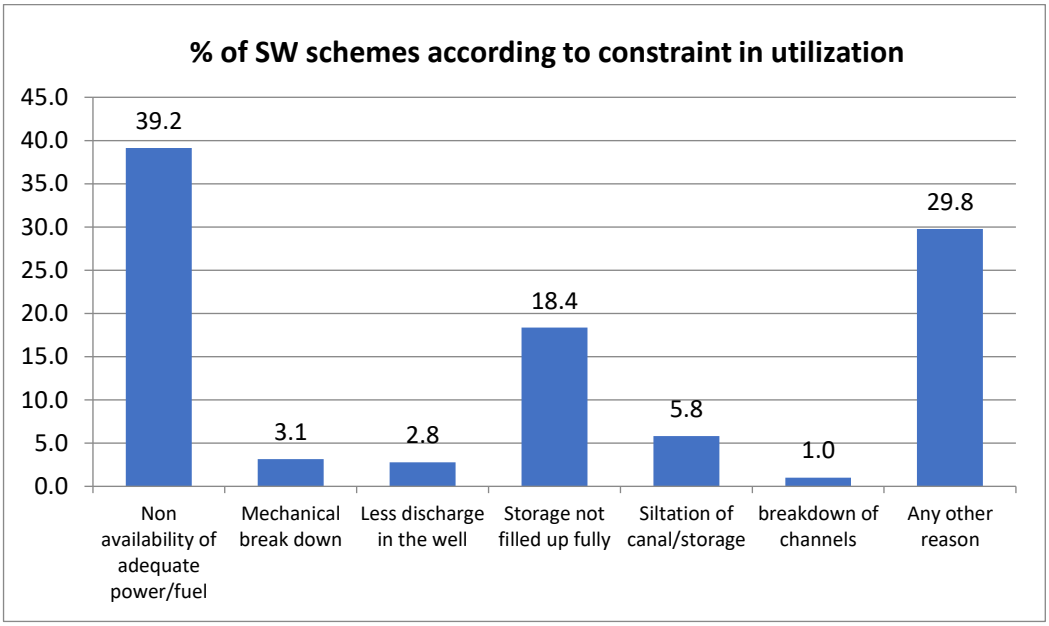


8.15. UNDER UTILIZATION OF IN USE SCHEMES

7.1. It is observed in the previous rounds of MI censuses that many 'in use' schemes were under-utilized due to various constraints. As per the 7th MI Census, out of 14,73,650 'in use' schemes in Karnataka 51,063 (3.1%) schemes are under- utilised due to several reasons. Remaining 96.9% 'in use' MI schemes are functioning without any constraints.

7.2. Among 51,063 under-utilized schemes, 45,850 are GW schemes and 5,213 SW schemes. The major factors contributing to constraints in utilization of GW as well as SW schemes are reported to be 'less discharge of water' and non-availability of adequate power. The percentage distribution of reasons of under-utilization of GW and SW schemes is shown in chart given below.





Key Parameters of 7th MI Census -Karnataka				
Parameter		**Unit**	**Value**	**%**
Number of schemes	Dugwell	No.	1,63,164	10.90
	Artesian Well	No.	5,843	0.39
	Shallow Tubewell	No.	30,432	2.03
	Medium Tubewell	No.	3,93,149	26.27
	Deep Tubewells	No.	8,26,304	55.22
	Ground Water Schemes	No.	14,18,892	94.82
	Surface Flow	No.	27,573	1.84
	Surface Lift	No.	50,000	3.34

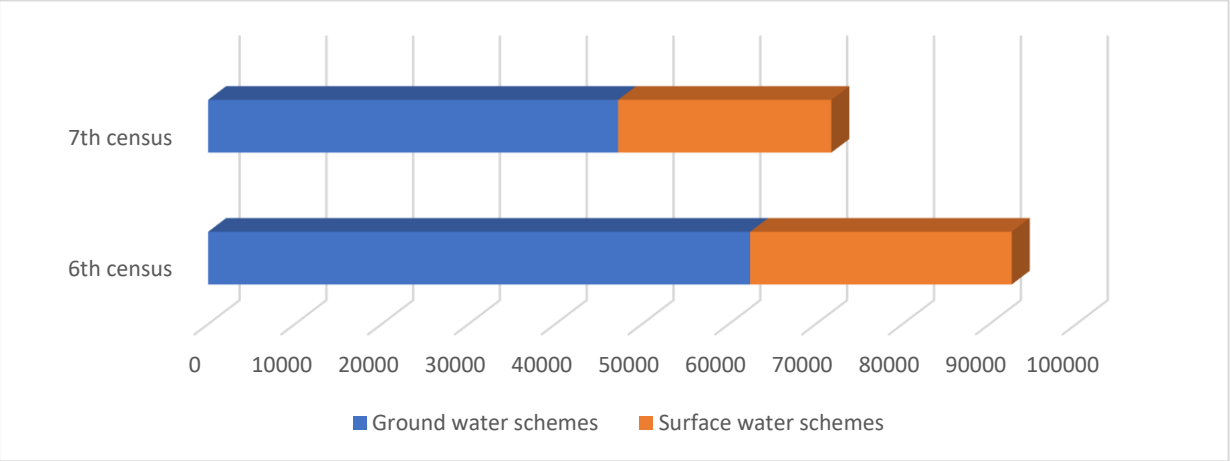
Key Parameters of 7th MI Census -Karnataka						
Parameter		**Unit**	**Value**			**%**
	Surface Water Schemes	No.	77,573			5.18
	Total Schemes	No.	14,96,465			100.00
			GW	**SW**	**Total**	
CCA, IPC and IPU	**CCA**	Ha	17,08,762	2,94,610	20,03,372	
	IPC	Ha	23,73,174	4,01,571	27,74,745	
	IPU	Ha	22,22,831	3,69,224	25,92,055	
	IPC of in use schemes	Ha	23,48,602	3,93,766	27,42,367	
	IPU of in use schemes	Ha	22,12,784	3,64,494	25,77,278	
	% Ratio of IPU wrt IPC		**93.66**	**91.94**	**93.42**	
	Gap in IPC and IPU	Ha	**1,50,343**	**32,347**	**1,82,690**	
Ownership	Individual ownership	No.	13,55,937	56,521	14,12,458	94.39
	Group of Farmers	No.	44,007	6,250	50,257	3.36
	Public owned	No.	18,948	14,802	33,750	2.26
	Total	No.	14,18,892	77,573	14,96,465	100.00
Social Status of Individual Owner	SC	No.	85,932	1,865	87,797	6.22
	ST	No.	69,466	2,098	71,564	5.07
	OBC	No.	5,67,794	21,278	5,89,072	41.71
	Others	No.	6,32,745	31,280	6,64,025	47.01
	Total Individual	No.	13,55,937	56,521	14,12,458	100.00
Water Distribution Devices	Open Water Channel (Lined/ Pucca)	No.	1,09,627	8,991	1,18,618	8.00
	Open Water Channel (unlined/ kutcha)	No.	43,315	8,881	52,196	3.52
	Underground pipe	No.	4,84,638	38,001	5,22,639	35.26
	Surface Pipe	No.	2,12,197	11,436	2,23,633	15.09
	Drip	No.	3,38,311	820	3,39,131	22.88
	Sprinklers	No.	1,98,027	3,181	2,01,208	13.57
	Others	No.	19,752	5,251	25,003	1.69
	Total	No.	14,05,867	76,561	14,82,428	100.00

2.11 KERALAM

1. Number of MI Schemes

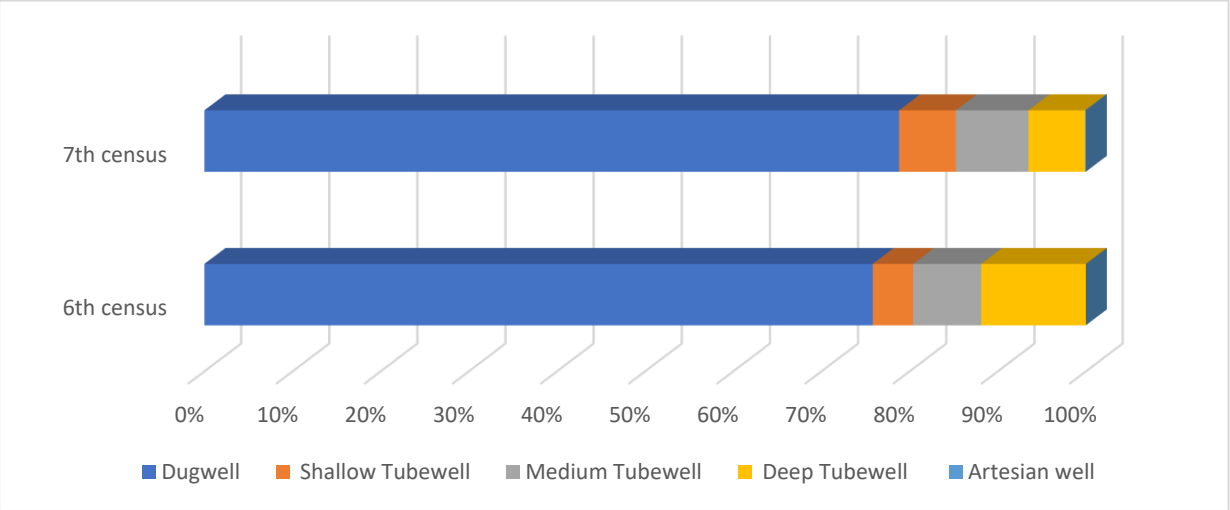
1.1 Keralam reported **71,799** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **65.78% (47,230 schemes)** are Ground Water (GW) schemes and the remaining **34.22% (24,569 schemes)** are Surface Water (SW) schemes. It reflects that Ground Water schemes are prominent in Keralam owing to the topography of the region. A comparison with the 6th Minor Irrigation Census reveals **22.44% decrease** in the total number of schemes, from **92,574** in the 6th Census to **71,799** in the 7th Census.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



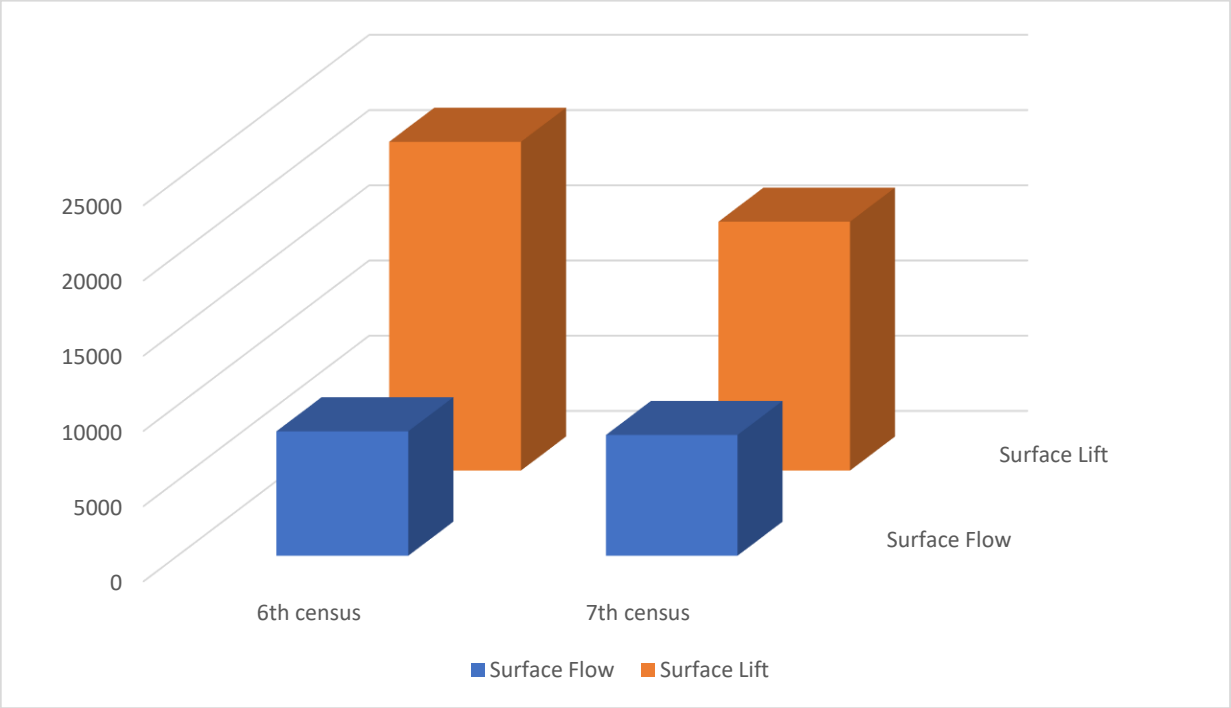
1.2 The number of Ground-water schemes account for around 66% of the total schemes, decreased from 62,453 during 6th MI census to 47,230 in 7th MI census. Within the Ground-water category, the increase was primarily driven by Dug well which is shown in the chart given below.

Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



1.3 Surface water schemes decreased from 30,121 during 6th MI census to 24,569 schemes during 7th MI census. Within this category, Surface Lift Schemes remained the predominant type, decreasing from 21,852 to 16,543 schemes during same period.

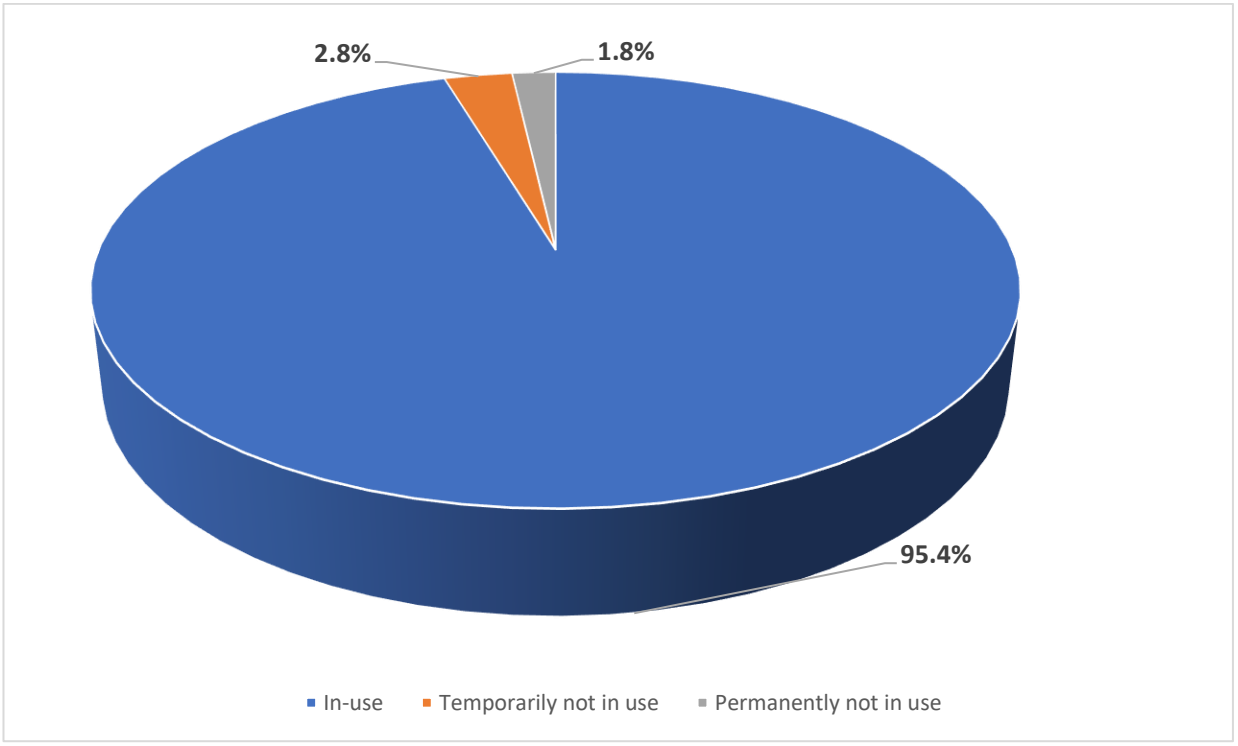
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 During 7th MI census, out of the total 71,799 MI schemes, **95.4%** are currently 'In Use', **1.8%** are 'Permanently Not In Use', and **2.8%** are 'Temporarily Not In Use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

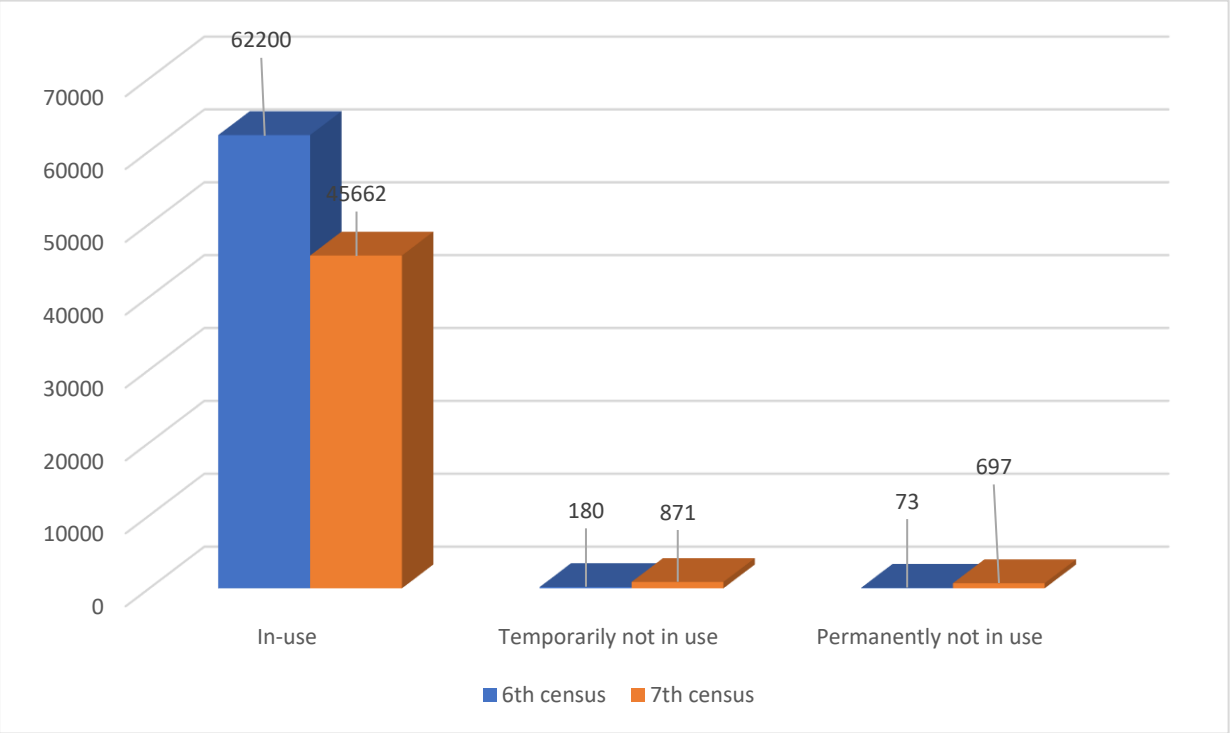
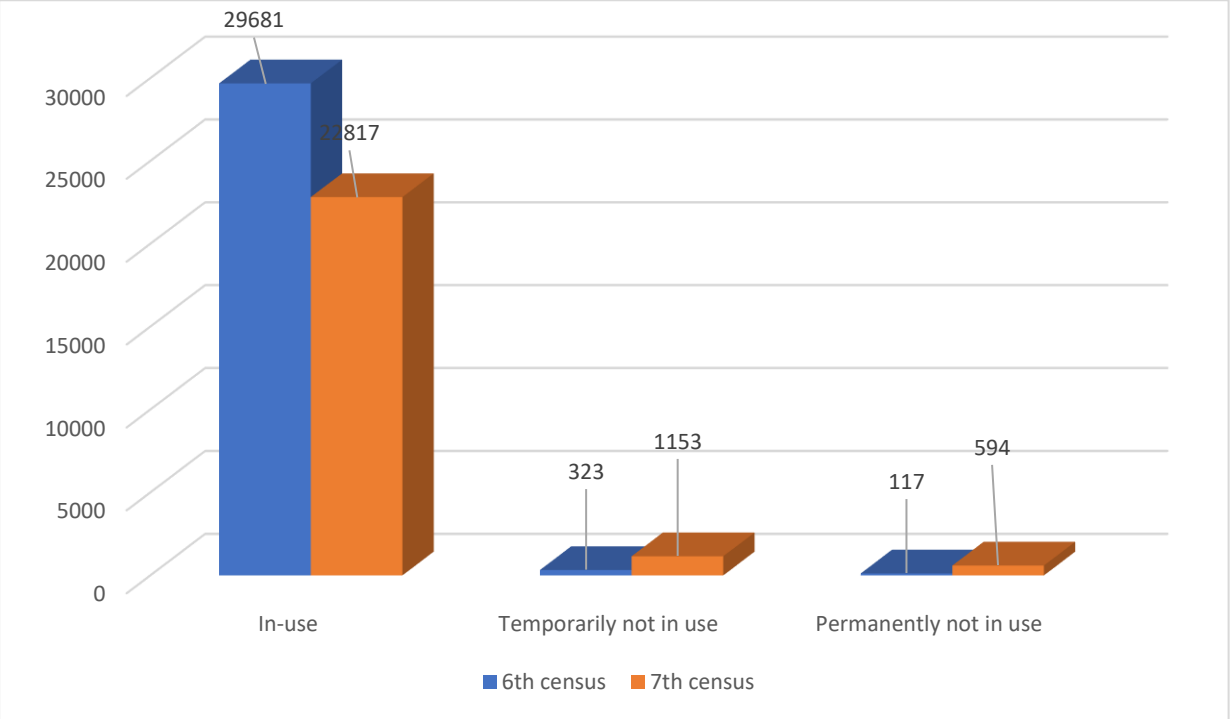


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

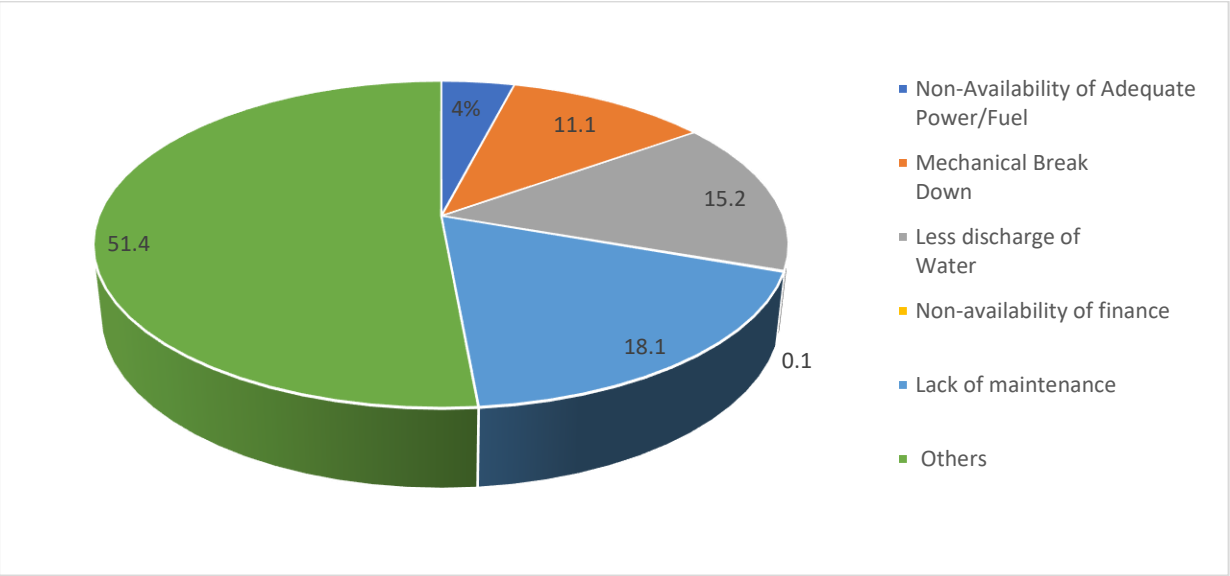


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, a total of 871 Ground-water (GW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes is shown in chart 7.

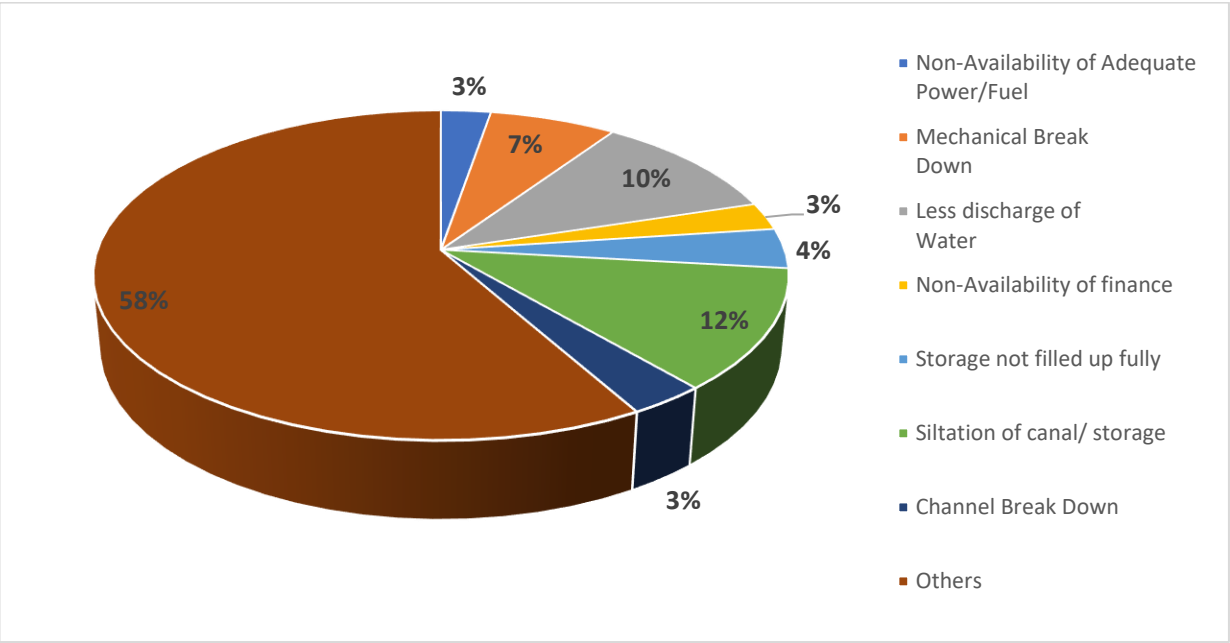
Chart 7: Reasons wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, a total of 1,153 surface water (SW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water schemes is shown in chart 8.

Chart 8: Reason- wise percentage share of 'Temporarily Not-In Use' Surface Water Schemes



3.3 Reason of 'Permanently Not In Use' GW Schemes

As per 7th Census, a total of 697 Ground-water (GW) schemes were reported as 'Permanently Not in Use'. 'Destroyed beyond repair' is accounted as one of the major reasons of ground water and surface water schemes. Reason wise percentage distribution of 'Permanently Not-In Use' GW Schemes and SW Schemes is given in chart 9 and chart 10 below.

Chart 9: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes

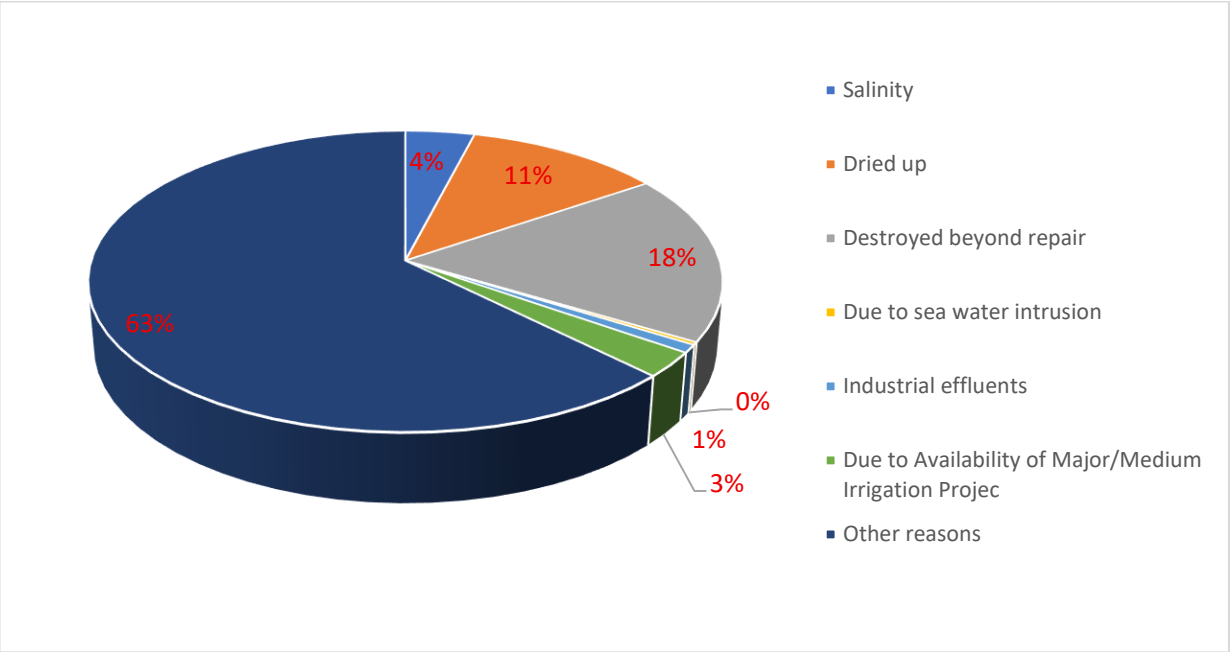
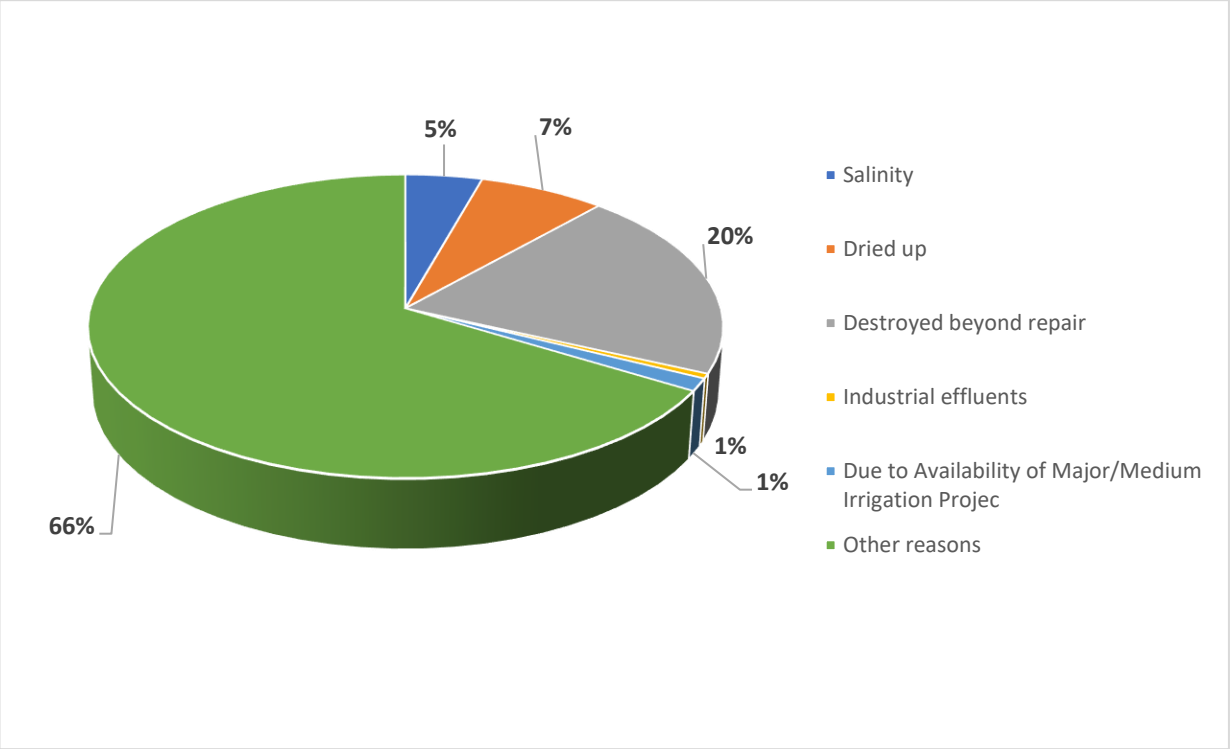


Chart 10: Reason wise percentage distribution of 'Permanently Not-In Use' Surface Water Schemes



4. Ownership of MI Schemes

4.1 Out of **71,799** MI schemes in Keralam, significant number of the schemes 80.1% of schemes are owned by Individual Farmers. This shows that farmers are getting noticeable benefit from MI schemes. Ownership Categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers), are shown in Charts 11, 12 and 13 respectively.

Chart 11: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

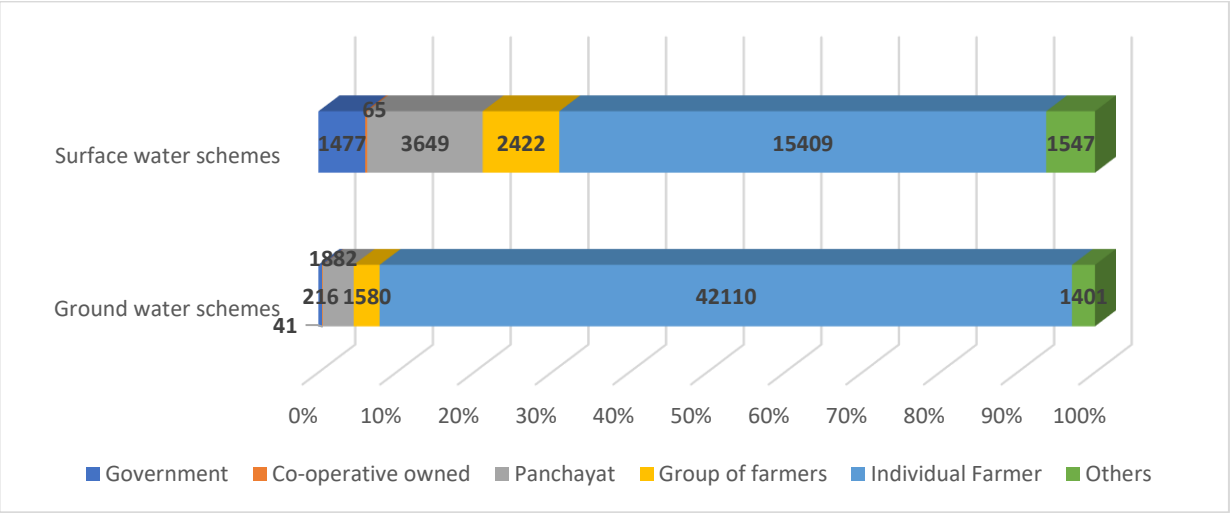


Chart 12: Ownership of Ground Water Schemes (Number)

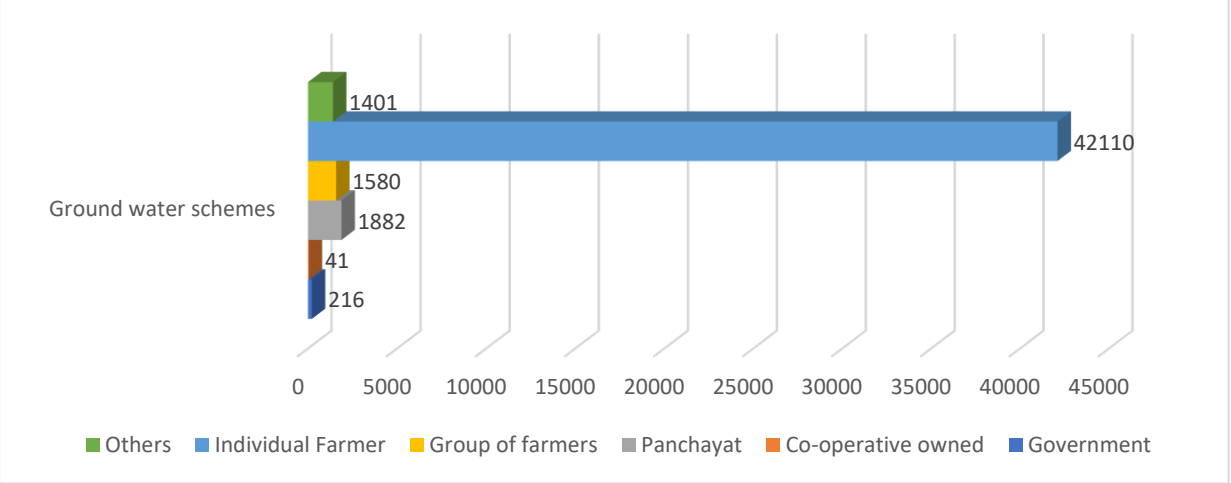
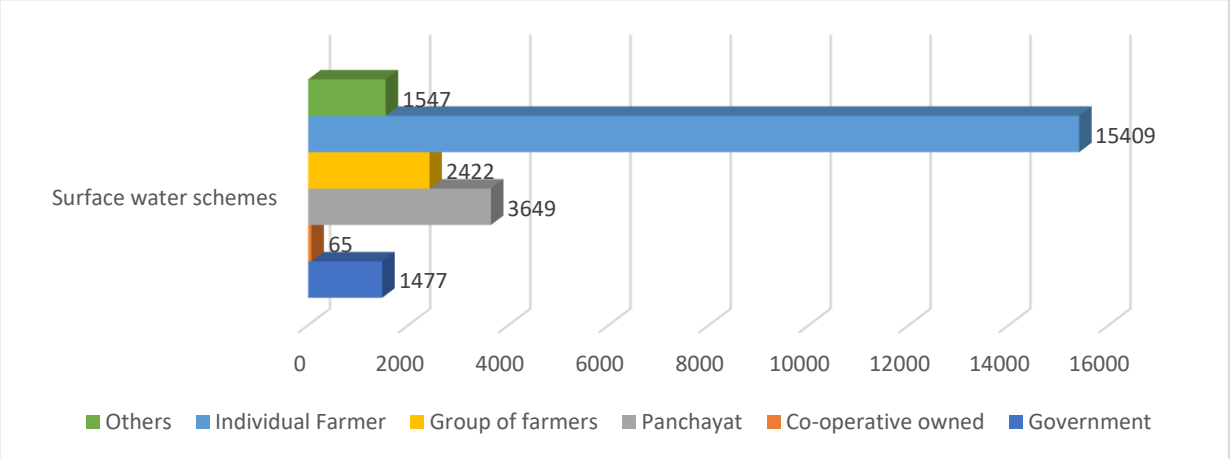


Chart 13: Ownership of Surface Water Schemes (Number)

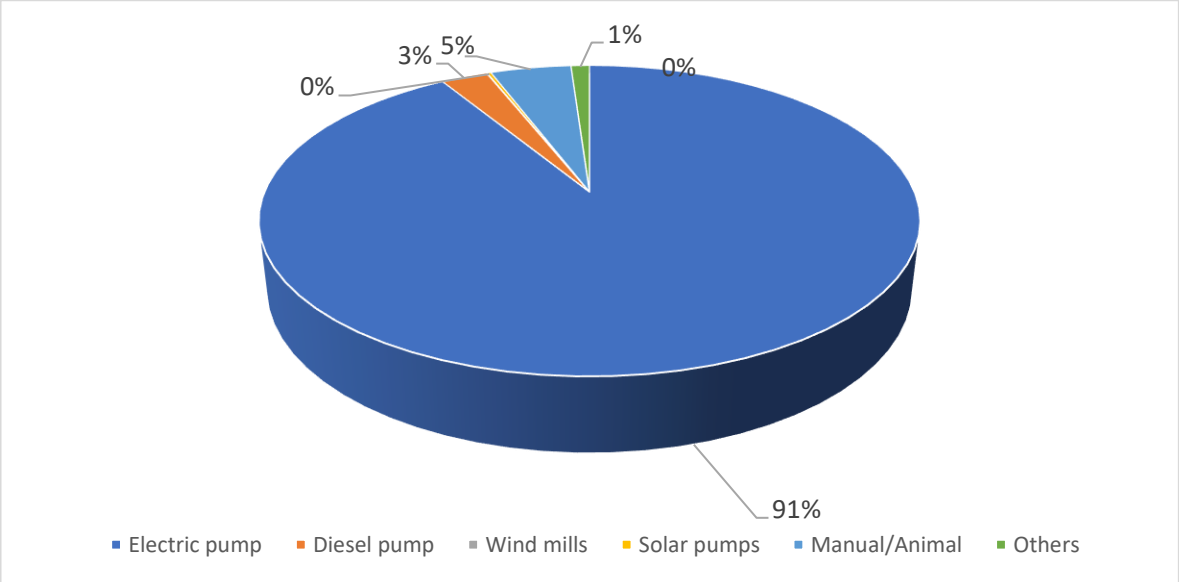


5. Source of Energy

5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. The number of such schemes is 62,791. Out of

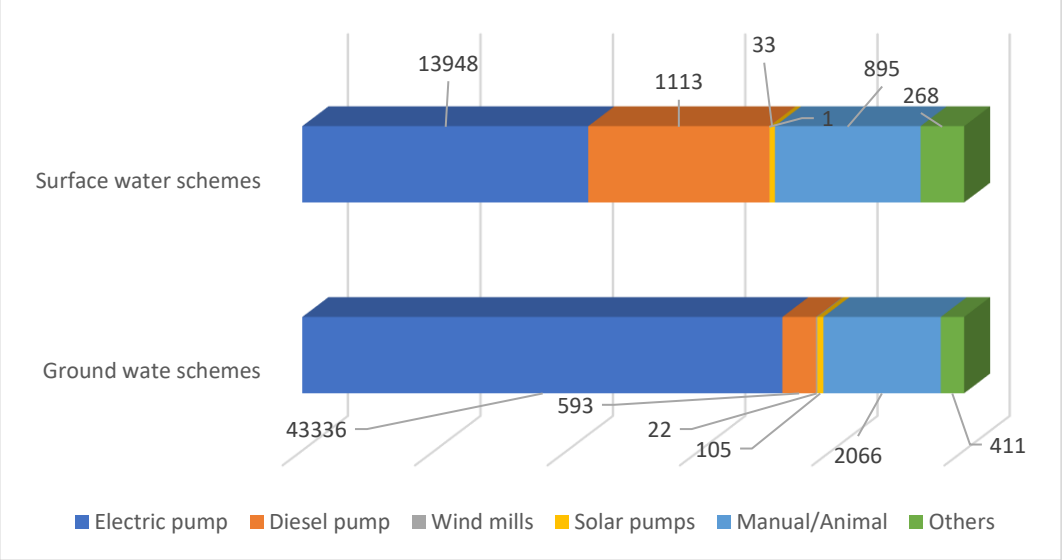
these, majority of schemes (91.23%) are using Electricity as source of energy followed by Manual/animal (4.72%) and Diesel pumps (2.72%) in the 7th MI Census.

Chart 14: Percentage distribution of MI schemes by Source of Energy



5.2 Percentage of surface lift and ground water irrigation scheme by source of energy is given in chart 15.

Chart 15: Number of Ground Water vs Surface Water Schemes by Source of Energy



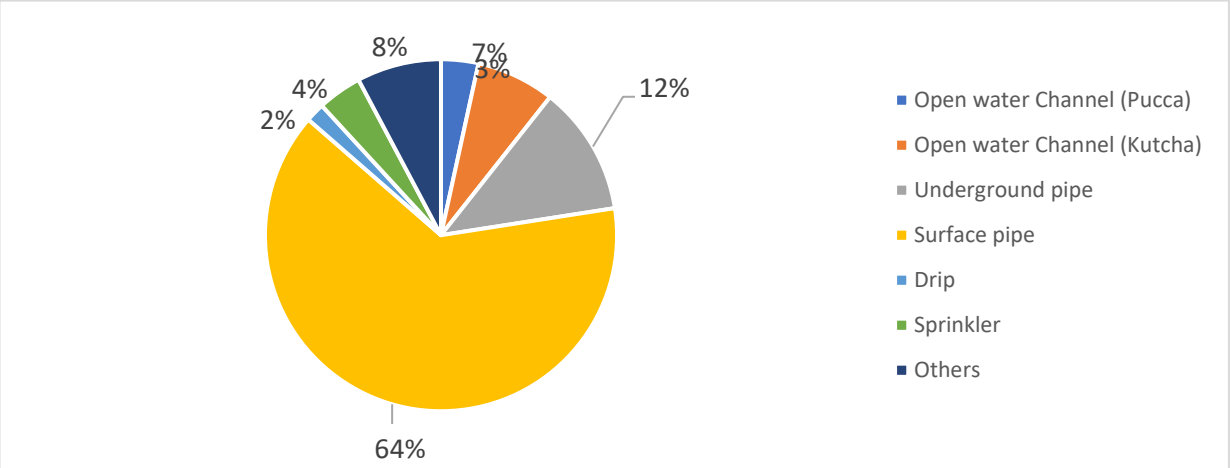
6. Water Distribution Methods

6.1. As per the 7th Census, out of total of 68,479 'In Use' schemes, 22,817 (33.32%) were Surface Water schemes and 45,662 (66.68%) were Ground Water schemes. In terms of water distribution method, Surface pipe was the predominant mode of water distribution, accounting for 58.43% of the total, followed by 10.86% Open Water Channel (Kutcha) and rest 30.71% through rest of the distribution methods including drip, sprinkler etc.

6.2. Among Ground Water schemes, Surface Pipe was the most commonly used water distribution method (29,168 schemes), followed by Underground pipe (5,434 schemes). Among Surface water schemes, 10842 Surface Water schemes were using Surface pipe as mode of water distribution.

6.3 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 16 below.

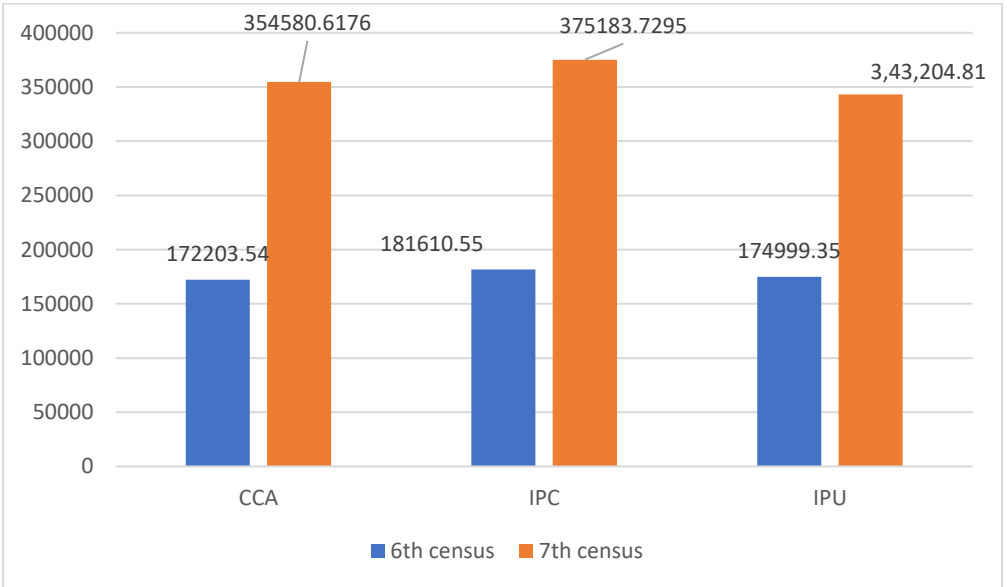
Chart 16: Percentage distribution of Schemes by type of Water Distribution Methods



7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 There has been a dramatic increase in the Culturable Command Area (CCA), Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU) in the State between the 6th and 7th MI Census. As Compared to the 6th MI Census, the CCA increased by 105.91%, while the IPC increased by 106.59% during the same period. The IPU also registered an increase of 96.12% over 6th Census.

Chart 17: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census



8. Underutilization of 'In Use' Schemes

8.1 It is observed in the previous rounds of MI censuses that many 'In Use' schemes remain underutilized due to various constraints. As per the 7th MI Census, 4,101 schemes out of 68,479 'In

Use' schemes in Keralam were underutilized for various reasons, while the remaining 94.01% of the 'In Use' schemes were functioning without any reported constraints.

8.2 As per the 7th Census, out of 45,662 'In Use' Ground-water schemes, 2705 schemes were under-utilised on account of various reasons shown in Chart 18. Further, out of 22,817 'In Use' SW schemes, 1396 Surface Water schemes were reported as underutilised. The percentage distribution of Surface Water schemes by reason for underutilisation is shown in the Chart 19 given below.

Chart 18: Percentage distribution of Ground Water schemes by reason for underutilisation

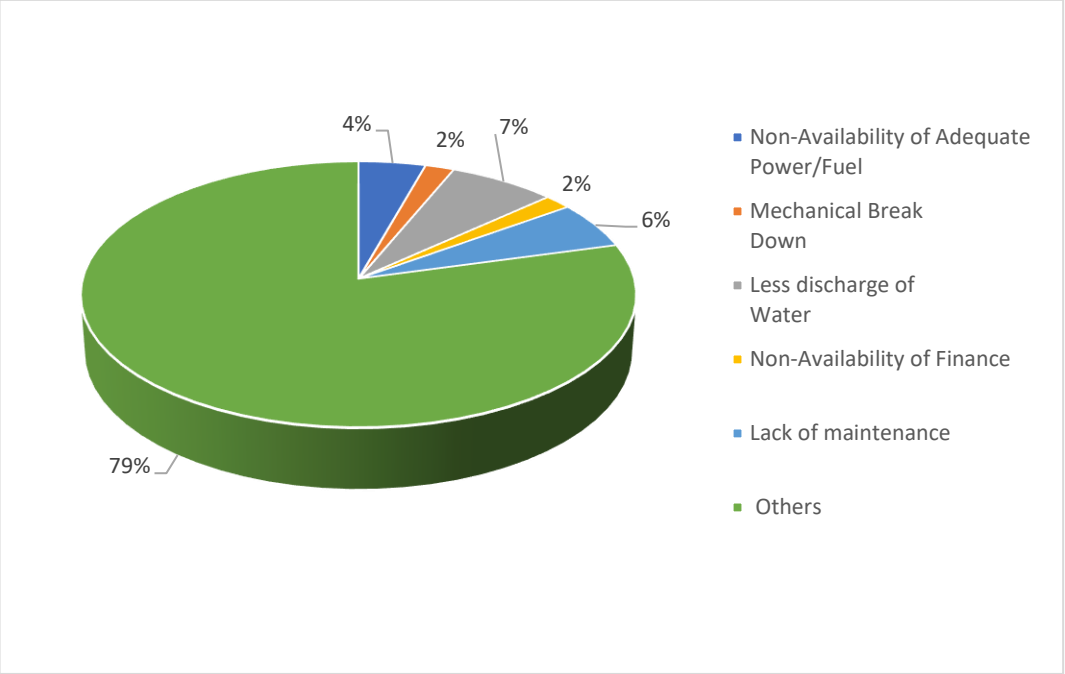
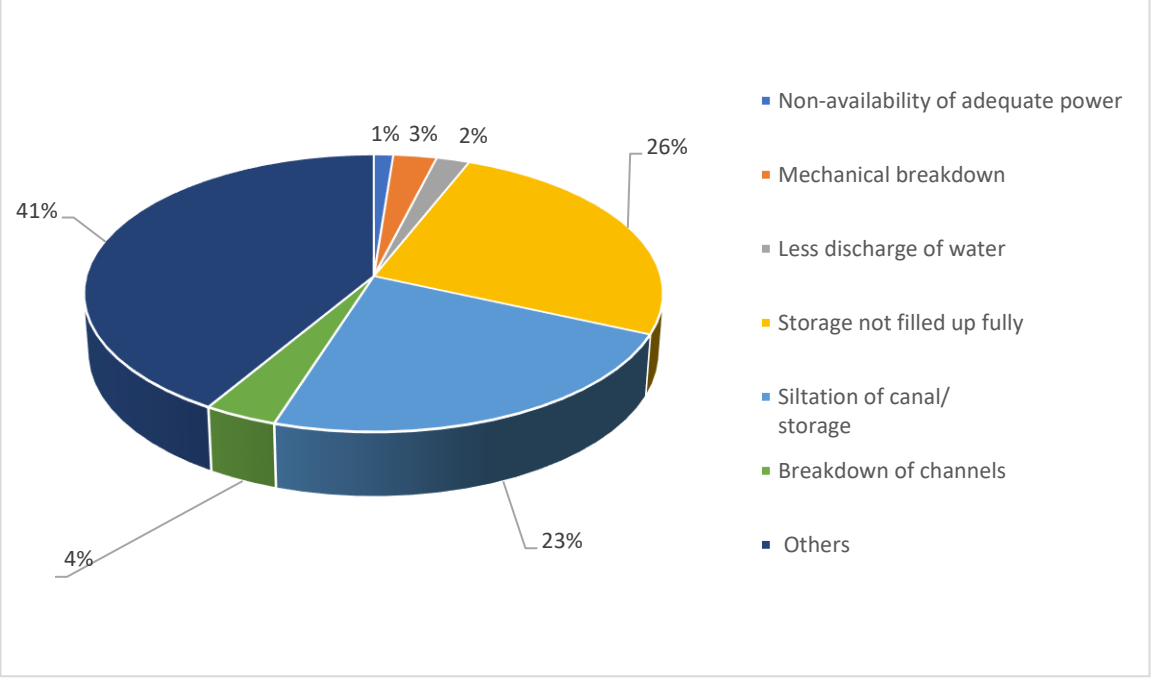


Chart 19: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 4,990 irrigation schemes, 1,812 of which were surface water schemes and 3,178 of which were ground water schemes, indicating that Ground-water recharge activities were carried out predominantly through ground water schemes.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 16,367 Minor Irrigation schemes, constituting about 22.8% of the total schemes in Keralam, were also used for drinking water supply, with Ground Water schemes being the primary source.

Key Parameters of 7th MI Census — Keralam

Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	37223			78.8122
	Shallow Tubewell	No.	3043			6.442939
	Medium Tubewell	No.	3889			8.234173
	Deep Tubewells	No.	3029			6.413297
	Artesian Well	No.	46			0.097396
	Ground Water schemes	No.	**47230**			65.78
	Surface Flow	No.	8026			32.67
	Surface Lift	No.	16543			67.33
	Surface Water schemes	No.	**24569**			34.22
	Total schemes	No.	**71799**			100.00
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	73916.99	280663.6	354580.6	
	IPC	Ha	79048.23	296135.5	375183.7	
	IPU	Ha	74536.03	268668.8	343204.8	
	IPC of In Use schemes	Ha	76810.21	273124.05	349934.26	
	IPU of In Use schemes	Ha	73259.75	254331.43	327591.18	
	% Ratio of IPU to IPC		94.29	90.275	91.48	
	Gap in IPC and IPU	Ha	4512.2	27466.7	31978.9	
Ownership	Individual ownership	No.	42110	15409	57519	80.111
	Group of Farmers	No.	1580	2422	4002	5.5739
	Public owned	No.	216	1477	1693	2.358

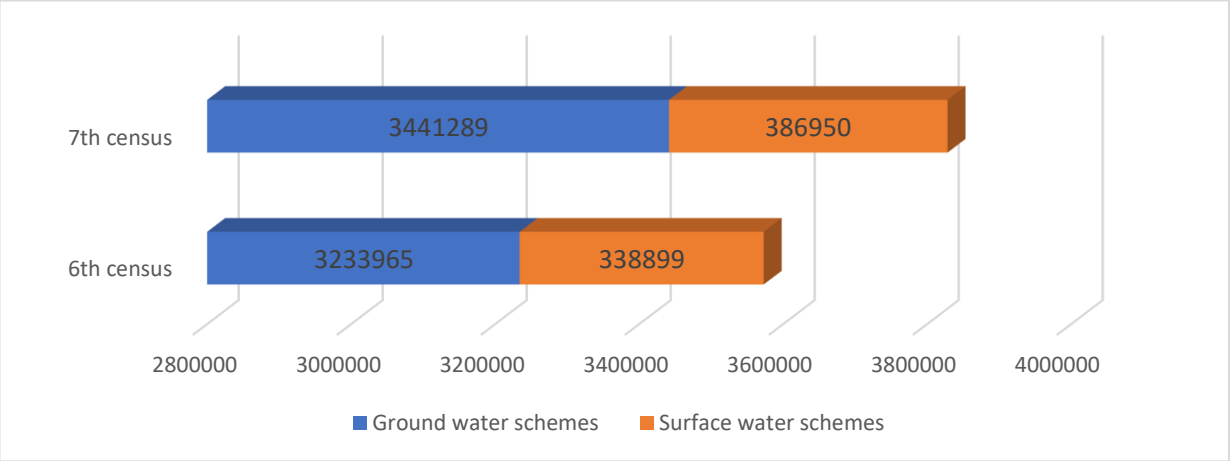
Parameter		Unit	Value			%
	Co-Operative Owned	No.	41	65	106	0.1476
	Panchayat Owned	No.	1882	3649	5531	7.7034
	Others	No.	1401	1547	2948	4.1059
	Total	No.	47230	24569	71799	100.00
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	1565	1925	3490	5.096452927
	Open Water Channel (unlined/kutcha)	No.	3292	4146	7438	10.86172403
	Underground pipe	No.	5434	1727	7161	10.45722046
	Surface Pipe	No.	29168	10842	40010	58.42667095
	Drip	No.	801	220	1021	1.490968034
	Sprinklers	No.	1858	1299	3157	4.610172462
	Others	No.	3544	2658	6202	9.056791133
	Total	No.	45662	22817	68479	100.00

2.12 MAHARASHTRA

1. Number of MI Schemes

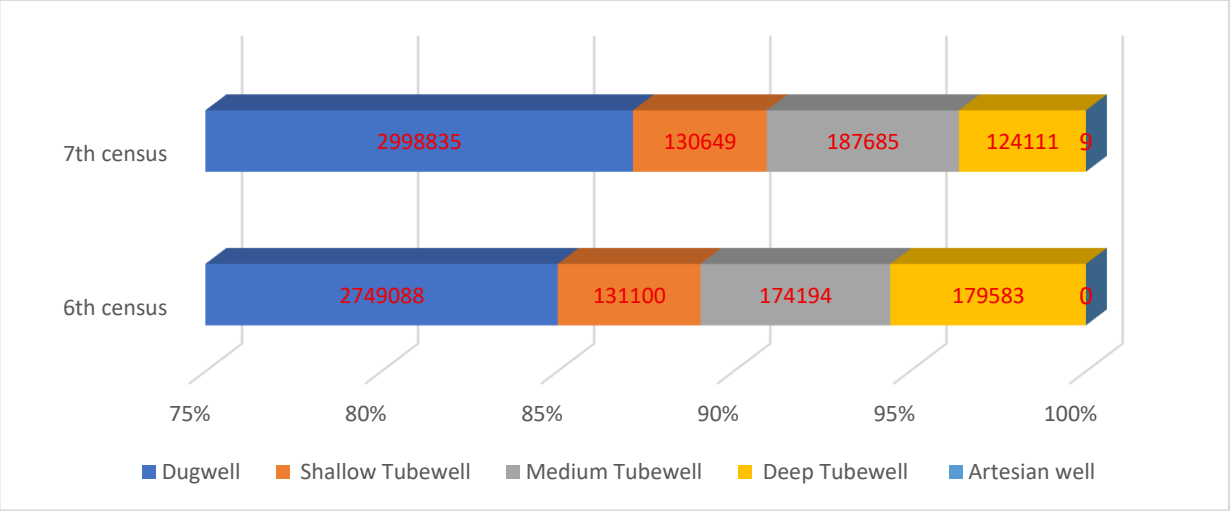
1.1 Maharashtra reported **38,28,239** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **89.89% (34,41,289 schemes)** are Ground Water schemes and the remaining **10.11% (3,86,950 schemes)** are Surface Water schemes. It reflects that Ground Water schemes are prominent in Maharashtra owing to the topography of the region. A comparison with the 6th Minor Irrigation Census reveals **7.15% increase** in the total number of schemes, from **35,72,864** in the 6th Census to **38,28,239** in the 7th Census.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



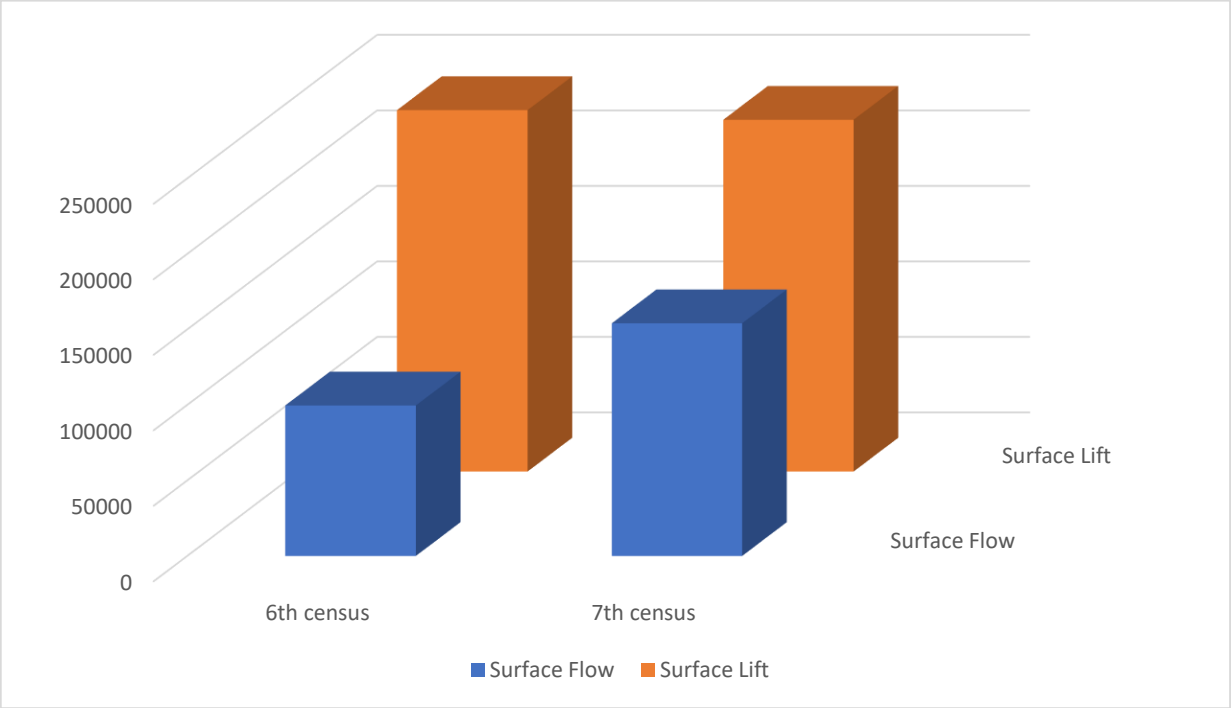
1.2 The number of Ground-water schemes increased from 32,33,965 to 34,41,289, they continued to account for close to 90% of the total schemes. Within the Ground-water category, the increase was primarily driven by Dugwells which is shown in the chart given below.

Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



1.3 Surface water schemes increased significantly from 3,38,899 to 3,86,950 schemes. Within this category, Surface Lift Schemes remained the predominant type, decreasing from 2,39,278 to 2,32,910 schemes.

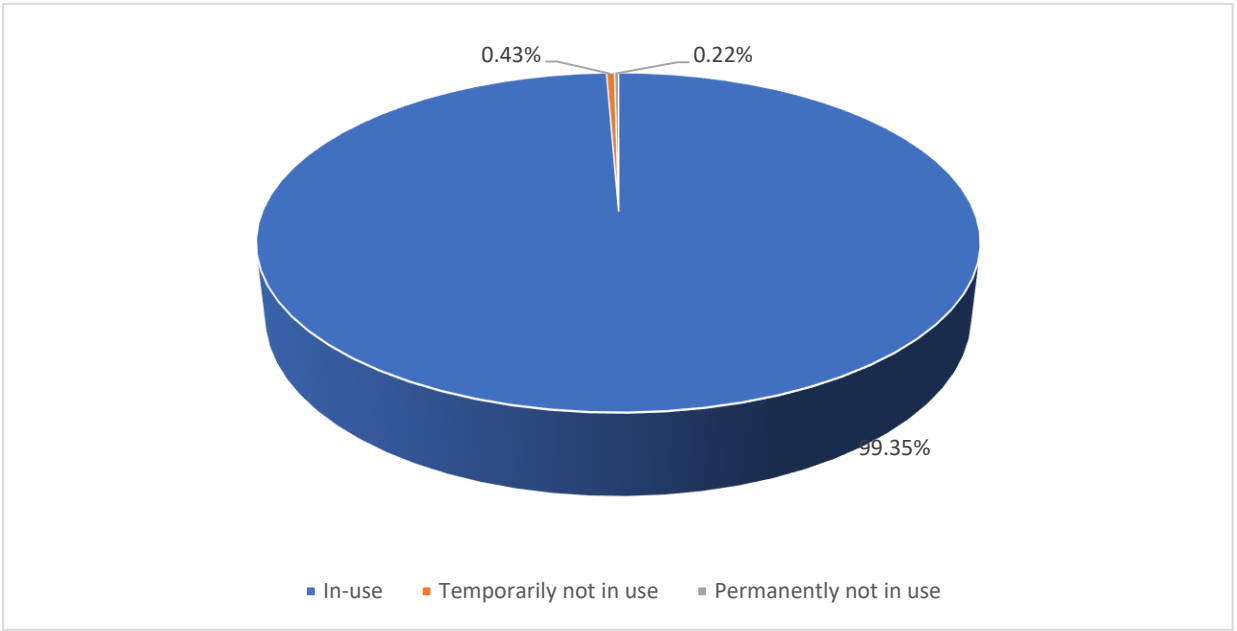
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 Out of the total 38,28,239 MI schemes, **99.35%** are currently 'In Use', **0.22%** are 'Permanently Not In Use', and **0.43%** are 'Temporarily Not In Use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

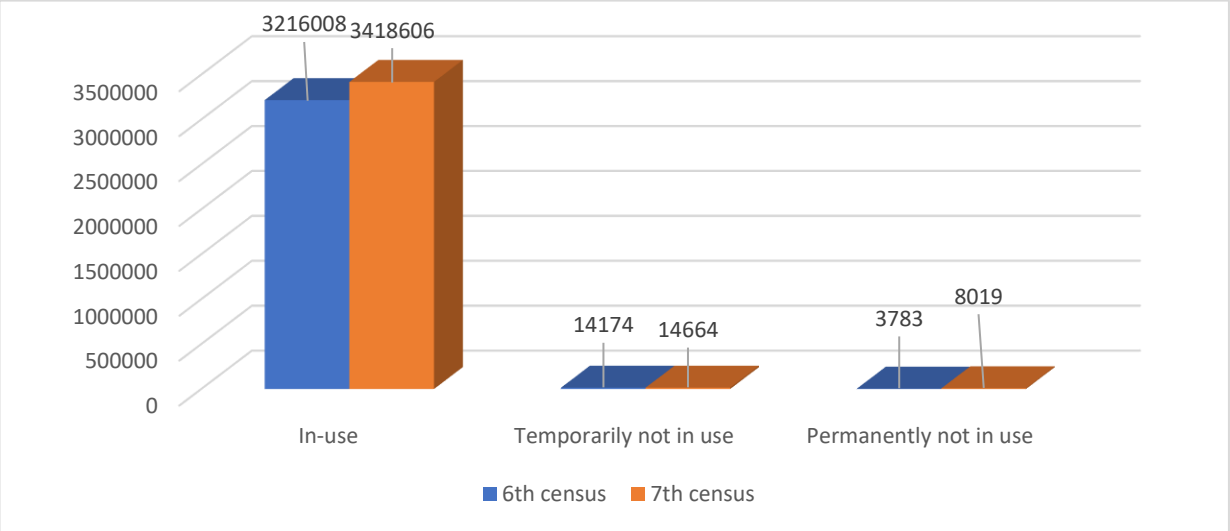
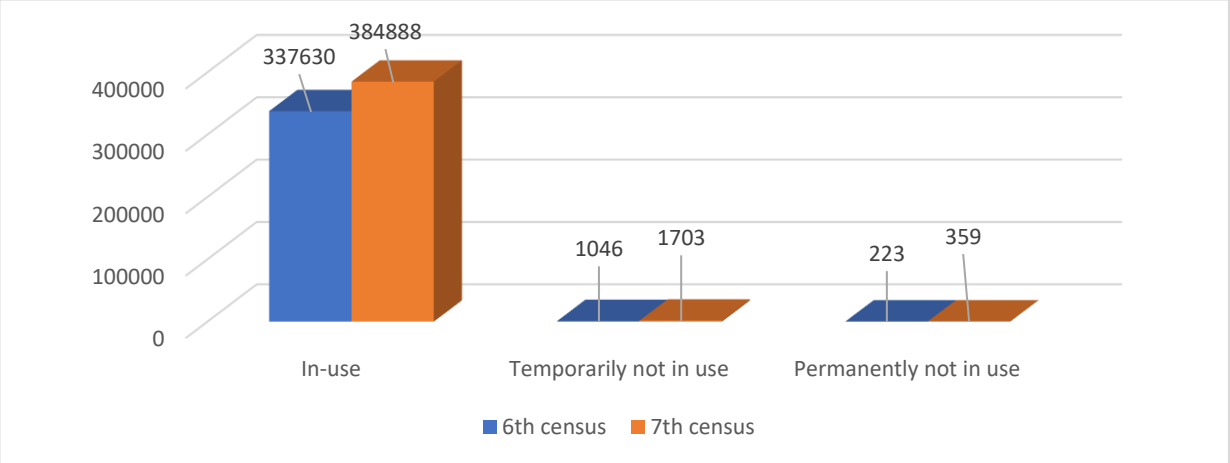


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

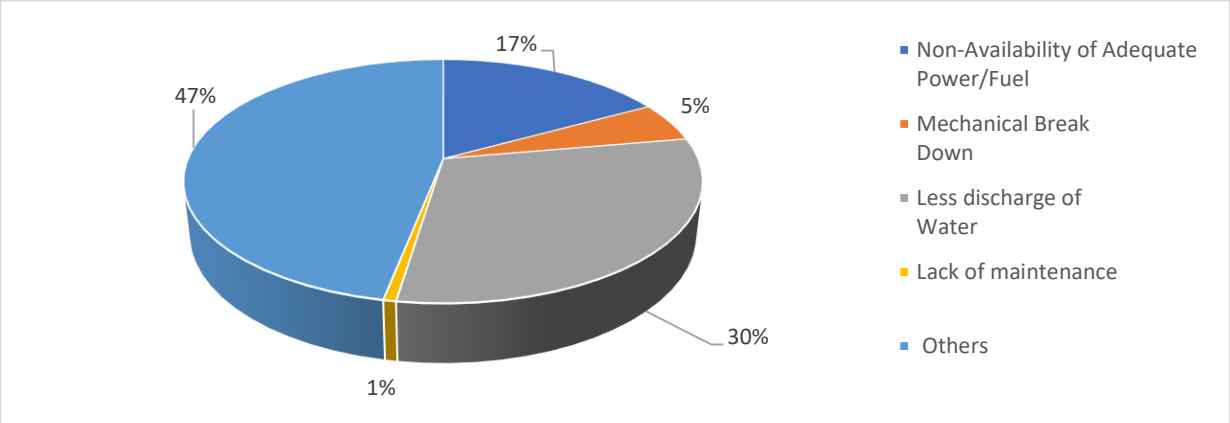


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, a total of 14,664 Ground-water (GW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes is shown in chart 7.

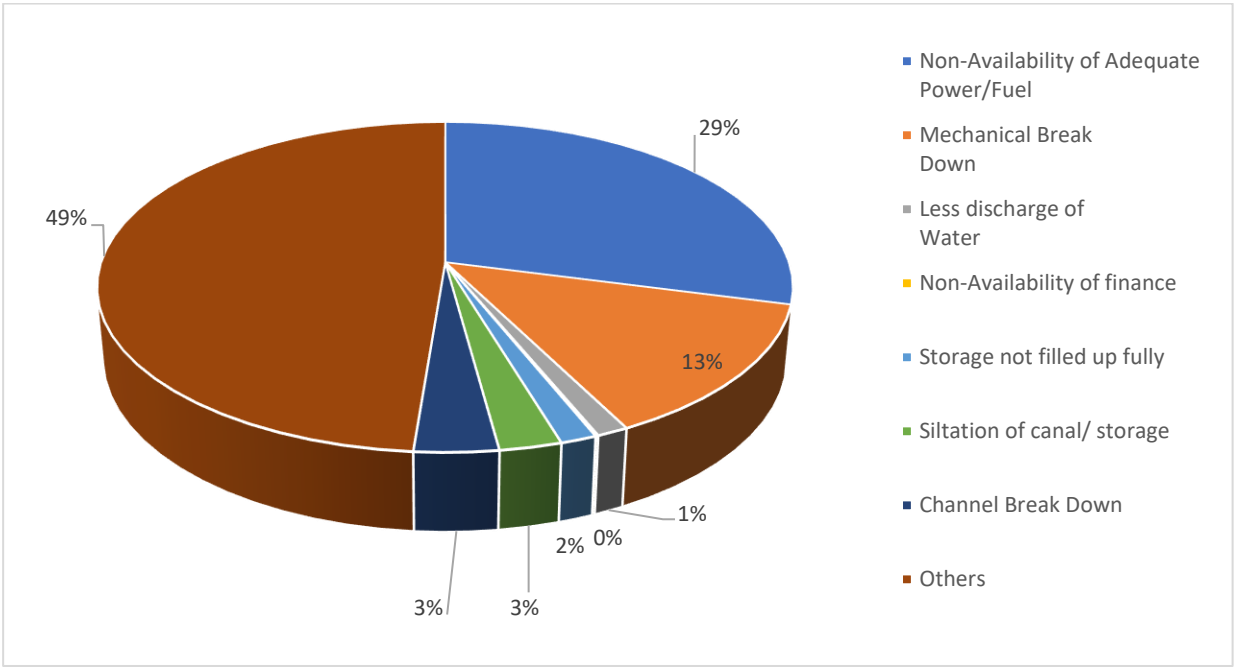
Chart 7: Reasons wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, a total of 1,703 surface water (SW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water schemes is shown in chart 8.

Chart 8: Reason- wise percentage share of 'Temporarily Not-In Use' Surface Water Schemes



3.3 Reason of 'Permanently Not In Use' GW Schemes

As per 7th Census, a total of 8,019 Ground-water (GW) schemes were reported 'Permanently Not in Use'. 'Dried up' is accounted as one of the major reasons of ground water and surface water schemes. Reason wise percentage distribution of 'Permanently Not-In Use' GW Schemes and SW Schemes is given in chart 9 and chart 10 below.

Chart 9: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes

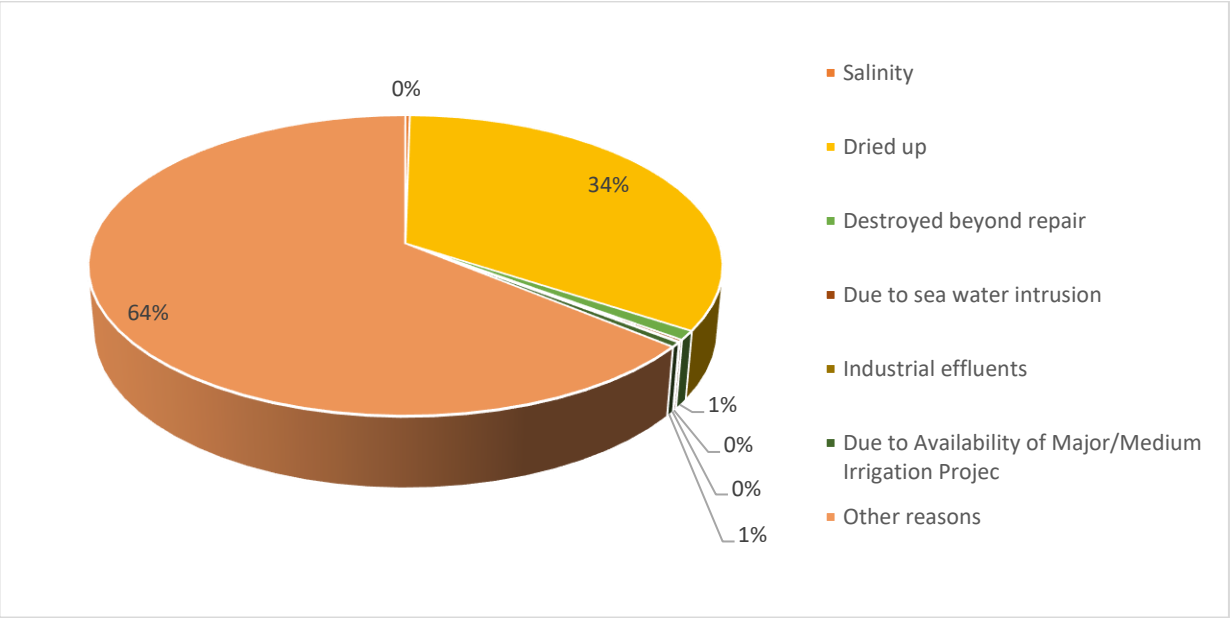
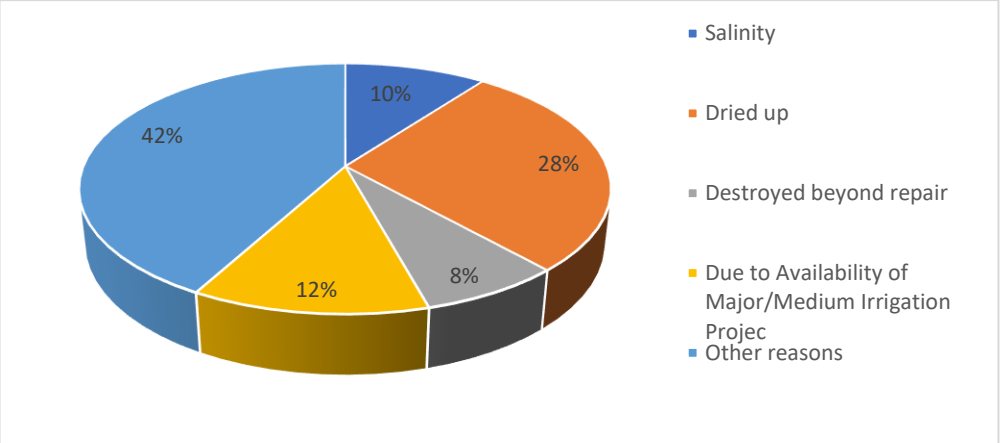


Chart 10: Reason wise percentage distribution of 'Permanently Not-In Use' Surface Water Schemes



4. Ownership of MI Schemes

4.1 Out of **38,28,239** MI schemes in Maharashtra, good number of the schemes (97.21%) are owned by Individual Farmers and Group of Farmers. This shows that farmers are getting noticeable benefit from MI schemes. Ownership Categories of Ground Water and Surface Water schemes are shown in Charts 11 and 12 respectively.

Chart 11: Ownership of Ground Water Schemes (Number)

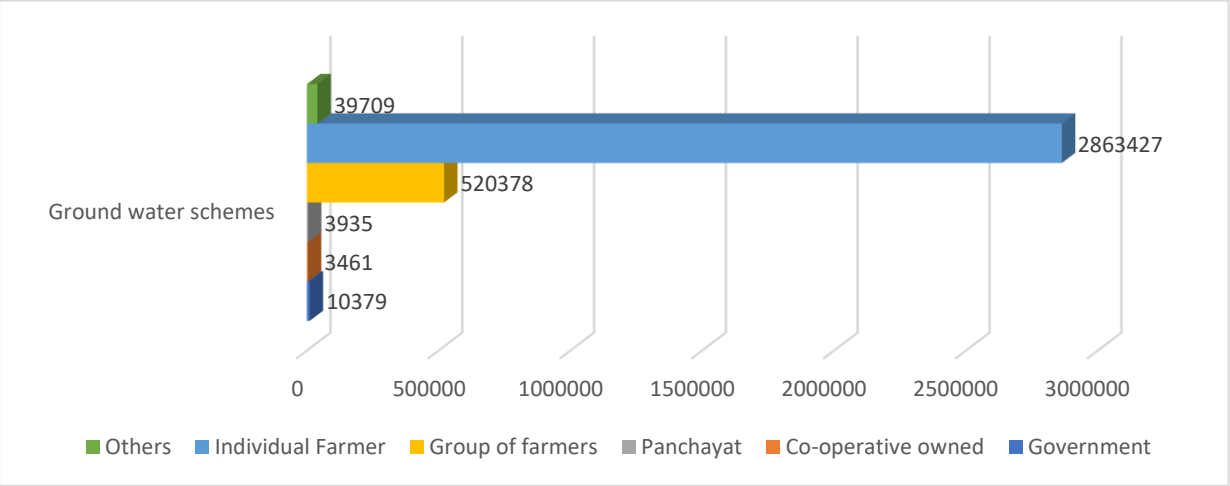
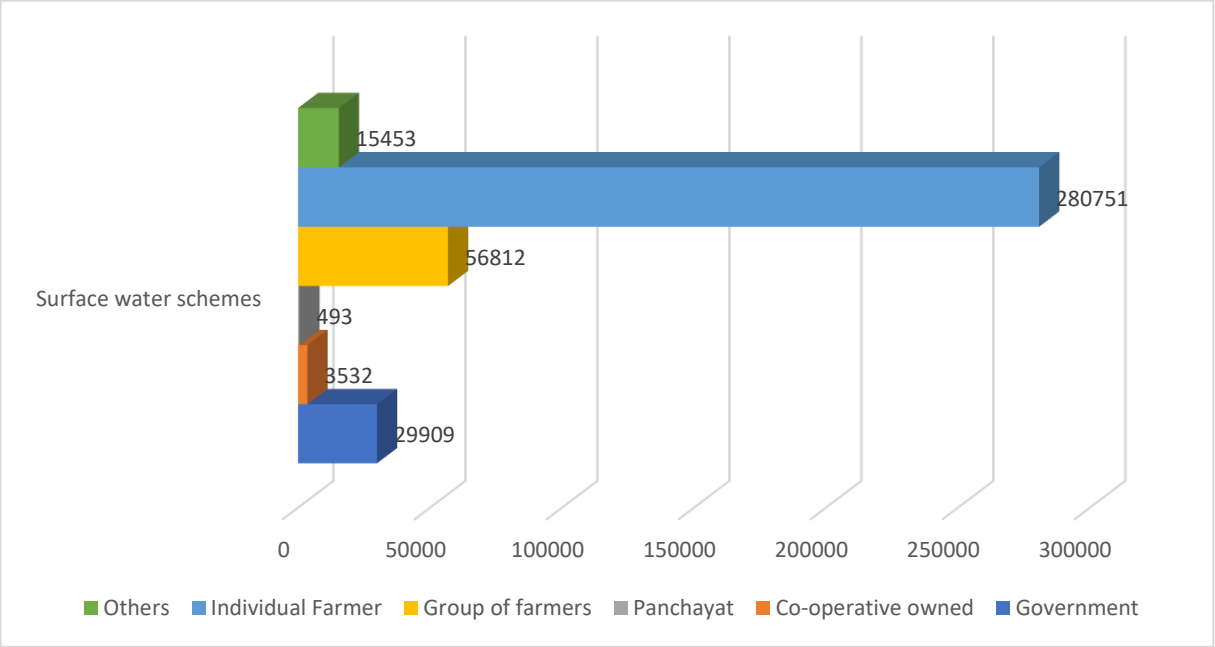


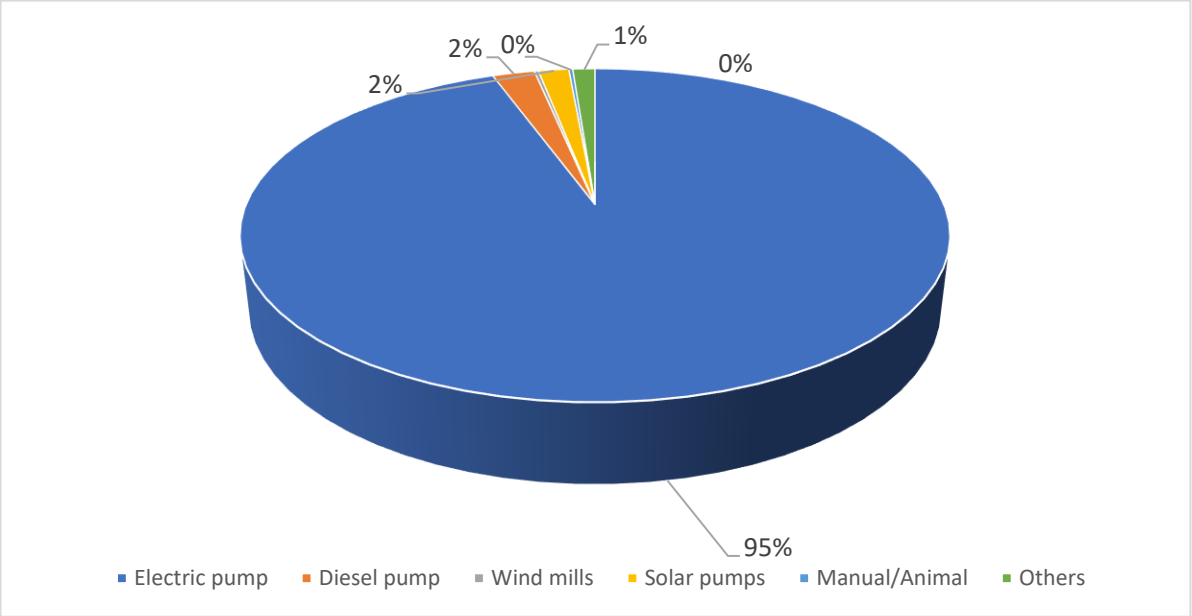
Chart 12: Ownership of Surface Water Schemes (Number)



5. Source of Energy

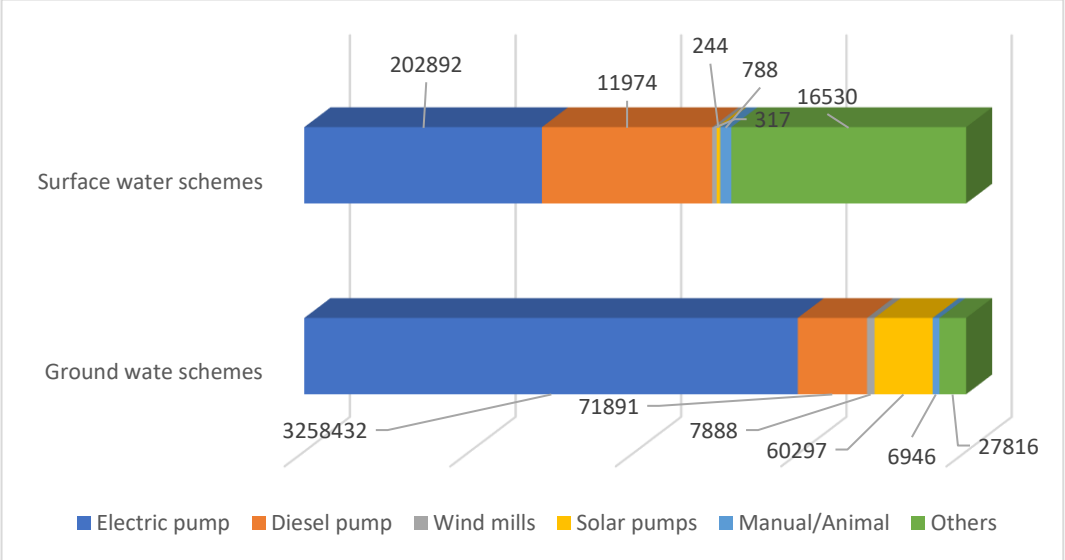
5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. Out of these, an overwhelming majority of schemes (94.42%) are using Electricity as source of energy followed by Diesel (2.29%) and Solar pumps (1.65%) in the 7th MI Census. Percentage distribution of MI schemes by Source of Energy is shown in chart 13.

Chart 13: Percentage distribution of MI schemes by Source of Energy



5.2 Number of surface and ground water irrigation schemes by source of energy is given in chart 14.

Chart 14: Number of Ground Water vs Surface Water Schemes by Source of Energy



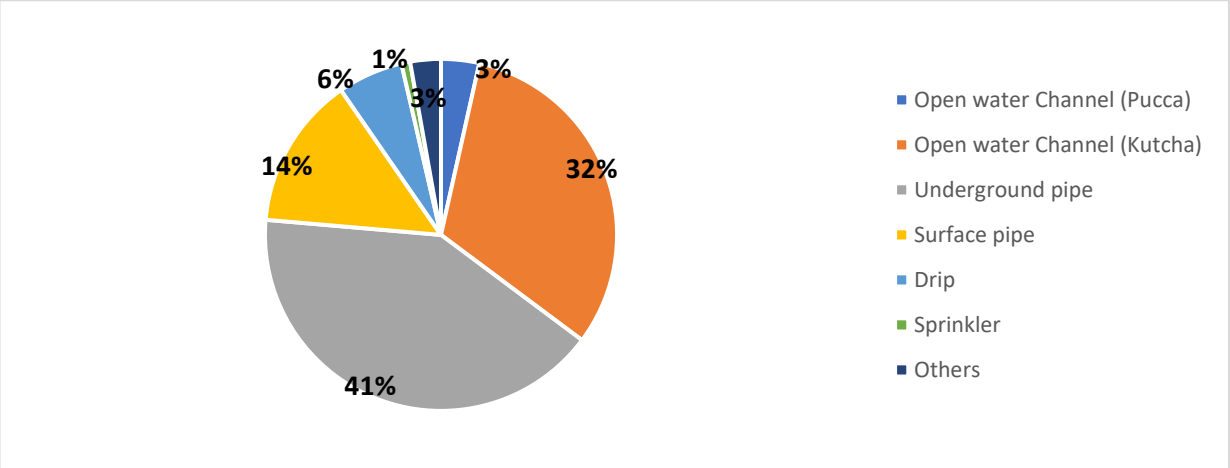
6. Water Distribution Methods

6.1. As per the 7th Census, out of total of 38,02,464 'In Use' schemes, only 3,83,858 (10.09%) were Surface Water schemes, while 34,18,606 (89.91%) were Ground Water schemes. In terms of water distribution method, Underground pipe was the predominant mode of water distribution, accounting for 41.47% of the total, followed by 32% Open Water Channel (Kutcha). Surface pipe accounted for a much smaller share (13.98%), while Open Water Channel (Pucca), Drip and Sprinkler accounted for less than 15% put together. s

6.2. Among Ground Water schemes, Underground Pipe was the most commonly used water distribution method (14,07,273 schemes), followed by Open Water Channel [Kutcha] (10,83,890 schemes). Similarly, Surface Water schemes were predominantly served through Underground Pipe (1,69,679 schemes).

6.3 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 15 below.

Chart 15: Percentage distribution of Schemes by type of Water Distribution Methods

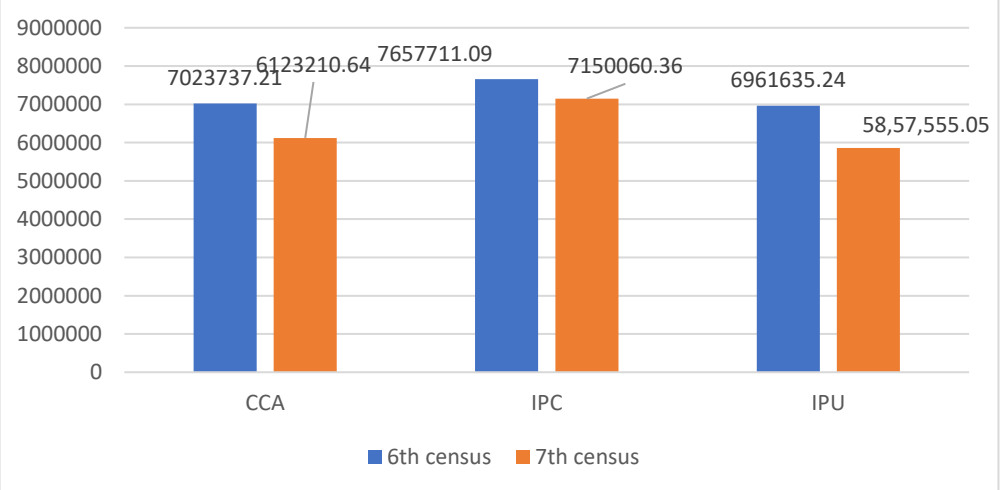


7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 A comparison with 6th MI Census reveals that there has been a decline in the Culturable Command Area (CCA), Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU) during 7th MI Census. The CCA declined by 12.82%, while the IPC decreased by 6.63% during the same period. The IPU also registered a decline of 15.86% over the 6th Census.

7.2 Alongside the decline in absolute values, the IPU-to-IPC ratio also decreased from 0.9091 (90.91%) in the 6th Census to 0.8192 (81.92%) in the 7th Census, indicating a lower level of utilisation of the irrigation potential created.

Chart 16: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census



8. Underutilization of 'In Use' Schemes

8.1 It is observed in the previous rounds of MI censuses that many 'In Use' schemes remain underutilized due to various constraints. As per the 7th MI Census, 7,42,476 schemes out of 3802464 'In Use' schemes in Maharashtra were underutilized for various reasons, while the remaining 80.48% of the 'In Use' schemes were functioning without any reported constraints.

8.2 Out of 34,18,606 'In Use' Ground-water schemes, 7,42,463 schemes were under-utilised on account of various reasons shown in Chart 17. As per the 7th Census, out of 383858 'In Use' SW schemes, only 13 Surface Water schemes were reported as underutilised. The percentage distribution of Surface Water schemes by reason for underutilisation is shown in the Chart 18 below.

Chart 17: Percentage distribution of Ground Water schemes by reason for underutilisation

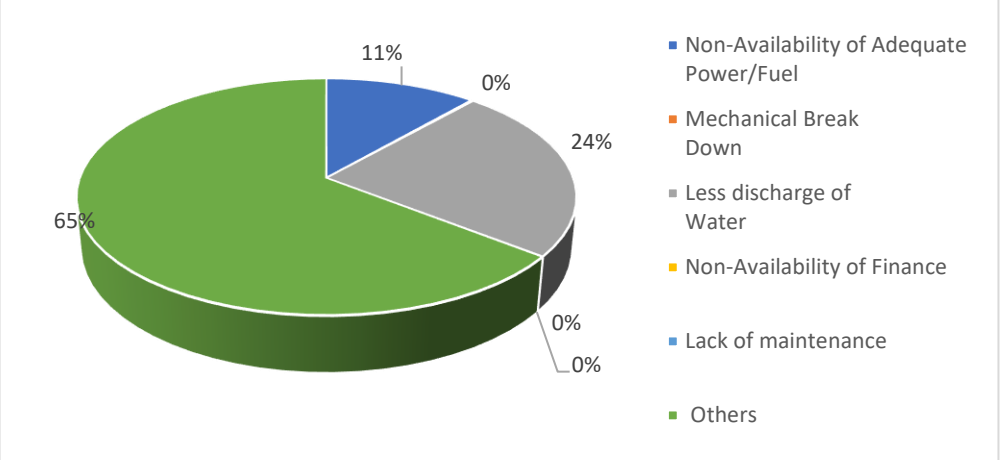
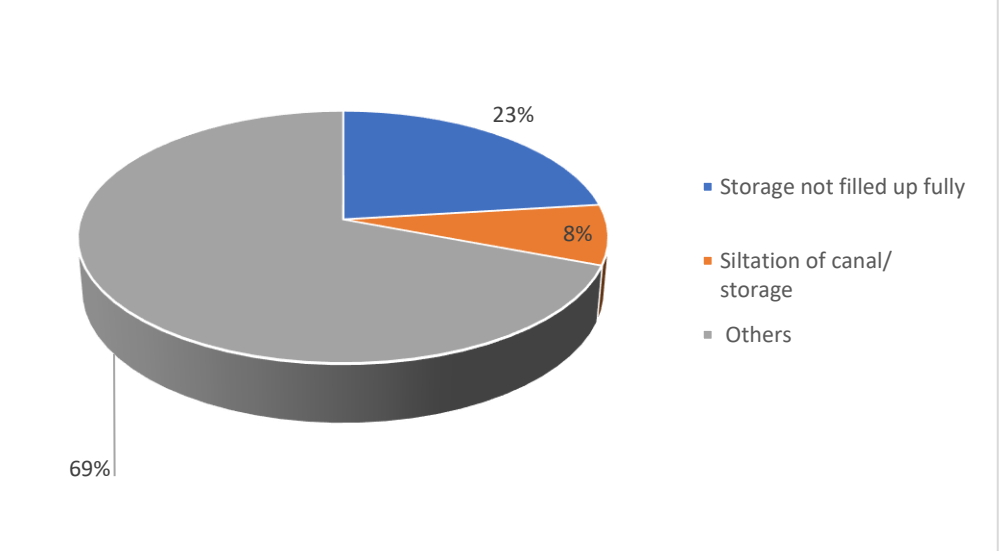


Chart 18: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 2,75,862 irrigation schemes, 20,834 of which were surface water schemes and 2,55,028 of which were ground water schemes, indicating that Ground-water recharge activities were carried out predominantly through ground water schemes.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 5,03,446 Minor Irrigation schemes, constituting about 13.15% of the total schemes in Maharashtra, were also used for drinking water supply, with Ground Water schemes being the primary source.

Key Parameters of 7th MI Census — Maharashtra

Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	2998835			78.33
	Shallow Tubewell	No.	130649			3.41
	Medium Tubewell	No.	187685			4.9
	Deep Tubewells	No.	124111			3.24
	Artesian Well	No.	9			~0.00
	Ground Water schemes	No.	**3441289**			89.89
	Surface Flow	No.	154040			4.02
	Surface Lift	No.	232910			6.08
	Surface Water schemes	No.	**386950**			10.11
	Total schemes	No.	**3828239**			100.00
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	5158606.703	964603.9322	6123210.64	
	IPC	Ha	6067279.341	1082781.017	7150060.36	
	IPU	Ha	4961894.277	895660.781	5857555.05	
	IPC of In Use schemes	Ha	6039457.31	1080254.17	7119711.48	
	IPU of In Use schemes	Ha	4941311.16	893941.97	5835253.12	
	% Ratio of IPU to IPC		**81.78**	**82.72**	**81.92**	
	Gap in IPC and IPU	Ha	**1105385.064**	**187120.236**	**1292505.31**	
Ownership	Individual ownership	No.	2863427	280751	3144178	82.13
	Group of Farmers	No.	520378	56812	577190	15.08
	Public owned	No.	10379	29909	40288	1.05
	Co-Operative Owned	No.	3461	3532	6993	0.18
	Panchayat Owned	No.	3935	493	4428	0.11
	Others	No.	39709	15453	55162	1.44
	Total	No.	3441289	386950	3828239	100.00
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	119671	22176	141847	3.730397

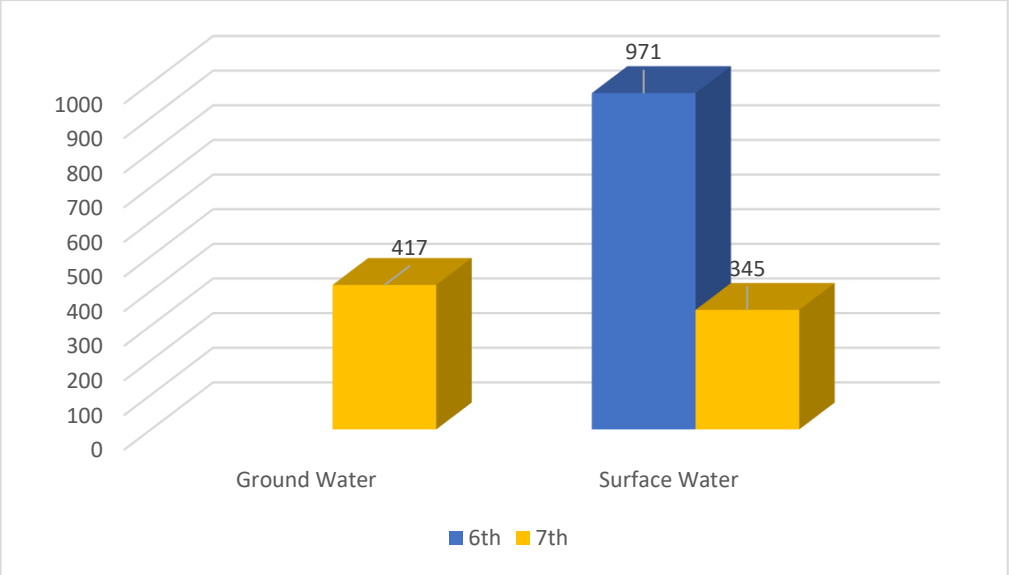
Parameter		Unit	Value			%
	Open Water Channel (unlined/kutcha)	No.	1083890	110785	1194675	31.41844
	Underground pipe	No.	1407273	169679	1576952	41.47185
	Surface Pipe	No.	478960	52593	531553	13.97917
	Drip	No.	205265	21879	227144	5.9736
	Sprinklers	No.	27387	2253	29640	0.779495
	Others	No.	96160	4493	100653	2.647047
	Total	No.	3418606	383858	3802464	100.00

2.13 MANIPUR

1. Number of MI Schemes

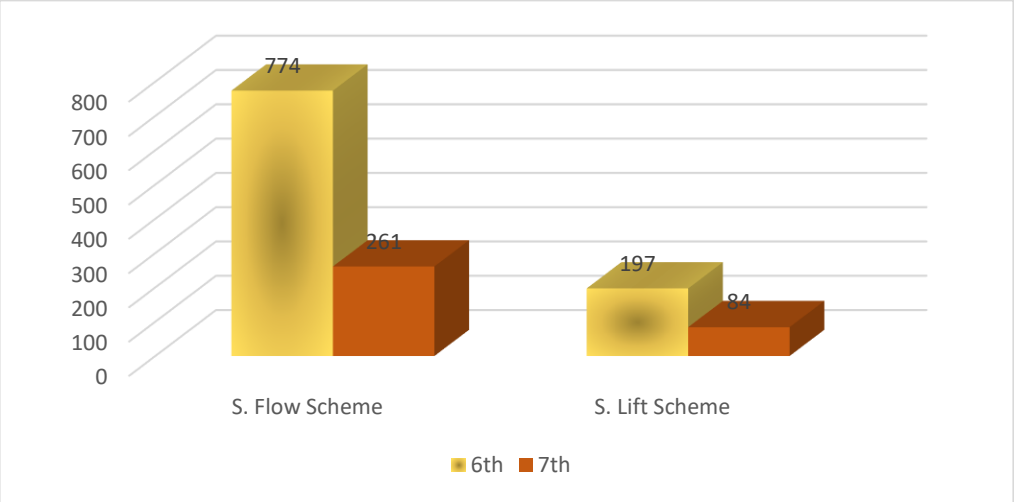
1.1. As per the 7th Census of Minor Irrigation (MI) Schemes with reference year 2023–24, Manipur has 762 MI schemes. Among them, 417 are Ground Water (GW) schemes and 345 are Surface Water (SW) schemes. There is a 21.5% decline in the number of MI schemes in the 7th MI Census compared to the 971 schemes reported in the 6th MI Census. It may be mentioned that, up to the 6th MI Census, there were no GW schemes in the State.

Chart 1: Number of Ground Water and Surface Water Schemes — 6th vs 7th MI Census



1.2. Out of the 762 MI schemes reported in Manipur, 54.7% (417) are GW schemes, while 45.3% (345) are SW schemes. The distribution of SW schemes is presented in Chart 2 below.

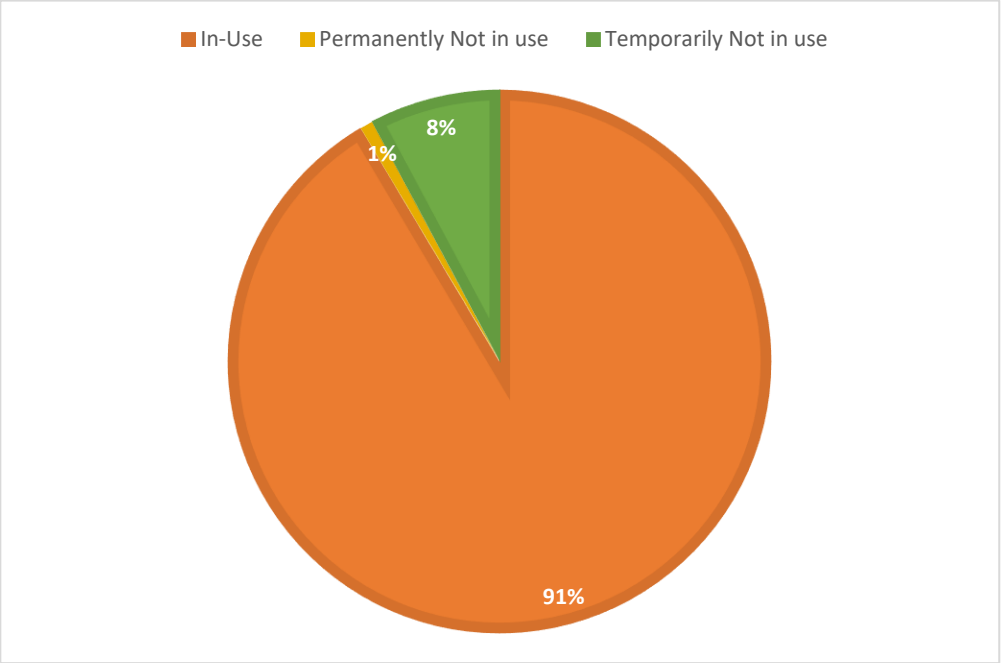
Chart 2: Number of Surface Water Schemes by Type — 6th vs 7th MI Census



2. Use Status of MI Schemes

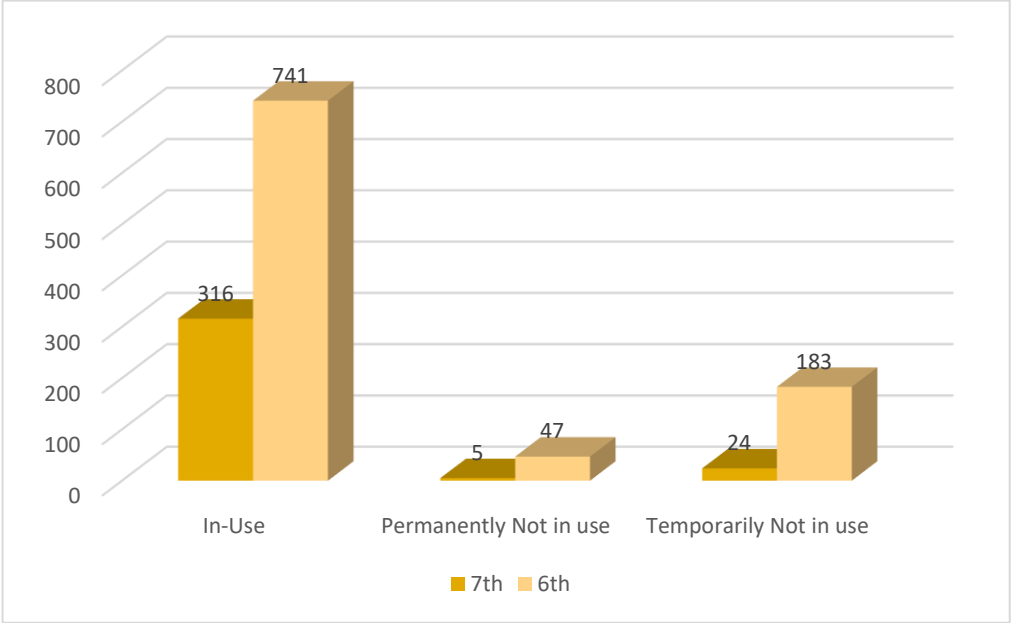
2.1 Out of the 762 MI schemes, 91.5% (697) are 'In Use', 7.7% (59) are 'Temporarily Not in Use', and 0.8% (6) are 'Permanently Not in Use'. The distribution of MI schemes by status is presented in Chart 3

Chart 3: Percentage Share of 7th MI Schemes by Usage Status



2.2 Out of the 59 'Temporarily Not in Use' schemes, 35 are Ground Water schemes and 24 are Surface Water schemes. Among the 6 'Permanently Not in Use' schemes, 1 is a GW scheme and 5 are SW schemes. The status of SW schemes during the 6th and 7th MI Censuses is presented in Chart 4.

Chart 4: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

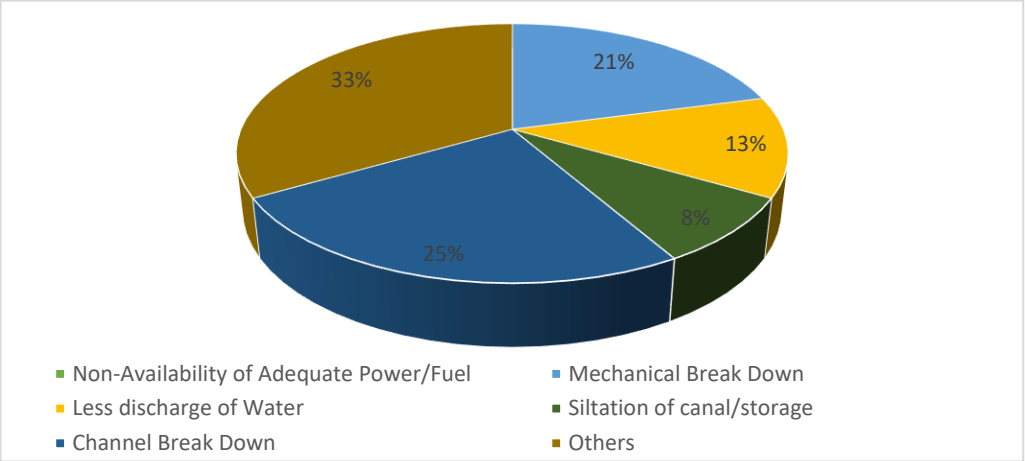


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' SW Schemes

As per the 7th Census, out of 345 surface water (SW) schemes, 59 were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not in Use' Surface-water schemes is shown in chart 5.

Chart 5: Reason- wise percentage share of 'Temporarily Not-In Use' Surface Water Schemes



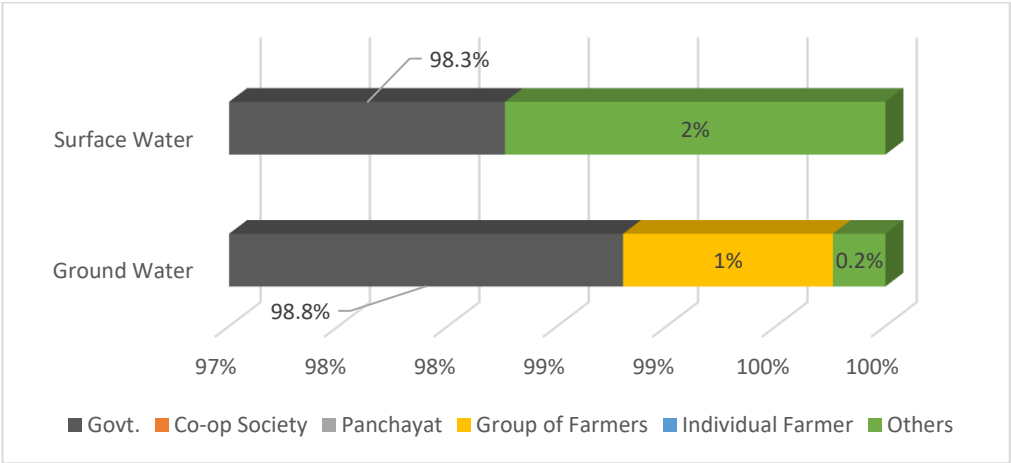
3.2 Reason of 'Permanently Not in Use' SW Schemes

As per 7th Census, out of a total of 345 SW schemes, 5 schemes were reported as 'Permanently Not in Use'. 'Destroyed beyond repair' is accounted as the major reason for the same.

4. Ownership of MI Schemes

4.1 Out of 762 MI Schemes, majority of the schemes i.e. 98.6% (751) schemes are publicly owned, only four (4) schemes are owned by group of farmers. Ownership Categories of Ground Water and Surface Water schemes are shown in Charts 6.

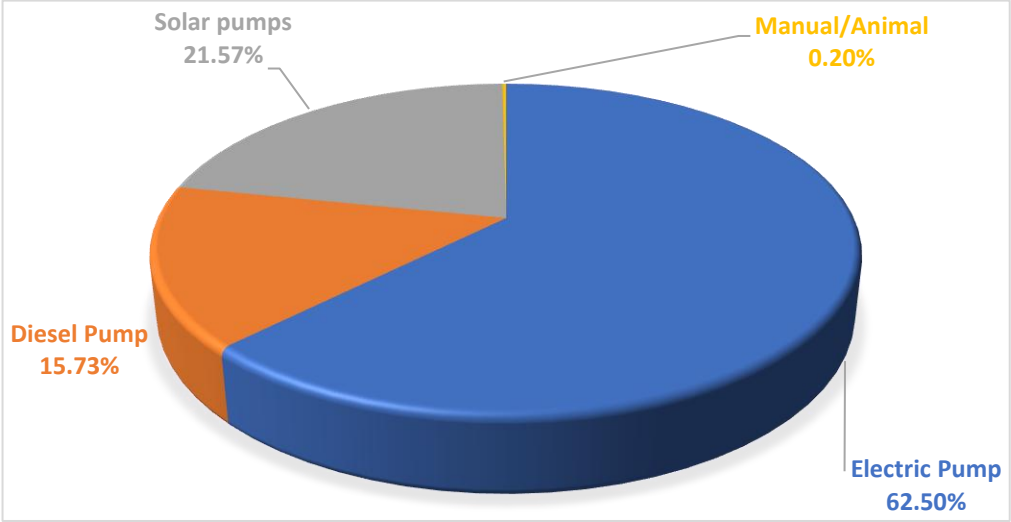
Chart 6: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes



5. Source of Energy

The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. The number of such schemes is 500. Out of these (500) schemes, 62% of schemes (310) are using electricity as source of energy, 21.4% (107) schemes are using Solar pump as sources of energy and remaining 16.6% are using diesel & other sources of energy. The percentage distribution of schemes according to source of energy is shown in the pie chart given below.

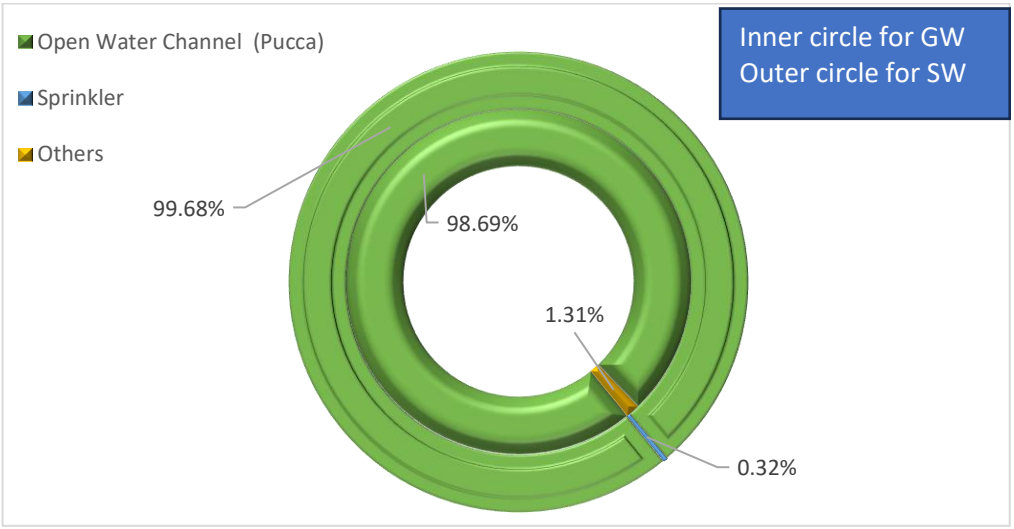
Chart 7: Percentage distribution of MI schemes by Source of Energy



6. Water Distribution Methods

As per the 7th MI Census, the percentage share of MI Schemes which distribute water through open water channel (lined/pucca) is 98.9% (748). The water distribution device used in the remaining 1.1% (8) of the MI schemes is open water channel (unlined/Kutcha/Sprinkler/surface pipe & others). The percentage share of schemes according to water distribution devices is depicted in the Chart 8 given below.

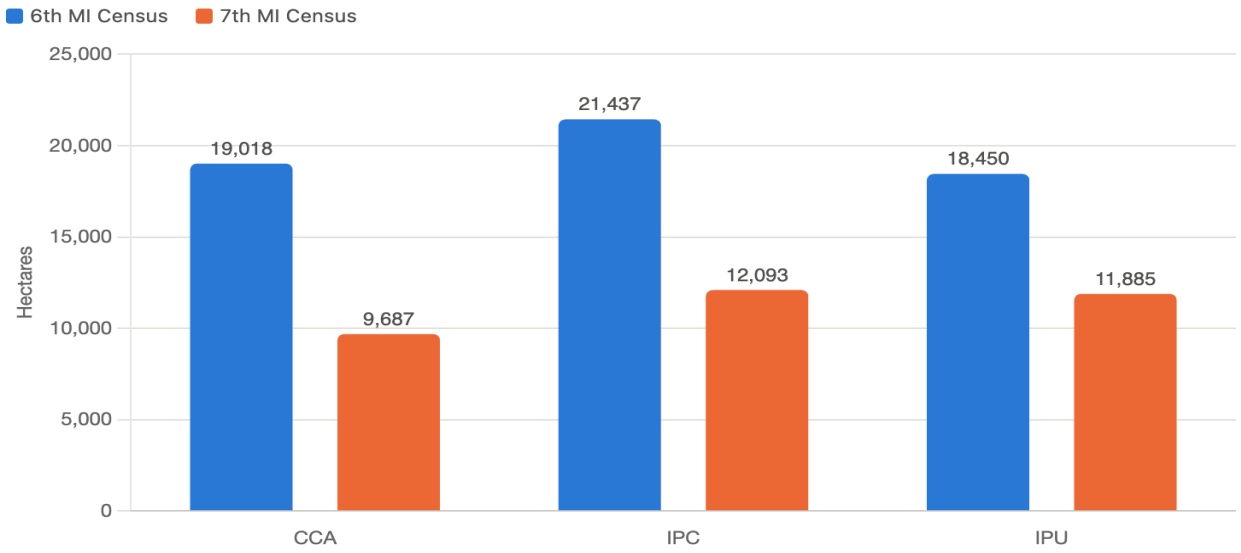
Chart 8: percentage distribution of Ground Water (inner ring) and Surface Water (outer ring) Schemes by type of Water Distribution Methods



7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

There has been a decline of 43.6% in the irrigation potential created from minor irrigation structures in the State during 7th Minor Irrigation Census as compared to 6th Minor Irrigation Census, since IPC is decreased from 21437 hectares during 6th MI census to 12093 hectares during 7th MI census. Irrigation potential utilized was 18450 hectares during 6th MI Census in Manipur, which is declined by 35.6% during 7th MI Census. A comparative chart showing Culturable Command Area (CCA), IPC and IPU of schemes during 6th and 7th MI census is shown in the chart given below.

Chart 9: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census (in ha)



The scheme-wise ratio of IPU to IPC in Manipur is presented in the table given below.

Scheme-wise ratio of IPU to IPC in Manipur			
	IPC	**IPU**	**Ratio of IPU/IPC**
Ground Water	2080	2080	1.0
Surface Water	10013	9805	0.98

8. Underutilization of 'In Use' Schemes

It is observed in the previous rounds of MI censuses that many 'In use' schemes are underutilized due to various constraints. As per the 7th MI Census, all 697 'In Use' MI Schemes are functioning without any constraints.

9. Status of Ground Water Recharge and Drinking

Out of 762 MI schemes, total 10 MI schemes, (8 GW and 2 SW) schemes are used for drinking purpose and only 1 GW scheme is used for GW recharge.

Annexure

Key Parameters of 7th MI Census — Manipur

Parameter		Unit	Value	%
Number of Schemes	Dug wells	No.	187	24.5
	Shallow Tubewell	No.	0	0.0
	Medium Tubewell	No.	230	30.2
	Deep Tubewells	No.	0	0.0
	Artesian Well	No.	0	0.0
	Ground Water schemes	No.	**417**	**54.7**

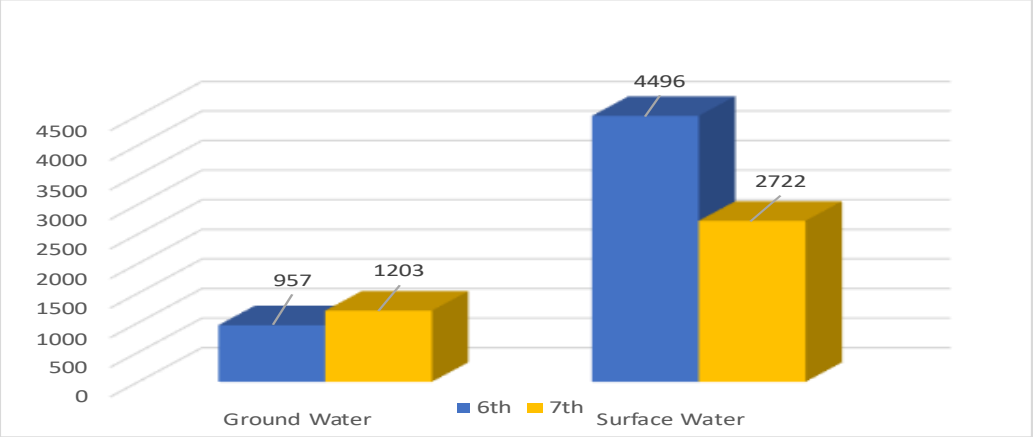
Parameter		Unit	Value			%
	Surface Flow	No.	261			34.3
	Surface Lift	No.	84			11.0
	Surface Water schemes	No.	**345**			**45.3**
	Total schemes	No.	**762**			**100.0**
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	1,664.0	8,023.0	9,687.0	
	IPC	Ha	2,080.0	10,013.0	12,093.0	
	IPU	Ha	2,080.0	9,805.0	11,885.0	
	IPC of In Use schemes	Ha	1,905.0	9,409.0	11,314.0	
	IPU of In Use schemes	Ha	1,905.0	9,360.0	11,265.0	
	% Ratio of IPU to IPC	Ha	100.0%	97.9%	98.3%	
	Gap in IPC and IPU	Ha	0.0	208.0	208.0	
Ownership	Individual ownership	No.	0	0	0	0.0
	Group of Farmers	No.	4	0	4	0.5
	Public owned	No.	412	339	751	98.6
	Co-Operative Owned	No.	0	0	0	0.0
	Panchayat Owned	No.	0	0	0	0.0
	Others	No.	1	6	7	0.9
	Total	No.	**417**	**345**	**762**	**100.0**
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	376	315	691	99.1
	Open Water Channel (unlined/kutcha)	No.	0	0	0	0.0
	Underground pipe	No.	0	0	0	0.0
	Surface Pipe	No.	0	0	0	0.0
	Drip	No.	0	0	0	0.0
	Sprinklers	No.	0	1	1	0.1
	Others	No.	5	0	5	0.7
	Total	No.	**381**	**316**	**697**	**100.0**

2.14 MEGHALAYA

1. Number of MI Schemes

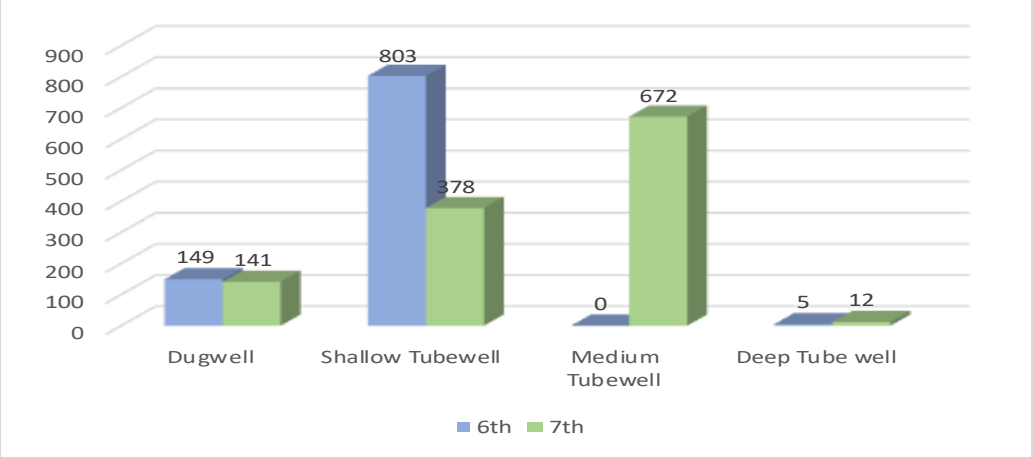
1.1 Meghalaya reported **3925** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **69% (2,722 schemes)** are Surface Water schemes and the remaining **31% (1,203 schemes)** are Ground Water schemes. It reflects that Surface Water schemes are prominent in Meghalaya owing to the topography of the region. A comparison with the 6th Minor Irrigation Census reveals a significant **decline** in the number of Surface Water schemes in Meghalaya, with Surface Water schemes falling by **40%**. On the other hand, Ground Water schemes shown a significant increase by **26%**.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



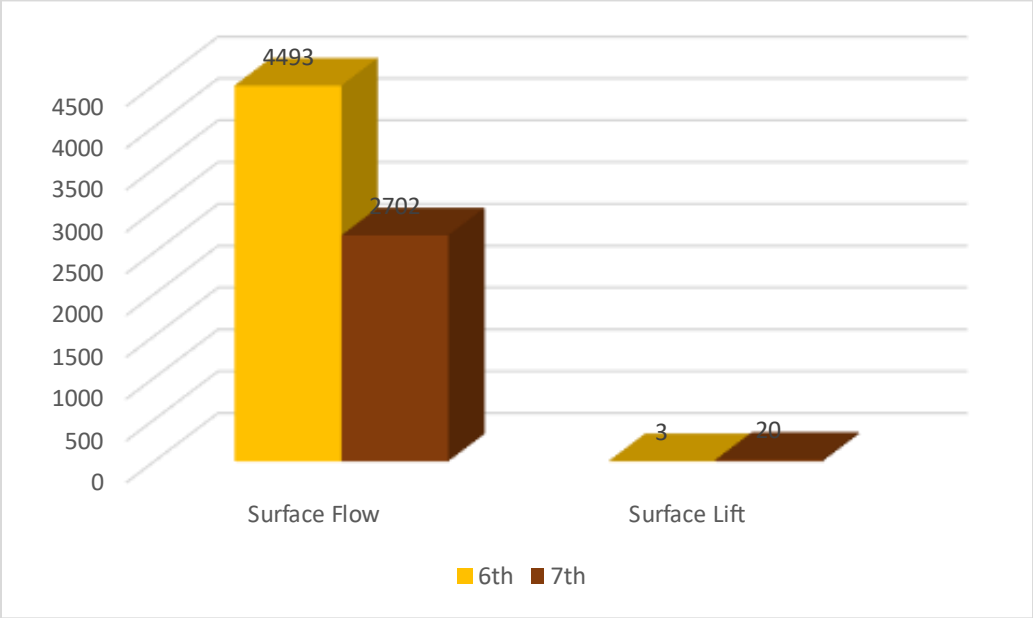
1.2 The number of Ground Water schemes by type during 7th MI Census as compared to 6th MI Census is shown in chart no. 2 given below.

Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



1.3 Surface flow schemes have been reduced by 40% since the 6th MI census. However, surface lift schemes shown an increase of 567% during the same period.

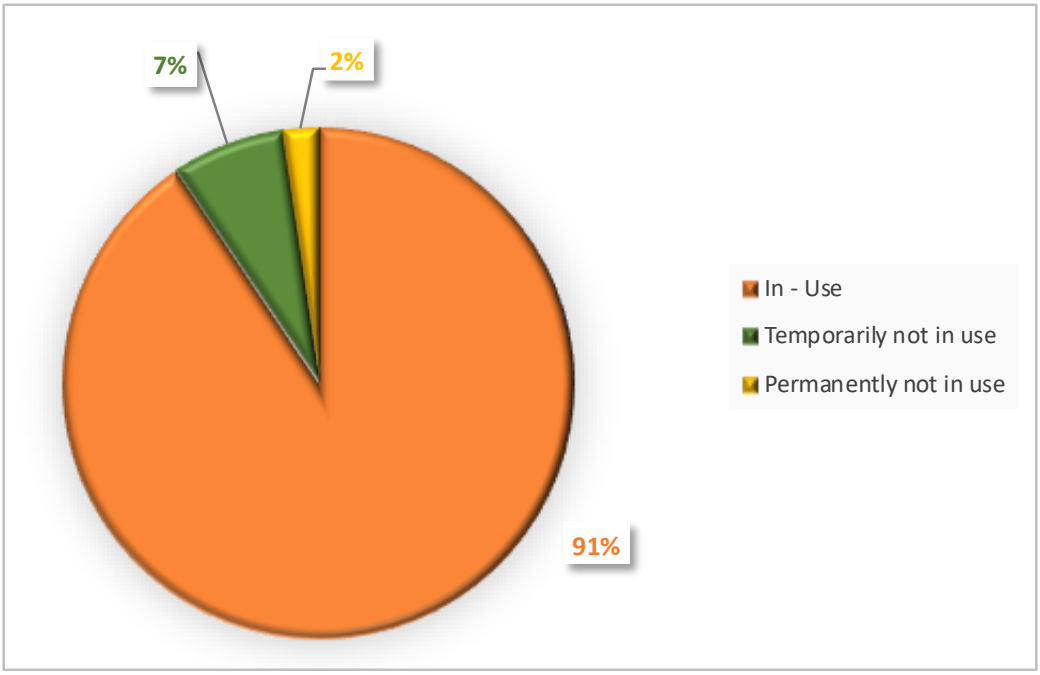
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 Out of the total 3925 MI schemes, **91% (3557)** are currently 'In Use', **2% (88)** are 'Permanently Not In Use', and **7% (280)** are 'Temporarily Not In Use'. 'In-Use' ground water schemes in the State increased by **23%.**

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

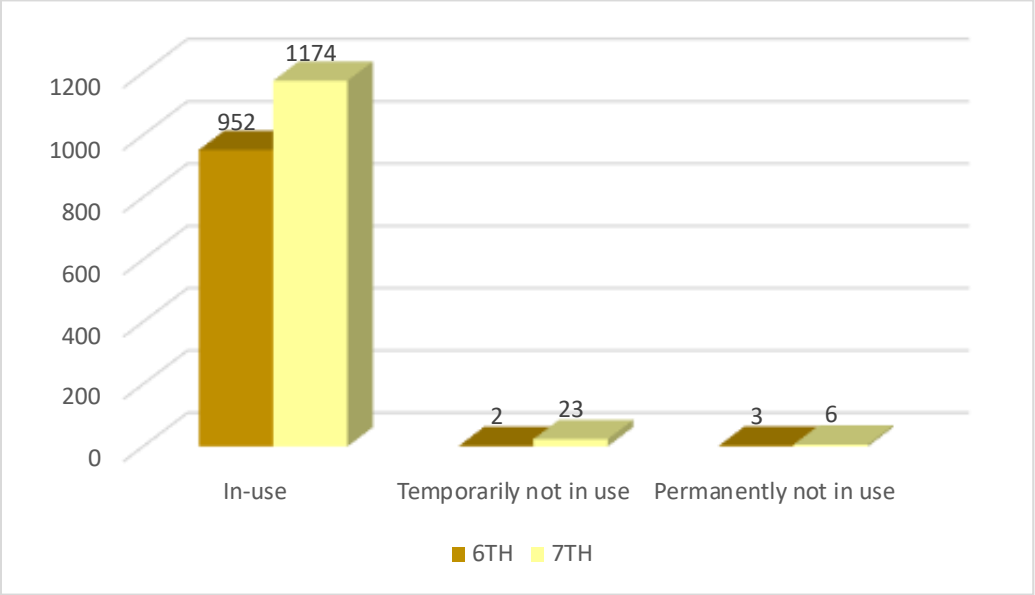
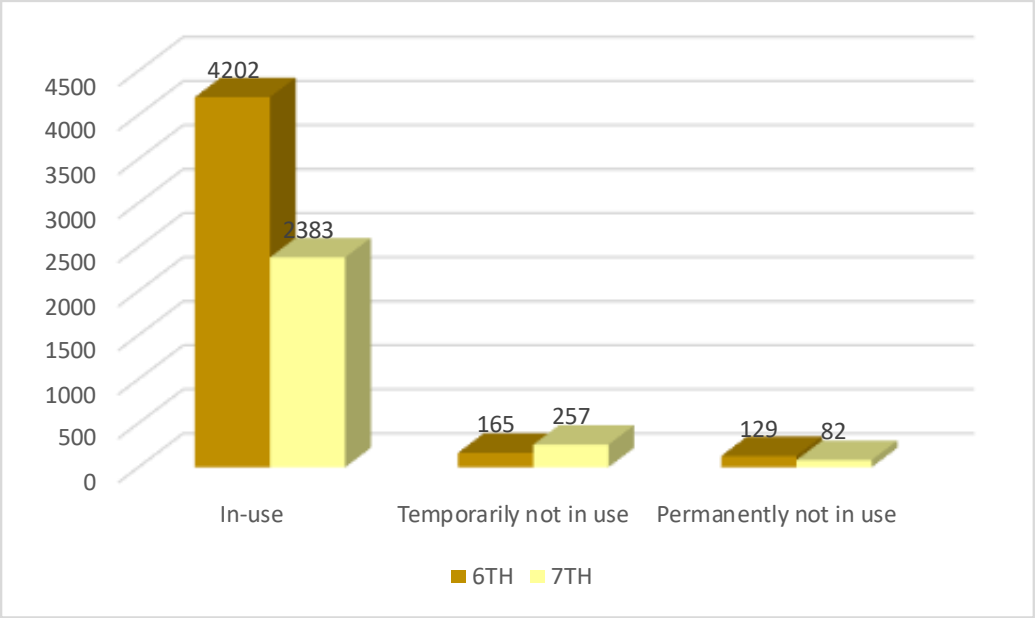


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

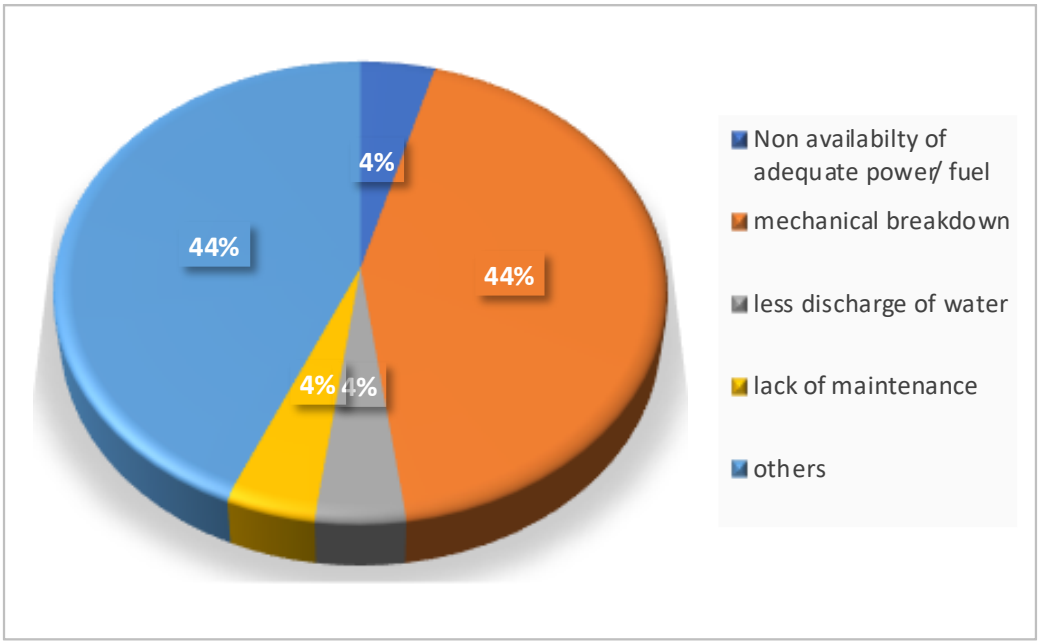


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, a total of 23 Ground-water (GW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes is shown in chart 7.

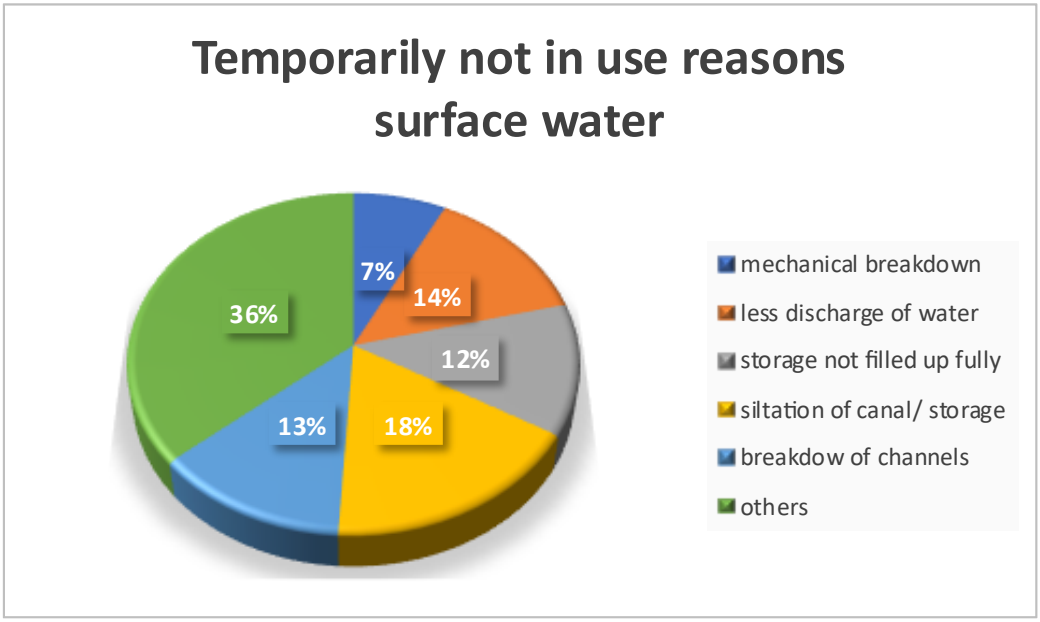
Chart 7: Reasons wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, 6 surface water schemes were reported to be temporarily not in use in the state of Meghalaya.

Chart 8: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes

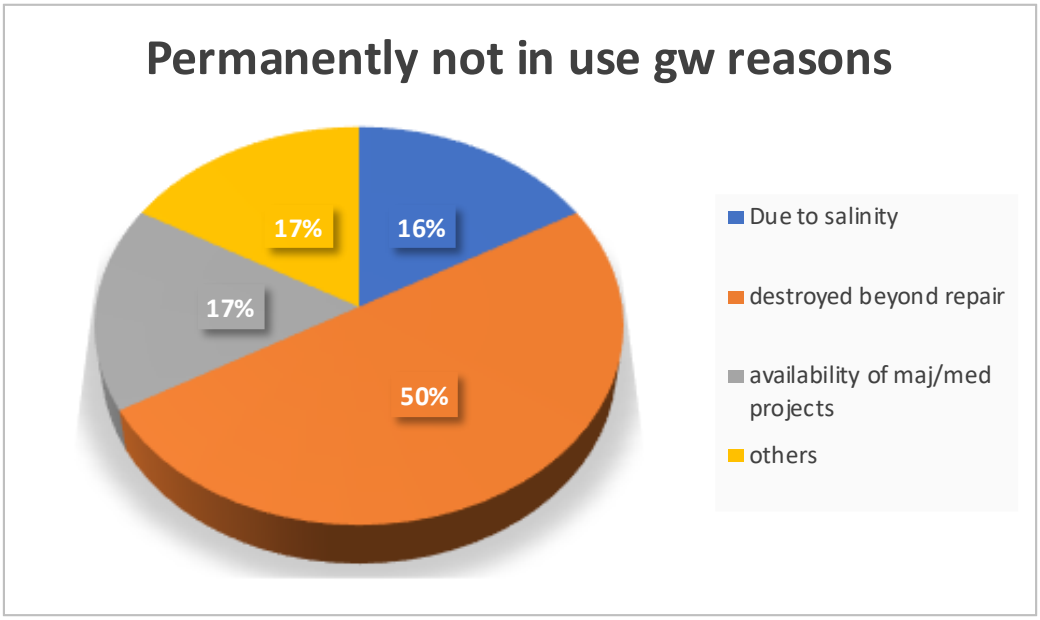


3.3 Reason of 'Permanently Not In Use' GW Schemes

As per 7th Census, a total of 6 Ground-water (GW) schemes were reported 'Permanently Not in Use'. 50% of ground water schemes are not in use because they are destroyed beyond repair, 17% are not in use due to other reasons, 17% are not in use due to availability of major/medium projects and remaining

are not in use because of salinity. Reason wise percentage distribution of 'Permanently Not-In Use' GW Schemes is given in Chart 9 below. All the Surface water schemes were reported to be in use.

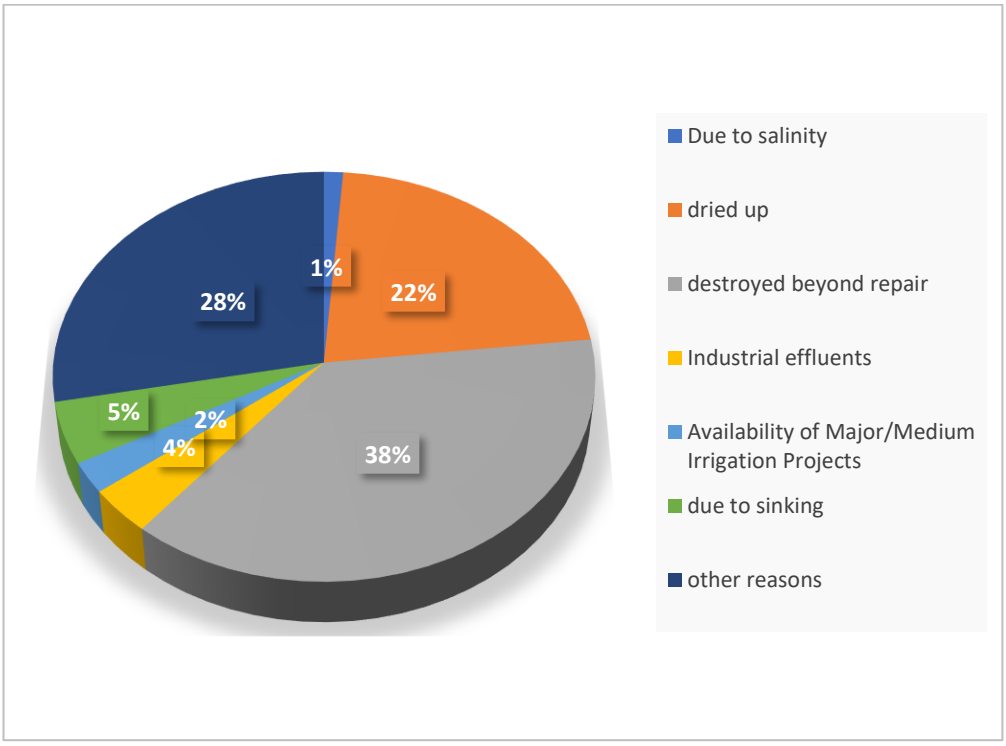
Chart 9: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes



3.4 Reason of 'Permanently Not In Use' SW Schemes

As per 7th MI census, **82** surface water bodies schemes become permanently not in use because **38%** are destroyed beyond repair, **22%** have dried up, **28%** are not in use due to other reasons, and the remaining are not in use because of reasons like salinity, industrial effluents and sinking.

Chart 10: Reason-wise percentage distribution of 'Permanently Not-In Use' Surface-water Schemes



4. Ownership of MI Schemes

4.1 Out of **3925** MI schemes in Meghalaya, 99% of the Ground Water schemes are owned by individual farmer, highlighting private dominance on Ground water bodies. Among the Surface Water schemes 70% are owned by government bodies 11% by group of farmers, 10% by indivdiual farmers, indicating a significant percentage of surface water schemes is owned and managed by government. Ownership Categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers), are shown in Charts 11, 12 and 13 respectively.

Chart 11: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

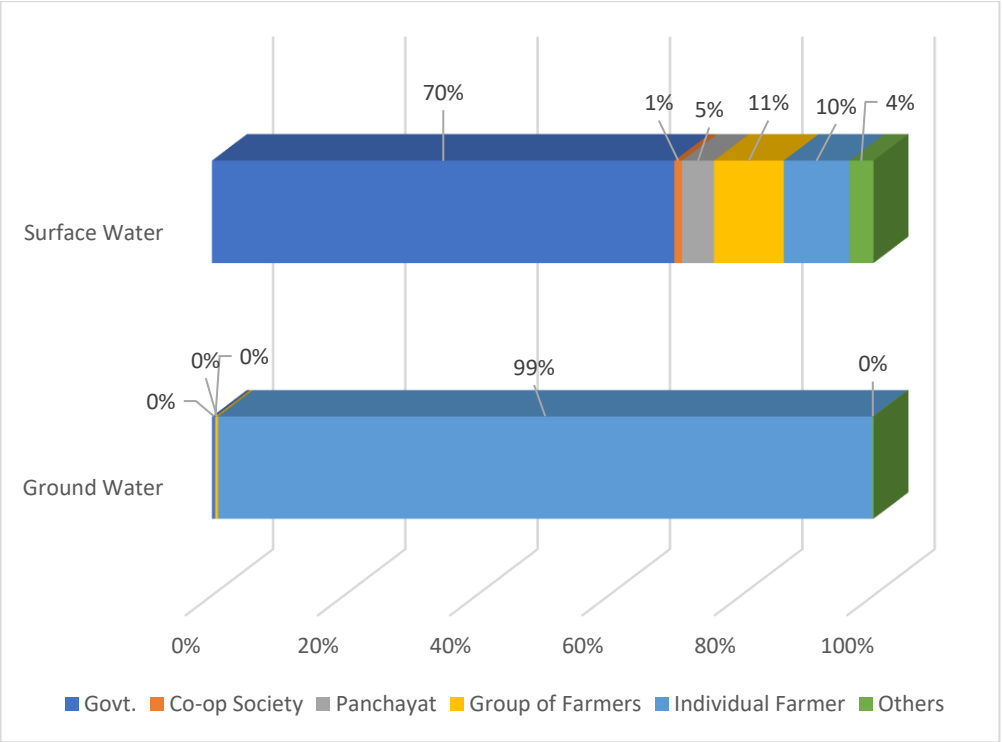


Chart 12: Ownership of Ground Water Schemes (Number)

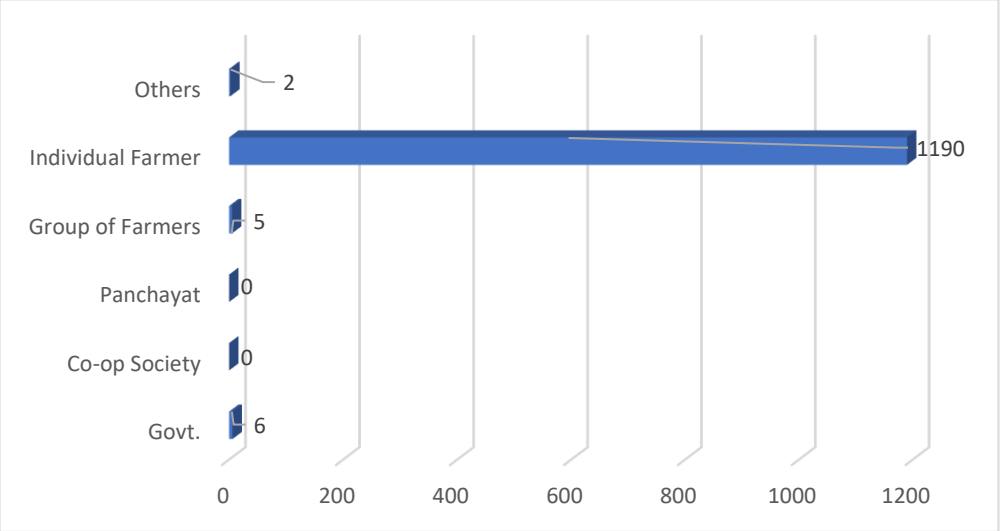
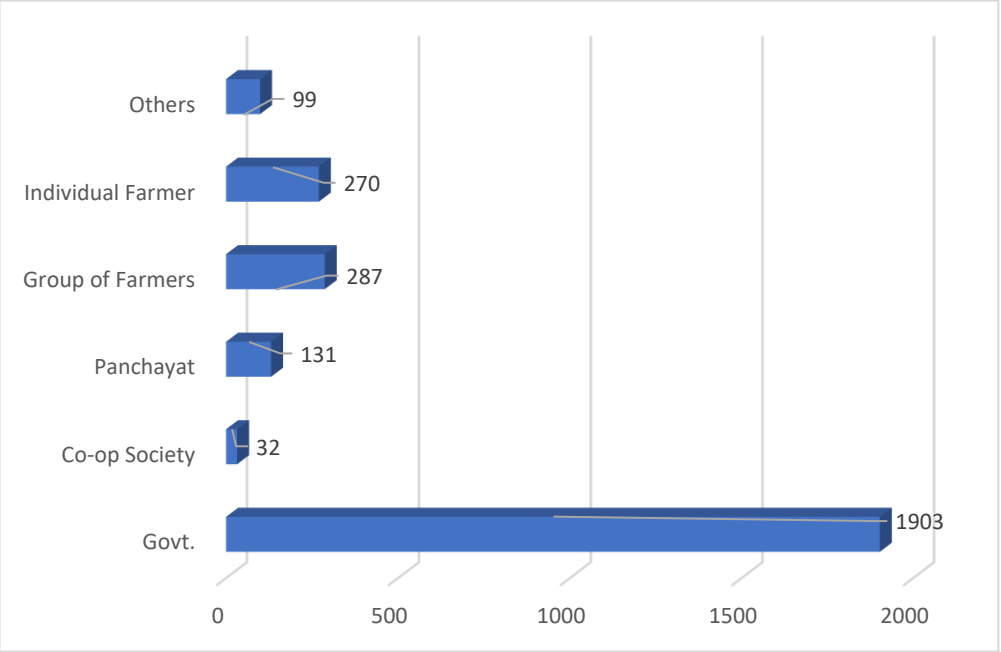


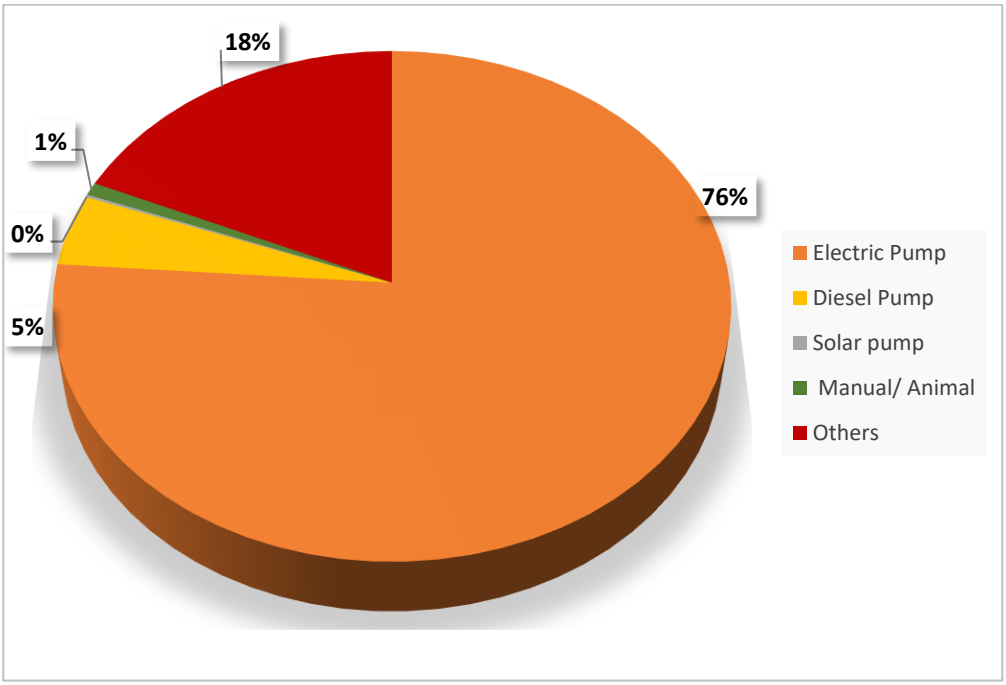
Chart 13: Ownership of Surface Water Schemes (Number)



5. Source of Energy

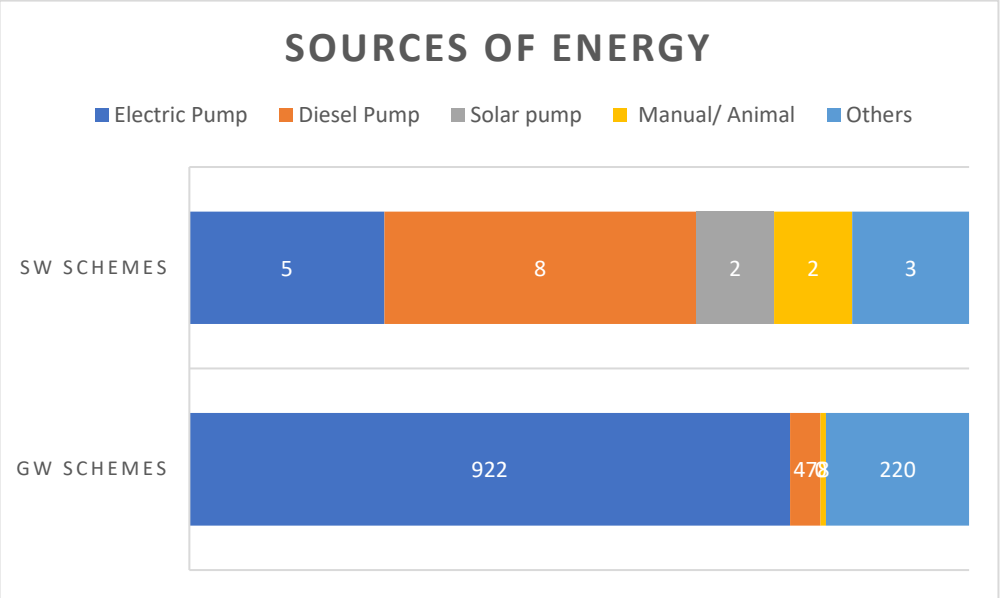
5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. Out of these 1,217 schemes, majority of schemes (76.0%) are using electric pump. Around 18% uses other sources of energy, 5% uses diesel pump as their main sources of energy. A very small proportion (0.01%) also uses Diesel Pump.

Chart 14: Percentage distribution of MI schemes by Source of Energy



5.2 Number of surface lift and ground water irrigation scheme by source of energy is given in chart 15.

Chart 15: Number of Ground Water vs Surface Water Schemes by Source of Energy



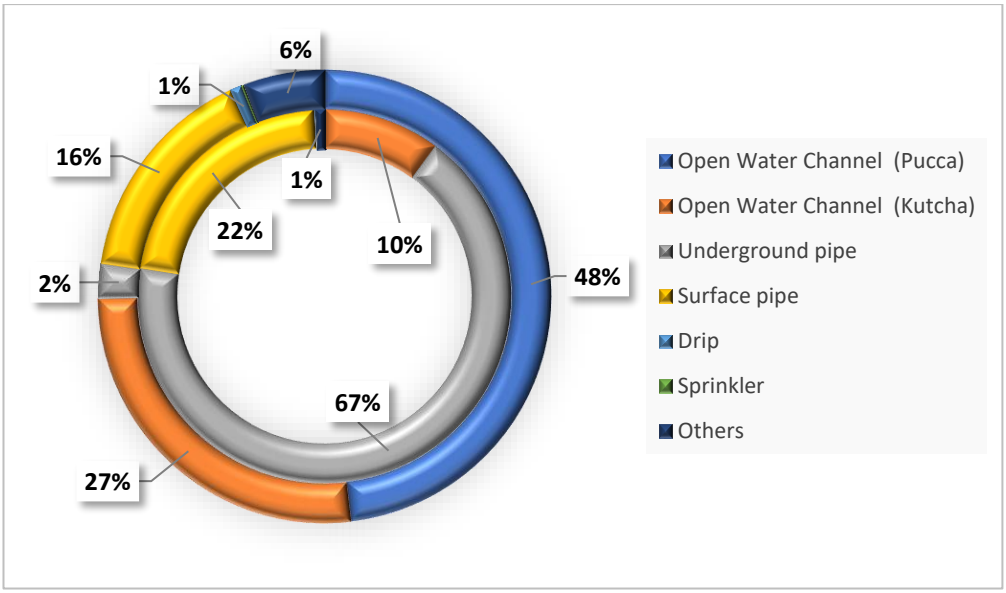
6. Water Distribution Methods

6.1. As per the 7th Census, out of total of 3557 'In Use' schemes, 2722 (69%) were Surface water schemes while only 1203 (31%) were Ground Water schemes. In terms of water distribution method for Surface water schemes, Underground pipe was the predominant mode of water distribution, accounting for 67% of the total, followed by Surface pipe accounting for 22% of the total, Open water channel (unlined/kutcha) and other methods accounted for 10 % and 1% respectively.

6.2. Among Ground Water schemes, 48% used Open water channel (lined/pucca), followed by 27% using Open water channel (unlined/kuctha), another 16% used surface pipe and remaining used underground pipe, drip and other methods for water distribution

6.3 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 16 below.

Chart 16: Percentage distribution of Surface Water (inner ring) and Ground Water (outer ring) Schemes by type of Water Distribution Methods

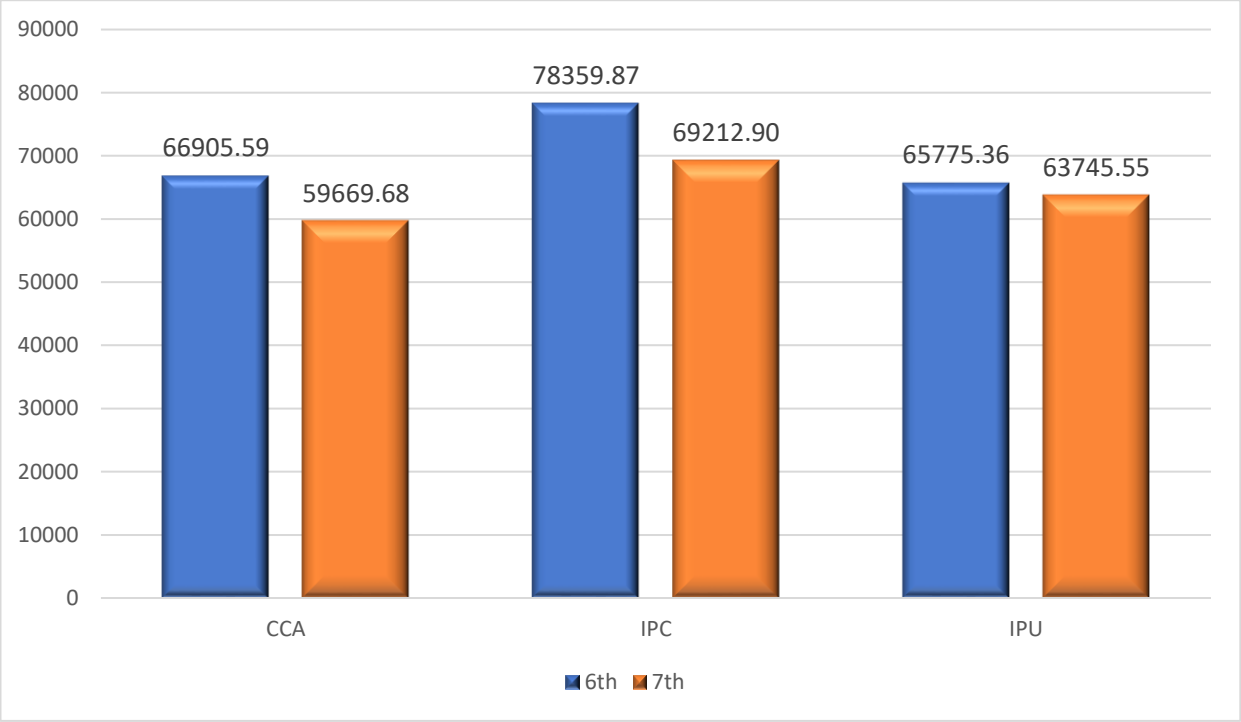


7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 There has been a decline in the Culturable Command Area (CCA), Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU) in the State from 6th to 7th MI Census. The CCA declined by **11%** while the IPC decreased by **12%** during the same period. IPU also registered a decrease of **3%** over the 6th Census.

7.2 Despite the decline in absolute values, the IPU-to-IPC ratio improved from 0.83 (83.94%) in the 6th Census to 0.99 (99%) in the 7th Census, indicating a higher level of utilisation of the irrigation potential created.

Chart 17: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census

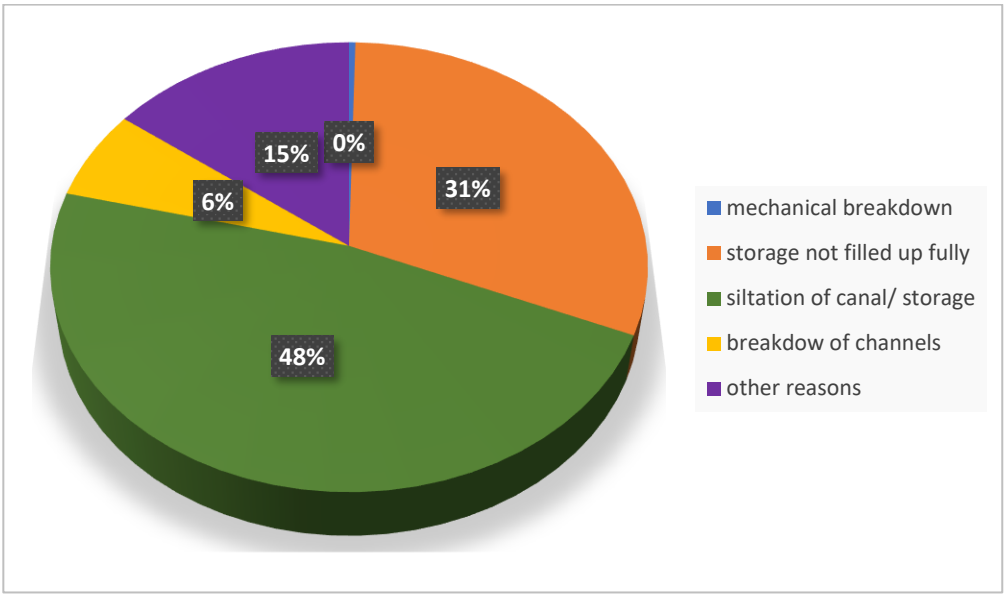


8. Underutilization of 'In Use' Schemes

8.1 In Meghalaya, only 1 Ground water scheme remain underutilized out of the 1174 'In Use' ground water schemes due to non-availability of adequate power, indicating efficient use of ground water schemes.

8.2 Out of 2383 Surface water schemes, **11% (265)** were underutilised which is relatively a lower number but still concerning and their efficiency can be boosted. 48% of surface water schemes were underutilized because of siltation of canal/storage, storage was not filled to their full levels for about 31% of such water bodies, 15% were underutilised due to other reasons, 6% were underutilised because of breakdown of channels.

Chart 18: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 9 ground water schemes and 172 surface water schemes, indicating surface water schemes played a key role in ground water recharge.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 766 ground water schemes and 165 surface water schemes were used for drinking water purposes, indicating the key role of ground water schemes for providing drinking water in the state of Meghalaya.

Key Parameters of 7th MI Census — Meghalaya

Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	141			3.5
	Shallow Tubewell	No.	378			9.6
	Medium Tubewell	No.	672			17.1
	Deep Tubewells	No.	12			0.3
	Artesian Well	No.	0			0.0
	Ground Water schemes	No.	1203			30.6
	Surface Flow	No.	2702			68.8
	Surface Lift	No.	20			0.5
	Surface Water schemes	No.	2722			69.4
	Total schemes	No.	3925			**100.0**
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	2724.90	56944.78	59669.68	
	IPC	Ha	4622.80	64590.10	69212.90	
	IPU	Ha	4548.30	59197.25	63745.55	
	IPC of In Use schemes	Ha	4482.5	58300.34	62782.84	

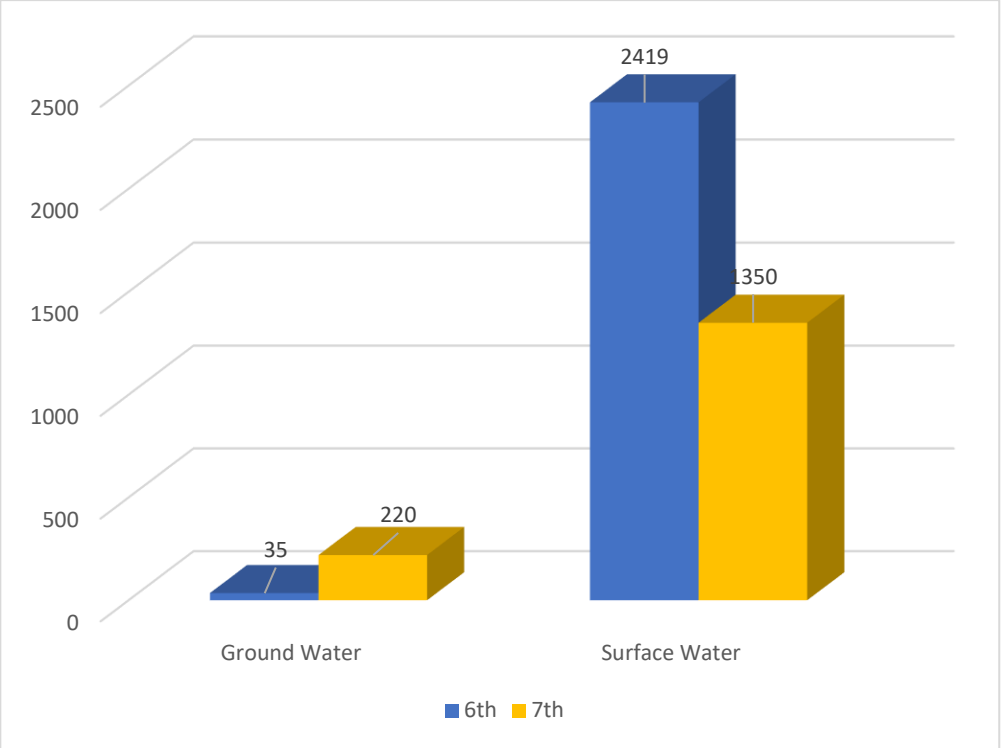
Parameter		Unit	Value			%
	IPU of In Use schemes	Ha	4435.7	59734.09	64169.79	
	% Ratio of IPU to IPC		98.39%	91.65%	92.10%	
	Gap in IPC and IPU	Ha	65.8	896.91	962.71	
Ownership	Individual ownership	No.	1190	270	1460	37
	Group of Farmers	No.	5	287	292	7
	Public owned	No.	6	1903	1909	48.6
	Co-Operative Owned	No.	0	32	32	0.8
	Panchayat Owned	No.	0	131	131	3.3
	Others	No.	2	99	101	3
	Total	No.	1203	2722	3925	**100.0**
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	1	1147	1148	32.2
	Open Water Channel (unlined/kutcha)	No.	118	637	755	21.2
	Underground pipe	No.	790	58	848	23.8
	Surface Pipe	No.	254	378	632	17.7
	Drip	No.	1	20	21	0.1
	Sprinklers	No.	0	5	5	0.01
	Others	No.	10	138	148	0.4
	Total	No.	1174	2383	3557	**100.0**

2.15 MIZORAM

1. Number of MI Schemes

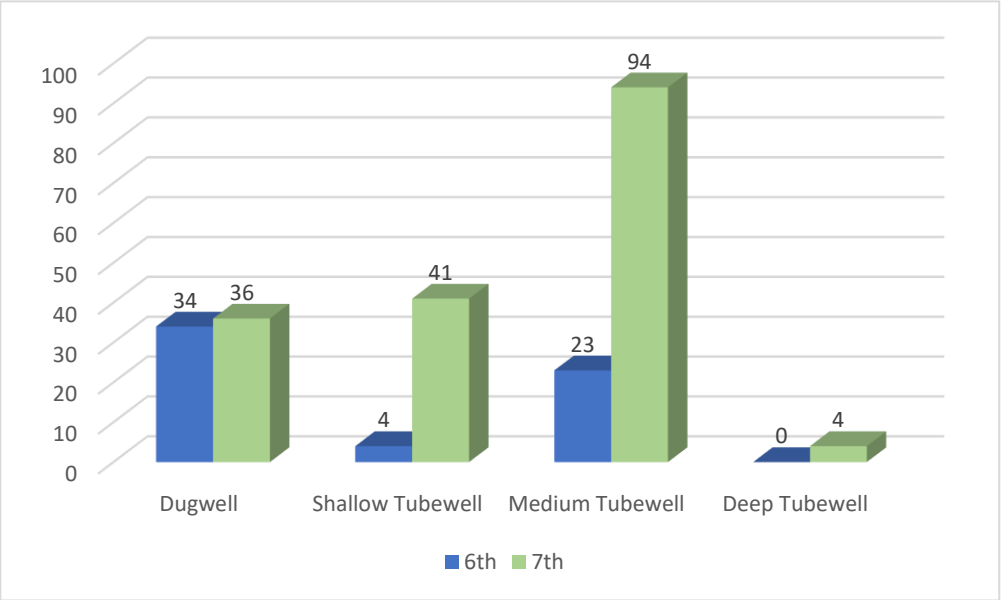
1.1 As per the 7th Minor Irrigation Census, Mizoram reported 220 Ground Water schemes and 1,350 Surface Water schemes, among total of 1,570 MI schemes. In comparison, the 6th Census recorded 61 Ground Water schemes and 2,419 Surface Water schemes, with 2,480 schemes in total. Thus, Ground Water schemes increased substantially, while Surface Water schemes declined from 6th to 7th MI Census.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



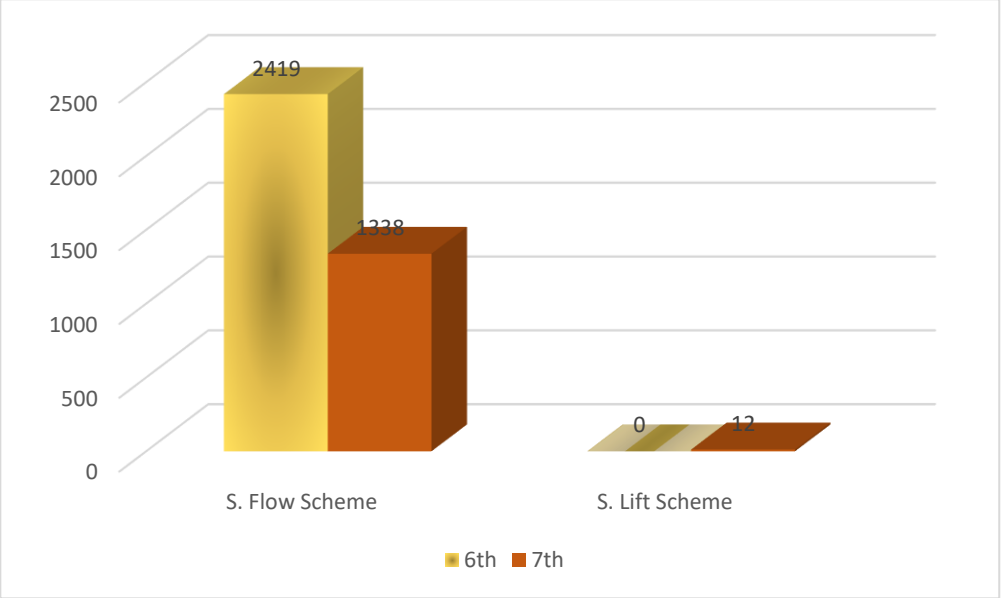
1.2 The number of Ground Water schemes increased from 61 in the 6th Census to 220 in the 7th Census, while Surface Water schemes declined from 2,419 to 1,350. The total number of MI schemes decreased from 2,480 to 1,570 during the same period. The increase in Ground Water schemes and decline in Surface Water schemes are reflected in the chart below in 2 and 3.

Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



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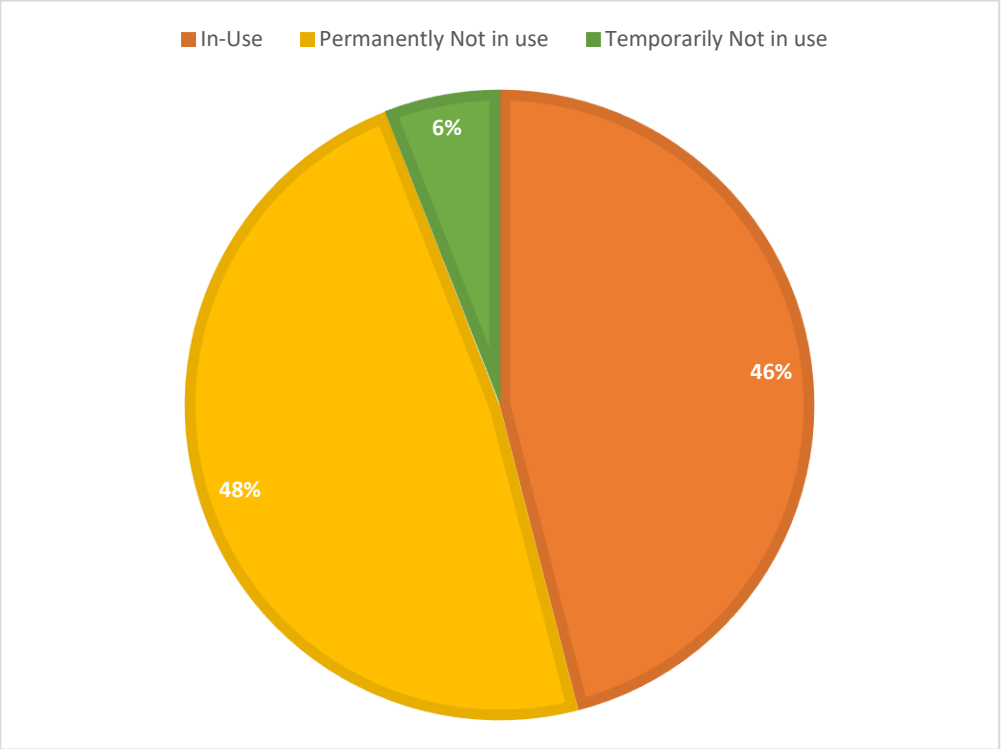
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 The Pie chart shows the distribution of MI schemes by their use status in the 7th MI Census**.** About 46% of the schemes are In-Use, while 48% are Permanently Not in Use. Only 6% of the schemes are Temporarily Not in Use. Thus, nearly half of the schemes are permanently not in use, while a slightly smaller share remains operational.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 A comparative picture of number of Ground Water Schemes & Surface water schemes during 6th & 7th MI Census by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

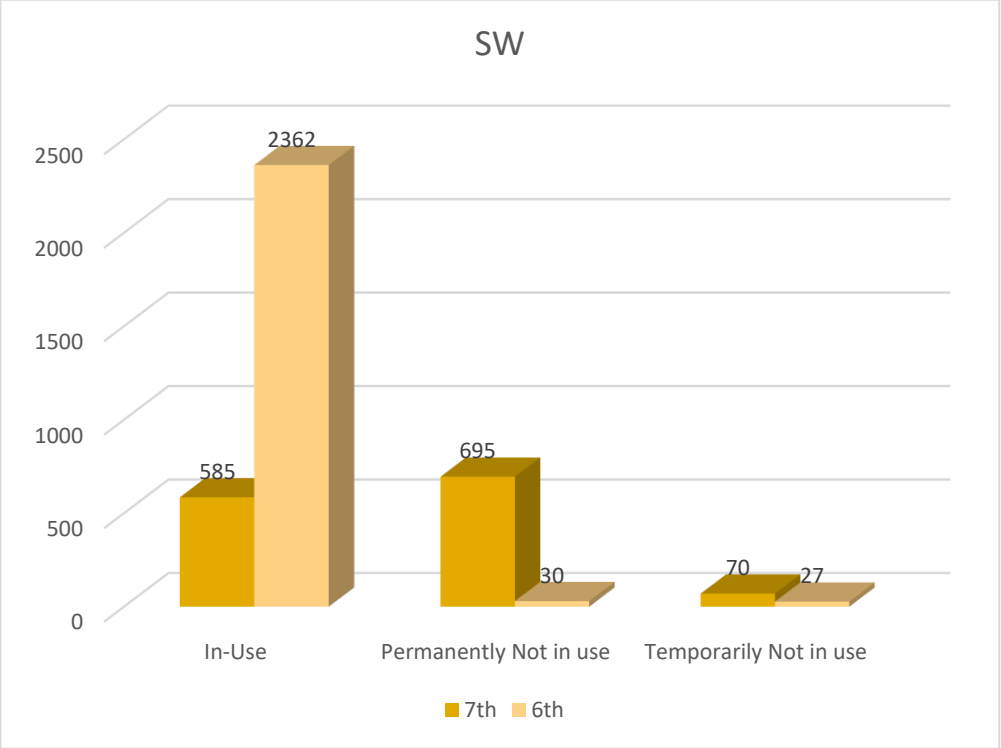
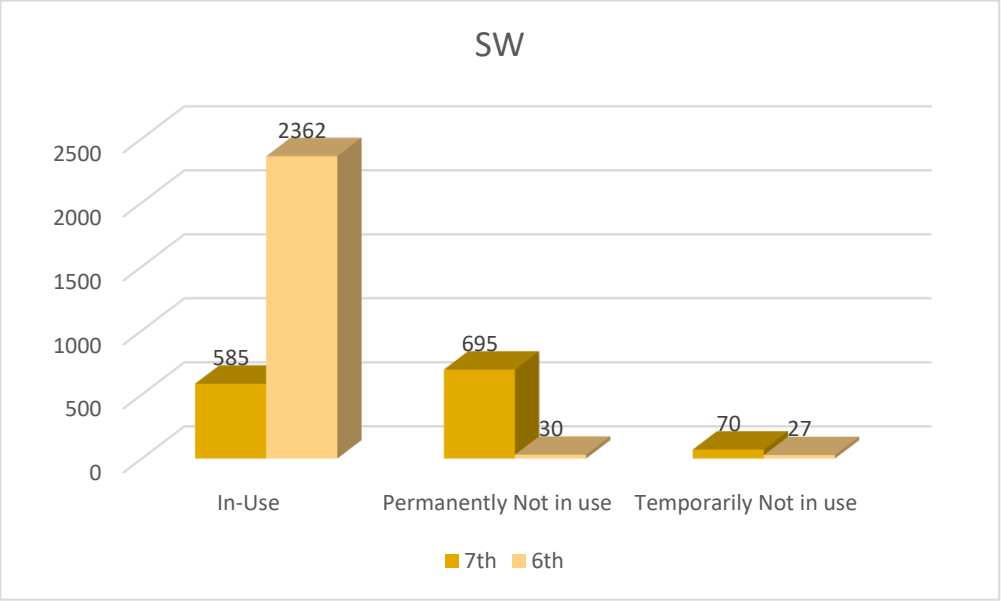


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

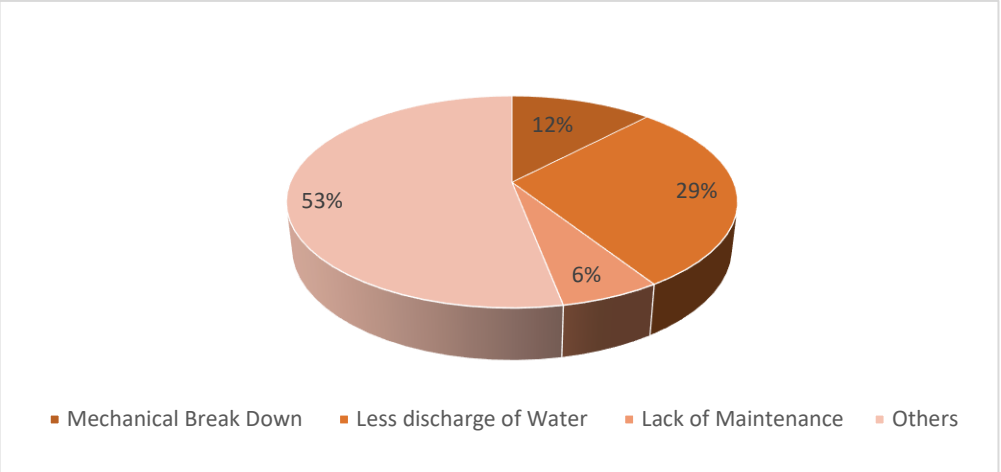


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, a total of 23 Ground-water (GW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes is shown in chart 8.

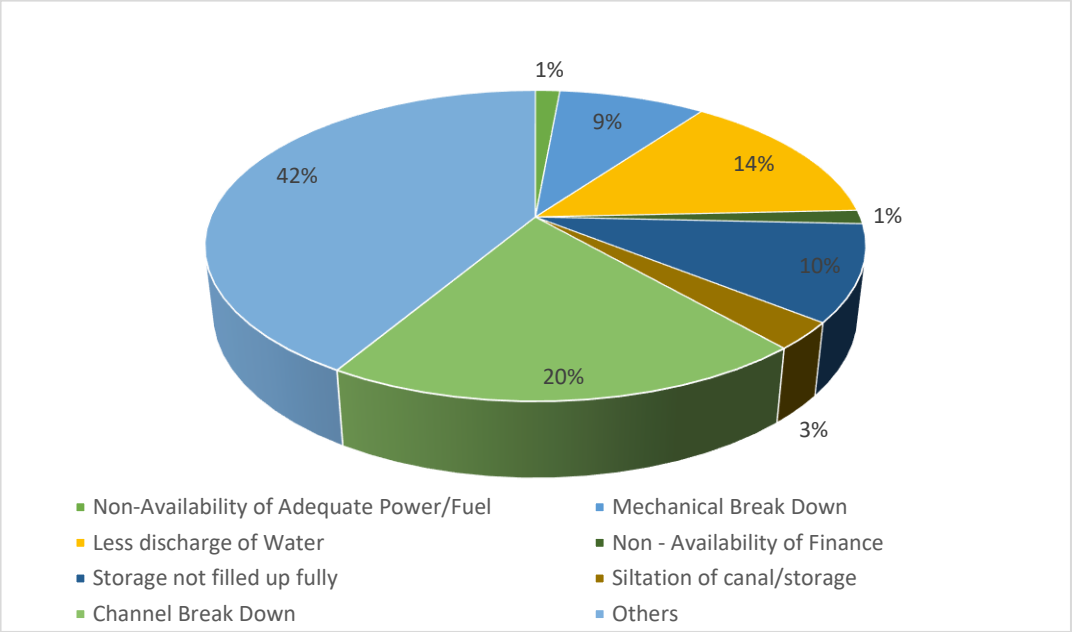
Chart 8: Reasons wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, a total of 70 surface water (SW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water schemes is shown in chart 9.

Chart 9: Reason- wise percentage share of 'Temporarily Not-In Use' Surface Water Schemes



3.3 Reason of 'Permanently Not In Use' GW Schemes

As per 7th Census, a total of 60 Ground-water (GW) schemes were reported 'Permanently Not in Use'. 'Dried up' is accounted as one of the major reasons in ground water schemes while 'destroyed beyond repair' is reason of non-usage in surface water schemes. Reason wise percentage distribution of 'Permanently Not-In Use' GW Schemes and SW Schemes is given in chart 10 and chart 11 below.

Chart 10: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes

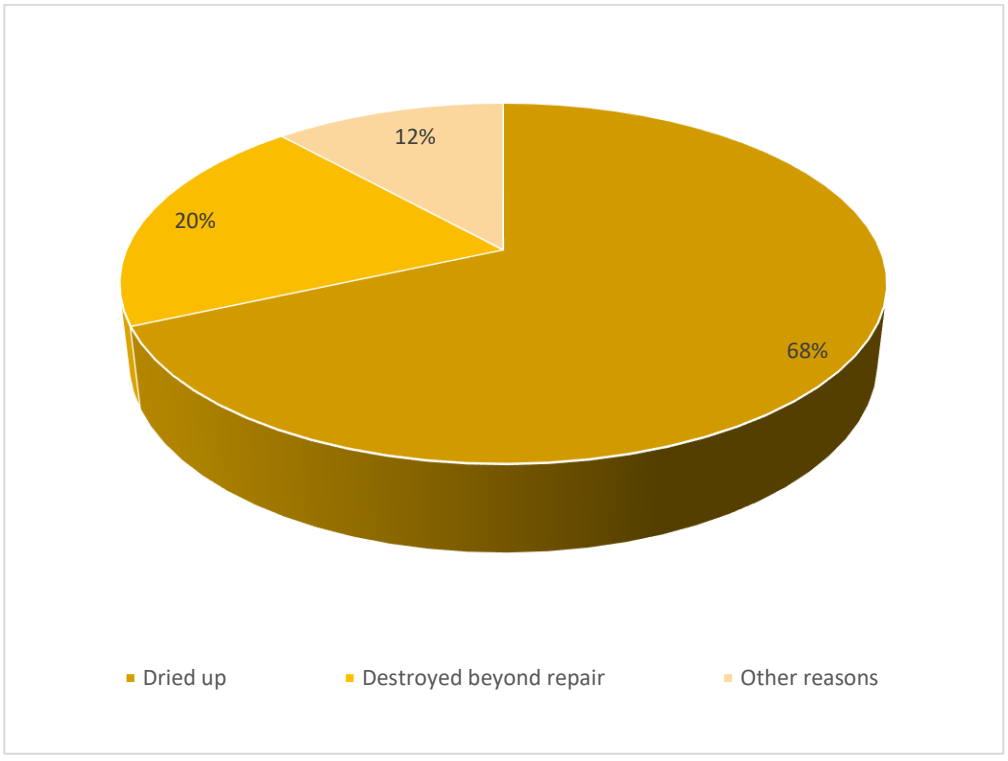
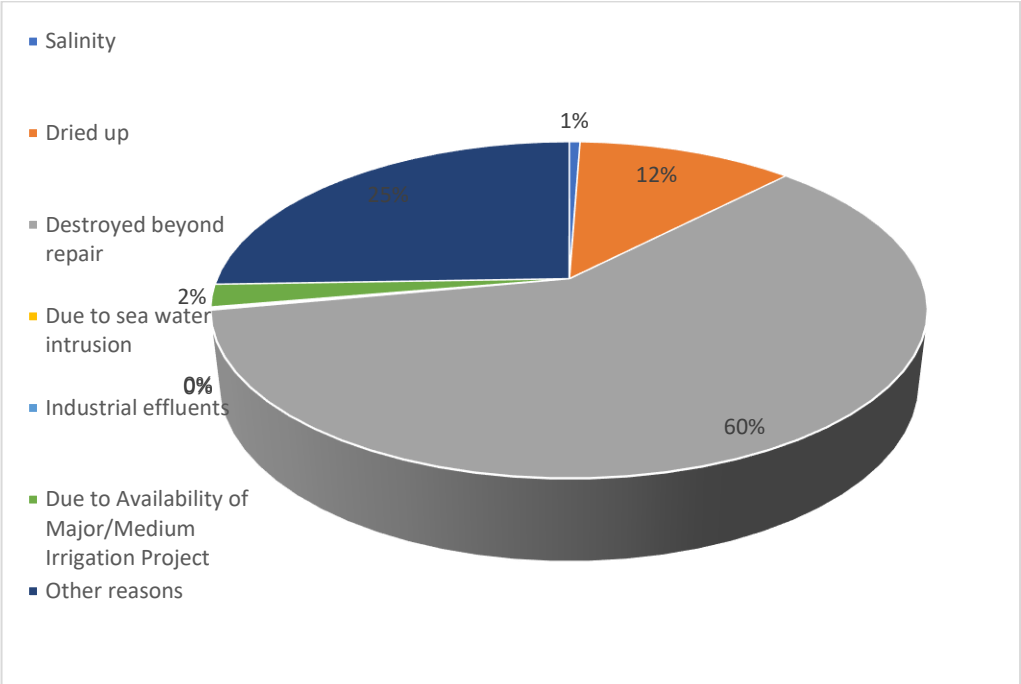


Chart 11: Reason wise percentage distribution of 'Permanently Not-In Use' Surface Water Schemes



4. Ownership of MI Schemes

4.1 Out of 1,570 MI schemes in Mizoram, 49% of Surface Water schemes and 46% of Ground Water schemes are predominantly owned by Individual Farmers. Group of Farmers account for 31% of Surface Water schemes and 0.9% of Ground Water schemes, while Government ownership constitutes 41.8% of Ground Water schemes. The ownership categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers) are shown in Charts 12 and 13, respectively.

Chart 12: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

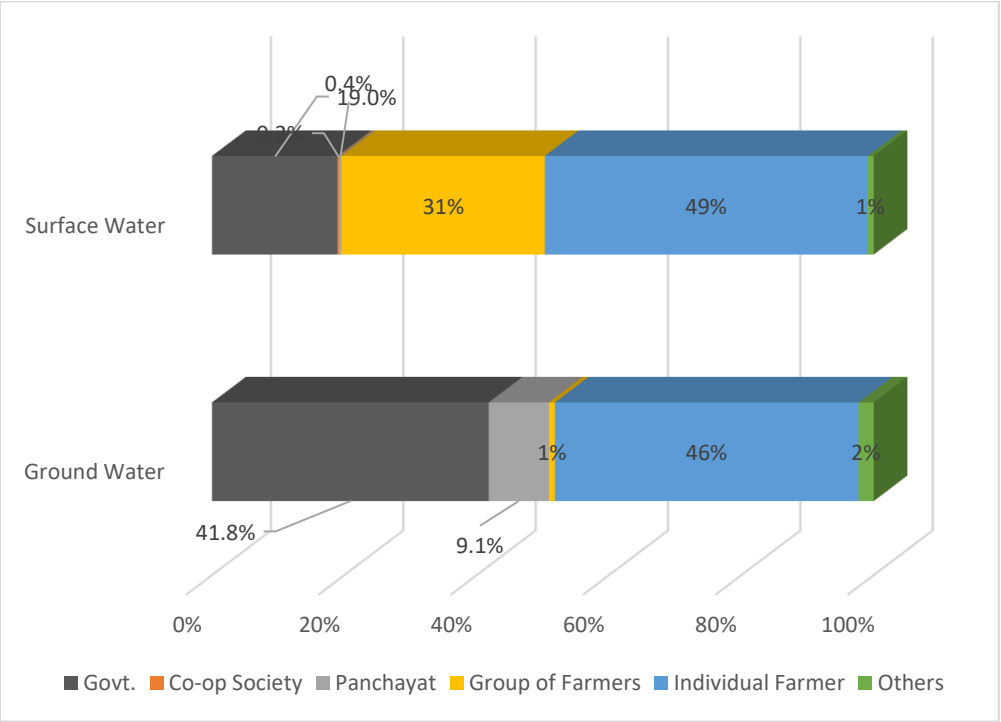


Chart 13: Ownership of Ground Water Schemes (Number)

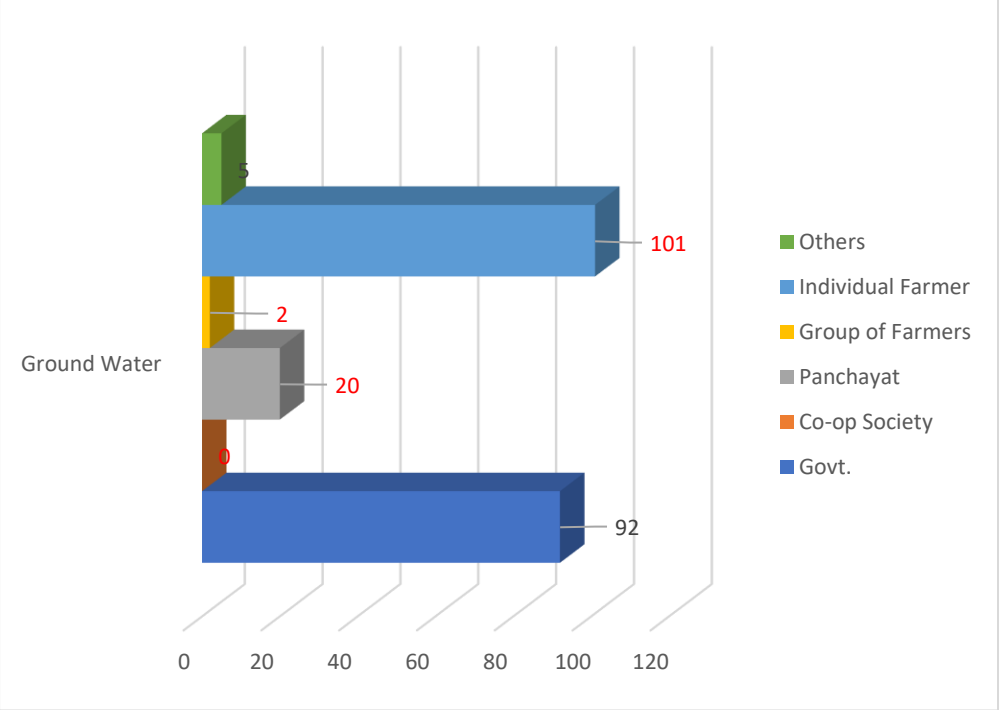
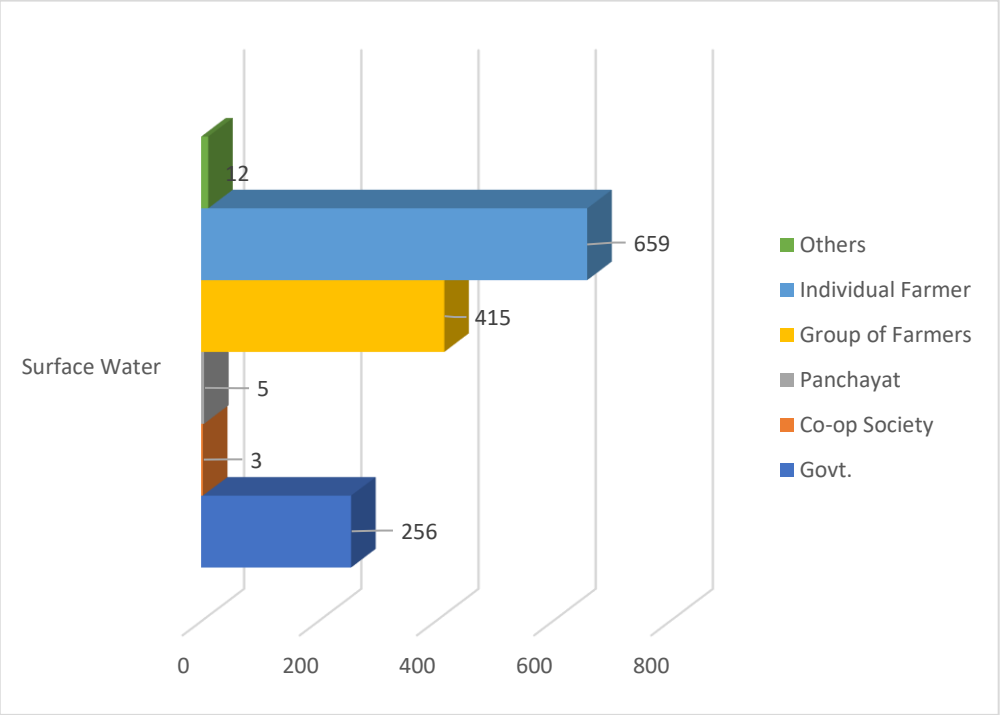


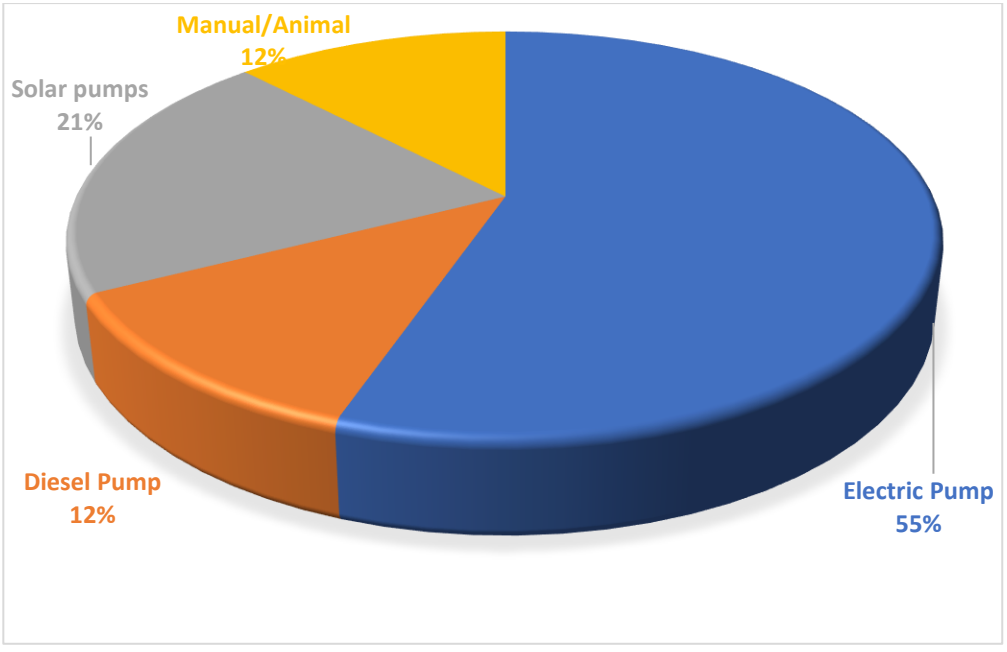
Chart 14: Ownership of Surface Water Schemes (Number)



5. Source of Energy

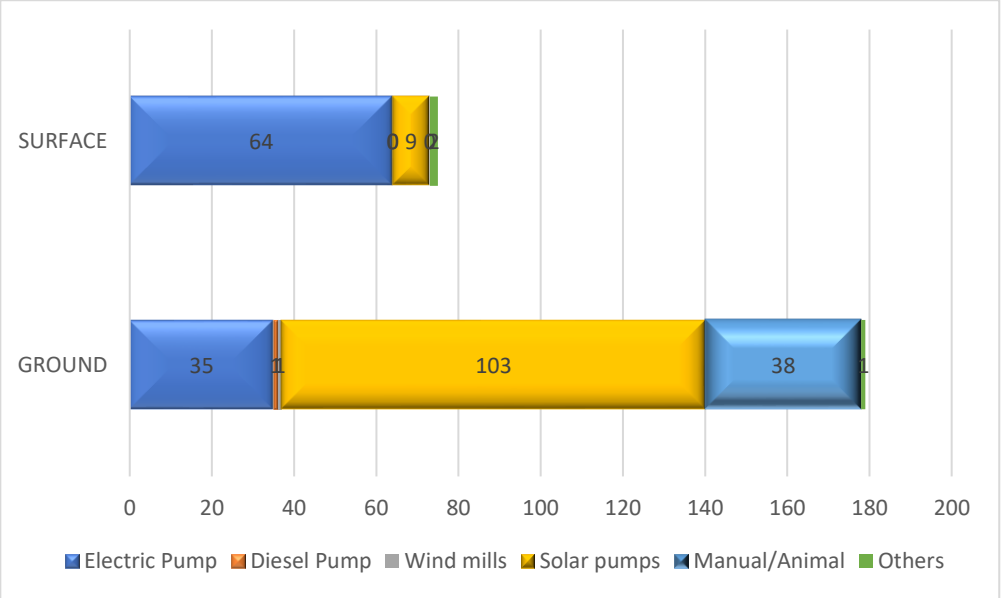
5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. The chart shows that Electric Pumps are the predominant source of energy for MI schemes in Mizoram, accounting for 55% of the schemes. Solar Pumps account for 21%, while Diesel Pumps and Manual/Animal energy sources each account for 12%. Overall, electric pumps remain the most widely used source of energy for MI schemes.

Chart 15: Percentage distribution of MI schemes by Source of Energy



5.2 Number of surface lift and ground water irrigation scheme by source of energy is given in chart 16.

Chart 16: Number of Ground Water vs Surface Water Schemes by Source of Energy



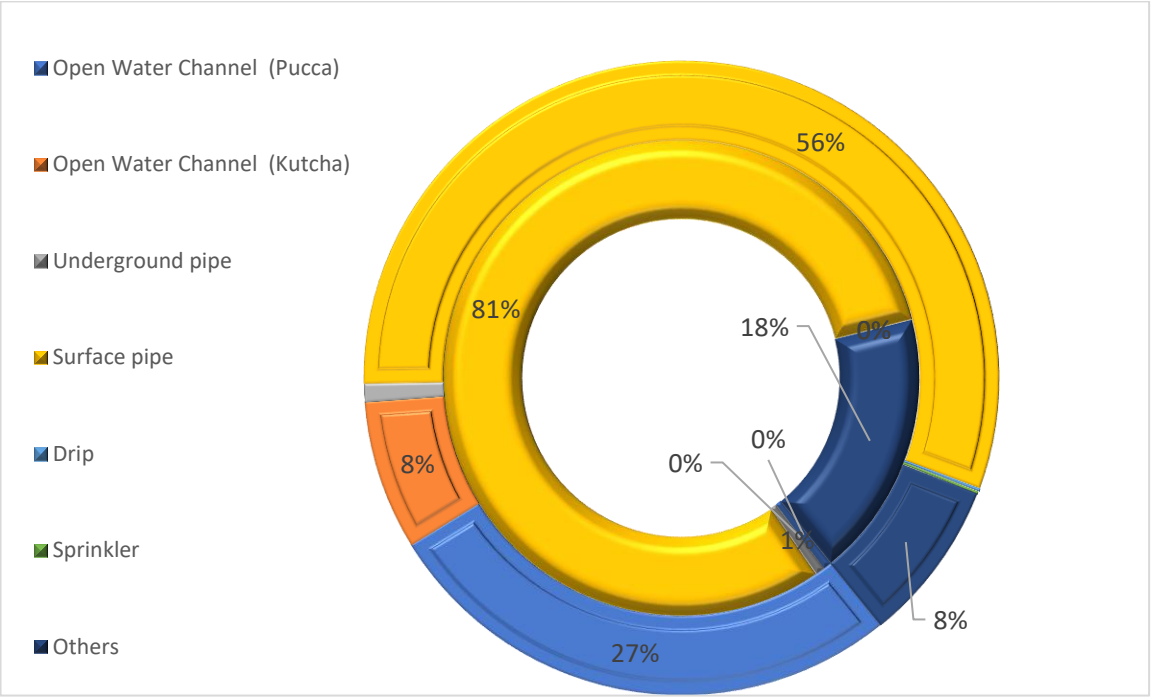
6. Water Distribution Methods

6.1As per the 7th Census, out of total of 1570 'In Use' schemes, 1350 (86%) were Surface Water schemes while only 220 (14%) were Ground Water schemes. In terms of water distribution method, surface pipe was the predominant mode of water distribution, Surface Pipe was the predominant method for both Ground Water and Surface Water schemes, accounting for 81% and 56%**,** respectively.

6.2 Among Surface Water schemes, Surface Pipe accounted for the largest share at 56%**,** followed by Others (27%) and Open Water Channel (Kutcha) (8%)**.** Overall, Surface Pipe was the most widely used water distribution method for both Ground Water and Surface Water schemes.

6.3The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 17 below.

Chart 17: Percentage distribution of Ground Water (inner ring) and Surface Water (outer ring) Schemes by type of Water Distribution Methods

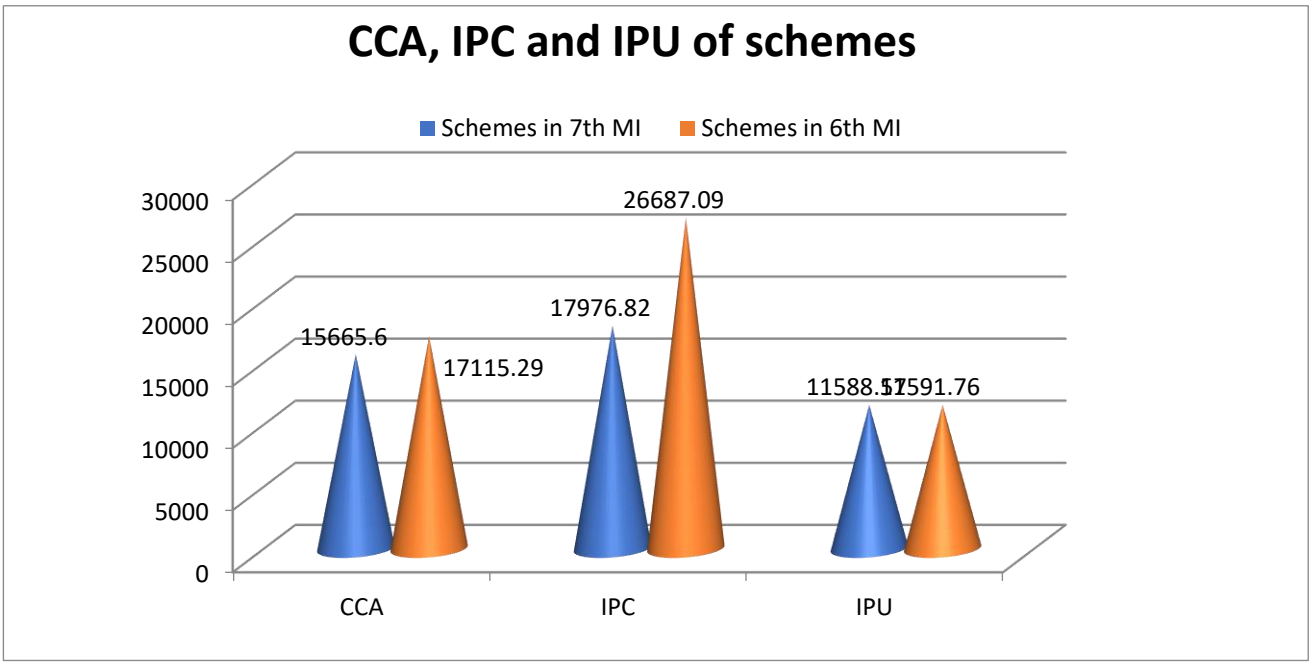


7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 Chart 18 compares the CCA, IPC and IPU of all MI schemes between the 7th and 6th MI Census. The CCA decreased from 17115.29 hectare in the 6th Census to 15665.6 hectare in the 7th Census, while IPC decreased from 26687.09 to 17976.82 hectare. Similarly, IPU declined from 11591.76 to 11588.57 hectare**.** Overall, all three indicators recorded a decline in the 7th MI Census compared with the 6th Census.

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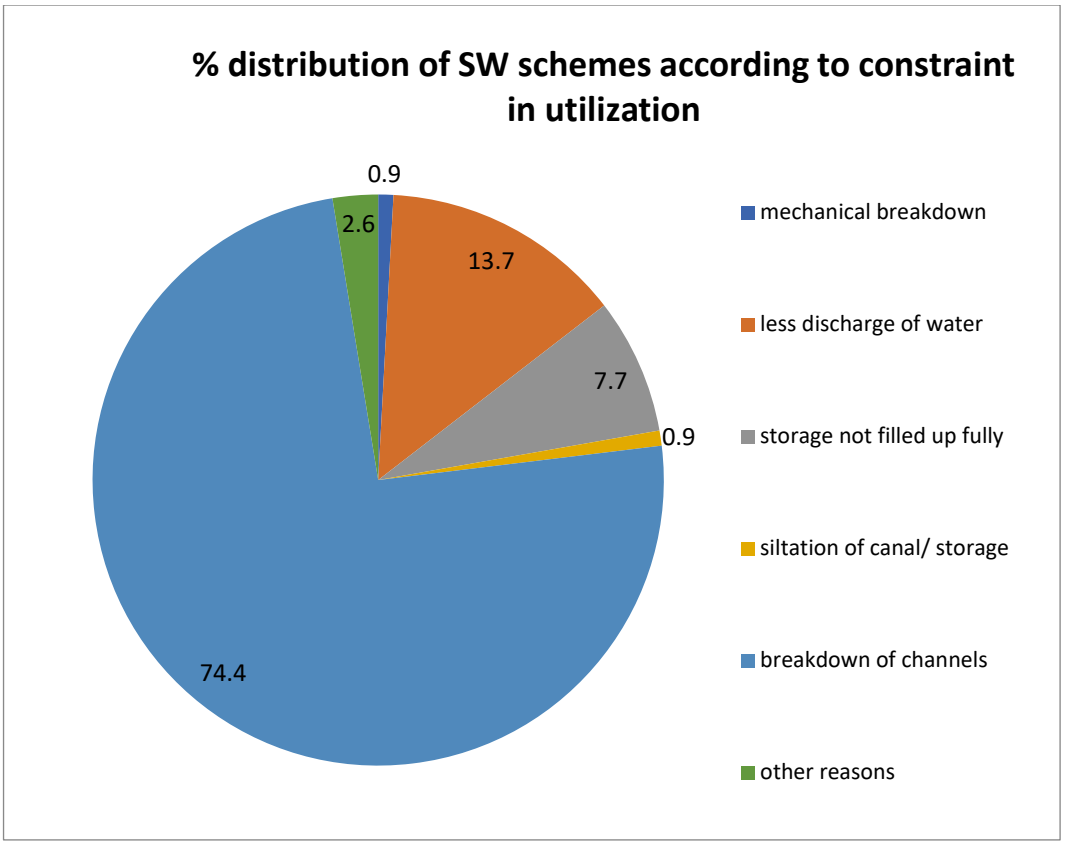
Chart 18: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census



8. Underutilization of 'In Use' Schemes

8.1 Among the Surface Water schemes that are underutilised, breakdown of channels is the major constraint, accounting for 74.4% of the schemes. This is followed by less discharge of water, which accounts for 13.7%, and storage not filled up fully, accounting for 7.7% of the schemes. Other reasons constitute 2.6%, while mechanical breakdown and siltation of canal/storage each account for 0.9% of the underutilised Surface Water schemes.

Chart 19: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 As per the 7th Minor Irrigation Census, information on Ground Water Recharge was collected for Ground Water schemes and Surface Water schemes in Mizoram. Out of 220 Ground Water schemes, only 28 schemes (12.72%) were reported to have ground water recharge.

10. Number of Schemes used for drinking

10.1 As per the 7th Minor Irrigation Census, information on the use of Ground Water schemes for drinking water purposes was collected in Mizoram. Out of 220 Ground Water schemes, 180 schemes (81.81%) were reported to be used for drinking water, while 40 schemes (19.19%) were not used for this purpose.

Key Parameters of 7th MI Census — Mizoram

Parameter	Unit		Value			%
Number of Schemes	Dug wells	No.	36			2.3
	Shallow Tubewell	No.	41			2.6
	Medium Tubewell	No.	94			5.9
	Deep Tubewells	No.	49			3.1
	Artesian Well	No.	0			0.0
	Ground Water schemes	No.	220			13.9
	Surface Flow	No.	1338			84.5
	Surface Lift	No.	12			0.8
	Surface Water schemes	No.	1350			85.2
	Total schemes	No.	1570			**100.0**
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	567.00	15,098.60	15,665.60	
	IPC	Ha	653.60	17,323.22	17,976.82	
	IPU	Ha	503.84	11,084.73	11,588.57	
	IPC of In Use schemes	Ha	501.40	11,912.57	12,413.97	
	IPU of In Use schemes	Ha	464.04	10,261.33	10,725.37	
	% Ratio of IPU to IPC	Ha	77.09	63.99	64.47	
	Gap in IPC and IPU	Ha	149.76	6,238.49	6,388.25	
Ownership	Individual ownership	No.	101	659	760	48.4
	Group of Farmers	No.	2	415	417	26.6
	Public owned	No.	92	256	348	22.2
	Co-Operative Owned	No.	0	3	3	0.2
	Panchayat Owned	No.	20	5	25	1.6
	Others	No.	5	12	17	1.1
	Total	No.	220	1350	1570	100.0

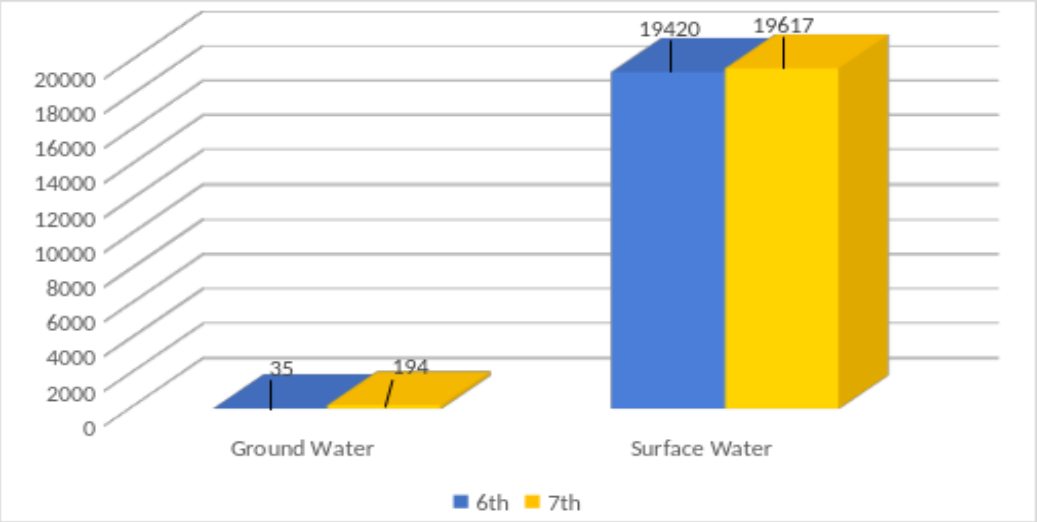
Parameter	Unit		Value			%
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	1	160	161	22.3
	Open Water Channel (unlined/kutcha)	No.	0	48	48	6.6
	Underground pipe	No.	1	6	7	1.0
	Surface Pipe	No.	118	321	439	60.8
	Drip	No.	0	1	1	0.1
	Sprinklers	No.	0	1	1	0.1
	Others	No.	17	48	65	9.0
	Total	No.	137	585	722	100.0

2.16 NAGALAND

1. Number of MI Schemes

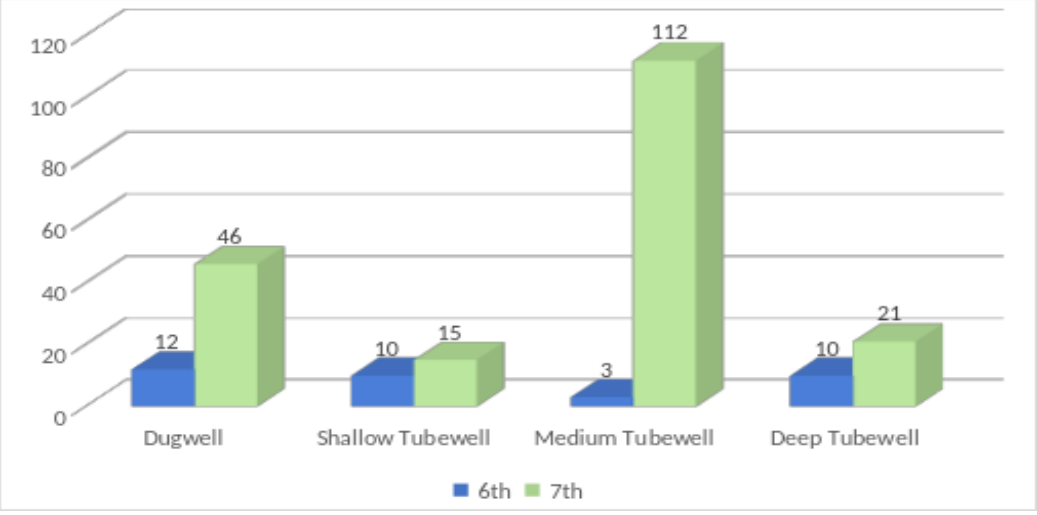
1.1 Nagaland reported **19,811** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **1.0% (194 schemes)** are Ground Water schemes and the remaining **99.0% (19,617 schemes)** are Surface Water schemes. It reflects that Surface Water schemes are prominent in Nagaland owing to the topography of the region. A comparison with the 6th Minor Irrigation Census reveals **1.8% increase** in the total number of schemes, from **19,455** in the 6th Census to **19,811** in the 7th Census.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



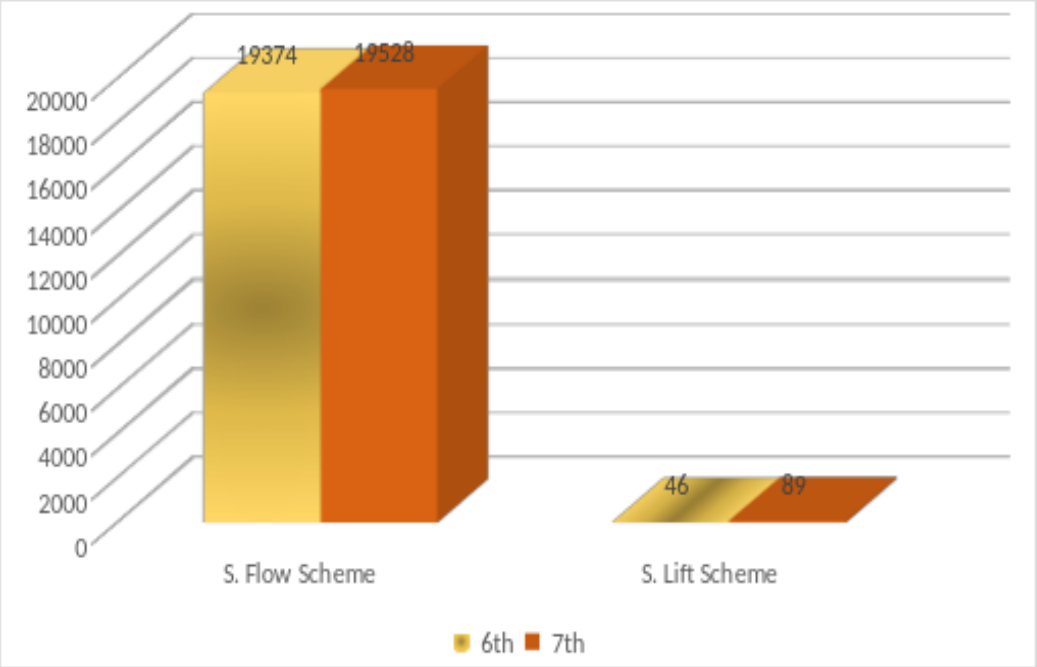
1.2 The composition of irrigation schemes remained broadly unchanged between the 6th and 7th Minor Irrigation Censuses. Although the number of Ground-water schemes increased from 35 to 194, they continued to account for less than 1% of the total schemes. Within the Ground-water category, the increase was primarily driven by Medium Tube Wells which is shown in the chart given below.

Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



1.3 Surface water schemes continued to dominate the irrigation infrastructure, increasing marginally from 19,420 to 19,617 schemes. Within this category, Surface Flow Schemes remained the predominant type, increasing slightly from 19,374 to 19,528 schemes.

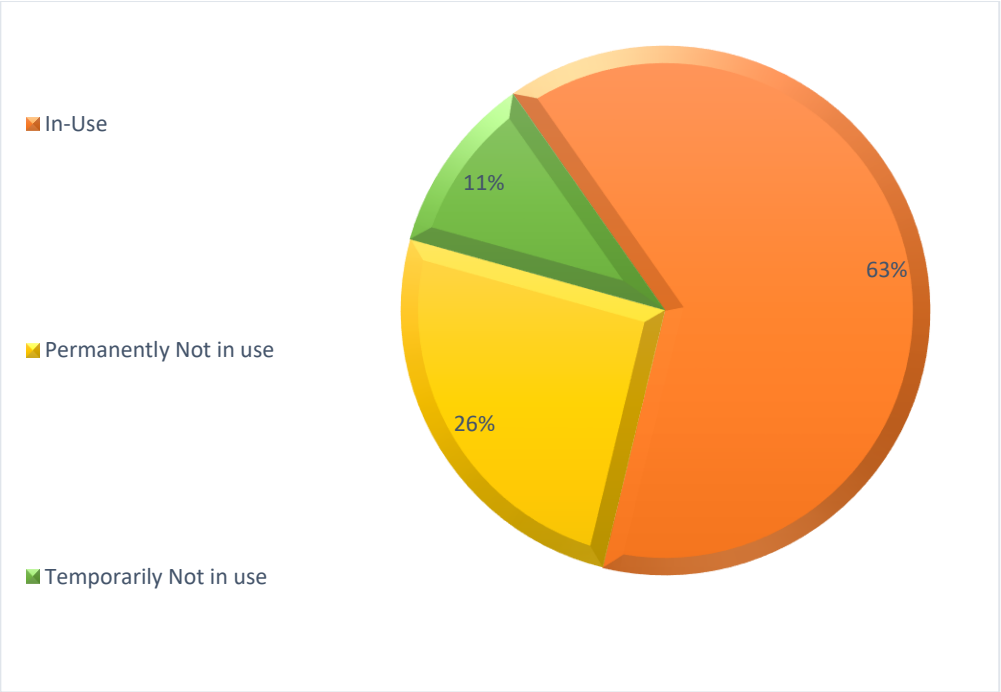
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 Out of the total 19,811 MI schemes, **63%** are currently 'In Use', **26%** are 'Permanently Not In Use', and **11%** are 'Temporarily Not In Use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

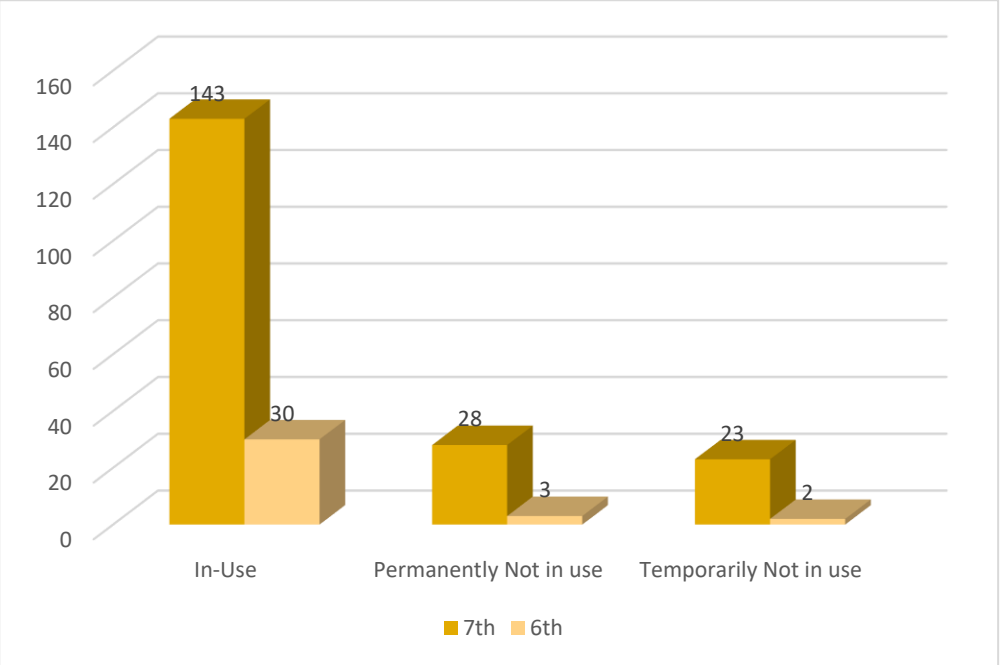
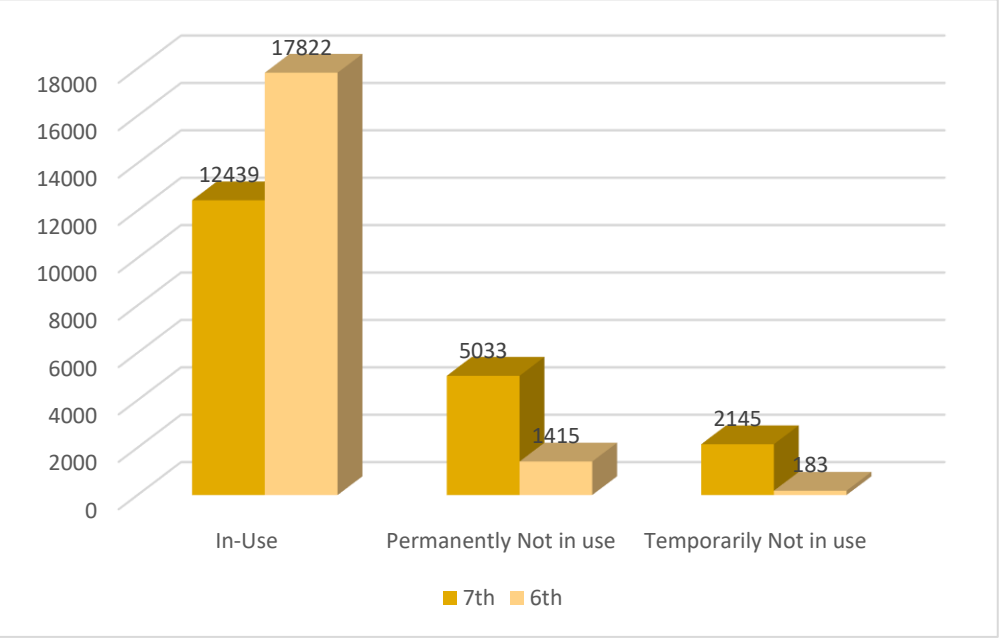


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

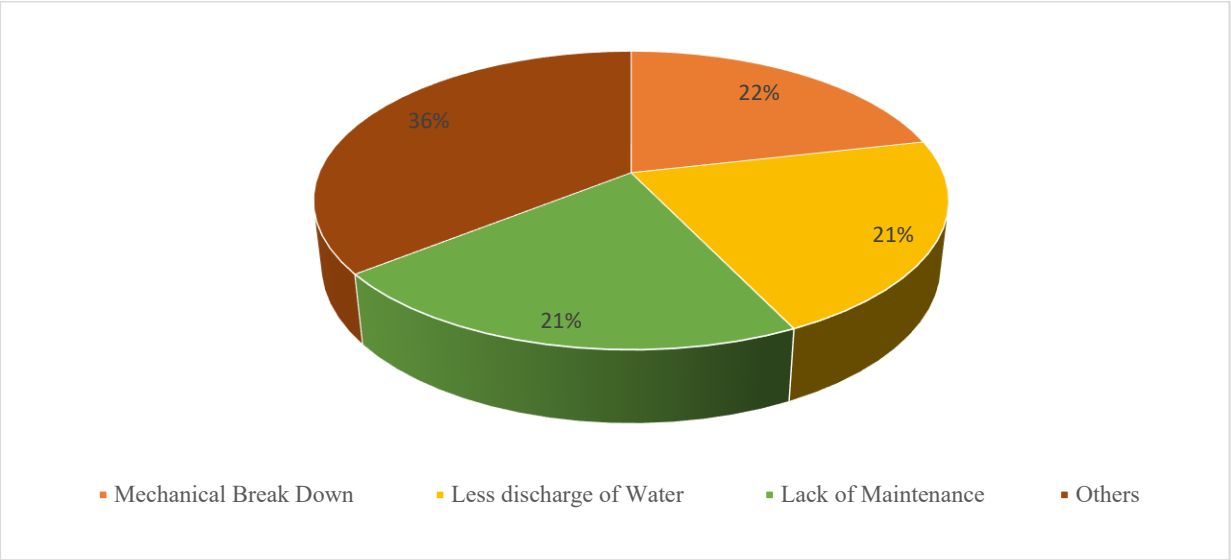


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, a total of 23 Ground-water (GW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes is shown in chart 8.

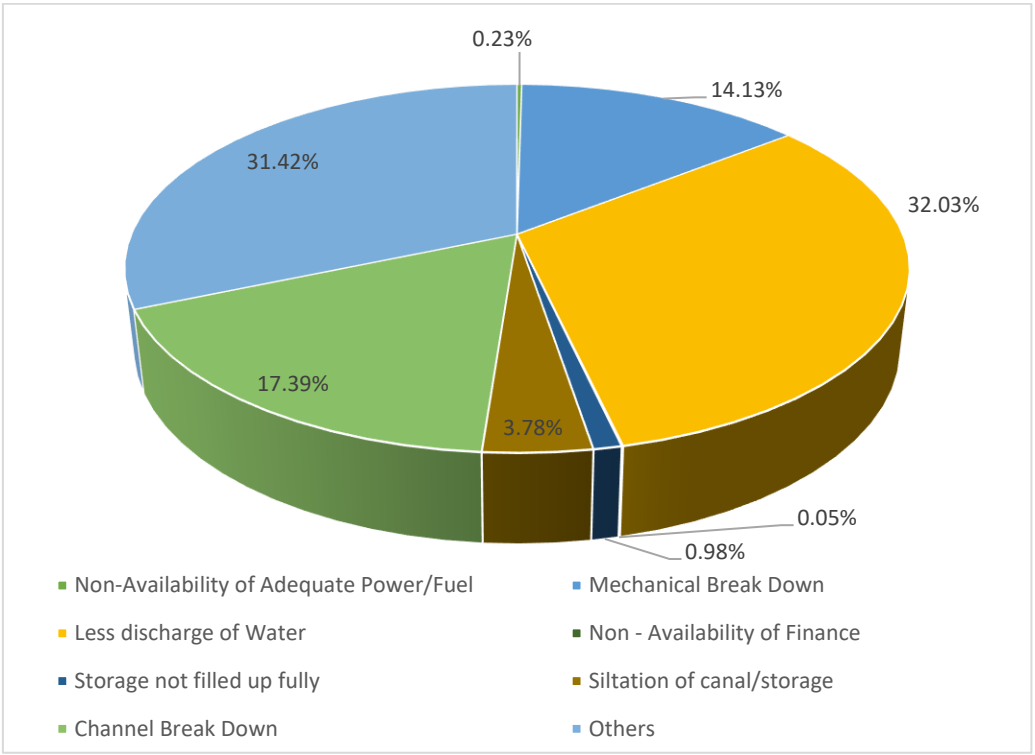
Chart 8: Reasons wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, a total of 2,145 surface water (SW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water schemes is shown in chart 9.

Chart 9: Reason- wise percentage share of 'Temporarily Not-In Use' Surface Water Schemes



3.3 Reason of 'Permanently Not In Use' GW Schemes

As per 7th Census, a total of 28 Ground-water (GW) schemes were reported 'Permanently Not in Use'. 'Dried up' is accounted as one of the major reasons of ground water and surface water schemes. Reason wise percentage distribution of 'Permanently Not-In Use' GW Schemes and SW Schemes is given in chart 10 and chart 11 below.

Chart 10: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes

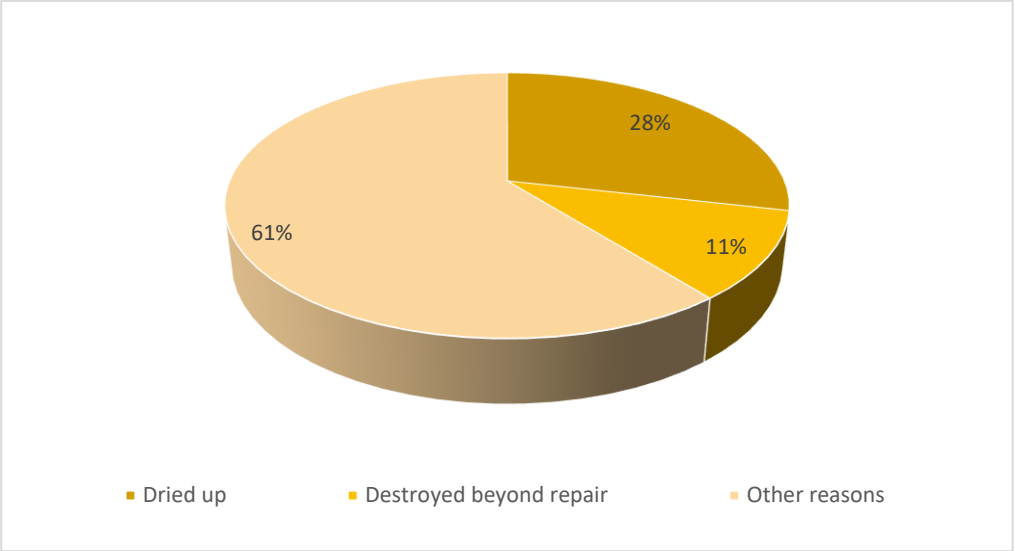
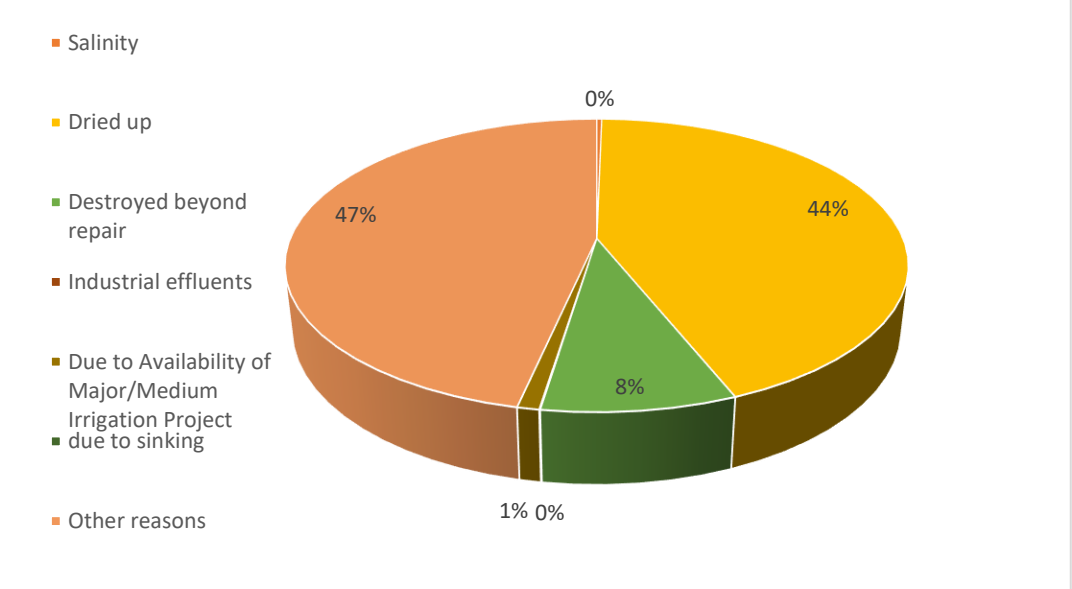


Chart 11: Reason wise percentage distribution of 'Permanently Not-In Use' Surface Water Schemes



4. Ownership of MI Schemes

4.1 Out of **19,811** MI schemes in Nagaland, majority of the schemes (75.1%) are predominantly owned by Group of Farmers. This shows that farmers are getting maximum benefit from MI schemes. Ownership Categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers), are shown in Charts 12, 13 and 14 respectively.

Chart 12: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

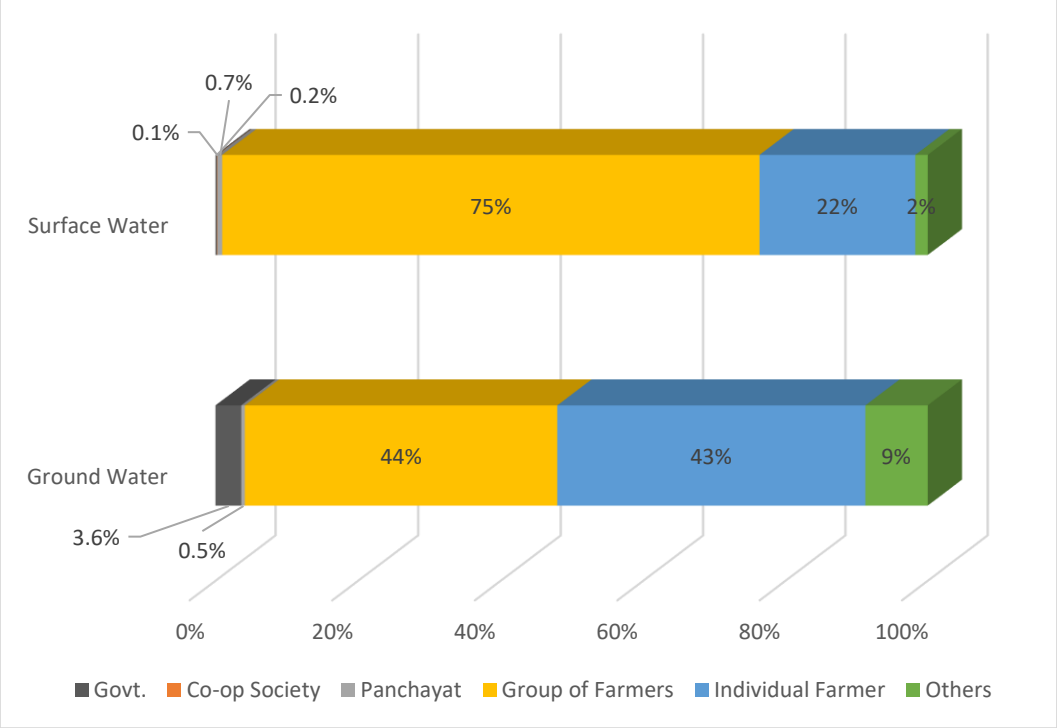


Chart 13: Ownership of Ground Water Schemes (Number)

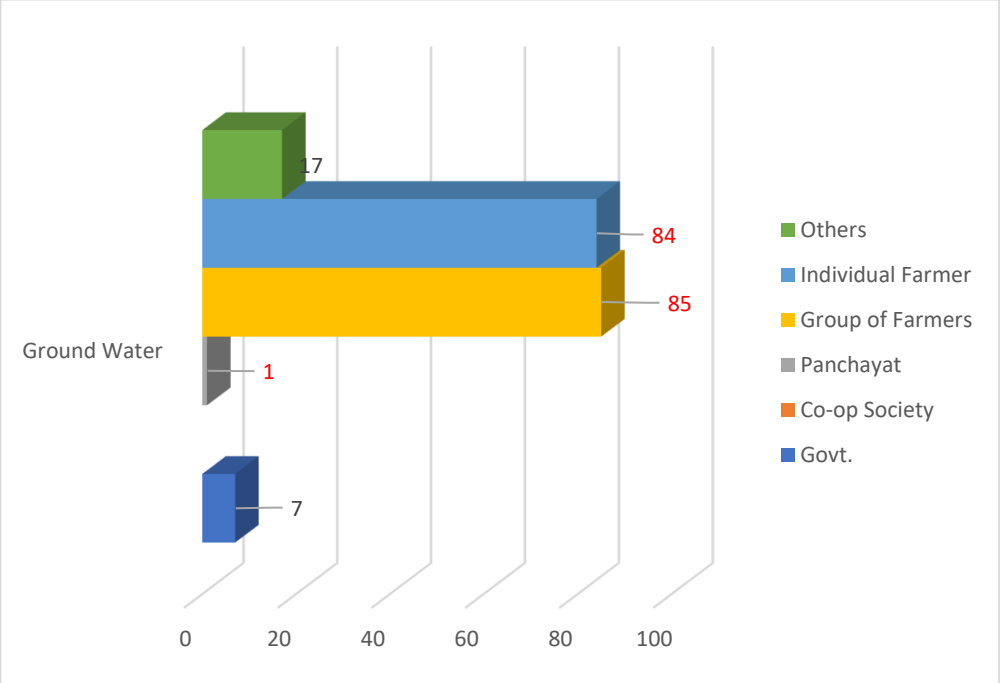
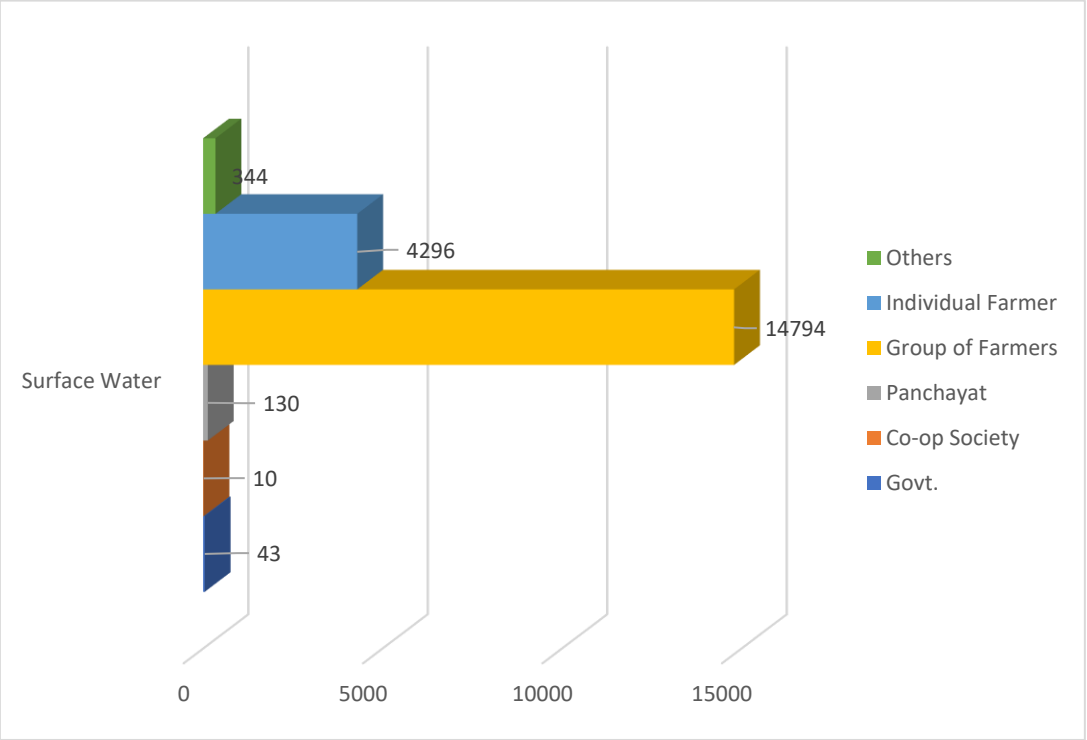


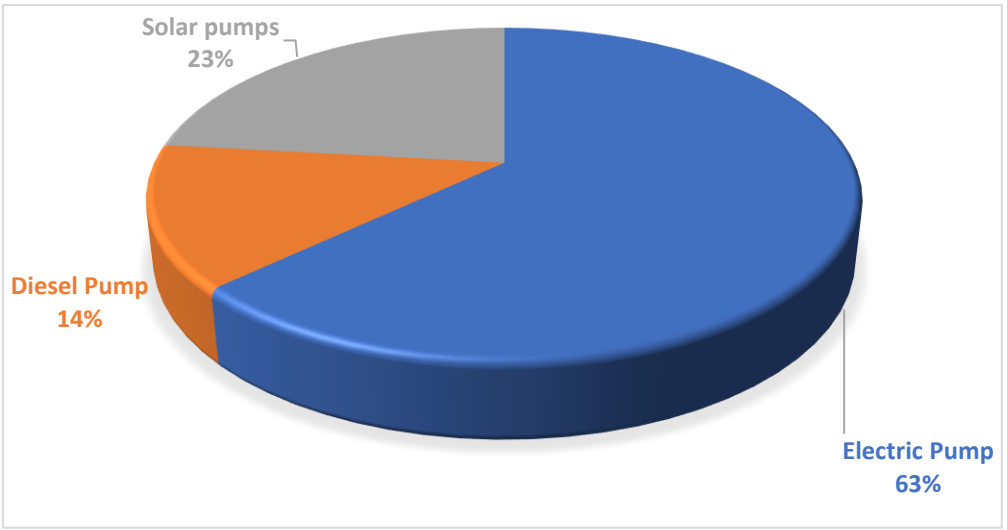
Chart 14: Ownership of Surface Water Schemes (Number)



5. Source of Energy

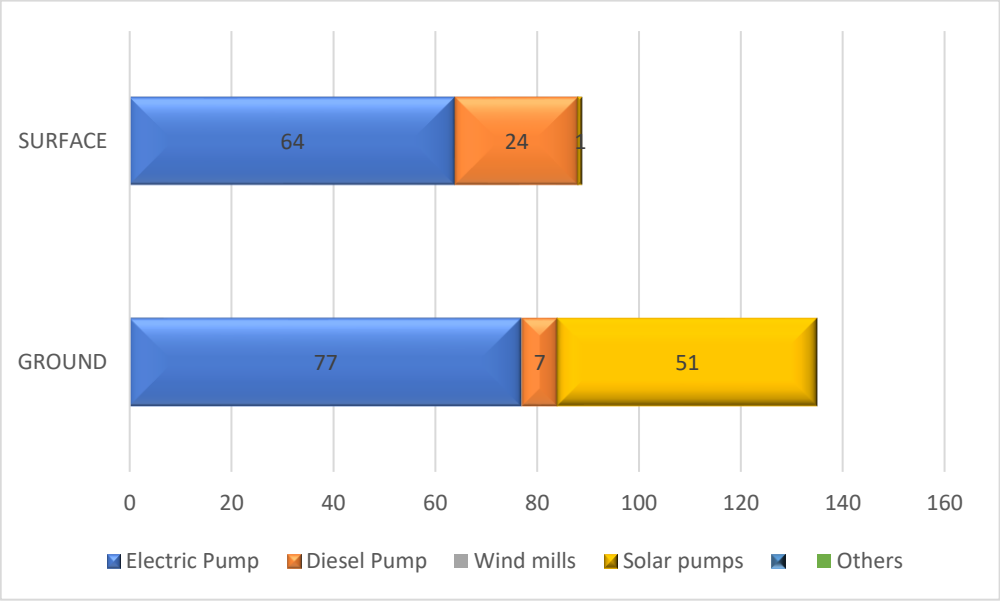
5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. The number of such schemes is 224. Out of these 224 schemes, majority of schemes (63.0%) are using electricity as source of energy followed by Solar Pumps (23.0%) and Diesel Pumps (14%) in the 7th MI Census.

Chart 15: Percentage distribution of MI schemes by Source of Energy



5.2 Number of surface lift and ground water irrigation scheme by source of energy is given in chart 16.

Chart 16: Number of Ground Water vs Surface Water Schemes by Source of Energy



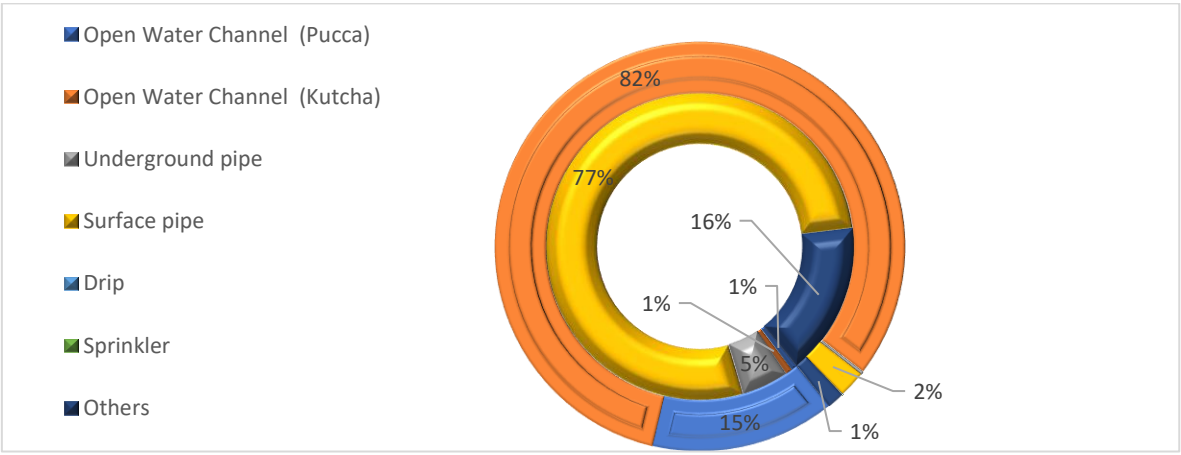
6. Water Distribution Methods

6.1. As per the 7th Census, out of total of 12,582 'In Use' schemes, 12,439 (99%) were Surface Water schemes while only 143 (1%) were Ground Water schemes. In terms of water distribution method, Open Water Channel (Kutcha) was the predominant mode of water distribution, accounting for 82% of the total, followed by Open Water Channel (Pucca). Surface Pipe accounted for a much smaller share (3%), while Underground Pipe, Drip and Sprinkler each accounted for less than 1% of the total.

6.2. Among Ground Water schemes, Surface Pipe was the most commonly used water distribution method (111 schemes), followed by Others (23 schemes). On the contrary, Surface Water schemes were predominantly served through Open Water Channel [Kutcha] (10,160 schemes).

6.3 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 17 below.

Chart 17: Percentage distribution of Ground Water (inner ring) and Surface Water (outer ring) Schemes by type of Water Distribution Methods



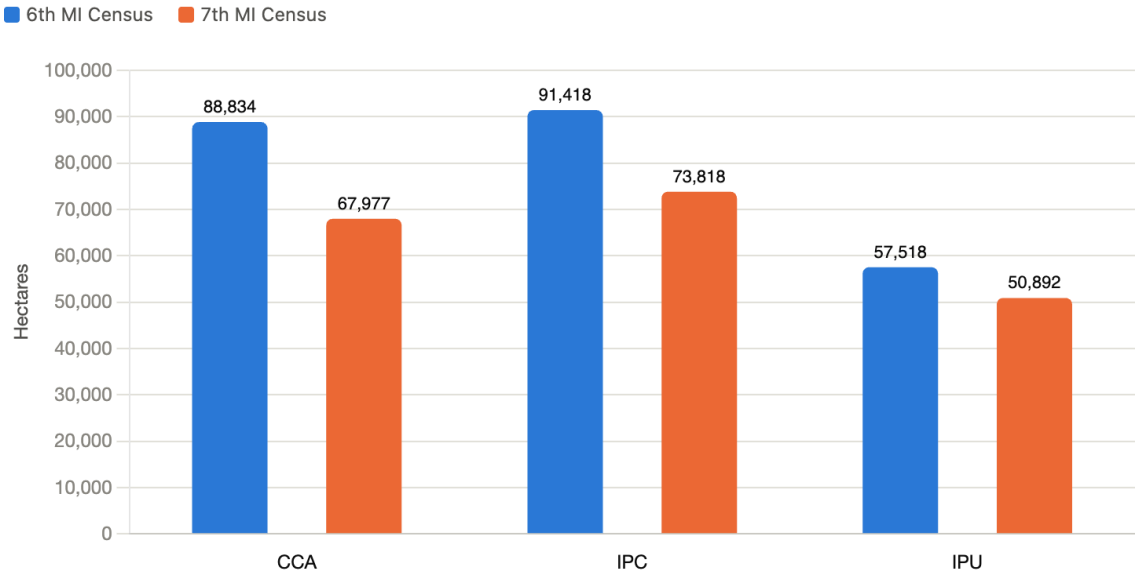
6.4. The percentage share of MI Schemes which distribute water through open water channel (unlined/kutcha) is reduced from 92.42% in 6th MI Census to 82% in 7th MI census indicating increase in efficiency.

7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 There has been a decline in the Culturable Command Area (CCA), Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU) in the State between the 6th and 7th MI Census. Compared to the 6th MI Census, the CCA declined by 23.5%, while the IPC decreased by 19.3% during the same period. The IPU also registered a decline of 11.5% over the 6th Census.

7.2 Despite the decline in absolute values, the IPU-to-IPC ratio improved from 0.63 (63%) in the 6th Census to 0.69 (69%) in the 7th Census.

Chart 18: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census

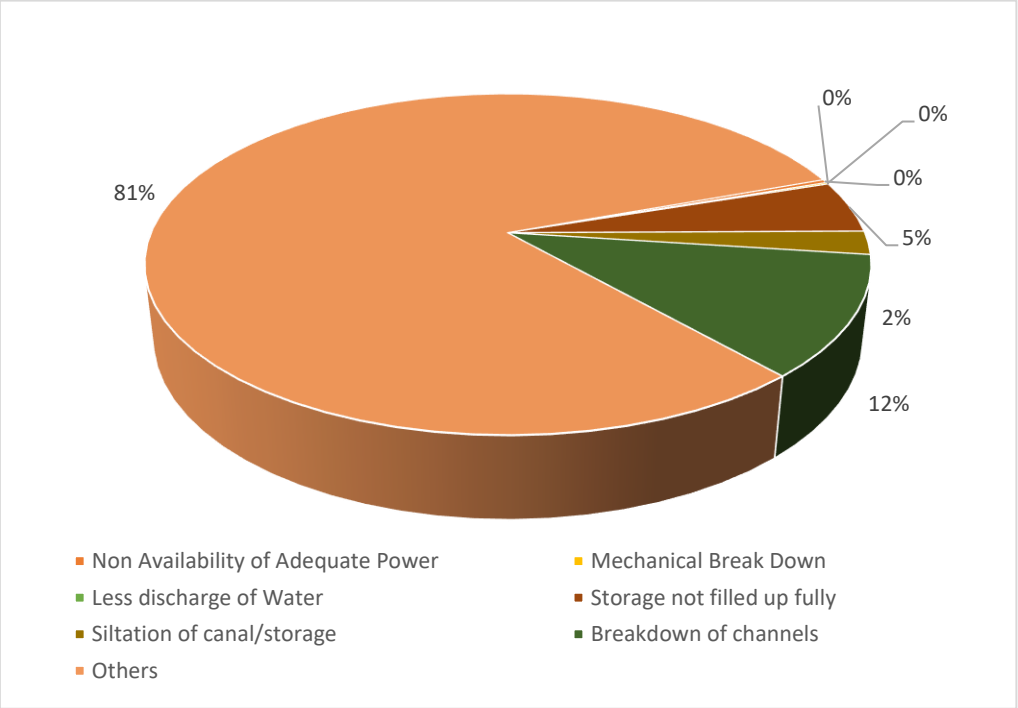


8. Underutilization of 'In Use' Schemes

8.1 It is observed in the previous rounds of MI censuses that many 'In Use' schemes remain underutilized due to various constraints. As per the 7th MI Census, 630 schemes out of 12582 'In Use' schemes in Nagaland were underutilized for various reasons, while the remaining 94.99% of the 'In Use' schemes were functioning without any reported constraints.

8.2 Out of 143 'In Use' Ground-water schemes, only 1 scheme was under-utilised on account of less discharge of water. As per the 7th Census, Out of 12,439 'In Use' SW schemes, 629 SW schemes were reported as underutilised, compared to 685 schemes in the 6th Census. The major factors contributing to constraints in utilization of SW schemes are break-down of channels, siltation of canal/ storage and other reasons. The percentage distribution of Surface Water schemes by reason for underutilisation is shown in the pie chart below.

Chart 19: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 22 irrigation schemes, all of which were surface water flow schemes, indicating that Ground-water recharge activities were carried out exclusively through surface flow schemes.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 1,984 Minor Irrigation schemes, constituting about 10% of the total schemes in Nagaland, were also used for drinking water supply, with Surface Water schemes being the primary source.

Key Parameters of 7th MI Census — Nagaland

Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	46			0.2
	Shallow Tubewell	No.	15			0.1
	Medium Tubewell	No.	112			0.6
	Deep Tubewells	No.	21			0.1
	Artesian Well	No.	0			0.0
	Ground Water schemes	No.	**194**			**1.0**
	Surface Flow	No.	19,528			98.6
	Surface Lift	No.	89			0.4
	Surface Water schemes	No.	**19,617**			**99.0**
	Total schemes	No.	**19,811**			**100.0**
			GW	**SW**	**Total**	

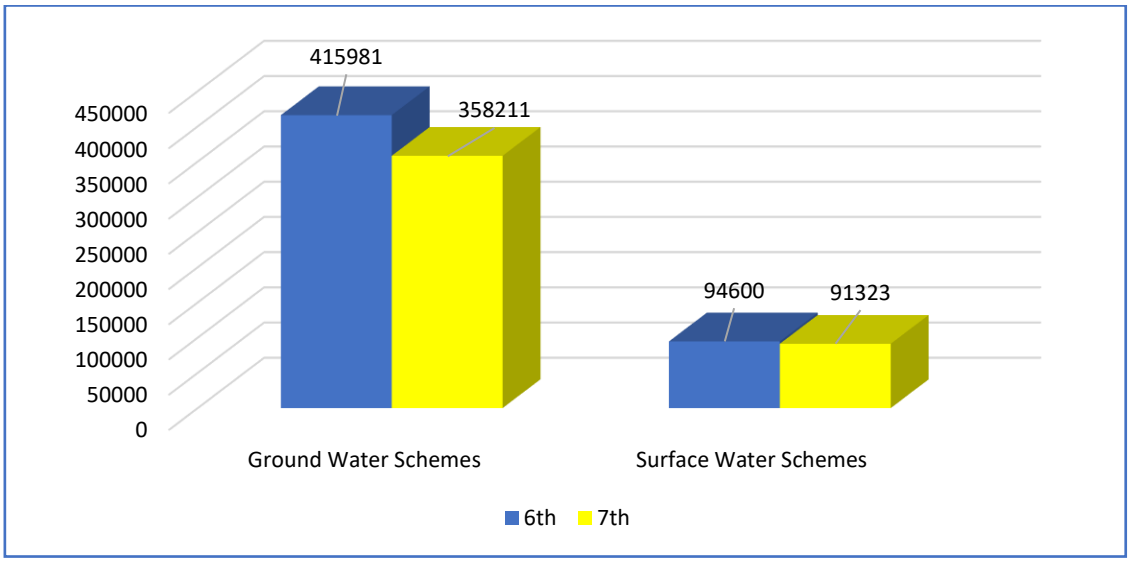
Parameter		Unit	Value			%
CCA, IPC and IPU	CCA	Ha	540.6	67,436.59	67,977.19	
	IPC	Ha	649.9	73,167.80	73,817.70	
	IPU	Ha	497.9	50,393.88	50,891.78	
	IPC of In Use schemes	Ha	486.1	52,862.54	53,348.64	
	IPU of In Use schemes	Ha	434.3	44,190.48	44,624.78	
	% Ratio of IPU to IPC	Ha	76.6%	68.9%	68.9%	
	Gap in IPC and IPU	Ha	152.0	22,773.92	22,925.92	
Ownership	Individual ownership	No.	84	4,296	4,380	22.1
	Group of Farmers	No.	85	14,794	14,879	75.1
	Public owned	No.	7	43	50	0.3
	Co-Operative Owned	No.	0	10	10	0.1
	Panchayat Owned	No.	1	130	131	0.7
	Others	No.	17	344	361	1.8
	Total	No.	**194**	**19,617**	**19,811**	**100.0**
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	1	1,810	1,811	14.4
	Open Water Channel (unlined/kutcha)	No.	1	10,160	10,161	80.8
	Underground pipe	No.	7	31	38	0.3
	Surface Pipe	No.	111	264	375	3.0
	Drip	No.	0	4	4	0.0
	Sprinklers	No.	0	4	4	0.0
	Others	No.	23	166	189	1.5
	Total	No.	**143**	**12,439**	**12,582**	**100.0**

2.17 ODISHA

1. Number of MI Schemes

1.1. Odisha reported **4,49,534** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **20.32% (91,323 schemes)** are Surface Water schemes and the remaining **79.68% (3,58,211 schemes)** are Ground Water schemes.

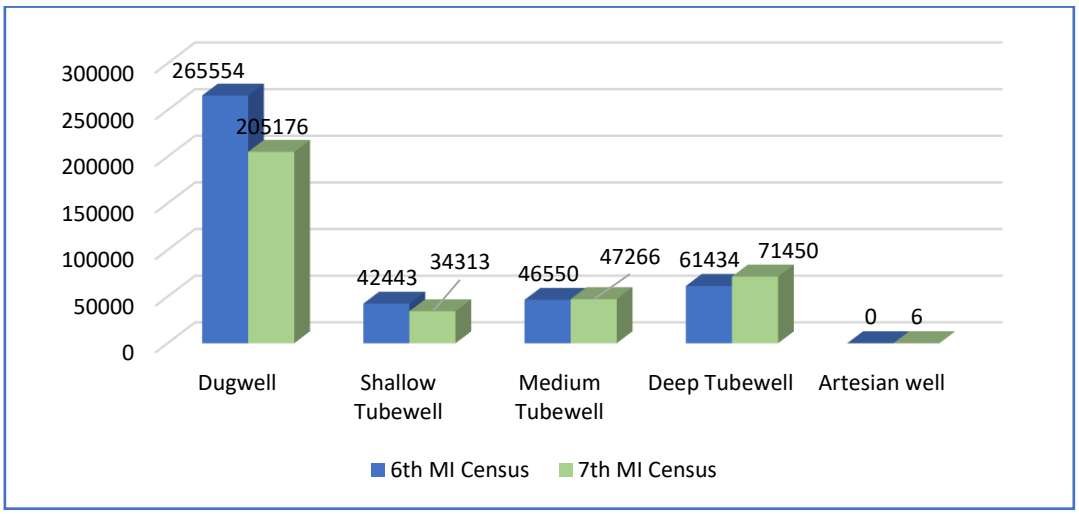
Chart 1: Number of Ground Water and Surface Water Schemes 6th vs 7th MI Census



1.2. A comparison with the 6th Minor Irrigation Census reveals a decline of 13.89% of ground water schemes in the region and a decline of 3.46% in the surface water schemes. Overall Minor Irrigation schemes in Odisha declined by 11.96% from 5,10,581 in 6th MI census to 4,49,534 in 7th MI census.

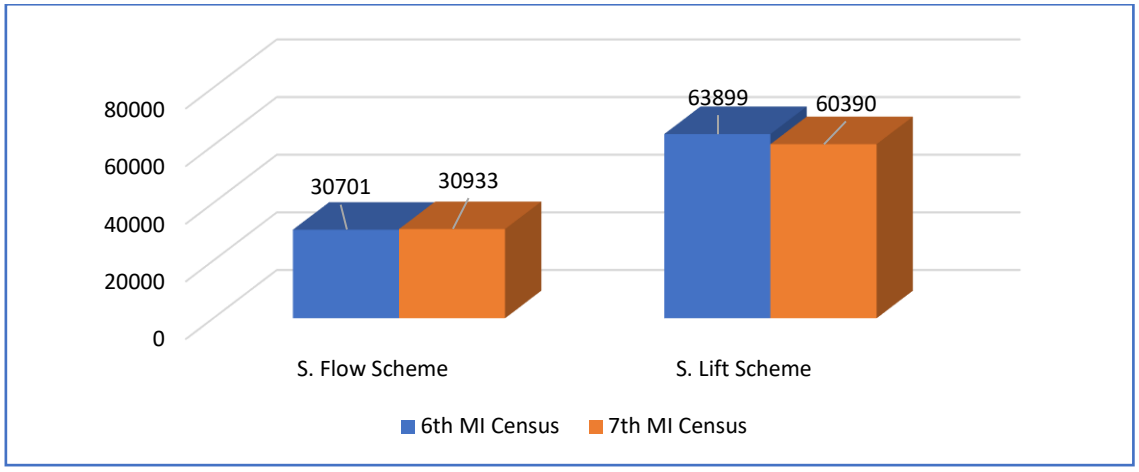
1.3. In Ground Water resources schemes since 6th MI Census, Dugwells decreased by 22.74%, Shallow tube wells decreased by 19.16483%, Medium tube wells increased by 1.54%, Deep tube wells increased by 16.3%. In 6th MI census. Overall, in terms of ground water schemes there has been a significant decline as compared to the previous MI Census.

Chart 2: Number of Ground Water Schemes by Type —6th vs 7th MI Census



1.4. Surface flow schemes increased slightly by 0.76% as compared to 6th MI census, however surface lift schemes decreased by about 5.49%.

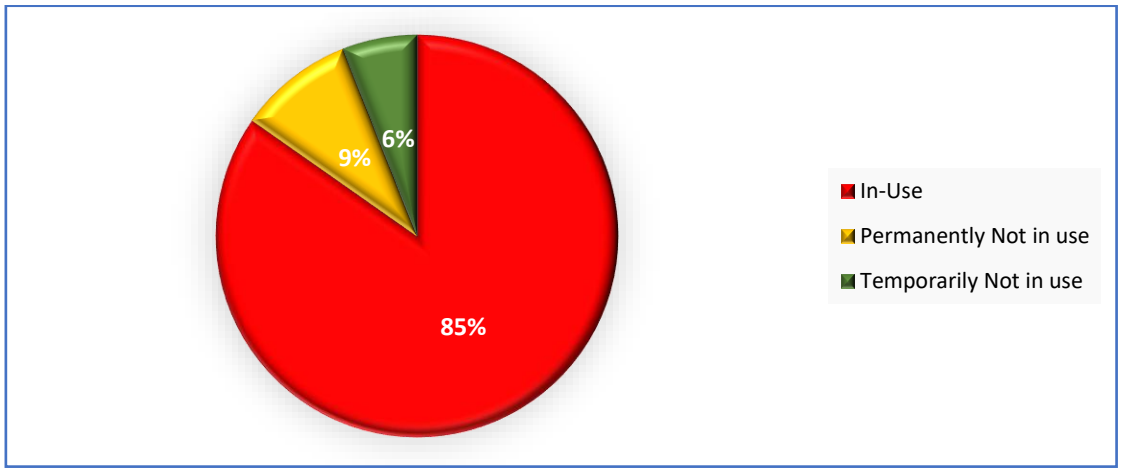
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



1. Use Status of MI Schemes

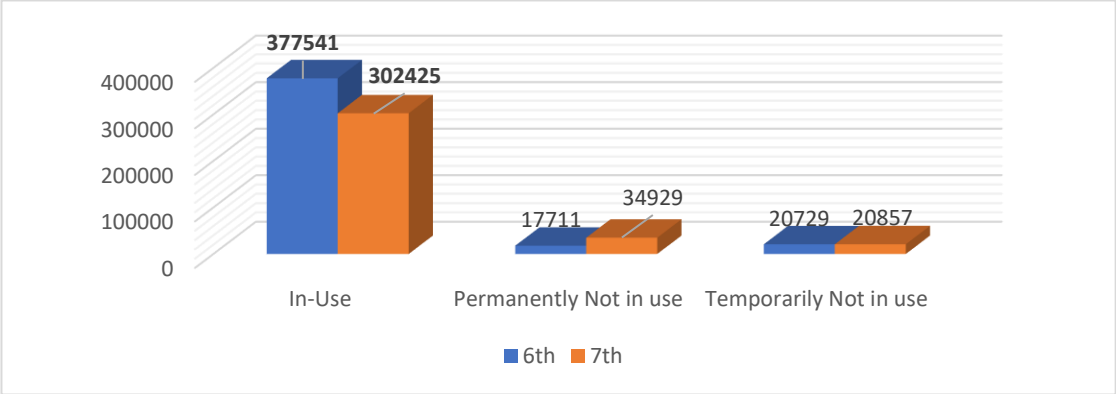
1.1. Out of the total 4,49,534 MI schemes, 84.76% (3,81,008) schemes are currently 'In Use', 9.27% (41,664) schemes are 'Permanently Not In Use', and 5.98% (26,862) schemes are 'Temporarily Not In Use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



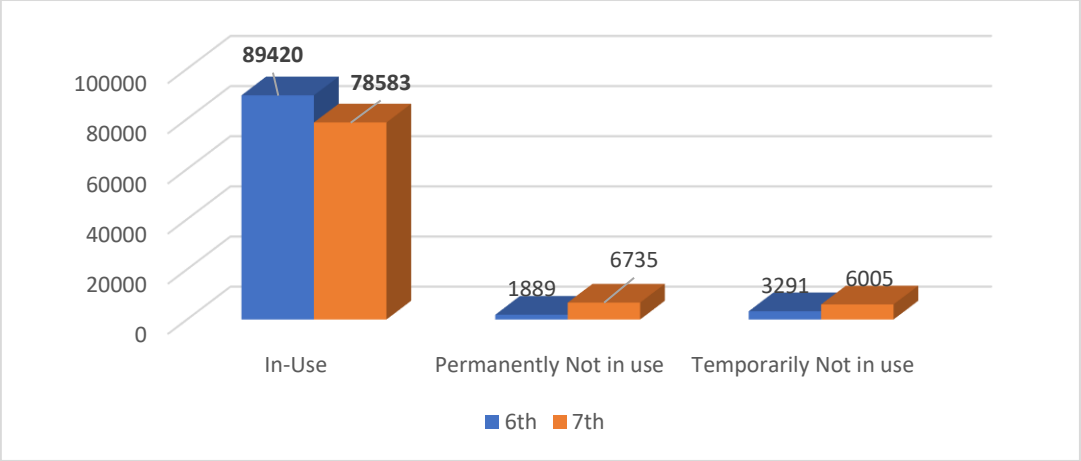
1.2. Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 6th vs 7th MI Census



1.3. In-Use ground water schemes in the State, it has decreased by 24.84%. 'In use' Surface Water schemes in Odisha also declined by 13.79%.

Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census



2. Reason for Not-In Use Schemes

Reason of 'Temporarily Not in Use' GW Schemes and SW schemes

2.1. As per the 7th MI Census, the Reason wise percentage distribution of "Temporarily Not in Use' GW schemes and SW schemes is shown in chart 7 and chart 8.

Chart 7: Reasons wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes

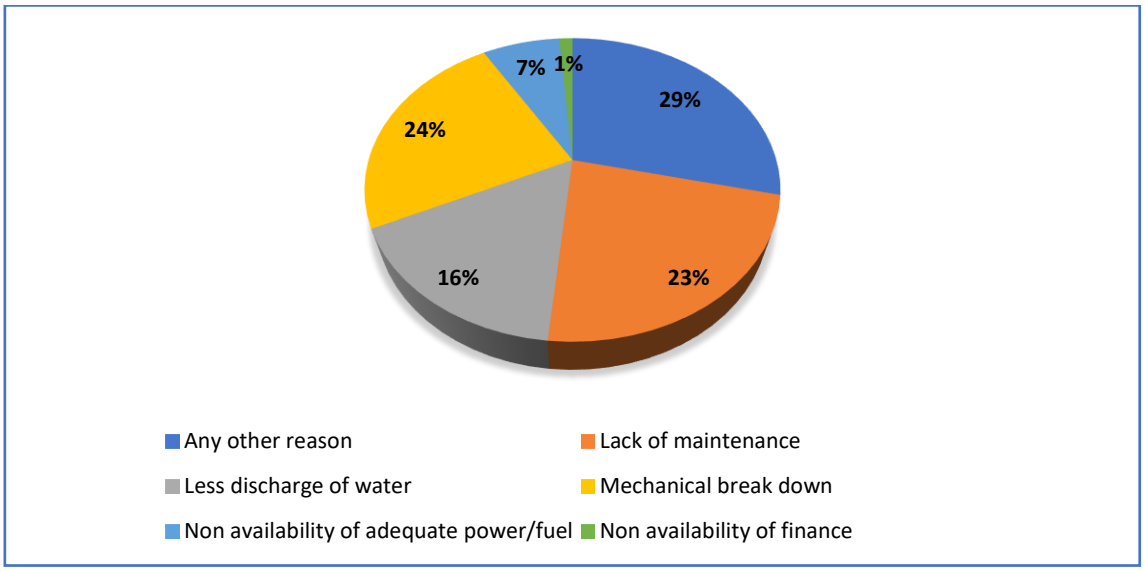
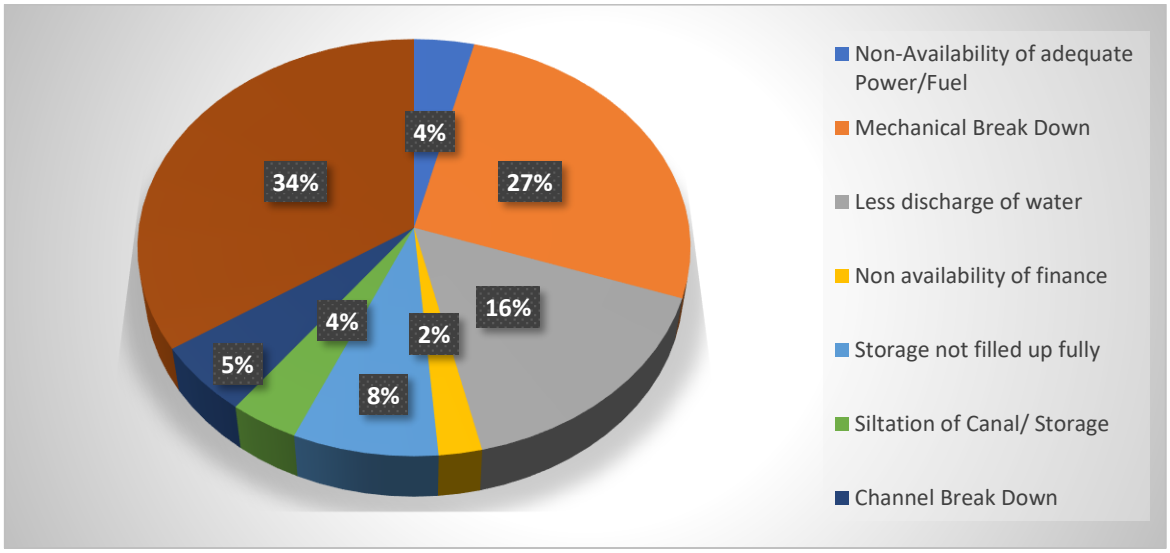


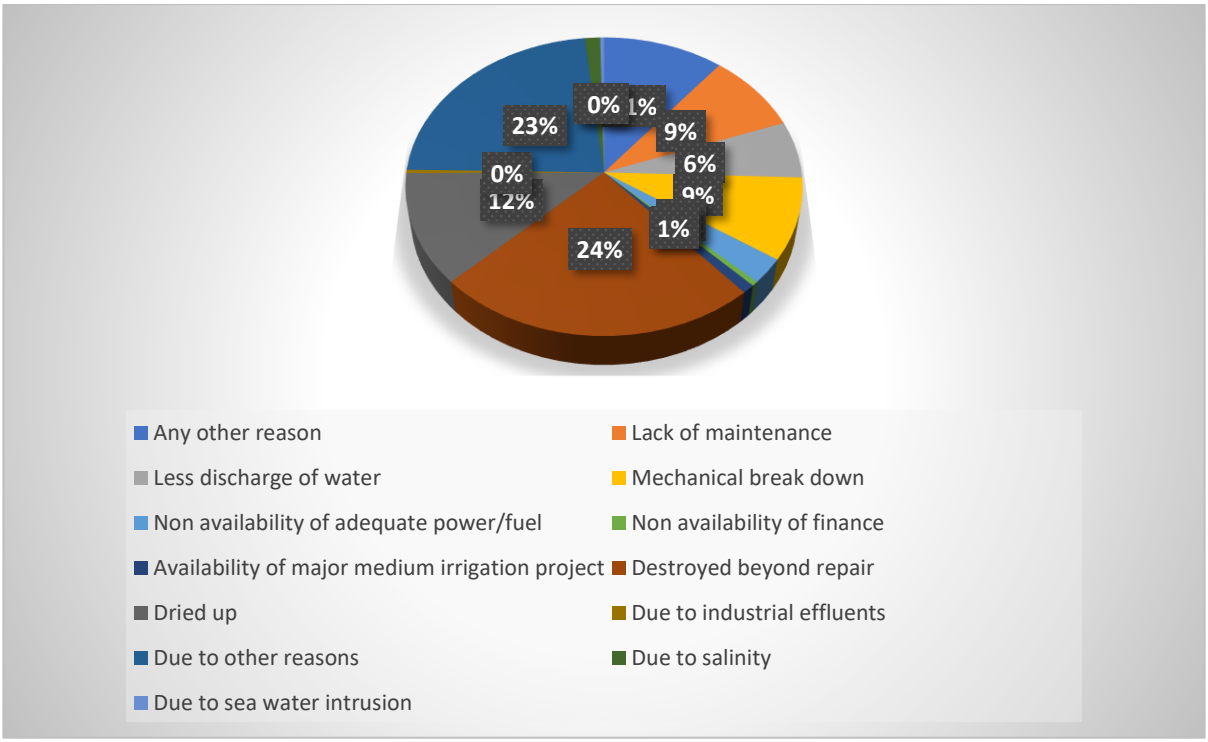
Chart 8: Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water Schemes



Reason of 'Permanently Not In Use' GW Schemes

2.1. As per the 7th MI Census, 24% of ground-water schemes reported as 'Permanently Not in Use' were destroyed beyond repair. Other significant reasons were 'Due to other reasons' (23%) and dried up (12%). 'Any other reason' accounted for 11%, while lack of maintenance and mechanical breakdown each accounted for 9%. Less discharge of water accounted for 6%, and non-availability of adequate power/fuel for 3%. The remaining reasons individually accounted for about 1% or less, as indicated in Chart 9. The Reason wise percentage distribution of "Permanently Not in Use' GW schemes is shown in chart 9.

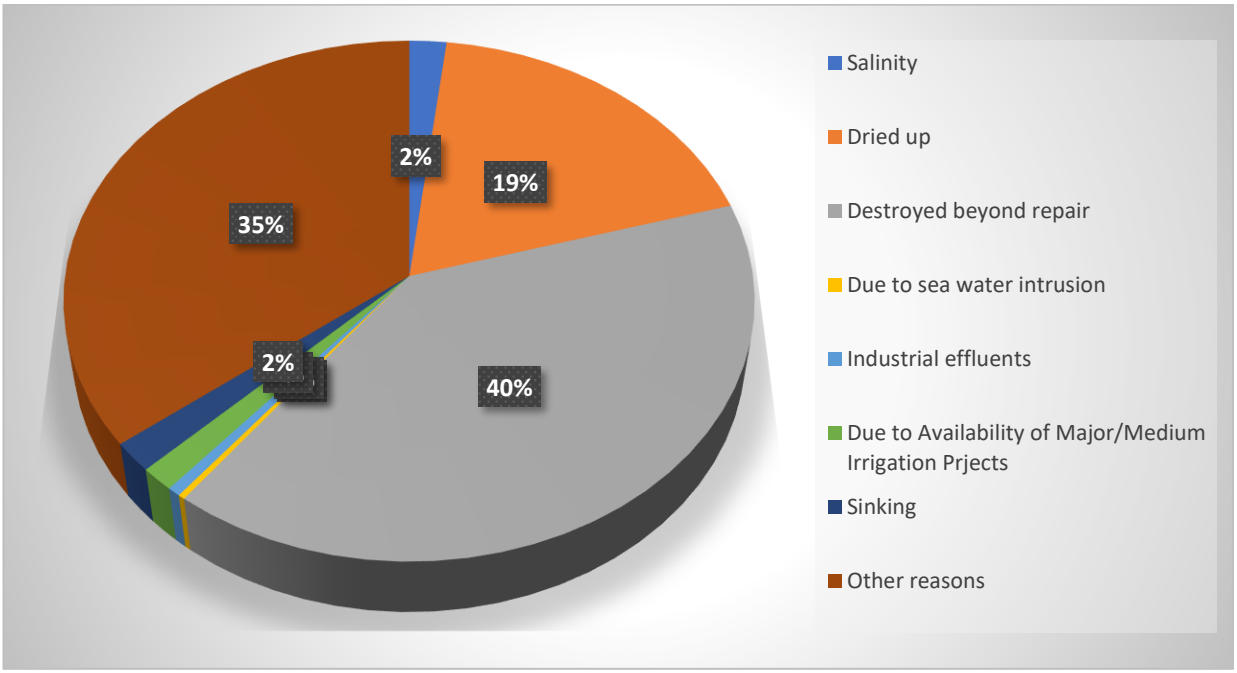
Chart 9: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes



Reason of 'Permanently Not In Use' SW Schemes

2.2. As per 7th MI census, (40%) destroyed beyond repair, and rest surface water schemes have become unusable because of various other reasons like having dried up and availability of Major/Medium Irrigation projects. The Reason wise percentage of "Permanently Not in Use' SW schemes is shown in chart 10.

Chart 10: Reason-wise percentage distribution of 'Permanently Not-In Use' Surface-water Schemes



3. Ownership of MI Schemes

3.1. Out of **4,49,534** MI schemes in Odisha, 89.95% of the Ground Water schemes are owned by individual farmers, highlighting private dominance on Ground water bodies, followed by 4.81% owned by Government, 2.63% by Group of Farmers, 1.87% by Panchayat and the remaining 0.54% by other bodies. Among the Surface Water schemes 50.7% are owned by Individual farmers, 20.92% by Government, 11.81% by group of farmers, 14.3% by Panchayat, 0.71% by co-operatives, and the remaining 1.56% by other bodies. Percentage distribution of ownership categories (as well as in numbers), are shown in Charts 11, 12 and 13 respectively.

Chart 11: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

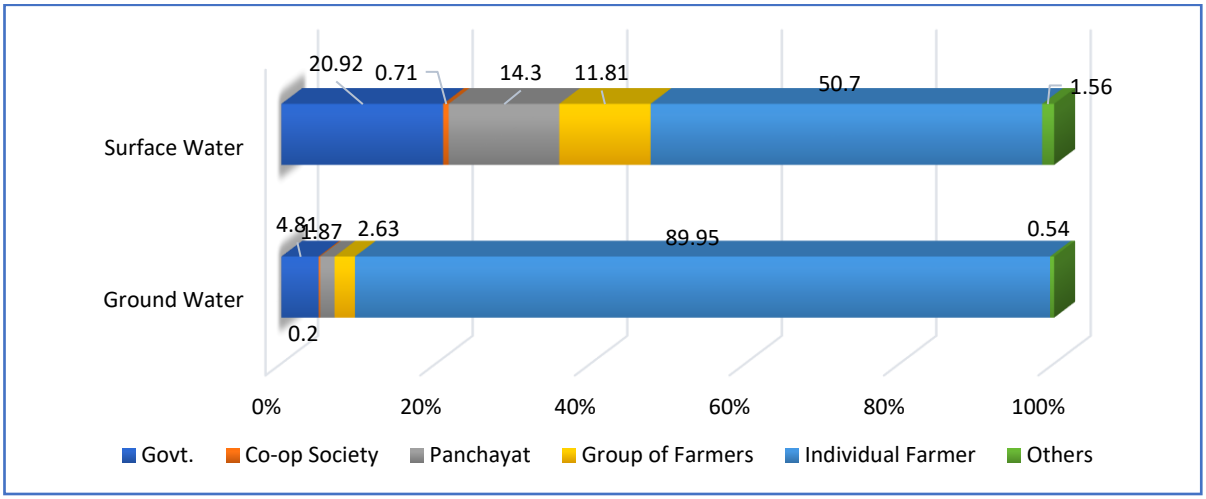


Chart 12: Ownership of Ground Water Schemes (Number)

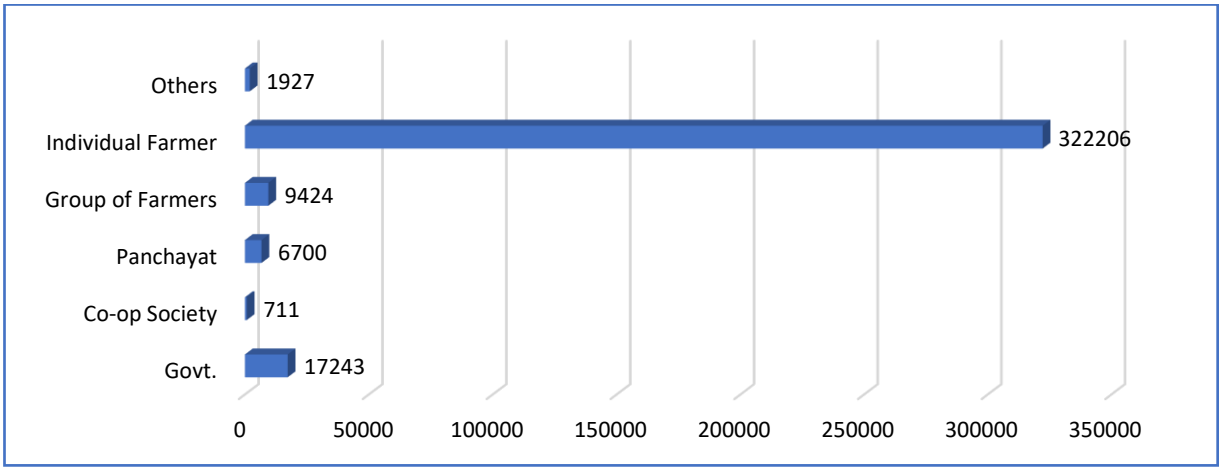
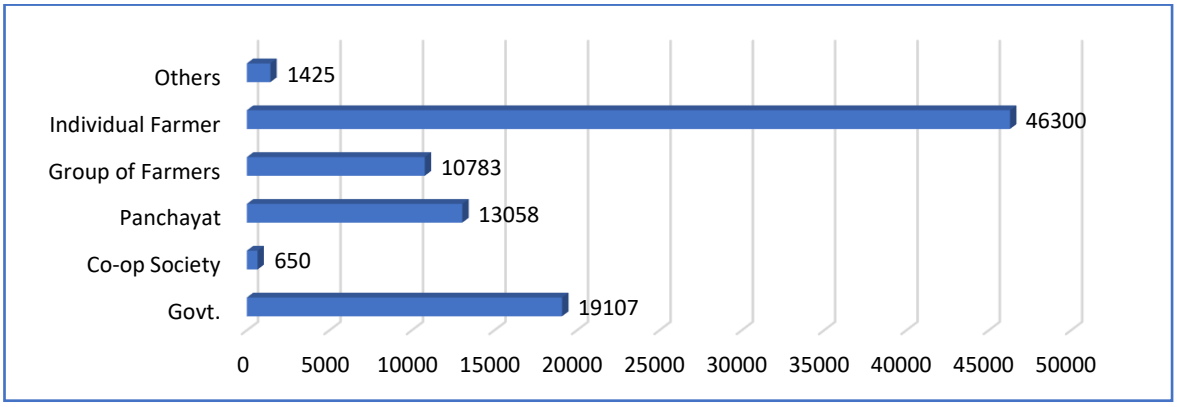


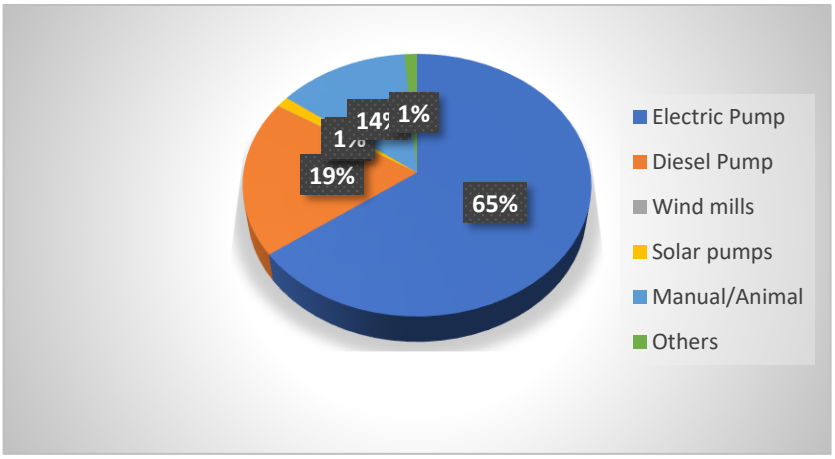
Chart 13: Ownership of Surface Water Schemes (Number)



4. Source of Energy

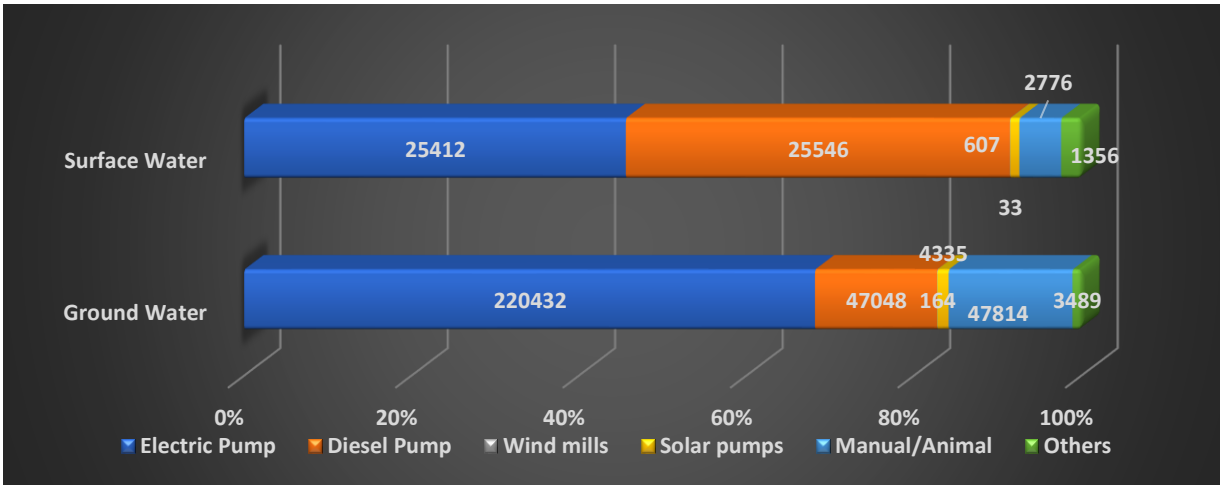
4.1. The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. Out of them, majority of schemes (65%) uses Electric Pump, and 19% uses Diesel as sources of energy. Percentage distribution of MI schemes by Source of Energy is shown in chart 14.

Chart 14: Percentage distribution of MI schemes by Source of Energy



4.2. Number of surface lift and ground water irrigation scheme by source of energy is given in chart 15.

Chart 15: Number of Ground Water vs Surface Water Schemes by Source of Energy



5. Water Distribution Methods

5.1. As per the 7th MI Census, out of total of 3,81,008 'In Use' schemes, 3,02,405 (79%) were Ground Water schemes while only 78,583 (21%) were Surface Water schemes. In terms of water distribution method for Ground water schemes, Surface Pipe was the predominant mode of water distribution, accounting for 65%, followed by open water channel (Kutcha) 15% of the total, open water channel (lined/pucca) 7.2%, Underground pipe 4.82%, whereas rest used Drip, Sprinkler and Other water distribution methods.

5.2. Among Surface Water schemes, Surface pipe is the majorly use water distribution method accounting for 55.7% of the total, followed by 25% using Open water channel (unlined/kutcha), 9% Open Water channel (lined/pucca), 7% using underground pipe, 0.4% used Drip Method,0.13% using Sprinkler method and the remaining 3.74% used Other water distribution methods.

5.3. The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 16 and chart 17 respectively.

Chart 16: percentage distribution of Ground Water

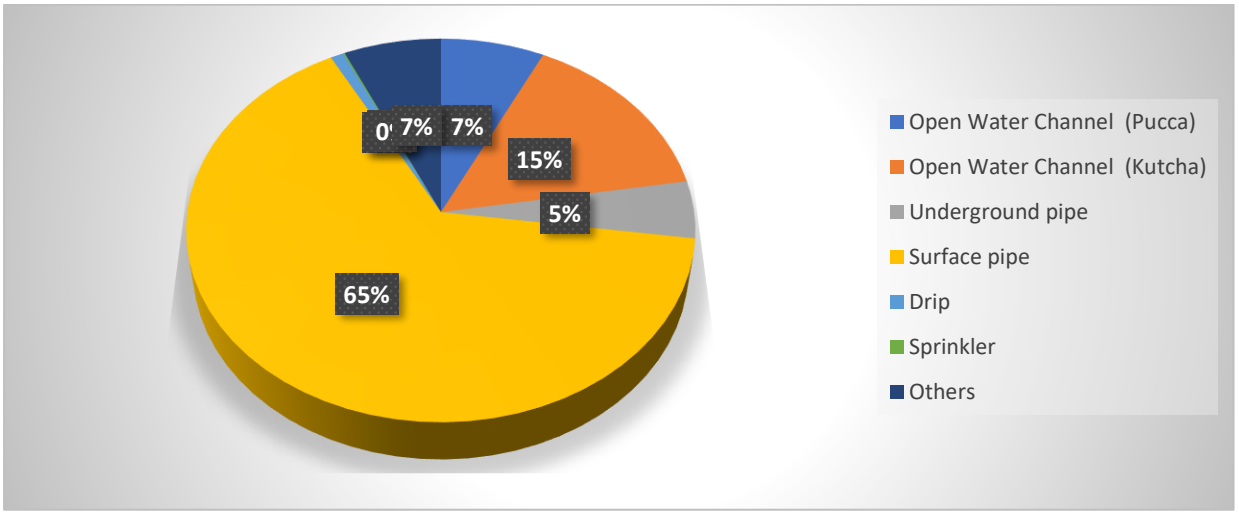
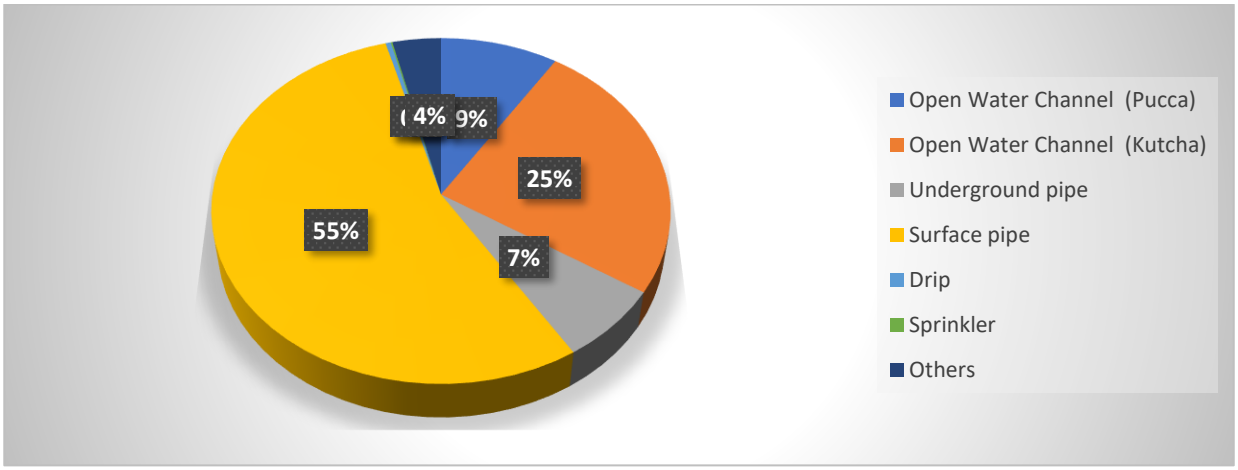


Chart 17: percentage distribution of Surface Water

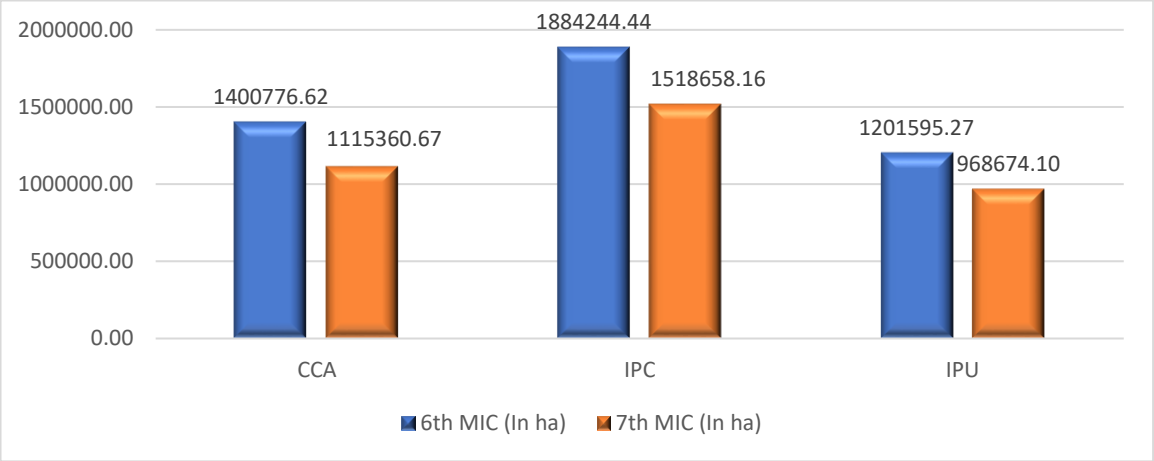


6. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

6.1. There has been a decline in the Culturable Command Area (CCA) in Odisha, which decreased by 20.38% compared with the previous census. Similarly, the Irrigation Potential Created (IPC) declined by 19.40%, while Irrigation Potential Utilization (IPU) also decreased by 19.38% during the same period.

6.2. The IPU-to-IPC ratio are almost same 0.64 (64%) in the 6th Census compared the 7th MI Census in Odisha. The CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census are shown in Chart 18.

Chart 18: CCA, IPC and IPU for all MI Schemes — 7th MI vs 6th MI Census



7. Underutilization of 'In Use' Schemes

7.1. In Odisha, 32,080 (10.6%) Ground water scheme remain underutilized out of the 3,02,425 In Use ground water schemes indicating a low portion of ground water bodies were underutilized. Percentage distribution of Ground Water schemes by reason for underutilisation are shown in chart 19.

7.2. Out of 78583 Surface 'In Use' water schemes, 9,084 (11.55%) were under utilised. Percentage distribution of Surface Water schemes by reason for underutilisation are shown in chart 20.

Chart 19: Percentage distribution of Ground Water schemes by reason for underutilisation

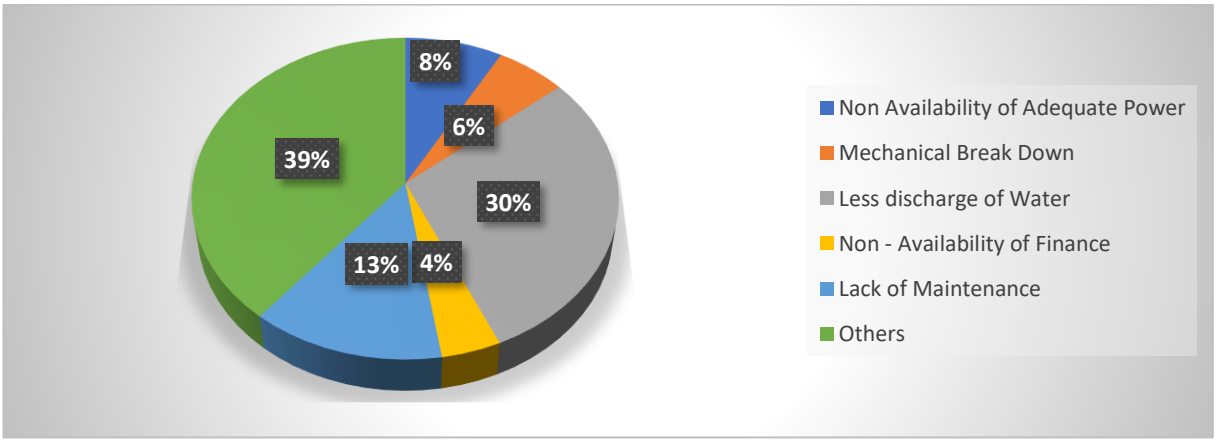
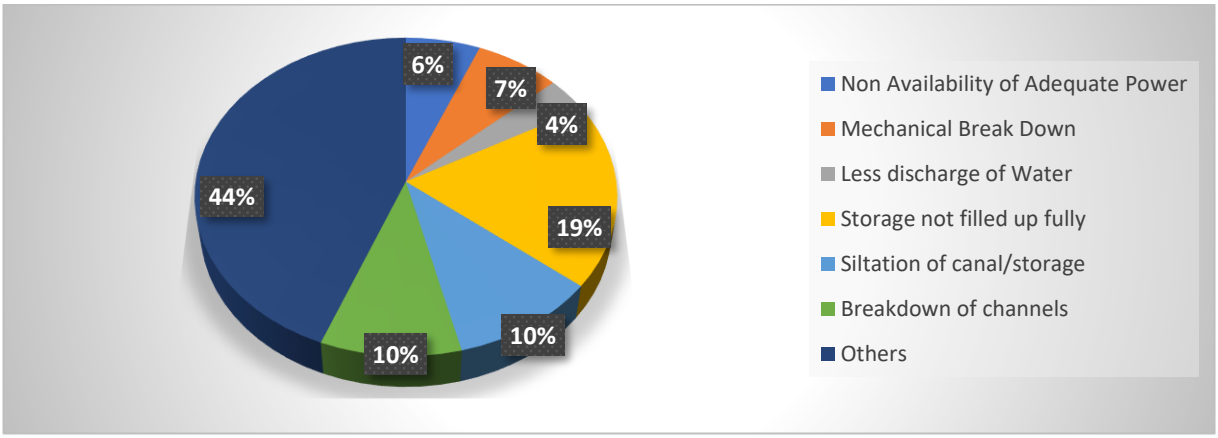


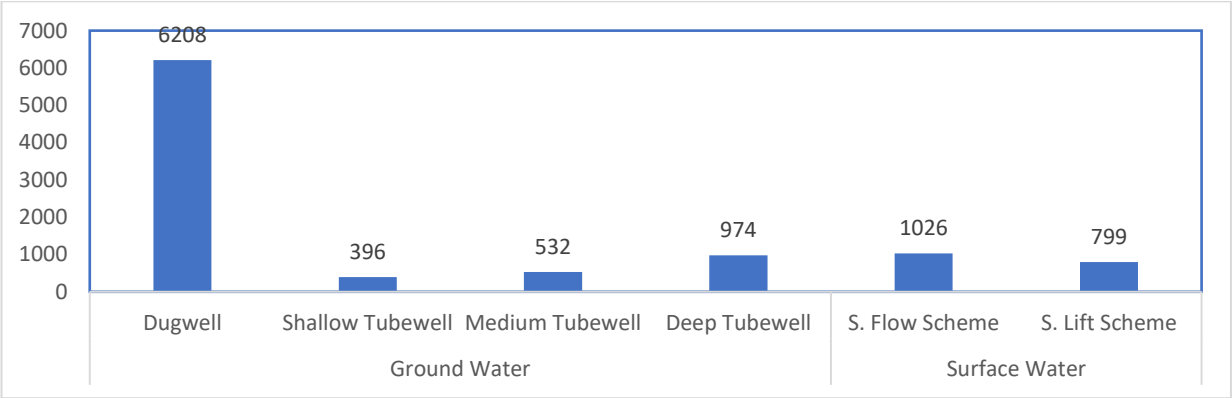
Chart 20: Percentage distribution of Surface Water schemes by reason for underutilisation



8. Status of Ground Water Recharge

8.1. In Odisha, Ground-water recharge was undertaken through 9935 Minor Irrigation schemes, out of which 8,110 from Ground Water Schemes and remaining 1,825 from Surface Water schemes, are shown in chart 21.

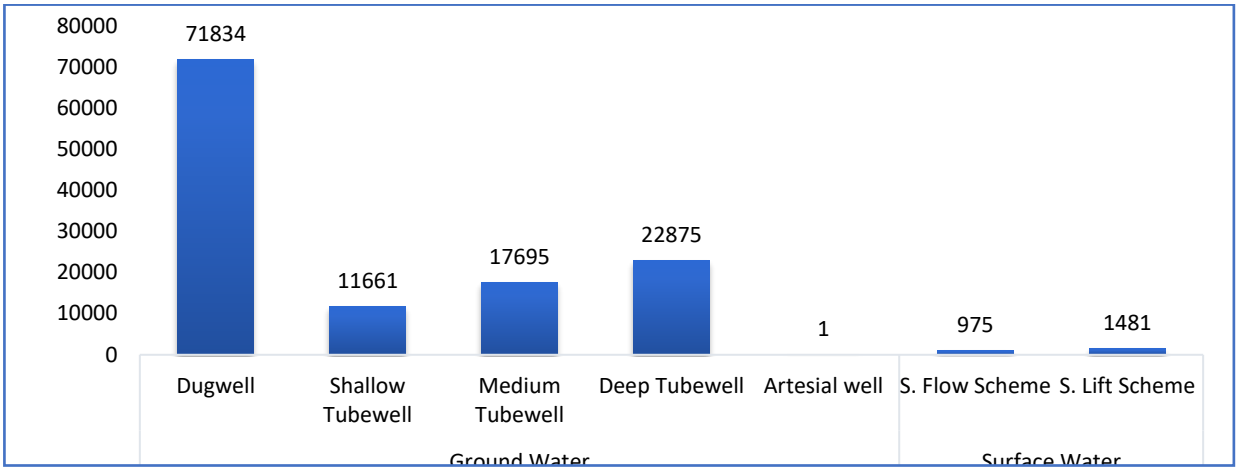
Chart 21: Number of Schemes used for Ground Water Recharge



9. Number of Schemes used for drinking

9.1. As per the 7th MI Census, 1,24,066 ground water schemes and 2,456 surface water schemes were used for drinking water purposes, indicating the key role of ground water schemes for providing drinking water in the state of Odisha, are shown in chart 22.

Chart 22: Number of MI Schemes used for drinking



Key Parameters of 7th MI Census — Odisha

Parameter		Unit	Value	%
Number of Schemes	Dug wells	No.	2,05,176	45,64
	Shallow Tubewell	No.	34,313	7.63
	Medium Tubewell	No.	47,266	10.51
	Deep Tubewells	No.	71,450	15.89
	Artesian Well	No.	6	0.001
	Ground Water schemes	No.	3,58,211	79.68
	Surface Flow	No.	30,933	6.88
	Surface Lift	No.	60,390	13.43
	Surface Water schemes	No.	91,323	20.32
	Total schemes	No.	4,49,534	**100.0**

			GW	SW	Total	Percentage
CCA, IPC and IPU	CCA	Ha	570378.90	544981.77	1115360.67	
	IPC	Ha	780464.46	738193.70	1518658.16	
	IPU	Ha	482487.26	486186.84	968674.10	
	IPC of In Use schemes	Ha	651567.36	628952.86	1280520.22	
	IPU of In Use schemes	Ha	456547.04	459979.05	916526.10	
	% Ratio of IPU to IPC	Ha	61.82%	65.86%	63.78%	
	Gap in IPC and IPU	Ha	195020.32	168973.80	363994.12	
Ownership	Individual ownership	No.	322206	46300	368506	81.98
	Group of Farmers	No.	9424	10783	20207	4.50
	Public owned	No.	17243	19107	36350	8.09
	Co-Operative Owned	No.	711	650	1361	0.30

	Panchayat Owned	No.	6700	13058	19758	4.40
	Others	No.	1927	1425	3352	0.75
	Total	No.	358211	91323	449534	100.00

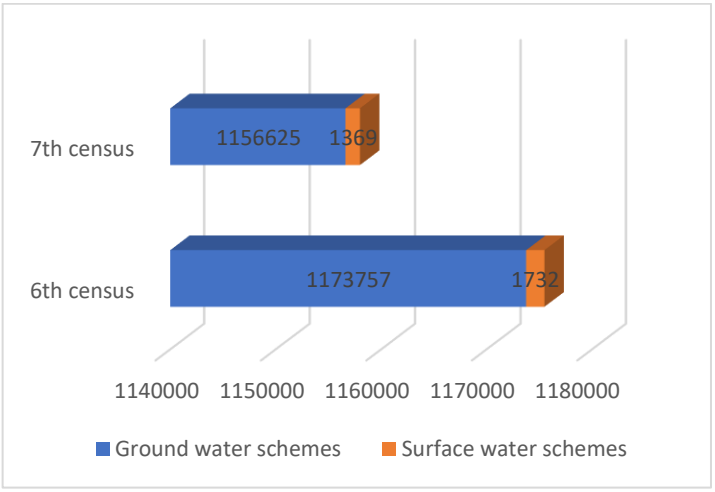
Water Distribution methods (In Use schemes)	**Open Water Channel (Lined/Pucca)**	**No.**	**21834**	**7143**	**28977**	**7.61**
	Open Water Channel (unlined/kutcha)	No.	45798	19671	65469	17.18
	Underground pipe	No.	14583	5458	20041	5.26
	Surface Pipe	No.	196618	42954	239572	62.88
	Drip	No.	2706	315	3021	0.79
	Sprinklers	No.	370	100	470	0.12
	Others	No.	20516	2942	23458	6.16
	Total	No.	302425	78583	381008	100.00

2.18 PUNJAB

1. Number of MI Schemes

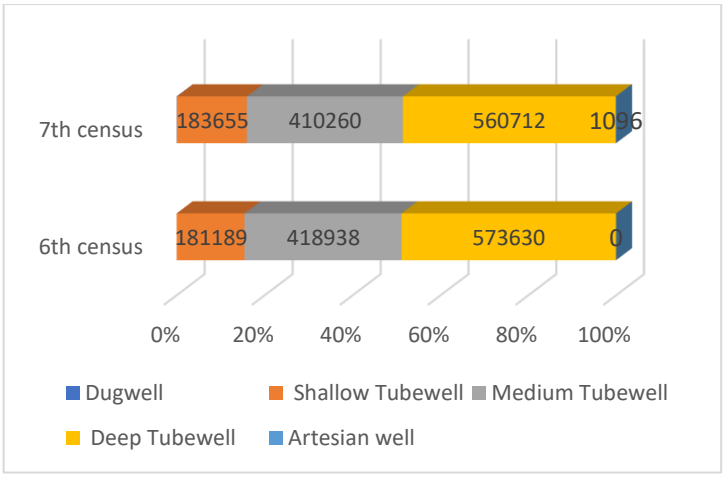
1.1 Punjab reported **11,57,994** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **99.88% (11,56,625 schemes)** are Ground Water schemes and the remaining **0.12% (1,369 schemes)** are Surface Water schemes. It reflects that Ground Water schemes are prominent in Punjab owing to the topography of the region. A comparison with the 6th Minor Irrigation Census reveals **1.49% decrease** in the total number of schemes, from **11,75,489** in the 6th Census to **11,57,994** in the 7th Census. This may be due to reduction of agricultural land on account of urbanisation and industrialisation.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



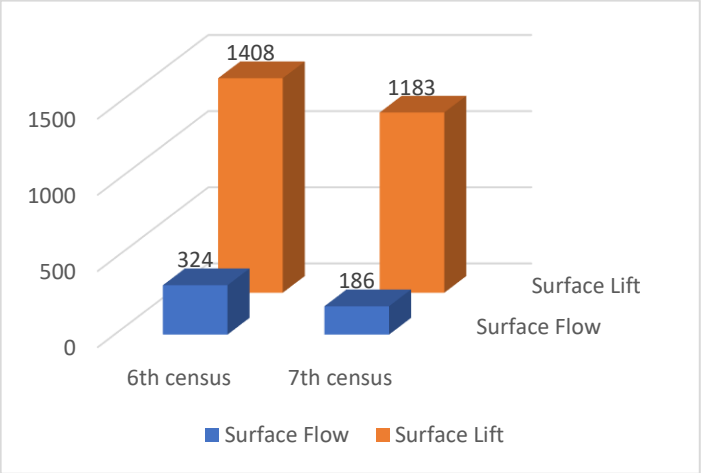
1.2 Within the Ground-water category, the increase was primarily driven by Dugwell, Shallow tubewell and Artesian well which is shown in the chart given below.

Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



1.3 Surface water schemes decrease significantly from 1,732 to 1,369 schemes and they continued to account for less than 1% of the total schemes. Within this category, Surface Lift Schemes remained the predominant type, decreasing from 1,408 to 1,183 schemes.

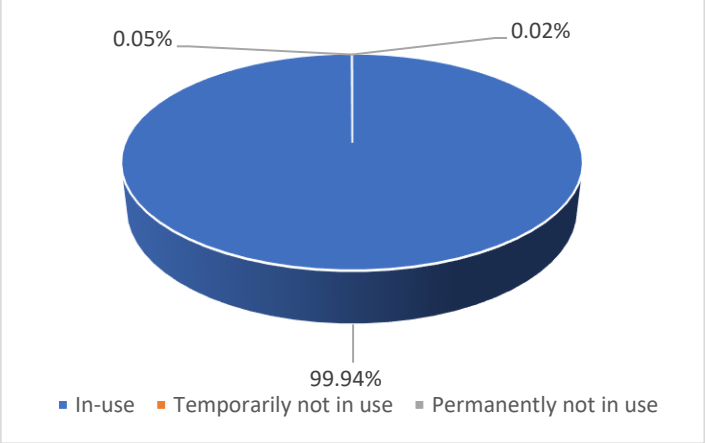
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 Out of the total 11,57,994 MI schemes, **99.94%** are currently 'In Use', **0.05%** are 'Permanently Not In Use', and **0.02%** are 'Temporarily Not In Use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

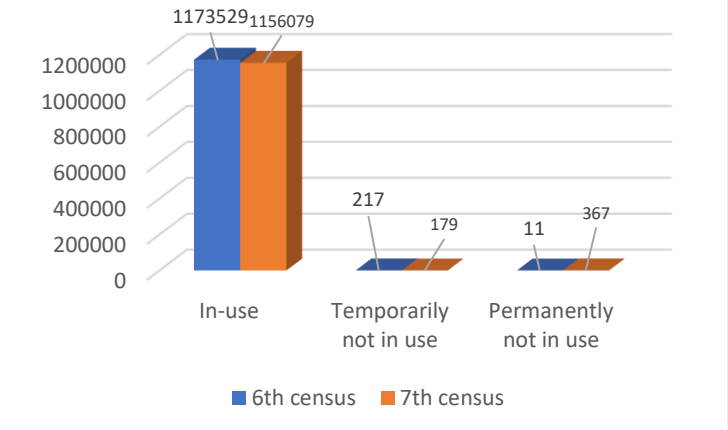
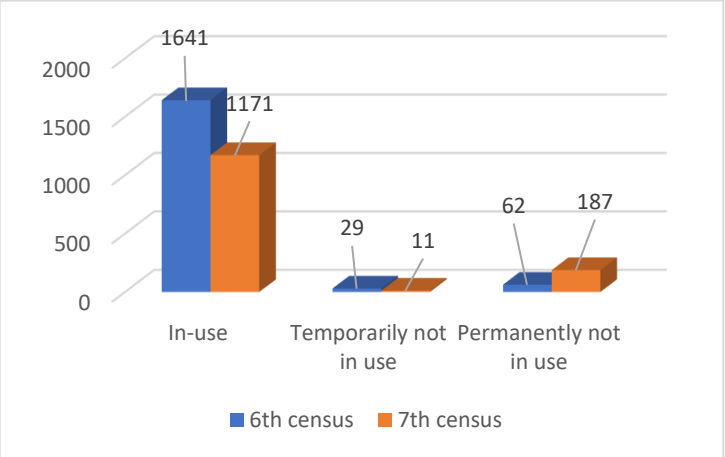


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

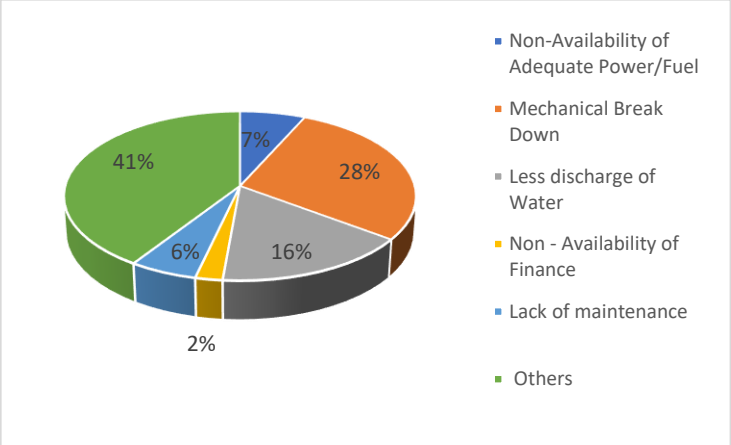


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, a total of 179 Ground-water (GW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes is shown in chart 7.

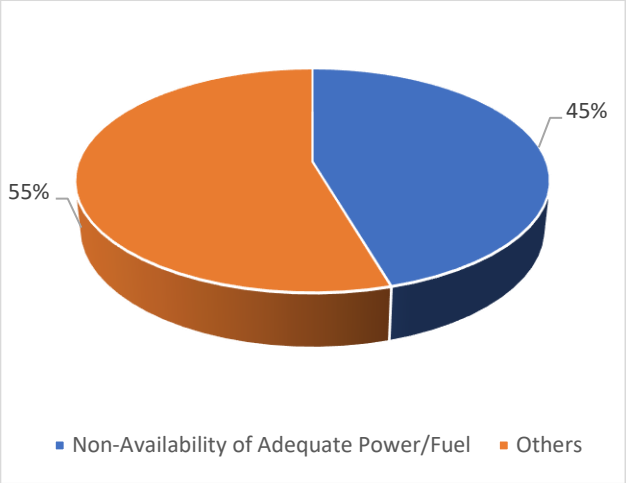
Chart 7: Reasons wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, a total of 11 surface water (SW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water schemes is shown in chart 8.

Chart 8: Reason- wise percentage share of 'Temporarily Not-In Use' Surface Water Schemes



3.3 Reason of 'Permanently Not In Use' GW Schemes

As per 7th Census, a total of 367 Ground-water (GW) schemes were reported 'Permanently Not in Use'. Reason wise percentage distribution of 'Permanently Not-In Use' GW Schemes and SW Schemes is given in chart 9 and chart 10 below.

Chart 9: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes

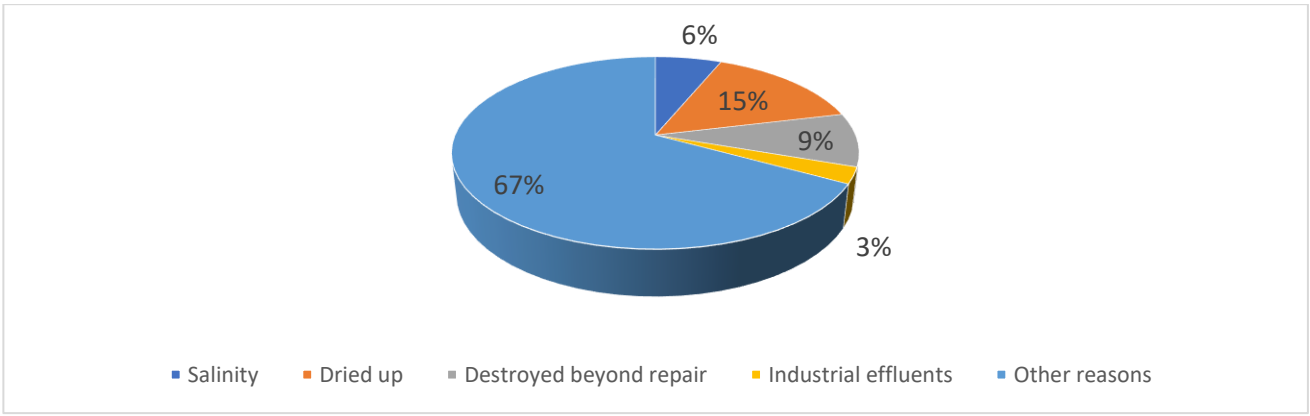
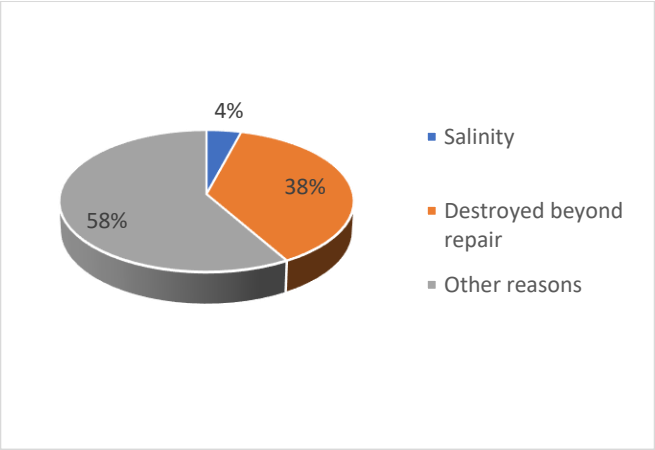


Chart 10: Reason wise percentage distribution of 'Permanently Not-In Use' Surface Water Schemes



4. Ownership of MI Schemes

4.1 Out of **11,57,994** MI schemes in Punjab, 98.8% are owned by Individual Farmers and group of farmers. This shows that farmers are getting maximum benefit from MI schemes. Ownership Categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers), are shown in Charts 11, 12 and 13 respectively.

Chart 11: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

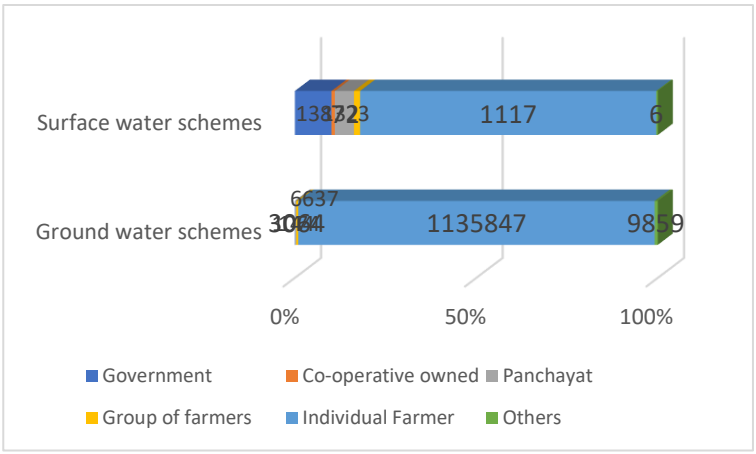


Chart 12: Ownership of Ground Water Schemes (Number)

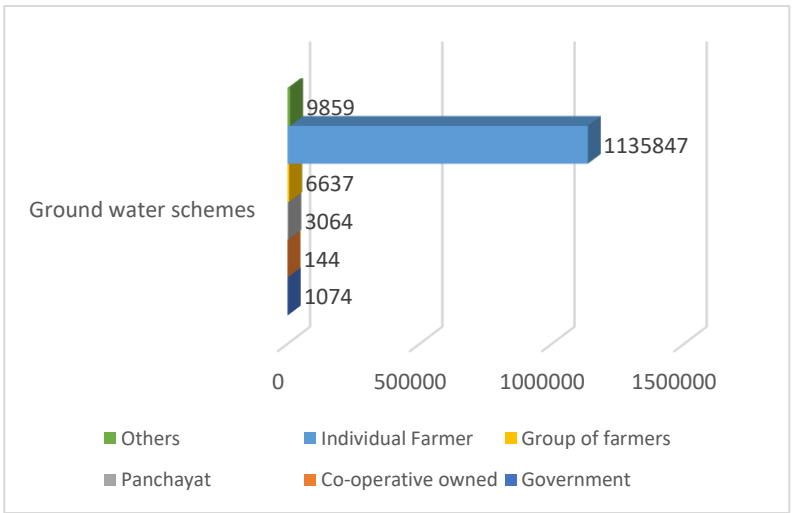
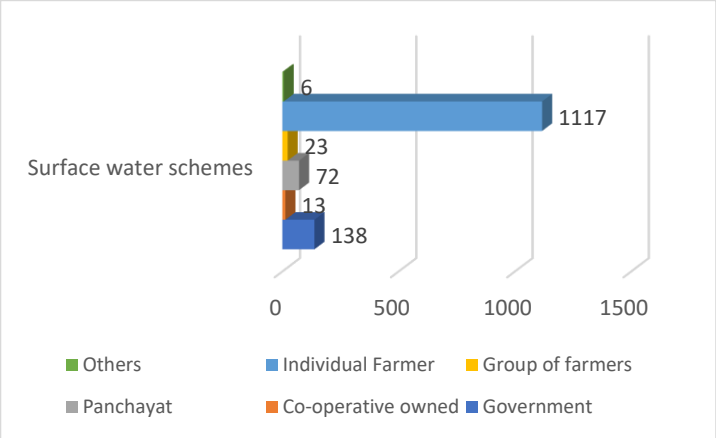


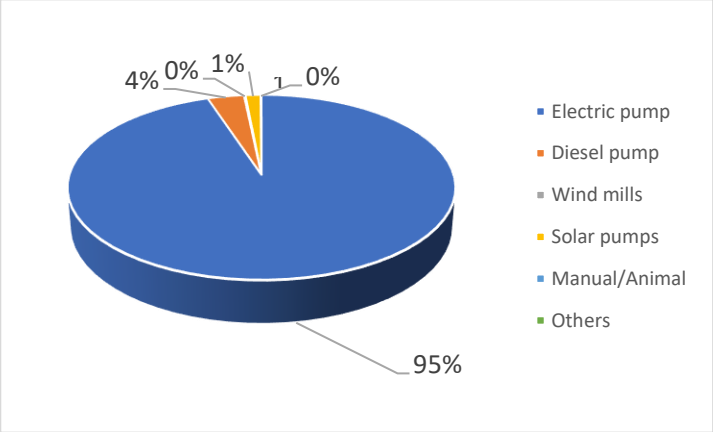
Chart 13: Ownership of Surface Water Schemes (Number)



5. Source of Energy

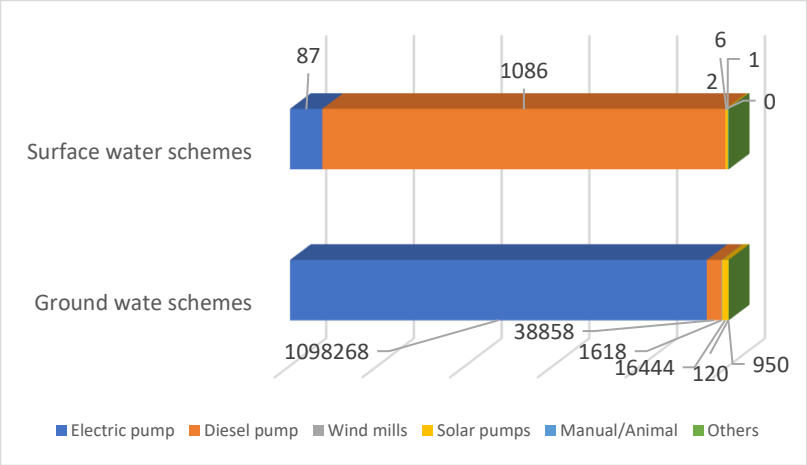
5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. The distribution of Minor Irrigation (MI) schemes in Punjab is dominated by electric pumps, accounting for **94.9%** of total schemes. Diesel pumps constitute **3.45%**, while solar pumps account for **1.42%**. Wind mills, manual/animal-operated systems and other sources together form less than **0.23%**, indicating heavy dependence on electricity for irrigation (see Chart 14 below)

Chart 14: Percentage distribution of MI schemes by Source of Energy



5.2 Percentage of surface lift and ground water irrigation scheme by source of energy is given in chart No. 15.

Chart 15: Number of Ground Water vs Surface Water Schemes by Source of Energy



6. Water Distribution Methods

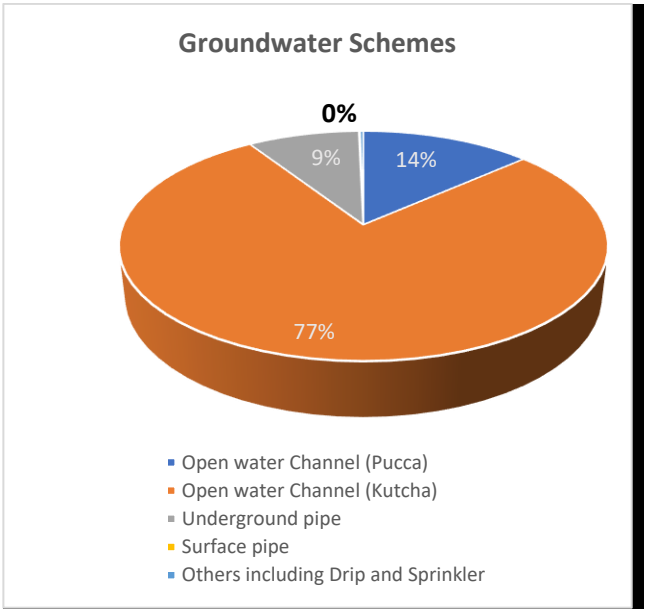
6.1. As per the 7th MI Census, within the groundwater schemes, kutcha open water channels are the most prevalent, with 8.94 lakh schemes (77.30%), followed by pucca open channels at 13.43%.

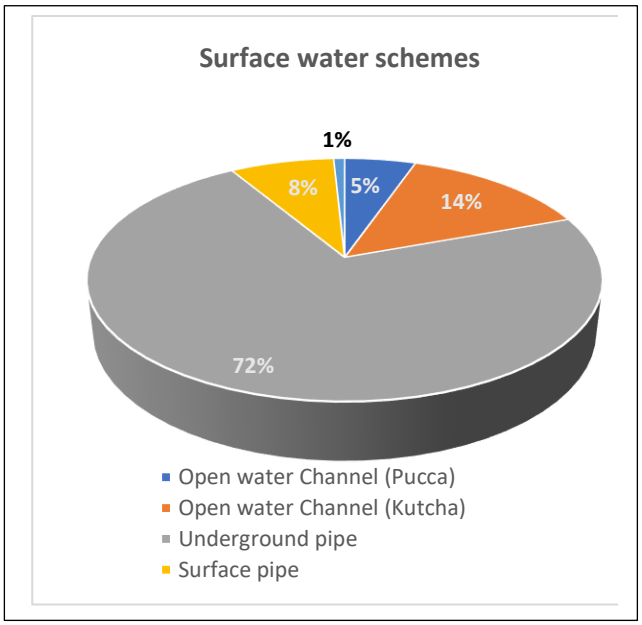
6.2 Surface-water schemes are concentrated mainly in underground pipes, which constitute about 71.96% of all surface-water schemes, while drip and sprinkler systems are negligible.

6.3 Open water channels dominate groundwater distribution, with kutcha channels alone accounting for the largest share, indicating extensive reliance on traditional surface conveyance within groundwater irrigation.

6.4 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 16 below.

Chart 16: Percentage distribution of Ground Water and Surface Water Schemes by type of Water Distribution Methods



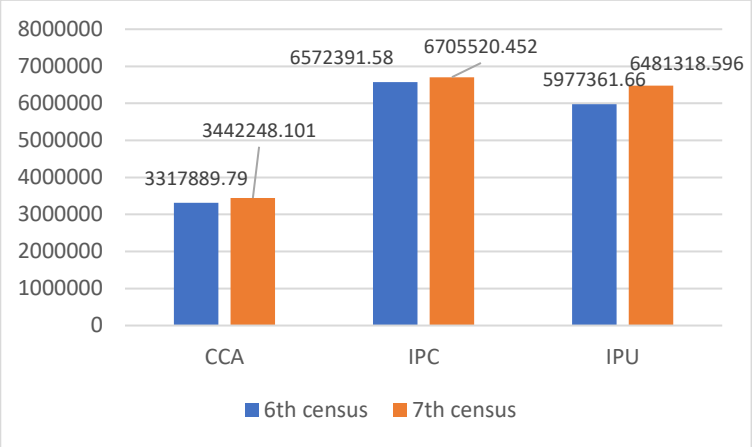


7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 Between the 6th and 7th MI Census, the Culturable Command Area (CCA), Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU) increased by 3.75%, 2.03% and 8.43%, respectively.

7.2 Along with the rise in absolute values, the IPU-to-IPC ratio increased from approximately 91.0% in the 6th Census to 96.7% in the 7th Census.

Chart 17: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census



8. Underutilization of 'In Use' Schemes

8.1 It is observed in the previous rounds of MI censuses that many 'In Use' schemes remain underutilized due to various constraints. As per the 7th MI Census, 31,329 schemes out of 11,57,413 'In Use' schemes in Punjab were underutilized for various reasons, while the remaining 97.3% of the 'In Use' schemes were functioning without any reported constraints.

8.2 Out of 11,56,079 'In Use' Ground-water schemes, only 31,316 schemes were under-utilised on account of reasons given in chart 19. As per the 7th Census, out of 1334 'In Use' SW schemes, only 13 SW schemes were reported as underutilised.

8.3 Power availability is a significant constraint for groundwater schemes, accounting for 50% of underutilized schemes, while channel breakdown contributes another 31%, indicating the importance of both energy and infrastructure-related constraints.

8.4 The percentage distribution of Surface Water schemes by reason for underutilisation is shown in the chart 18.

Chart 18: Percentage distribution of Surface Water schemes by reason for underutilisation

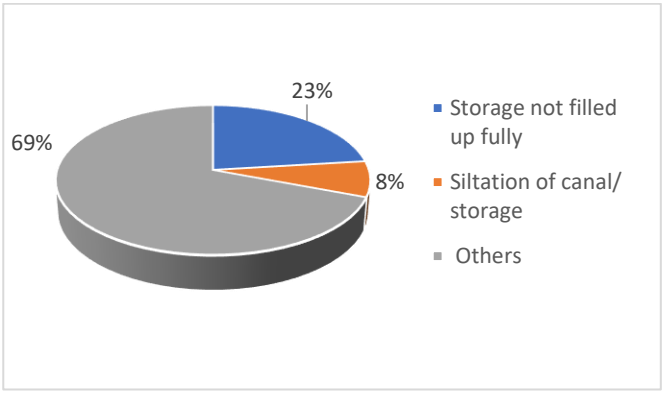
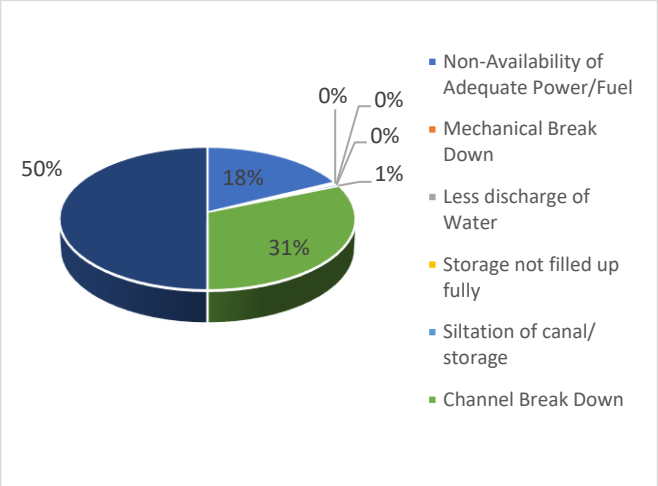


Chart 19: Percentage distribution of Ground Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 1,454 irrigation schemes, 32 of which were surface water schemes and 1,422 of which were ground water schemes, indicating that Ground-water recharge activities were carried out predominantly through ground water schemes.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 63,720 Minor Irrigation schemes, constituting about 5.5% of the total schemes in Punjab, were also used for drinking water supply, with Ground Water schemes being the primary source.

Key Parameters of 7th MI Census — Punjab

Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	902			0.078
	Shallow Tubewell	No.	1,83,655			15.88
	Medium Tubewell	No.	4,10,260			35.47
	Deep Tubewells	No.	5,60,712			48.48
	Artesian Well	No.	1,096			0.095
	Ground Water schemes	No.	**11,56,625**			99.88
	Surface Flow	No.	186			13.59
	Surface Lift	No.	1,183			86.41
	Surface Water schemes	No.	**1,369**			0.12
	Total schemes	No.	**11,57,994**			**100.0**
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	34,30,632.96	11,615.13	34,42,248.1	
	IPC	Ha	66,84,332.67	21,187.78	67,05,520.45	
	IPU	Ha	64,60,376.47	20,942.13	64,81,318.59	
	IPC of In Use schemes	Ha	66,83,188.44	21,142.45	67,04,330.89	

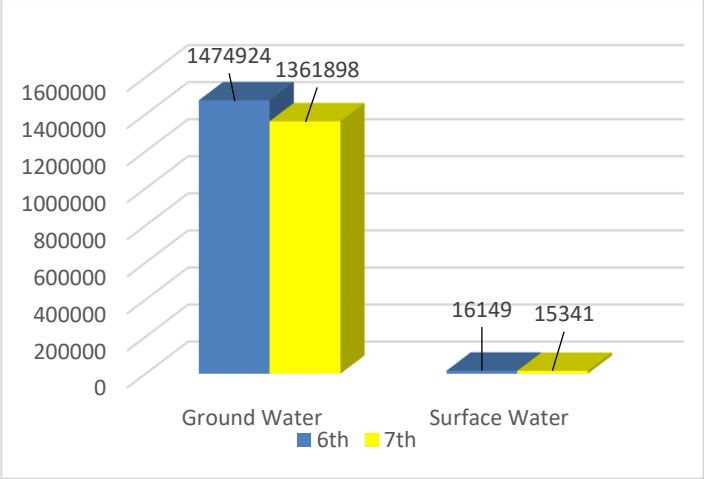
Parameter		Unit	Value			%
	IPU of In Use schemes	Ha	64,59,890.51	20,897.61	64,80,788.12	
	% Ratio of IPU to IPC		96.65%	98.841%	96.66%	
	Gap in IPC and IPU	Ha	2,23,956.2	245.65	2,24,201.86	
Ownership	Individual Farmer	No.	11,35,847	1,117	11,36,964	98.18
	Group of Farmers	No.	6,637	23	6,660	0.58
	Government	No.	1,074	138	1,212	0.105
	Co-Operative Owned	No.	144	13	157	0.01
	Panchayat Owned	No.	3,064	72	3,136	0.27
	Others	No.	9,859	6	9,865	0.85
	Total	No.	**11,56,625**	**1,369**	**11,57,994**	**100.0**
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	1,55,384	71	1,55,455	13.43
	Open Water Channel (unlined/kutcha)	No.	8,94,545	188	8,94,733	77.3
	Underground pipe	No.	1,01,985	960	1,02,945	8.89
	Surface Pipe	No.	1,182	104	1,286	0.11
	Drip	No.	59	0	59	~0.00
	Sprinklers	No.	78	0	78	~0.00
	Others	No.	2,846	11	2,857	0.25
	Total	No.	**11,56,079**	**1,334**	**11,57,413**	**100.0**

2.19 RAJASTHAN

1. Number of MI Schemes

1.1 Rajasthan reported **13,77,239** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **98.8% (13,61,898 schemes)** are Ground Water schemes and the remaining **1.2% (15,341 schemes)** are Surface Water schemes.

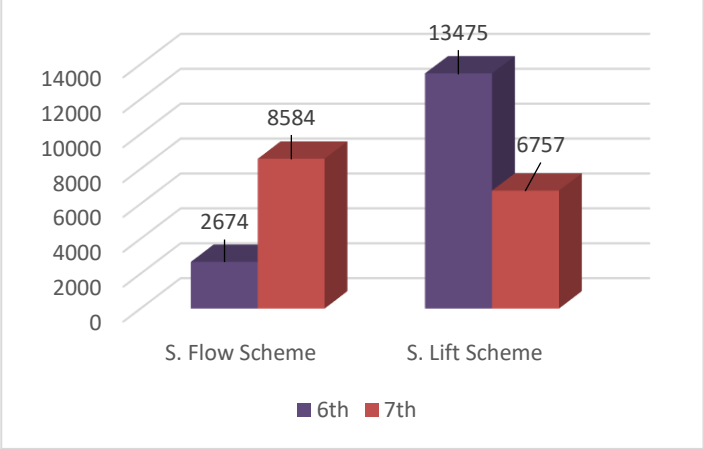
Chart 1: Number of Ground Water and Surface Water Schemes 6th vs 7th MI Census



1.2 A comparison with the 6th Minor Irrigation Census reveals a **decline** of 7.6% in ground water schemes in the State and a **decline** of 5% in the surface water schemes.

1.3 Surface flow schemes have been increased by 221% since the 6th MI census, surface lift schemes declined by about 50%.

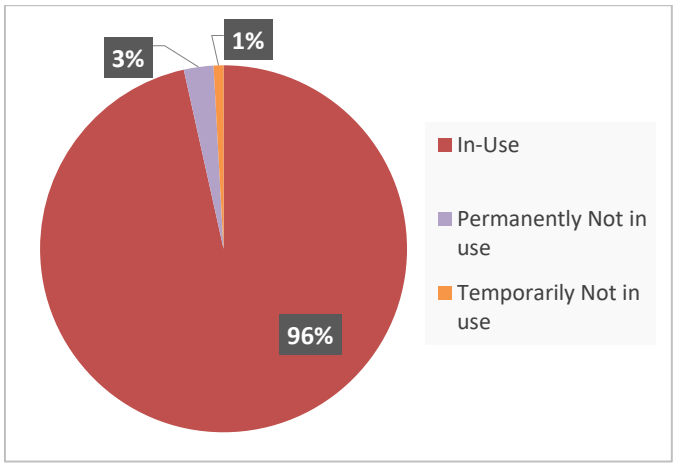
Chart 2: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

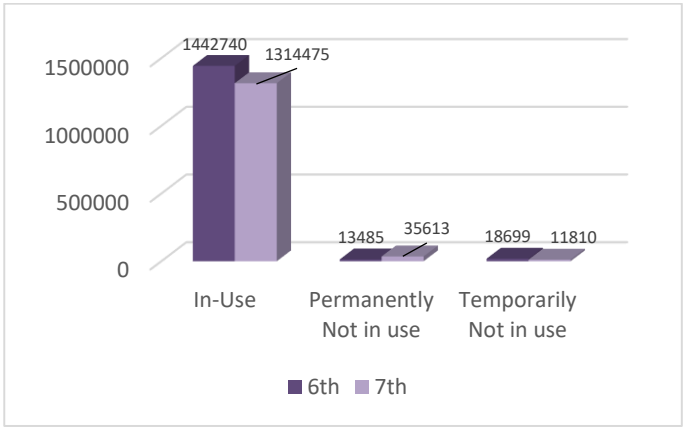
2.1 Out of the total **13,77,239** MI schemes, **96% (13,29,208) schemes** are currently 'In Use', **3% (35,902) schemes** are 'Permanently Not In Use', and **1% (12,129) schemes** are 'Temporarily Not In Use'.

Chart 3: Percentage Share of 7th MI Schemes by Usage Status



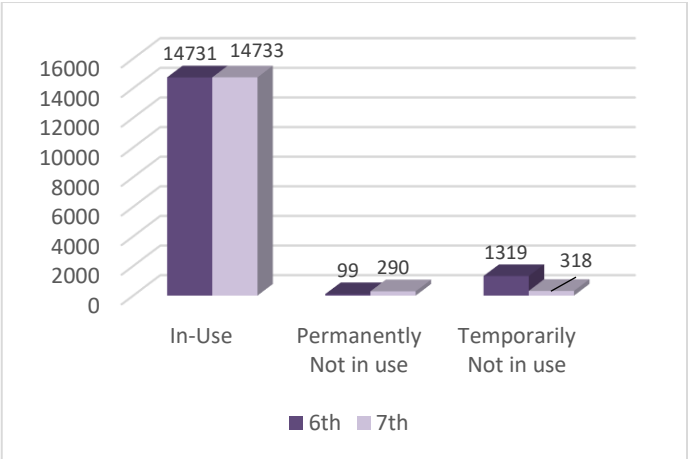
2.2 Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 4 and 5 respectively.

Chart 4: Number of Ground Water Schemes by Use status— 6th vs 7th MI Census



2.3 A comparison with 6th MI Census reveals that 'In-Use' ground water schemes in the State have declined by **8.8%,** Temporarily not in use schemes have declined by **36%**.

Chart 5: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census



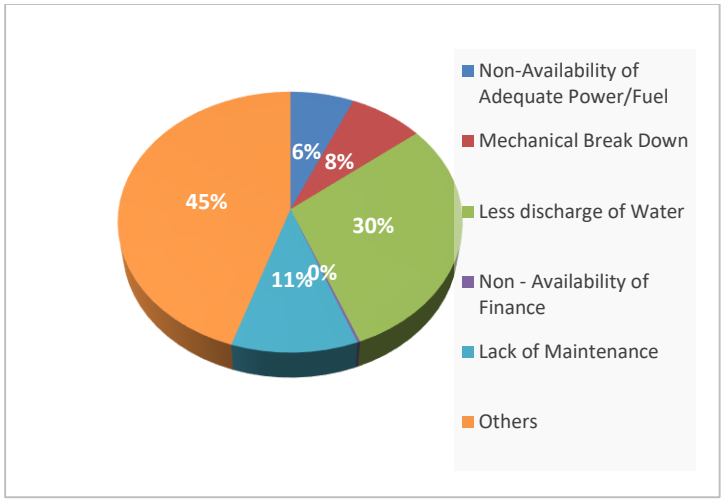
2.4 Surface Water schemes have shown a marginal increase in the 'in-use' schemes as compared to 6th MI Census.

3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, about 45% of water bodies are not in use due to other reasons like deforestation etc. 30% are temporarily not in use due to less discharge of water, 11% ground water schemes are not in use due to lack of maintenance, 8% because of mechanical breakdown and 6% due to non-availability of adequate power/fuel.

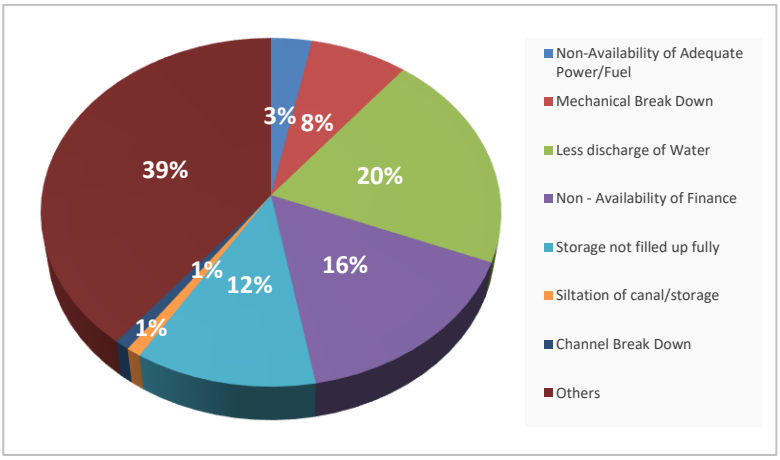
Chart 6: Reasons wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, 39% of the surface water bodies are temporarily not in use due to other reasons, 20% because of less discharge of water, 16% because of non-availability of finance, 12% because of storage bodies not filled up fully, 8% because of mechanical breakdown, 3% because of non-availability of adequate power/fuel, 1% due to siltation of canal/storage and 1% because of channel breakdown.

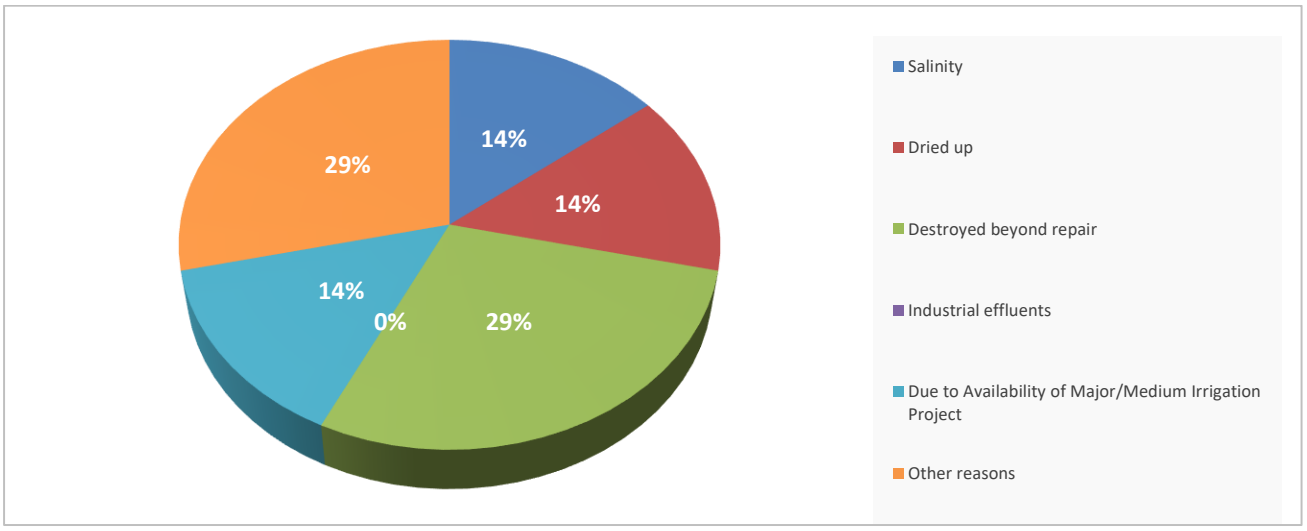
Chart 7: Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water Schemes



3.3 Reason of 'Permanently Not In Use' GW Schemes

As per 7th MI Census, approx. 29% of ground water schemes have become unusable because of destroyed beyond repair and other reasons each, rest because of discharge of industrial effluents, dried up, availability of Major/Medium Irrigation Projects and other reasons. Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes is shown in chart 8.

Chart 8: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes

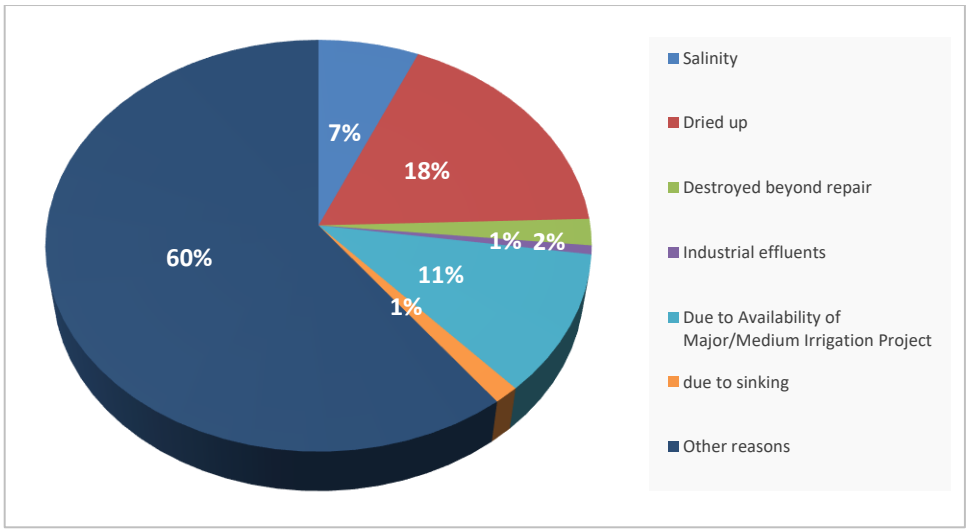


3.4 Reason of 'Permanently Not In Use' SW Schemes

As per 7th census, **60%** of surface water schemes have become unusable because of various other reasons like dried up because of high temperatures, availability of Major/Medium Irrigation

projects, and remaining have become unusable because of a variety of reasons including salinity, destroyed beyond repair, industrial effluents, due to sinking and other reasons.

Chart 9: Reason-wise percentage distribution of 'Permanently Not-In Use' Surface-water Schemes



4. Ownership of MI Schemes

4.1 Out of **13,77,239** MI schemes in Rajasthan, 83.8% of the Ground Water schemes are owned by group of farmers, highlighting collective private dominance on Ground water bodies, followed 13.8% owned by individual farmers and the rest being owned by Government bodies and Others. Among the Surface Water schemes 63.2% are owned by group of farmers, 22.3% by government bodies including public bodies (17.5%), cooperatives (0.2%) and panchayat (4.6%), 11.2% are owned by individual farmers, remaining 3.3% of surface water bodies are owned by Other bodies. Ownership Categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers), are shown in Charts 10, 11 and 12 respectively.

Chart 10: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

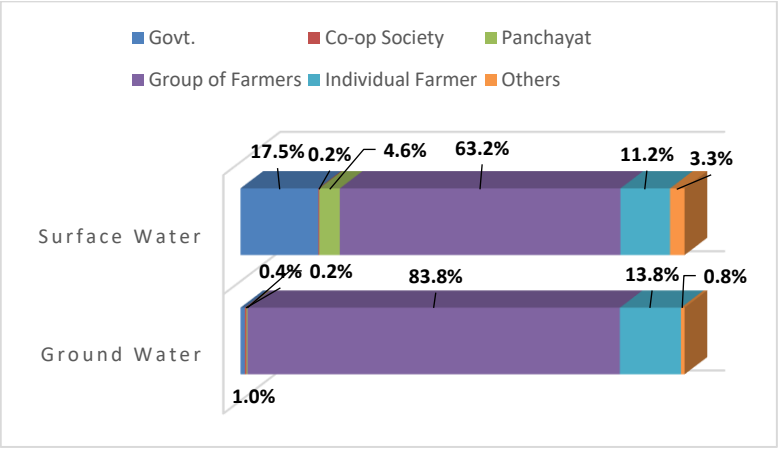


Chart 11: Ownership of Ground Water Schemes (Number)

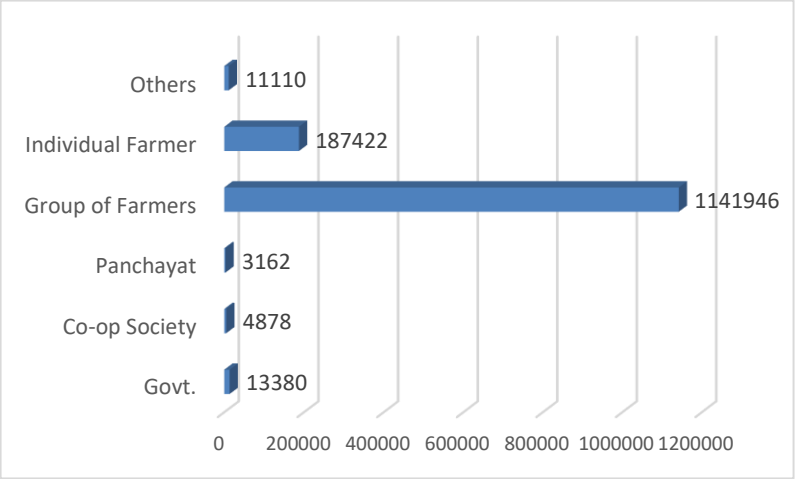
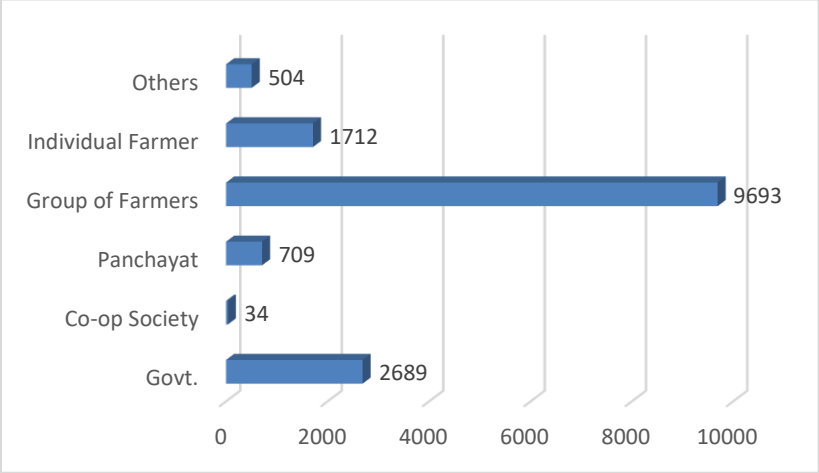


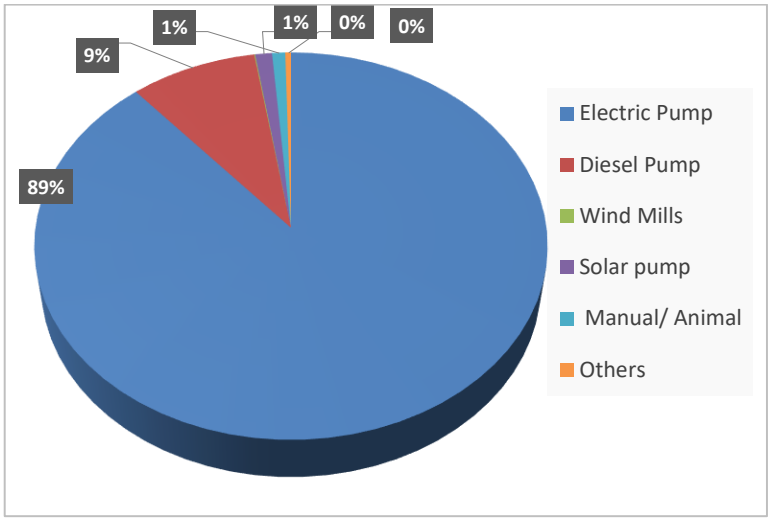
Chart 12: Ownership of Surface Water Schemes (Number)



5. Source of Energy

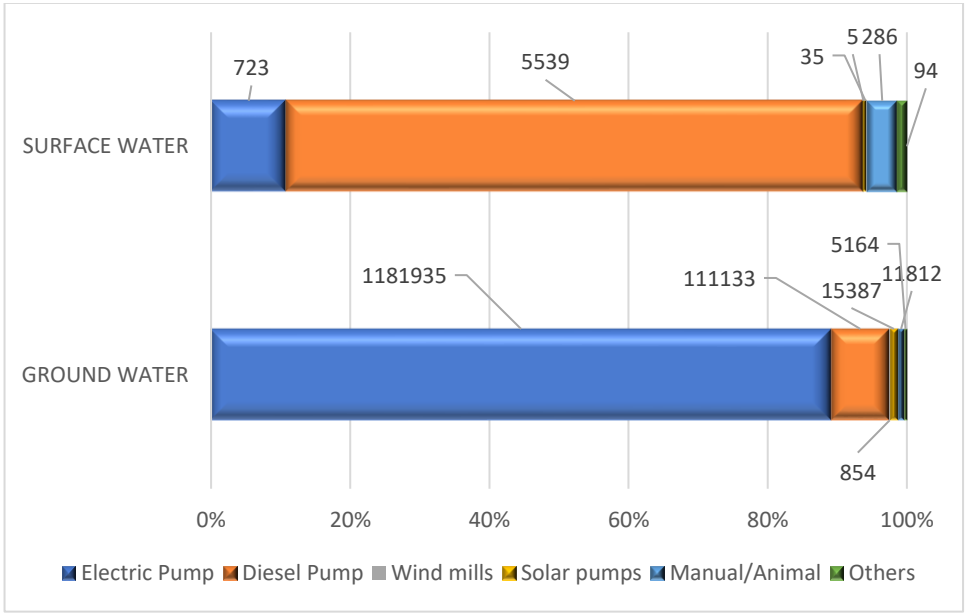
5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. Out of them, majority of schemes (89%) are using electric pump. Around 9% uses diesel pump, 1% uses solar pump, 1% uses manual or animal sources of energy, and a very small number of them uses sources of energy like wind mills and other sources of energy.

Chart 13: Percentage distribution of MI schemes by Source of Energy



5.2 Number of surface lift and ground water irrigation schemes by source of energy is given in chart 14.

Chart 14: Number of Ground Water vs Surface Water Schemes by Source of Energy



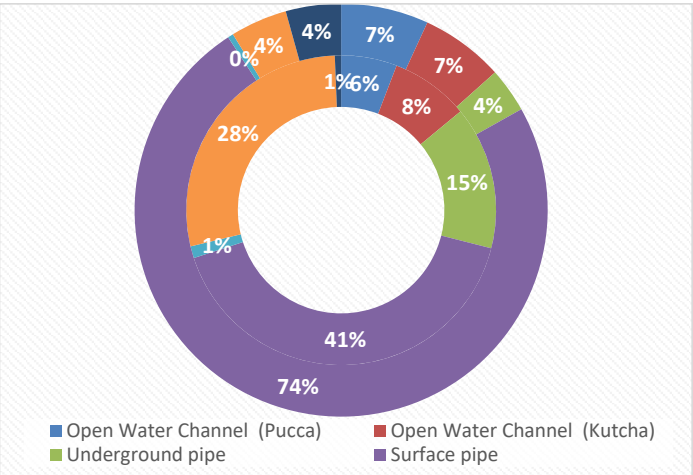
6. Water Distribution Methods

6.1. As per the 7th Census, out of total of 13,29,208 'In Use' schemes, 13,14,475 (98.8%) were Ground Water schemes while only 14,733 (1.2%) were Surface Water schemes. In terms of water distribution method for Ground water schemes, Surface pipe was the predominant mode of water distribution, accounting for 41% of the total, followed by Sprinkler accounting for 28% of the total, underground pipe accounted for 15% of the total, Open Water Channel (kutcha) accounted for 8% of the total, Open water Chanel (Pucca) accounted for 6% of the total and remaining Ground Water schemes used other methods of distribution.

6.2. Among Surface Water schemes, Surface pipe was the majorly use water distribution method accounting for 74% of the total, followed by 7% using Open water channel (unlined/kuctha), another 7% using Open water channel (pucca), 4% used underground pipe, 4% used sprinkler, and remaining 4% used other water distribution methods.

6.3 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 15 below.

Chart 15: Percentage distribution of Ground Water (inner ring) and Surface Water (outer ring) Schemes by type of Water Distribution Methods

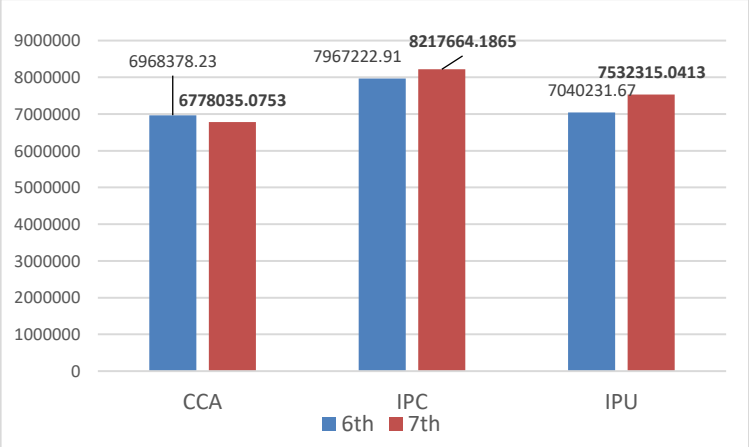


7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 There has been a decline in the Culturable Command Area (CCA), it has declined by 2.73% in Rajasthan in comparison to 6th MI Census. But there has been increase in Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU). Irrigation Potential Created have increased by 3.14% and Irrigation Potential Utilised have also increased by 6.9%.

7.2 The IPU-to-IPC ratio improved from 0.88 (88%) in the 6th Census to 0.91 (91%) in the 7th Census, indicating a higher level of utilisation of the Irrigation Potential Created.

Chart 16: CCA, IPC and IPU **for all MI Schemes — 7th vs 6th MI Census**



8. Underutilization of 'In Use' Schemes

8.1 In Rajasthan, 31,142 (2.3%) Ground water scheme remain underutilized out of the 13,14,475 In Use ground water schemes indicating a small portion of ground water bodies were underutilized, indicating high efficient use of ground water schemes. 38% of the schemes were under-utilized because of other reasons, 29% were under-utilized due to less discharge of water, 22% were under-utilised because of non-adequate fuel, 6% were under-utilized because of mechanical breakdown, 4% were under-utilized because of lack of maintenance, and the remaining 1% were under-utilised because of lack of finance.

8.2 Out of 14,733 Surface water schemes, **2.3% (**342) were underutilised which is relatively a lower number. 43% of surface water schemes were underutilized because of other reasons, storage was not filled to their full levels for about 29% of such water bodies, 13% were under-utilised because of inadequate power, 6% because of siltation of storage/canal, 4% because of less discharge of water, 3% because of breakdown of channels, 2% because of mechanical breakdown.

Chart 17: Percentage distribution of Ground Water schemes by reason for underutilisation

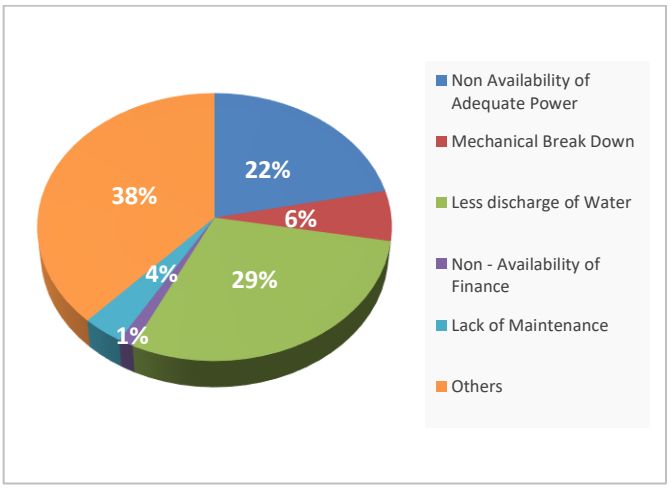
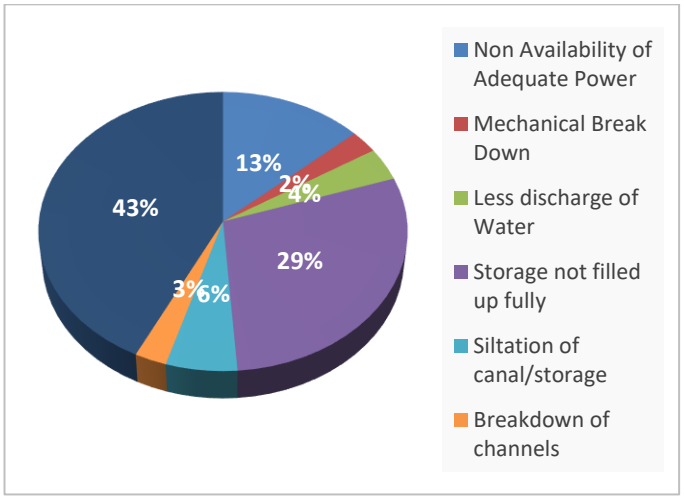


Chart 18: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 18,829 ground water schemes and 856 surface water schemes, indicating ground water schemes played a key role in ground water recharge.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 276630 ground water schemes and 783 surface water schemes were used for drinking water purposes, indicating the key role of ground water schemes for providing drinking water in the state of Rajasthan.

Key Parameters of 7th MI Census — Rajasthan

Parameter		Unit	Value			%
Number of Schemes	**Ground Water schemes**	No.	1361898			98.89
	Surface Flow	No.	8584			0.62
	Surface Lift	No.	6757			0.49
	Surface Water schemes	No.	15341			1.11
	Total schemes	No.	1377239			**100.0**
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	6538260.18	239774.9	6778035.07	
	IPC	Ha	7967415.18	250249.0107	8217664.18	
	IPU	Ha	7299281.83	233033.214	7532315.04	
	IPC of In Use schemes	Ha	7908010.268	246128.8	8154139.068	
	IPU of In Use schemes	Ha	7283446.672	231973.7718	7515420.444	
	% Ratio of IPU to IPC	Ha	91.61%	93.12%	91.66%	
	Gap in IPC and IPU	Ha	668128.349	17215.7967	685344.128	
Ownership	Individual ownership	No.	187422	1712	189134	13.7
	Group of Farmers	No.	1141946	9693	1151638	83.6
	Public owned	No.	13380	2689	16069	1.2
	Co-Operative Owned	No.	4878	34	4912	0.4
	Panchayat Owned	No.	3162	709	3871	0.3
	Others	No.	11110	504	11615	0.8
	Total	No.	1361898	15341	1377239	**100.0**
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	76657	1010	77667	5.84
	Open Water Channel (unlined/kutcha)	No.	107323	961	108284	8.14

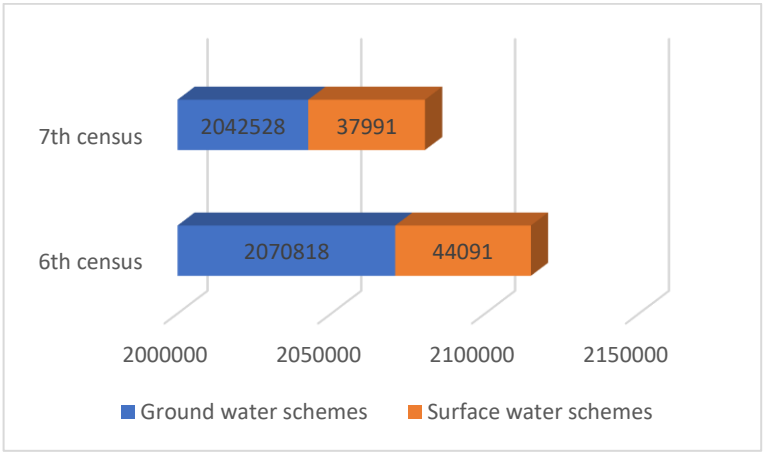
Parameter		Unit	Value			%
	Underground pipe	No.	196739	515	197254	14.83
	Surface Pipe	No.	539379	10890	550269	41.39
	Drip	No.	16337	64	16401	1.23
	Sprinklers	No.	369450	656	370106	27.84
	Others	No.	8590	637	9227	0.69
	Total	No.	1314475	14733	1329208	**100.0**

2.20 TAMIL NADU

1. Number of MI Schemes

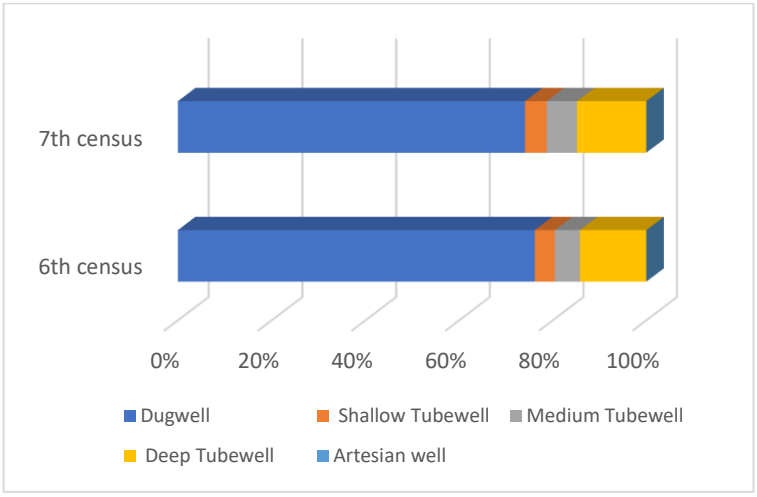
1.1 Tamil Nadu reported **20,80,519** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **98.17% (20,42,528 schemes)** are Ground Water schemes and the remaining **1.83% (37,991 schemes)** are Surface Water schemes. A comparison with the 6th Minor Irrigation Census reveals **1.63% decrease** in the total number of schemes, from **21,14,909** during 6th Census to **20,80,519** in the 7th Census.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



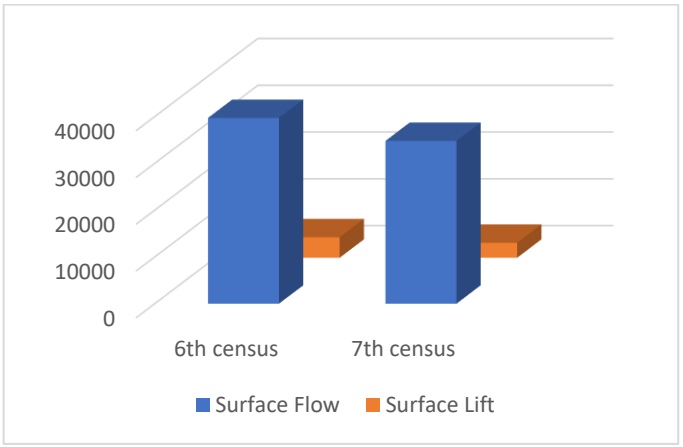
1.2 Ground-water schemes account for 98% of the total number of schemes, decreased from 20,70,818 during 6th census to 20,42,528 in 7th census. Within the Ground-water category, the increase was primarily driven by Dugwells which is shown in the chart 2given below.

Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



1.3 Surface water schemes decreased significantly from 44,091 schemes during 6th census to 37,991 in 7th MI census. Within this category, Surface Flow Schemes remained the predominant type, decreasing from 39,711 to 34,802 schemes.

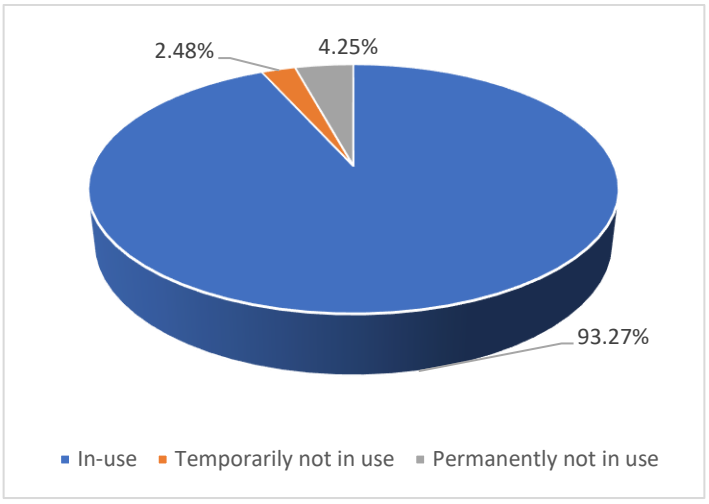
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 Out of the total 20,80,519 MI schemes, **93.27%** are currently 'In Use', **4.25%** are 'Permanently Not In Use', and **2.48%** are 'Temporarily Not In Use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

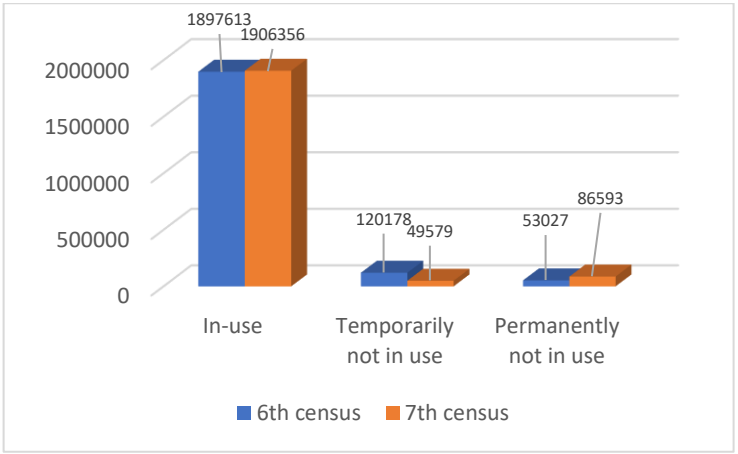
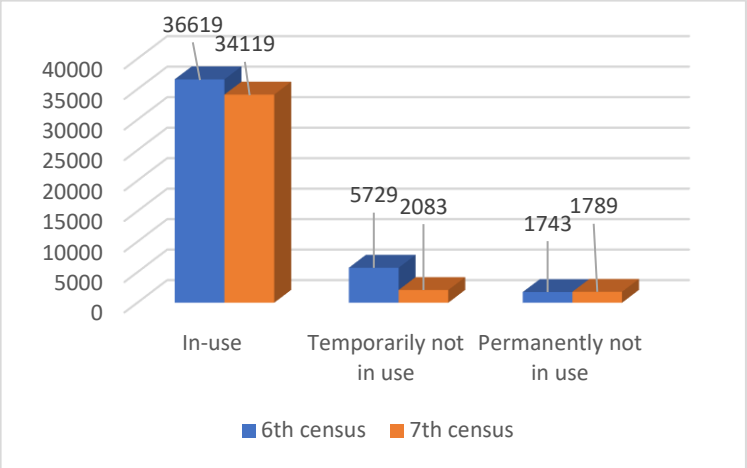


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

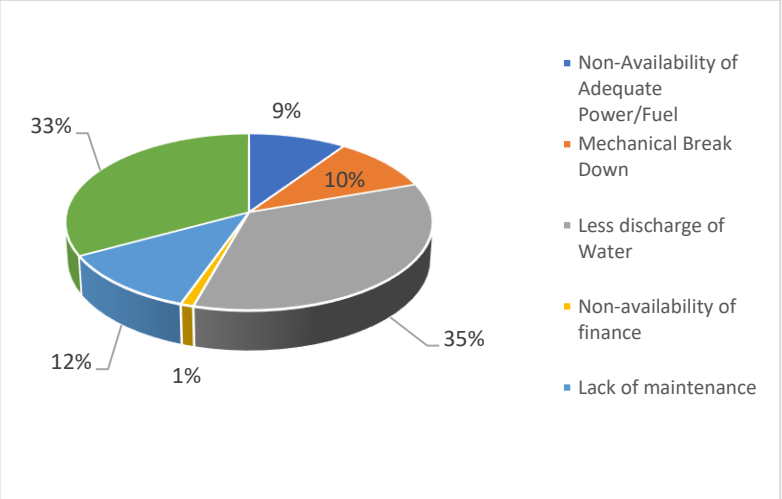


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, a total of 49,579 Ground-water (GW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes is shown in chart 7.

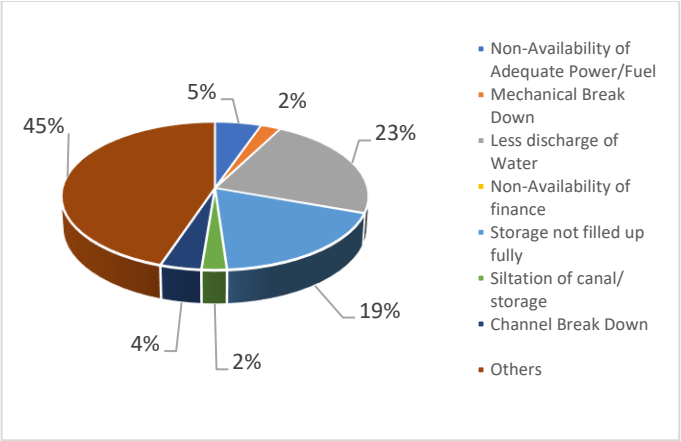
Chart 7: Reasons wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, a total of 2,083 surface water (SW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water schemes is shown in chart 8.

Chart 8: Reason- wise percentage share of 'Temporarily Not-In Use' Surface Water Schemes



3.3 Reason of 'Permanently Not In Use' GW Schemes

As per 7th Census, a total of 86,593 Ground-water (GW) schemes were reported 'Permanently Not in Use'. 'Reason wise percentage distribution of 'Permanently Not-In Use' GW Schemes and SW Schemes is given in chart 9 and chart 10 below.

Chart 9: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes

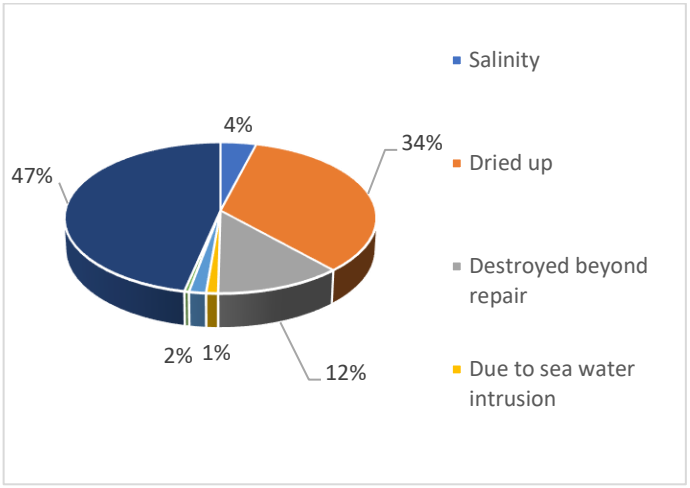
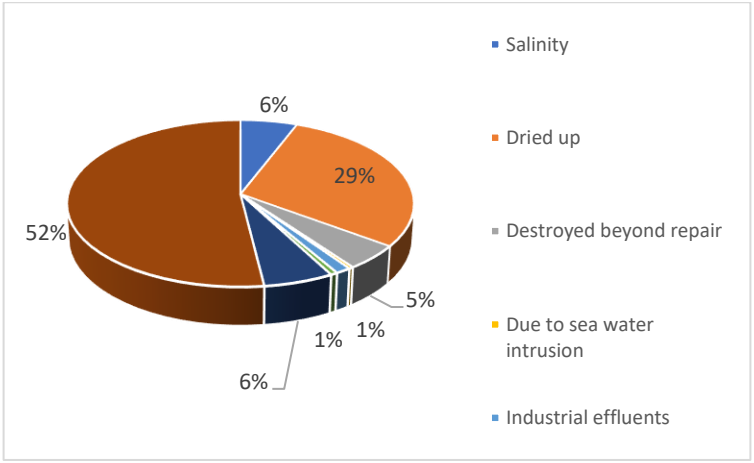


Chart 10: Reason wise percentage distribution of 'Permanently Not-In Use' Surface Water Schemes



4. Ownership of MI Schemes

4.1 Out of 20,80,519 MI schemes in Tamil Nadu, significant number of the schemes are owned by Individual farmers (58.2%) and Group of Farmers (38.4%). This shows that farmers are getting noticeable benefit from MI schemes. Ownership Categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers), are shown in Charts 11, 12 and 13 respectively.

Chart 11: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

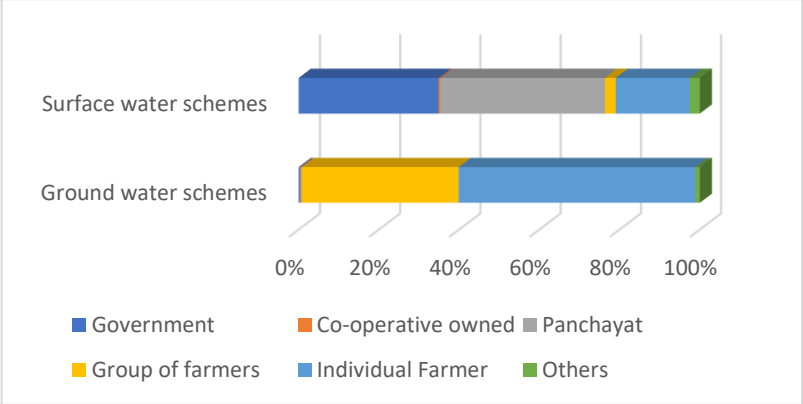


Chart 12: Ownership of Ground Water Schemes (Number)

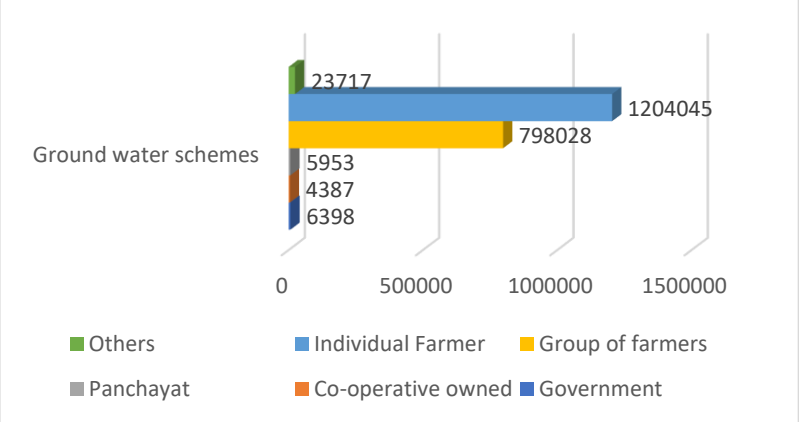
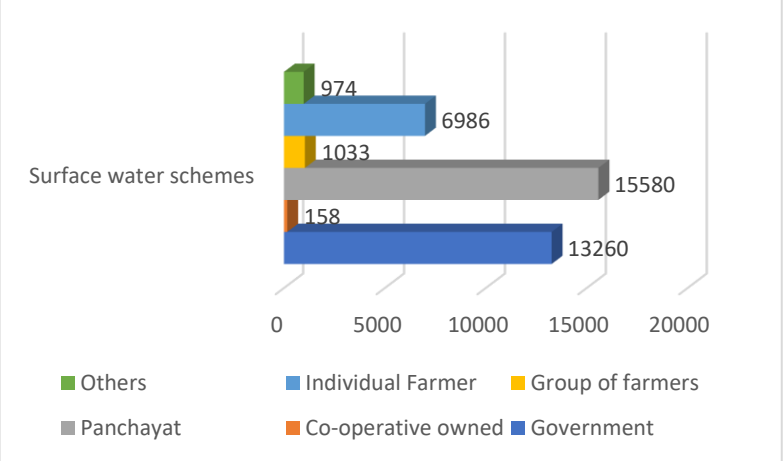


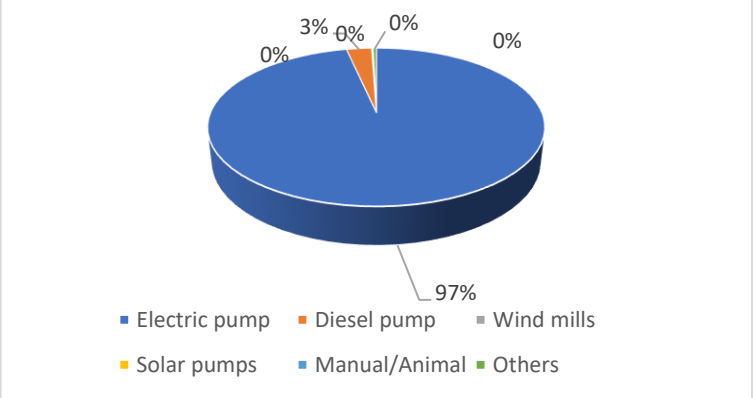
Chart 13: Ownership of Surface Water Schemes (Number)



5. Source of Energy

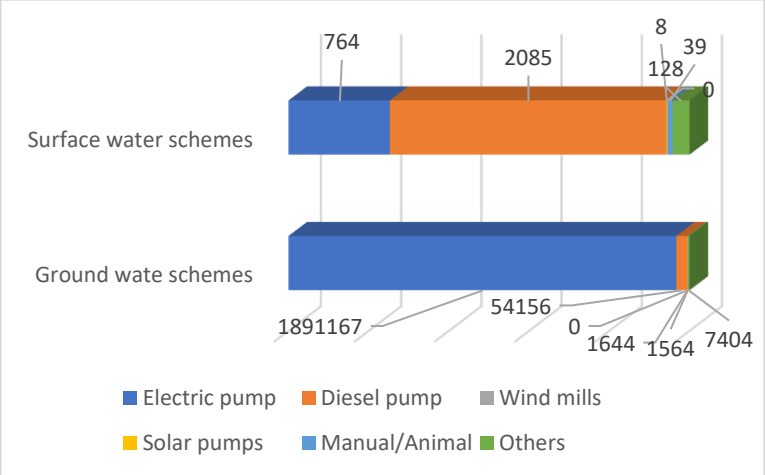
5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. The number of such schemes is 19,58,959. Out of these, majority of schemes (96.58%) are using Electricity as source of energy followed by Diesel pumps (2.87%) and Solar pumps (0.08%) in the 7th MI Census.

Chart 14: Percentage distribution of MI schemes by Source of Energy



5.2 Percentage of surface lift and ground water irrigation scheme by source of energy is given in chart 15.

Chart 15: Number of Ground Water vs Surface Water Schemes by Source of Energy



6. Water Distribution Methods

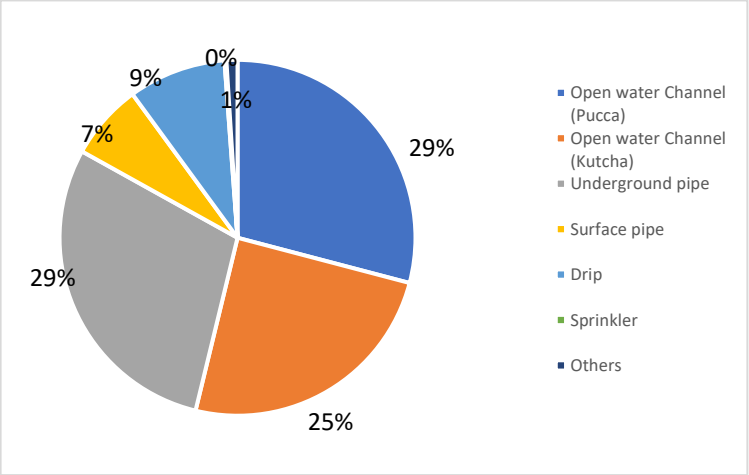
6.1. As per the 7th Census, out of total of 19,40,475 'In Use' schemes, only 34,119 (1.76%) were Surface Water schemes, while 19,06,356 (98.24%) were Ground Water schemes. In terms of water distribution method, Open Water Channel (Pucca) was the predominant mode of water distribution, accounting for 29.11% of the total, followed by Underground Pipe (28.79%). Open Water Channel (Kutcha) accounted for 25.04%, while, Drip, sprinkler, etc each accounted for less than 19% all put together.

6.2. Among Ground Water schemes, Underground Pipe was the most commonly used water distribution method (5,58,087 schemes), followed by Open Water Channel (Pucca) (5,54,593

schemes). The mode of water distribution in Surface Water schemes was through Open Water Channel (Kutcha) (15,048 schemes).

6.3 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 16 below.

Chart 16: Percentage distribution of Ground Water (inner ring) and Surface Water (outer ring) Schemes by type of Water Distribution Methods

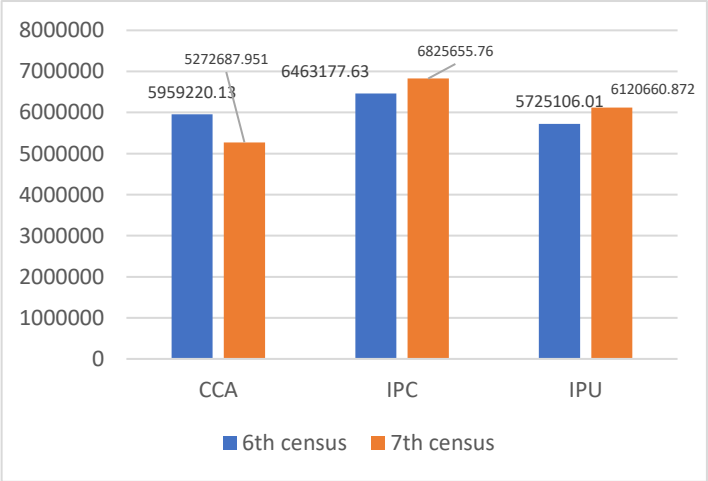


7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 There has been in decrease in the Culturable Command Area (CCA) by 11.52% during 6th MI census in the State as compared to 7th MI Census. However, IPC increased by 5.61% and IPU registered an increase of 6.91% during same period.

7.2 The IPU-to-IPC ratio increased from 88.58% in the 6th Census to 89.67% in the 7th Census, indicating a marginally higher level of utilisation of the irrigation potential created.

Chart 17: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census



8. Underutilization of 'In Use' Schemes

8.1 It is observed in the previous rounds of MI censuses that many 'In Use' schemes remain underutilized due to various constraints. As per the 7th MI Census, 65,956 schemes out of 19,40,475

'In Use' schemes in Tamil Nadu were underutilized for various reasons, while the remaining 96.6% of the 'In Use' schemes were functioning without any reported constraints.

8.2 As per the 7th Census, out of 19,06,356 'In Use' GW schemes, 60,697 schemes were under-utilised on account of various reasons shown in Chart 18. Similarly, out of 34,119 'In Use' SW schemes, 5,259 Surface Water schemes were reported as underutilised. The percentage distribution of Surface Water schemes by reason for underutilisation is shown in the Chart 18 below.

Chart 18: Percentage distribution of Ground Water schemes by reason for underutilisation

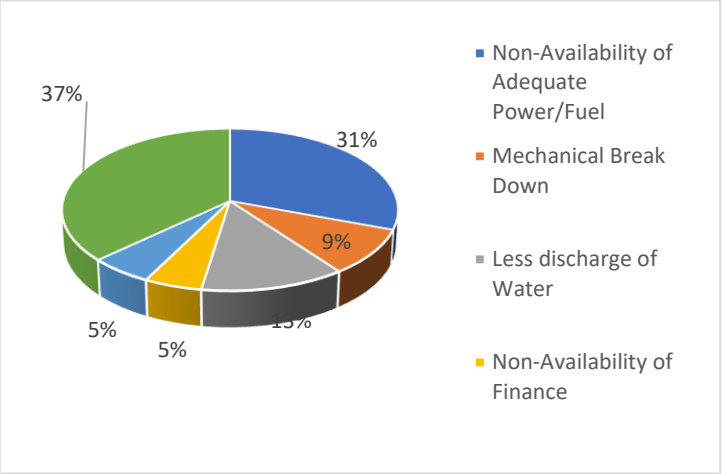
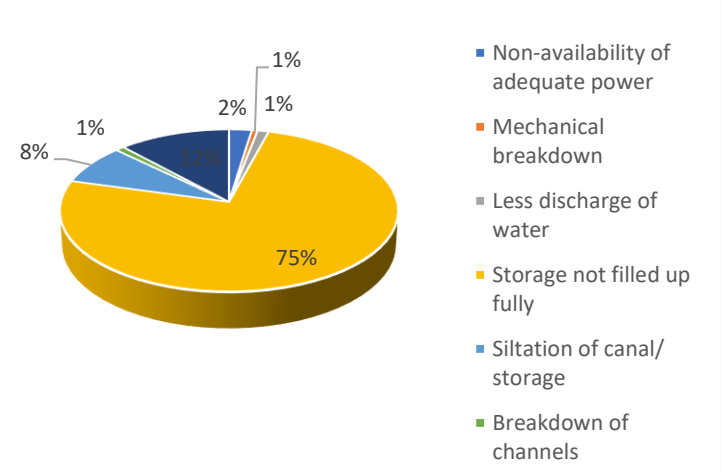


Chart 19: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 1,03,204 irrigation schemes, 99,986 of which were ground water schemes and 3,218 of which were surface water schemes, indicating that Ground-water recharge activities were carried out predominantly through ground water schemes.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 3,04,057 Minor Irrigation schemes, constituting about 14.61% of the total schemes in Tamil Nadu, were also used for drinking water supply, with Ground Water schemes being the primary source.

Key Parameters of 7th MI Census — Tamil Nadu

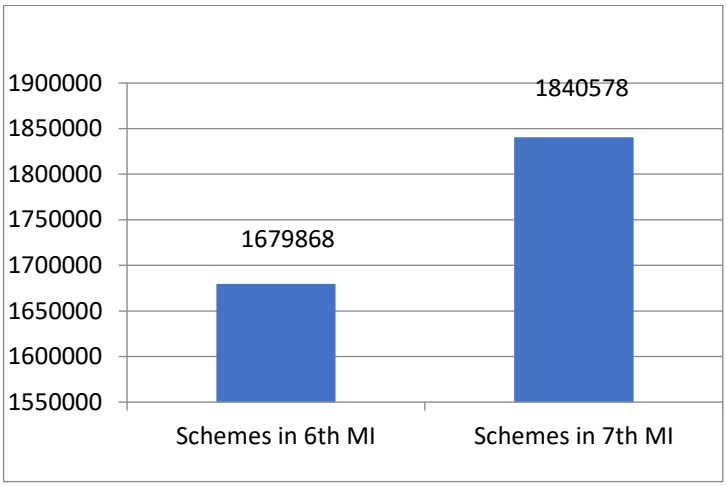
Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	1513139			74.08%
	Shallow Tubewell	No.	94432			4.62%
	Medium Tubewell	No.	132493			6.49%
	Deep Tubewells	No.	302464			14.81%
	Artesian Well	No.	0			0.00%
	Ground Water schemes	No.	**2042528**			98.17%
	Surface Flow	No.	34802			91.61%
	Surface Lift	No.	3189			8.39%
	Surface Water schemes	No.	**37991**			1.83%
	Total schemes	No.	**2080519**			100.00
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	4662830.92	609857.0313	5272687.951	
	IPC	Ha	6109988.981	715666.7786	6825655.76	
	IPU	Ha	5479763.375	640897.4971	6120660.872	
	IPC of In Use schemes	Ha	5880170.61	696895.05	6577065.66	
	IPU of In Use schemes	Ha	5378347.55	629671.49	6008019.04	
	% Ratio of IPU to IPC	Ha	0.914658419	0.90353847	0.913480168	
	Gap in IPC and IPU	Ha	501823.0575	67223.5599	569046.6174	
Ownership	Government	No.	6398	13260	19658	0.94
	Co-operative owned	No.	4387	158	4545	0.22
	Panchayat	No.	5953	15580	21533	1.03
	Group of Farmers	No.	798028	1033	799061	38.41
	Individual Farmer	No.	1204045	6986	1211031	58.21
	Others	No.	23717	974	24691	1.19
	Total	No.	2042528	37991	2080519	100.00
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	554593	10249	564842	29.11
	Open Water Channel (unlined/kutcha)	No.	470933	15048	485981	25.04
	Underground pipe	No.	558087	507	558594	28.79

Parameter		Unit	Value			%
	Surface Pipe	No.	131168	4900	136068	7.01
	Drip	No.	169150	64	169214	8.72
	Sprinklers	No.	3377	181	3558	0.18
	Others	No.	19048	3170	22218	1.14
	Total	No.	1906356	34119	1940475	100.00

2.21 TELANGANA

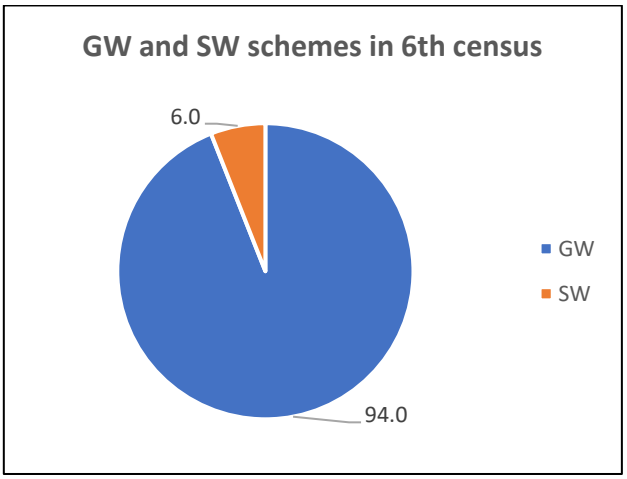
1.1. As per the 7th Census of Minor Irrigation (MI) schemes with reference year 2023-24, Telangana has 1840578 MI schemes comprising of 94.9% (1746208) Ground Water (GW) schemes and 5.1% (94370) Surface Water (SW) schemes. There is an increase to the tune of 9.6% in 7th MI census as compared to the 1679868 schemes in 6th MI census in the State of Telangana.

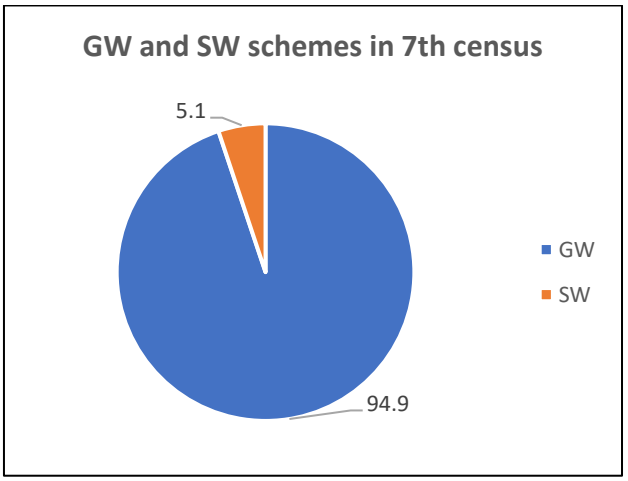
Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



1.2. The State Government has reported an increase of 10.6% (166959) in Ground Water schemes and a decrease of 6.2% (6249) in Surface Water schemes during 7th MI census as compared to the 1579249 GW schemes and 100619 SW schemes recorded in 6th census.

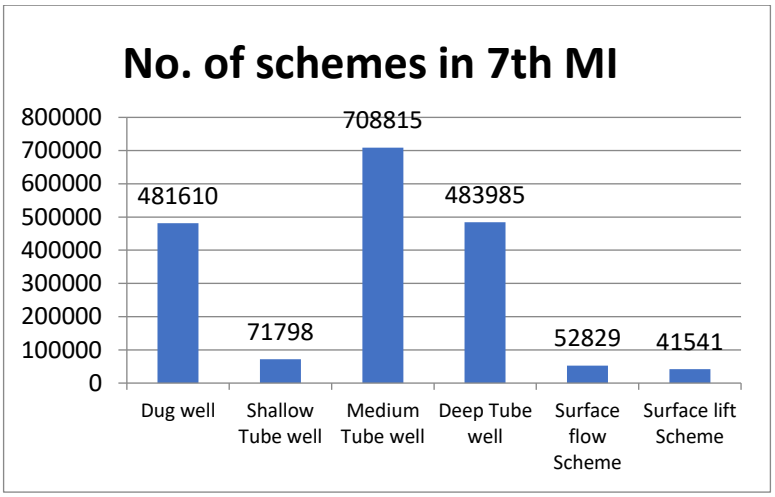
1.3. Share of Ground Water Schemes in the State of Telangana has increased from 94.0% in 6th MI Census to 94.9% in 7th MI Census whereas share of Surface Water Schemes has decreased from 6.0% in 6th Minor Irrigation Census to 5.1% in 7th MI Census as shown in the pie chart given below.





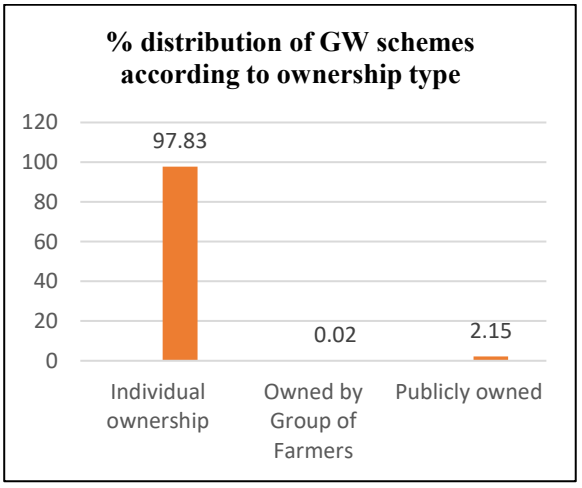
1.4. Out of the 1840578 MI Schemes reported in Telangana, 40.6% (708815) are medium tube wells followed by 27.7% (483985) deep tube wells and 27.6% (481610) dug wells.

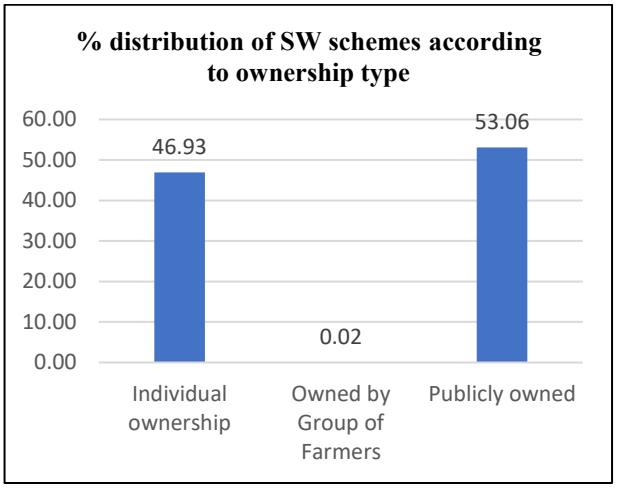
Distribution of different Ground Water and Surface Water schemes is shown in the chart given below.



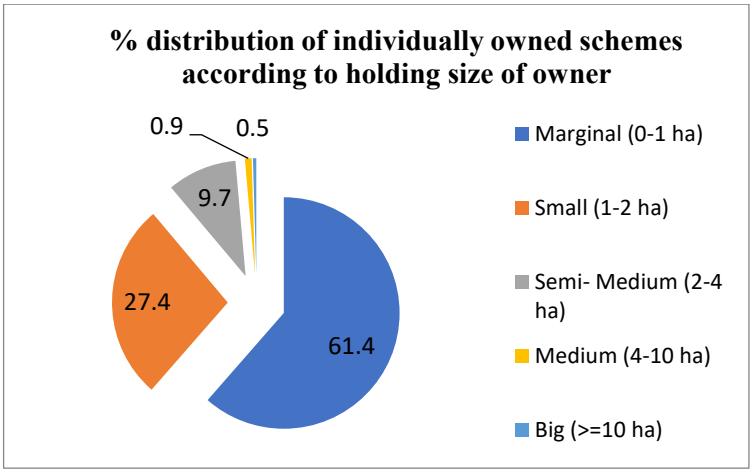
Ownership of MI Schemes

2.1. Out of 1840578 MI Schemes, majority of the schemes i.e. 95.2% (1752607) continue to remain under individual ownership, 3.1% (56970) schemes are public owned and a small chunk of 1.7% (31001) schemes are owned by group of farmers. Among 1746208 GW schemes, 97.8% (1708323) schemes are individually owned whereas among 94370 SW schemes, 50.2% (47412) are public owned. Most of MI structures in Telangana are owned by individual farmers which is also shown in the figure given below. This shows that individual farmers are getting maximum benefit from minor irrigation schemes.



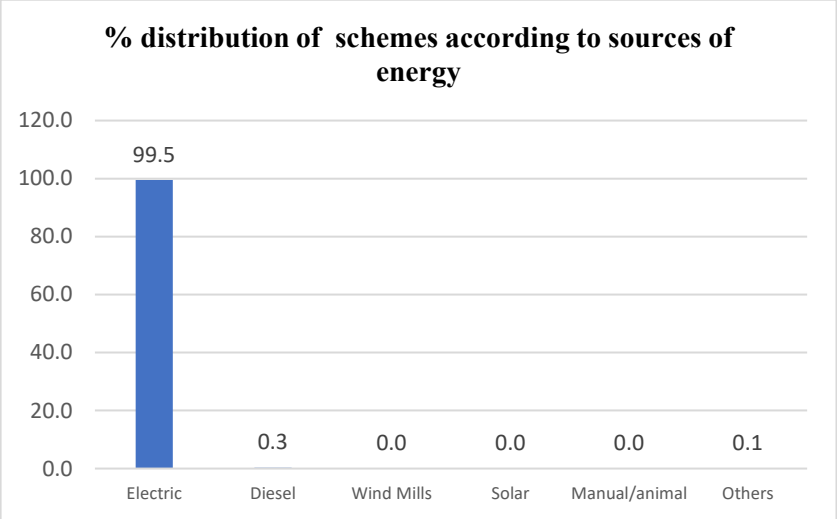


2.2. Out of the total 1752607 individually owned schemes, based on holding size of owner, small and marginal farmers (having less than 2 hectares) own a major share of 89% (1557528) in MI Schemes. Rest of the 11% schemes are owned by Semi-Medium farmers to Big farmers with holding size more than 2 hectares which is shown in the chart given below.



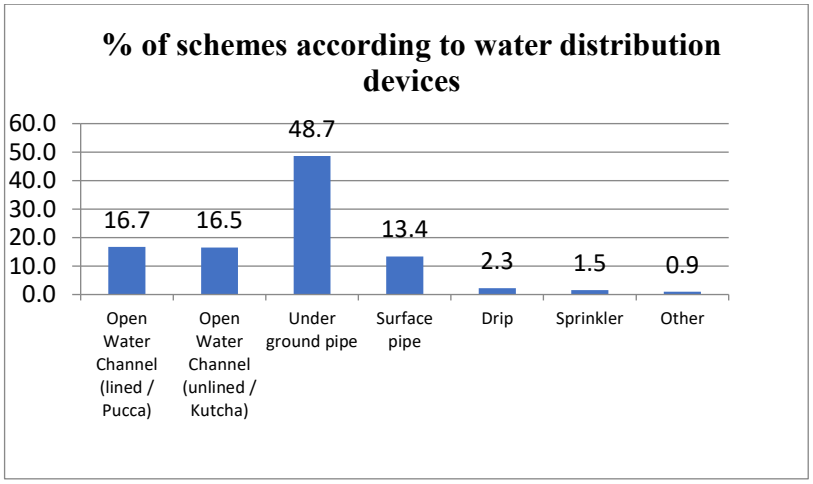
Source of energy

3.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. The number of such schemes is 1770164. Out of these schemes, majority of schemes i.e 99.52% (1761747) schemes are using electricity as source of energy. The percentage distribution of schemes according to source of energy is shown in the pie chart given below.



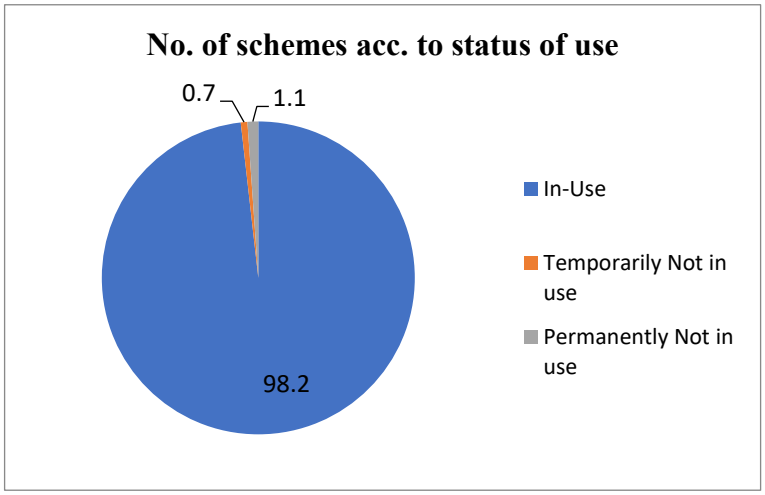
Water distribution device

4.1. As per the 7th MI Census, the percentage share of MI Schemes which distribute water through underground pipe is 48.8% (882226) followed by open water channel (unlined/kutcha) 16.5% (298133) and surface pipes 13.33% (241122). The water distribution devices used in the rest of the MI schemes are 16.7% (302379) open water channel (lined/pucca), 2.24 % (40594) Drip, 1.5% (27161) sprinklers and 0.88% (15941) others. The percentage share of schemes according to water distribution devices is depicted in the figure given below.

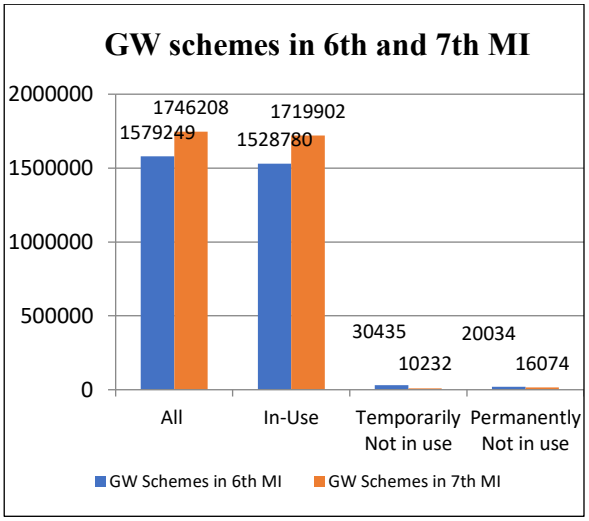


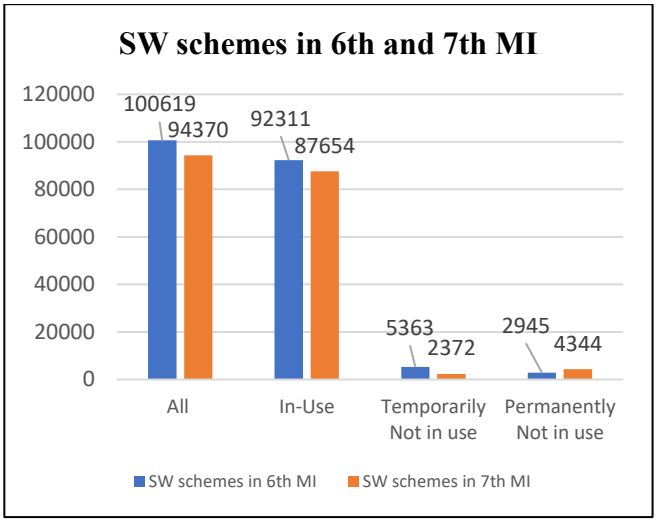
Status of MI schemes

5.1. Out of total number of 1840578 MI Schemes, 98.2% (1807556) are 'In Use', 0.7% (12604) are 'Temporarily Not In Use' and only 1.1% (20418) are 'Permanently Not In Use' Schemes which is depicted in the pie chart given below.



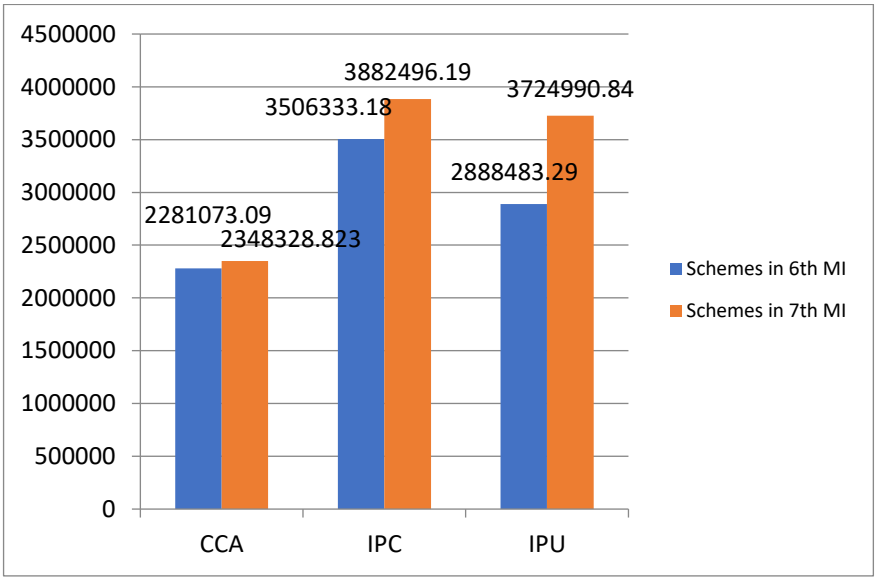
5.2. Out of 12604 'Temporarily not In Use' Schemes, 10232 are Ground Water Schemes and 2372 are Surface Water Schemes. Among 20418 'Permanently not in Use' Schemes, 16074 are GW Schemes and 4344 are SW Schemes. Status of GW and SW schemes during 6th and 7th MI census is shown in the graphs given below:





Irrigation Potential Created (IPC) and Irrigation Potential Utilized (IPU)

6.1. There has been increase of 10.74% in the irrigation potential created from minor irrigation structures in the State during 7th Minor Irrigation Census as compared to 6th Minor Irrigation Census since IPC is increased from 3506154.1 hectares during 6th MI census to 3882497.31 hectares during 7th MI census. Irrigation potential utilized was 2888286.83 hectares during 6th MI Census in Telangana, which is increased by 29% during 7th MI Census. A comparative chart showing Culturable Command Area (CCA), IPC and IPU of schemes during 6th and 7th MI census is shown in the chart given below.

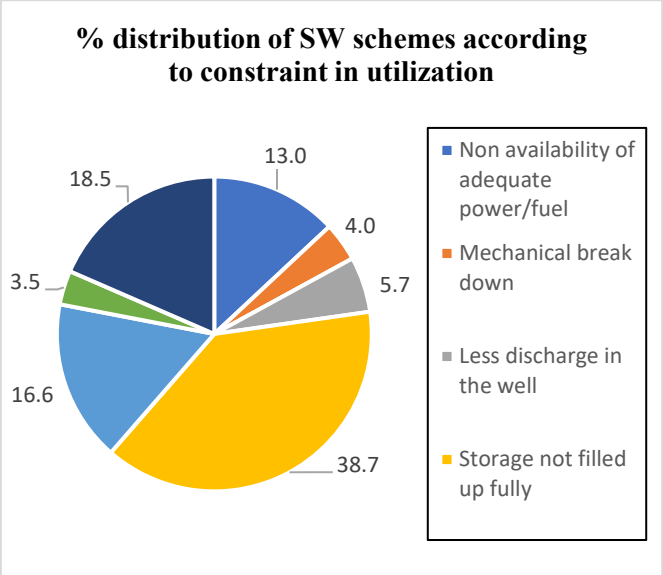


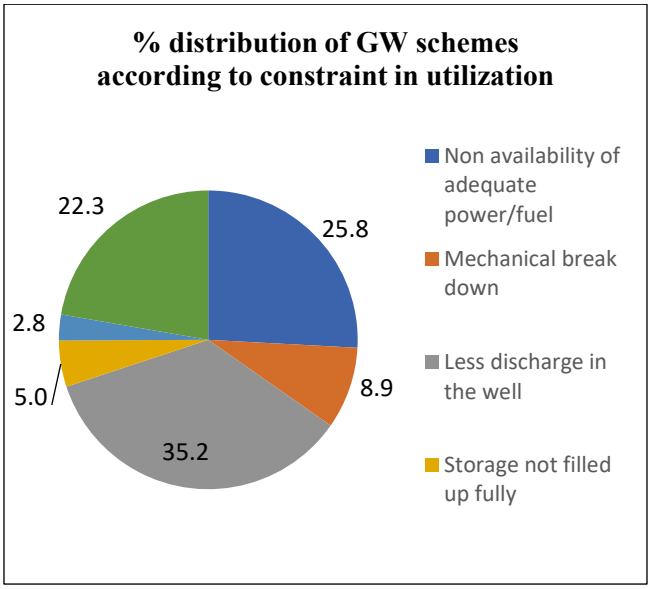
Under-utilization of In Use Schemes

8.1 It is observed in the previous rounds of MI censuses that many 'In use' schemes are underutilized due to various constraints. As per the 7th MI Census, 81337 (4.5%) schemes out of 1807556 'In Use' schemes in Telangana are underutilised due to several reasons. Remaining 95.5% 'In Use' MI Schemes are functioning without any constraints.

8.2 Among 81337 under-utilized schemes, 76882 are Ground Water schemes and 4455 are Surface Water schemes. The major factor contributing to constraints in utilization of GW schemes is reported as less discharge of water whereas the SW schemes are underutilized mainly due to

storage not filled up fully and less discharge of water. The percentage distribution of reasons of under-utilization of GW and SW schemes is shown in pie charts given below.





Key Parameters of 7th MI Census — Telangana

Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	481610			26%
	Shallow Tubewell	No.	71798			4%
	Medium Tubewell	No.	708815			39%
	Deep Tubewells	No.	483985			26%
	Ground Water schemes	No.	**1746208**			**95%**
	Surface Flow	No.	52829			3%
	Surface Lift	No.	41541			2%
	Surface Water schemes	No.	**94370**			**5%**
	Total schemes	No.	**18,40,578**			**100.0**
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	17,85,591.42	5,62,737.40	23,48,328.82	
	IPC	Ha	29,83,709.72	8,98,787.31	38,82,497.03	
	IPU	Ha	28,96,133.22	8,28,858.43	37,24,991.65	
	IPC of In Use schemes	Ha	29,52,240.44	8,86,044.69	38,38,285.13	
	IPU of In Use schemes	Ha	28,83,634.88	8,24,303.60	37,07,938.48	
	% Ratio of IPU to IPC	Ha	97.06%	92.22%	95.94%	
	Gap in IPC and IPU	Ha	68,605.56	61,741.09	1,30,346.65	
Ownership	Individual ownership	No.	17,08,323	44284	17,52,607	95%
	Group of Farmers	No.	28,327	2674	31,001	2%

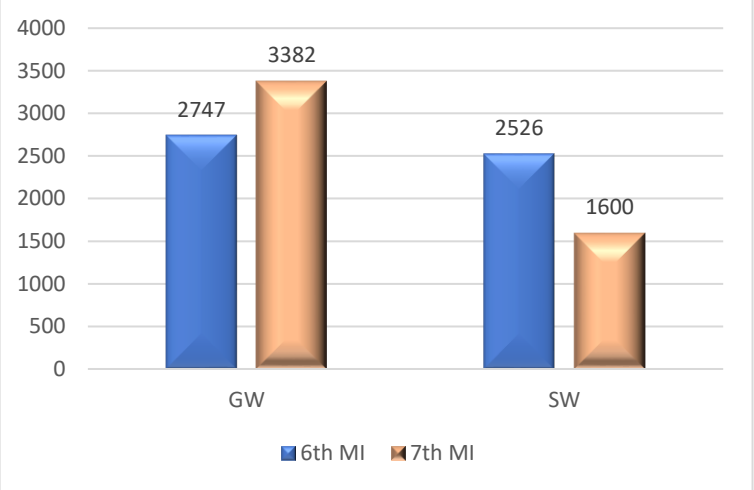
Parameter		Unit	Value			%
	Govt. owned	No.	2,866	37219	40,085	2%
	Co-Operative Owned	No.	665	165	830	0%
	Panchayat Owned	No.	1,858	8131	9,989	1%
	Others	No.	4,169	1897	6,066	0%
	Total	No.	**17,46,208**	**94,370**	**18,40,578**	**100%**
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	284356	18023	3,02,379	17%
	Open Water Channel (unlined/kutcha)	No.	272527	25606	2,98,133	17%
	Underground pipe	No.	861749	20477	8,82,226	49%
	Surface Pipe	No.	228731	12391	2,41,122	13%
	Drip	No.	40312	282	40,594	2%
	Sprinklers	No.	23907	3254	27,161	2%
	Others	No.	8320	7621	15,941	1%
	Total	No.	1719902	87,654	18,07,556	**100%**

2.22 TRIPURA

1. Number of MI Schemes

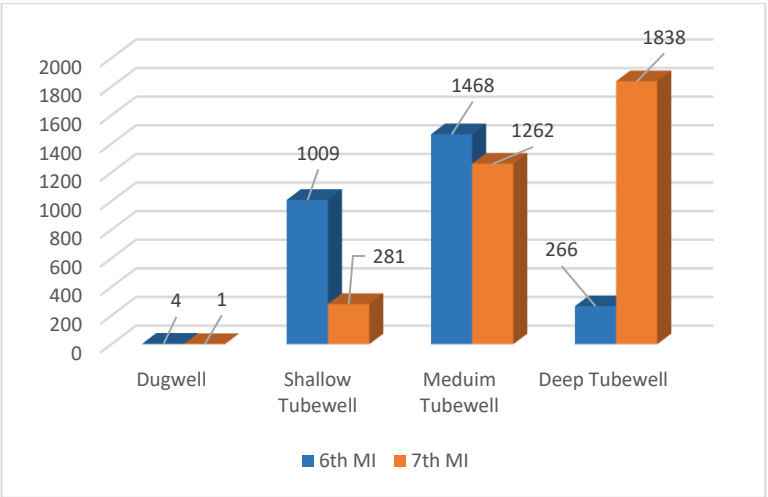
1.1 Tripura reported **4,982** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **67.9% (3,382 schemes)** are Ground Water schemes and the remaining **32.1% (1,600 schemes)** are Surface Water schemes. This indicates that Ground Water schemes are more prominent in Tripura, unlike many north-eastern States where Surface Water schemes dominate. A comparison with the 6th Minor Irrigation Census reveals a **5.5%** decrease in the total number of schemes, from **5,273** in the 6th Census to **4,982** in the 7th Census.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



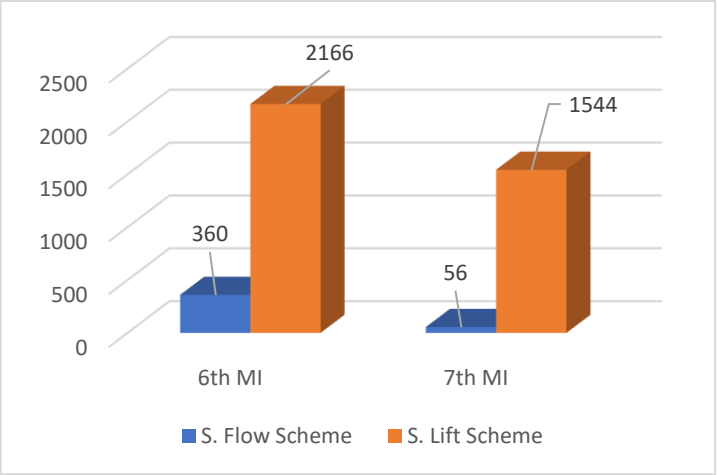
1.2 The composition of irrigation schemes shifted between the 6th and 7th Minor Irrigation Censuses. The share of Ground Water schemes rose from **52.1%** to **67.9% (2,747 → 3,382 schemes)**, while Surface Water schemes fell from **47.9%** to **32.1% (2,526 → 1,600 schemes)**. Within the Ground Water category, Deep Tubewells increased sharply **(266 → 1,838)**, while Shallow and Medium Tubewells declined, as shown in the chart below.

Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



1.3 Surface Water schemes declined across both sub-types between the two Censuses. Surface Lift schemes, the predominant type, fell from **2,166** to **1,544**, while Surface Flow schemes fell from **360** to **56**.

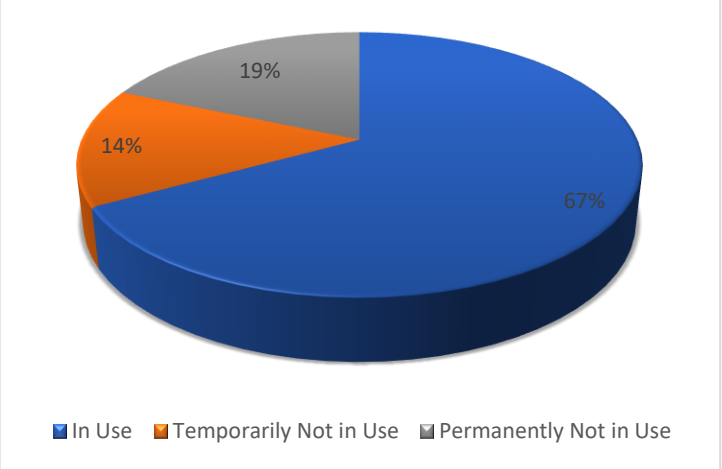
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 Out of the total **4,982 MI schemes**, **67%** are currently 'In Use', **18.5%** are 'Permanently Not in Use', and **14.5%** are 'Temporarily Not in Use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 Number of Ground Water Schemes and Surface Water Schemes by Use Status is shown in Charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

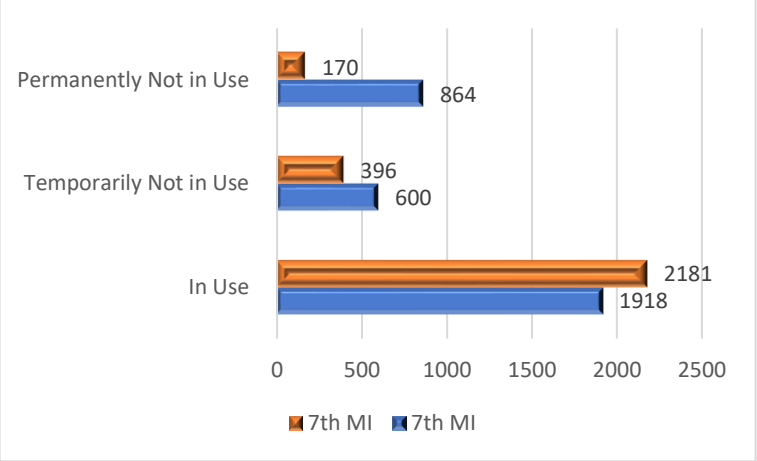
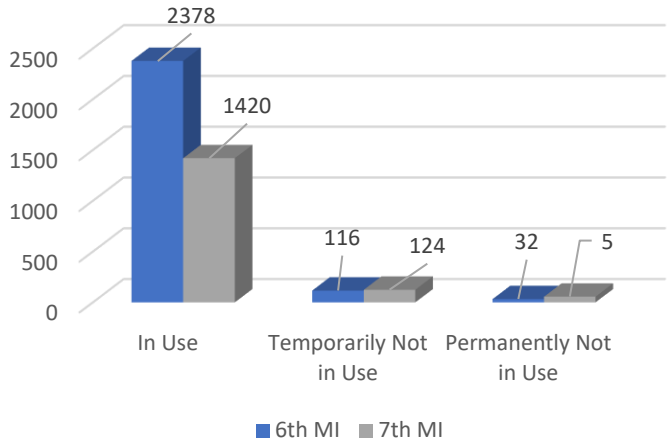


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

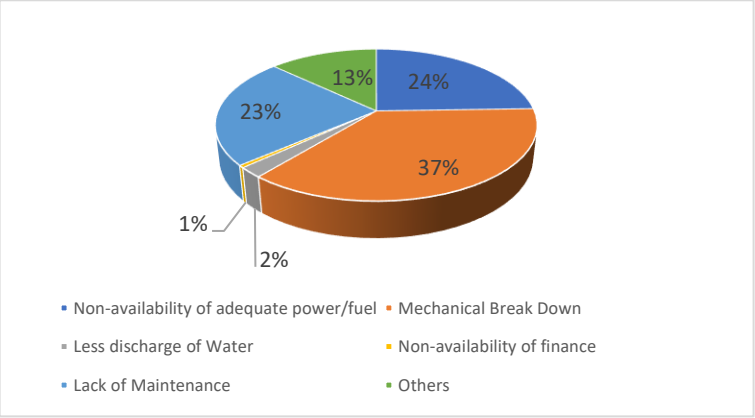


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, a total of 600 Ground Water (GW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not in Use' Ground Water Schemes is shown in Chart 8.

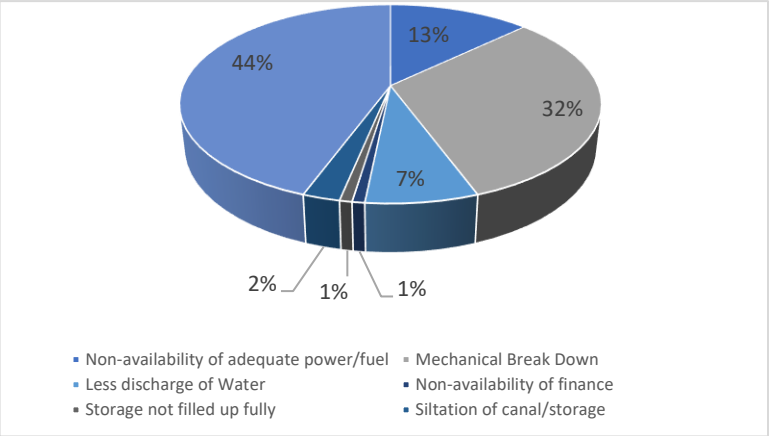
Chart 8: Reasons wise percentage distribution of 'Temporarily Not in Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, a total of 124 Surface Water (SW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not in Use' Surface Water Schemes is shown in Chart 9.

Chart 9: Reason-wise Percentage Share of 'Temporarily No in Use' Surface Water Schemes



3.3 Reason of 'Permanently Not In Use' GW Schemes & SW Schemes

As per the 7th Census, a total of 864 GW schemes and 56 SW schemes were reported 'Permanently Not in Use'. 'Destroyed beyond repair' is one of the major identified reasons among Ground Water schemes. Reason-wise percentage distribution of 'Permanently Not in Use' GW and SW Schemes is given in Charts 10 and 11 below.

Chart 10: Reason-wise percentage distribution of 'Permanently Not in Use' Ground-water Schemes

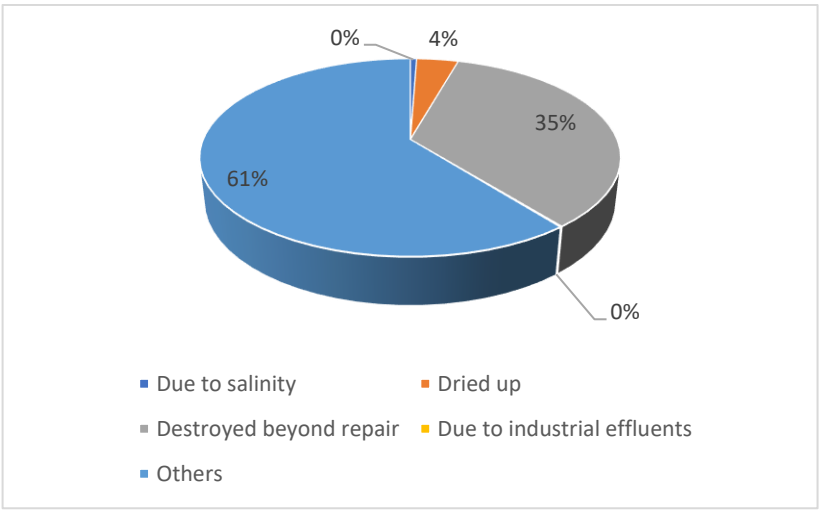
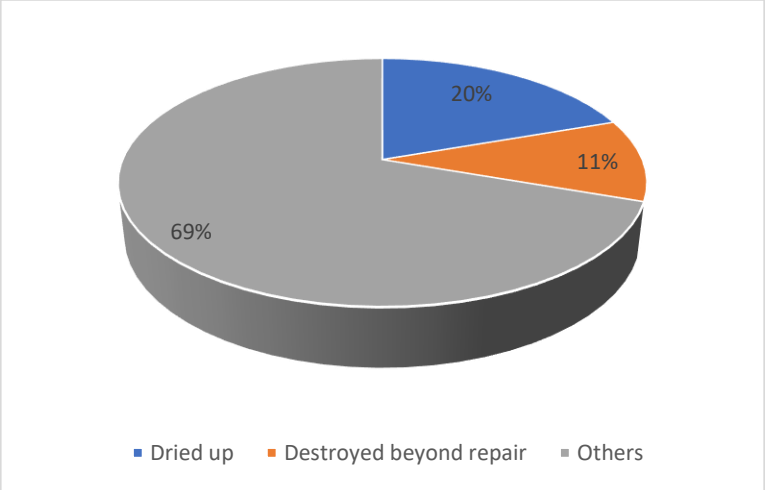


Chart 11: Reason wise percentage distribution of 'Permanently Not in Use' Surface Water Schemes



4. Ownership of MI Schemes

4.1 Out of **4,982** MI schemes in Tripura, the majority of schemes (**83.1%** of Ground Water schemes and **93.6%** of Surface Water schemes) are Government-owned, with Individual and Group-of-Farmers ownership together accounting for a much smaller share. Ownership categories of Ground Water and Surface Water schemes (in numbers) are shown in Charts 12, 13 and 14 respectively.

Chart 12: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

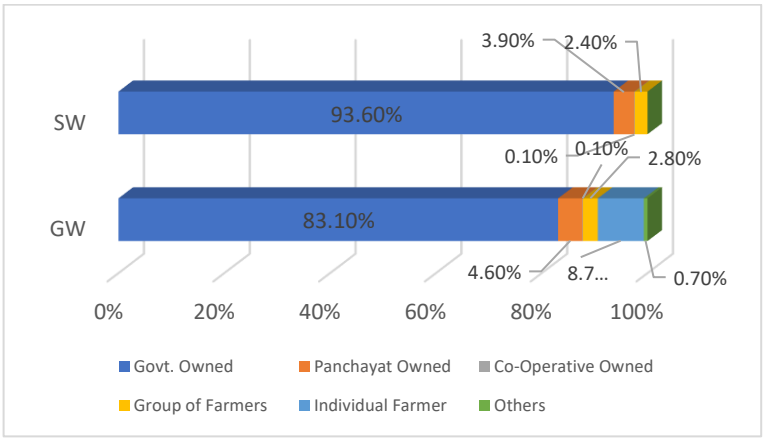


Chart 13: Ownership of Ground Water Schemes (Number)

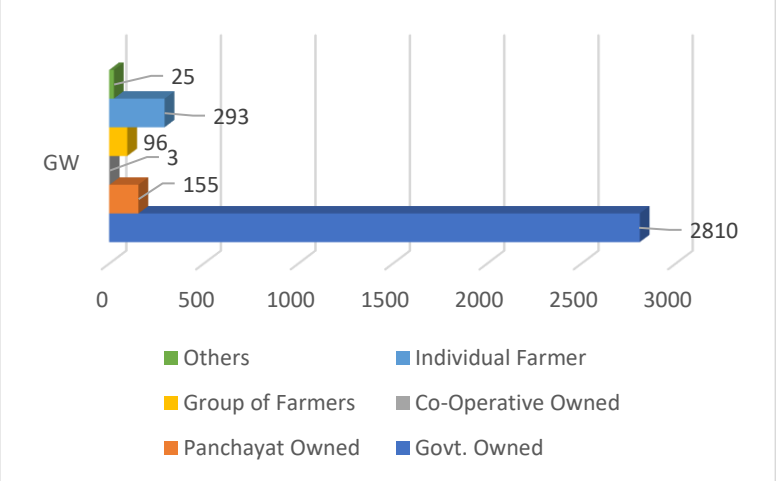
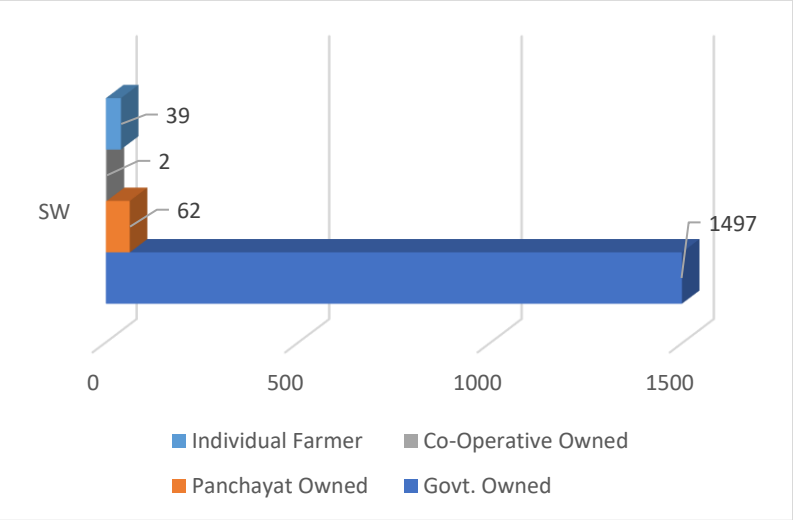


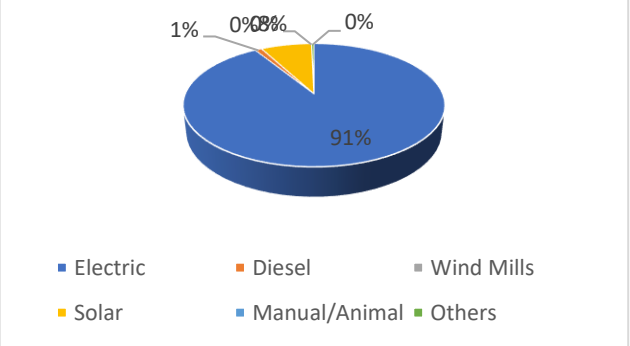
Chart 14: Ownership of Surface Water Schemes (Number)



5. Source of Energy

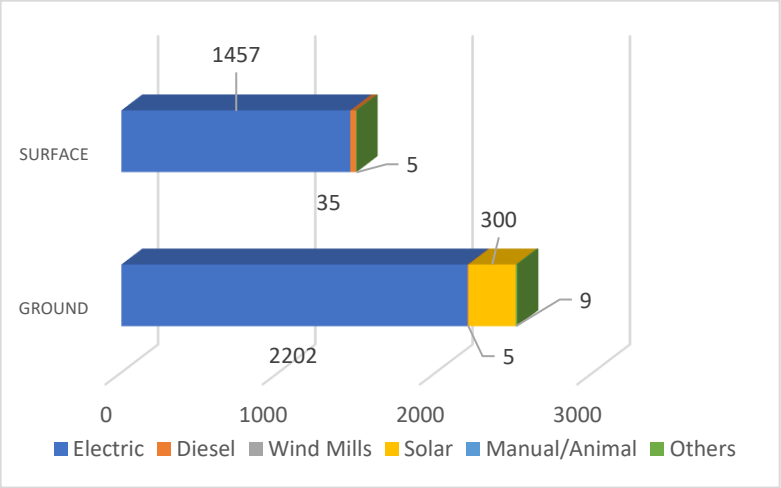
5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. Among these, the majority **(91%)** use electricity as the source of energy, followed by Solar Pumps **(8%)** and Diesel Pumps **(1.0%)** in the 7th MI Census.

Chart 15: Percentage distribution of MI schemes by Source of Energy



5.2 The number of Ground Water and Surface Water schemes by source of energy is given in Chart 16.

Chart 16: Number of Ground Water vs Surface Water Schemes by Source of Energy



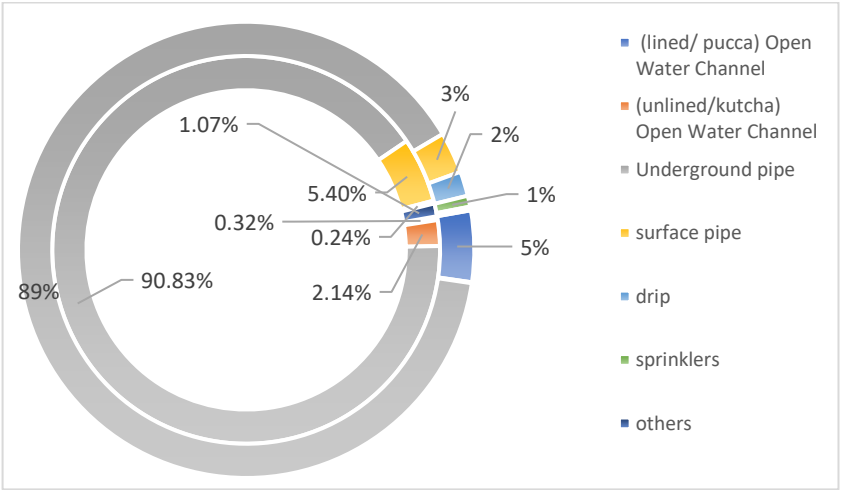
6. Water Distribution Methods

6.1 As per the 7th Census, out of a total of **3,338** 'In Use' schemes**, 1,918 (57.5%)** were Ground Water schemes while **1,420 (42.5%)** were Surface Water schemes. In terms of water distribution method, Underground Pipe was the predominant mode, accounting for **91.2%** of the total, followed by Surface Pipe **(4.5%)**. Open Water Channel (lined and unlined) together accounted for a much smaller share **(3.7%),** while Drip and Others accounted for less than **1%** of the total.

6.2 Among Ground Water schemes, Underground Pipe was overwhelmingly the most common distribution method **(1,742 schemes)**, followed by Surface Pipe **(110 schemes).** Surface Water schemes were also predominantly served through Underground Pipe **(1,303 schemes),** followed by Open Water Channel (Lined/Pucca) **(75 schemes).**

6.3 The percentage distribution of 'In Use' MI schemes by type of water distribution method is shown in Chart 17 below.

Chart 17: Percentage distribution of Ground Water (inner ring) and Surface Water (outer ring) Schemes by type of Water Distribution Methods

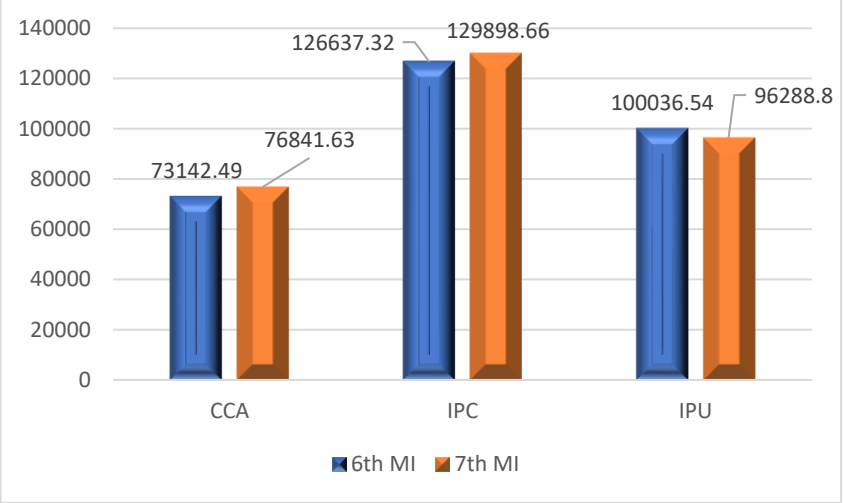


7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 Between the 6th and 7th MI Census, the Culturable Command Area (CCA) increased marginally by **5.1%** and the Irrigation Potential Created (IPC) increased by **2.6%,** while the Irrigation Potential Utilised (IPU) declined by **3.7%.**

7.2 The IPU-to-IPC ratio declined slightly from **79.0%** in the 6th Census to **74.1%** in the 7th Census, indicating a marginally lower level of utilisation of the irrigation potential created.

Chart 18: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census (in ha)

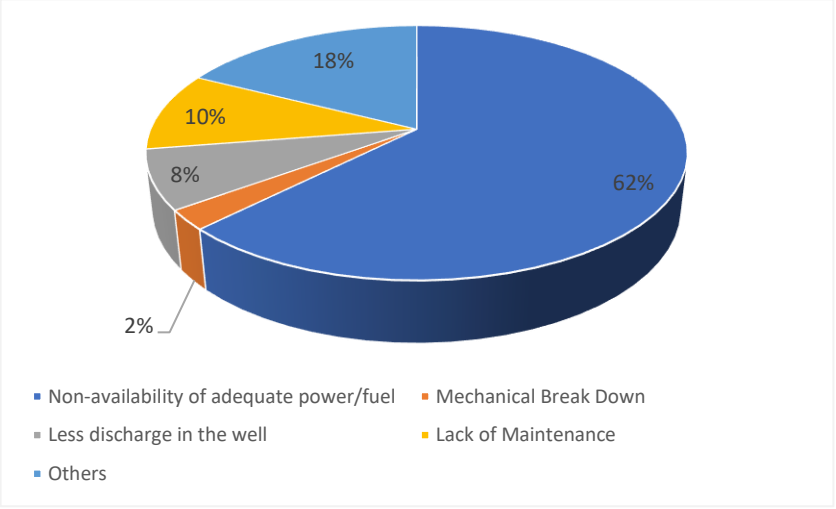


8. Underutilization of 'In Use' Schemes

8.1 As per the 7th MI Census, **41** schemes out of the **3,338** 'In Use' schemes in Tripura were reported as underutilised for various reasons, while the remaining **98.8%** of 'In Use' schemes were functioning without any reported constraint.

8.2 Out of **1,918** 'In Use' Ground Water schemes, **40 schemes** were reported as underutilised, with 'Non-availability of adequate power/fuel' being the leading reason. Out of **1,420** 'In Use' Surface Water schemes, only 1 scheme was reported underutilised. The percentage distribution of Ground Water schemes by reason for underutilisation is shown in the pie chart below.

Chart 19: Percentage Distribution of Ground Water Schemes by Reason for Underutilisation



9. Status of Ground Water Recharge

9.1 No Surface Water schemes in Tripura were reported as being used for ground-water recharge in the 7th MI Census, indicating that ground-water recharge through surface schemes was not undertaken in the State during this round. However, 28 ground water schemes were used for ground water recharge.

10. Number of Schemes used for Drinking

10.1 As per the 7th MI Census, 244 Minor Irrigation schemes, constituting about **4.9%** of the total schemes in Tripura, were also used for drinking water supply, with Ground Water schemes being the primary source **(241 of the 244 schemes).**

Key Parameters of 7th MI Census — Tripura

Category	Parameter	Unit	Value			%
Number of Schemes	Dug wells	No.	1			0.0%
	Shallow Tubewell	No.	281			5.6%
	Medium Tubewell	No.	1,259			25.3%
	Deep Tubewells	No.	1,838			36.9%
	Artesian Well	No.	3			0.1%
	Ground Water schemes	**No.**	**3,382**			**67.9%**
	Surface Flow	No.	56			1.1%
	Surface Lift	No.	1,544			31.0%
	Surface Water schemes	**No.**	**1,600**			**32.1%**
	Total schemes	**No.**	**4,982**			**100.0%**
			GW	**SW**	**Total**	**%**
CCA, IPC and IPU	CCA	Ha	11,819.90	65,021.73	76,841.63	
	IPC	Ha	22,145.66	107,753.00	129,898.66	
	IPU	Ha	16,546.30	79,742.50	96,288.80	
	IPC of In Use schemes	Ha	17,701.11	98,946.60	116,647.71	
	IPU of In Use schemes	Ha	15,081.41	76,115.80	91,197.21	
	% Ratio of IPU to IPC	**Ha**	**74.7%**	**74.0%**	**74.1%**	
	Gap in IPC and IPU	Ha	5,599.36	28,010.50	33,609.86	
			GW	**SW**	**Total**	**%**
Ownership	Individual ownership	No.	293	39	332	6.7%
	Group of Farmers	No.	96	0	96	1.9%
	Public owned	No.	2,810	1,497	4,307	86.5%
	Co-Operative Owned	No.	3	2	5	0.1%
	Panchayat Owned	No.	155	62	217	4.4%
	Others	No.	25	0	25	0.5%
	Total	**No.**	**3,382**	**1,600**	**4,982**	**100.0%**
			GW	**SW**	**Total**	**%**
Water Distribution	Open Water Channel (Lined/Pucca)	No.	6	75	81	2.4%

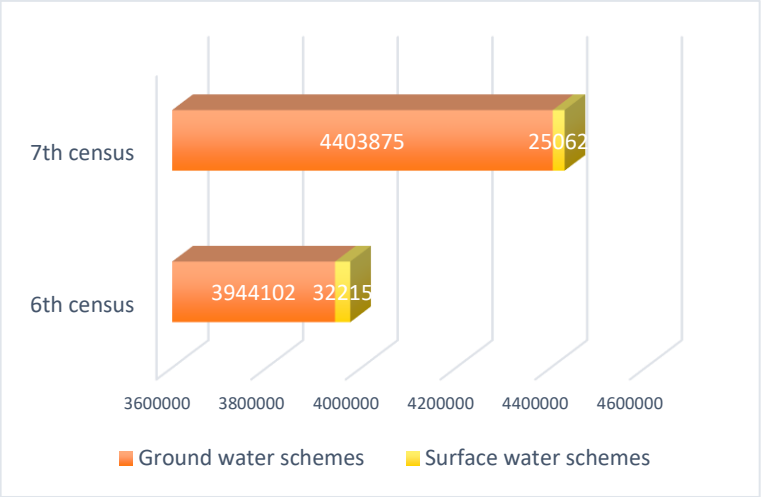
methods (In Use schemes)	Open Water Channel (unlined/kutcha)	No.	41	1	42	1.3%
	Underground pipe	No.	1,742	1,303	3,045	91.2%
	Surface Pipe	No.	110	40	150	4.5%
	Drip	No.	4	0	4	0.1%
	Sprinklers	No.	0	0	0	0.0%
	Others	No.	15	1	16	0.5%
	Total	**No.**	**1,918**	**1,420**	**3,338**	**100.0%**

2.23 UTTAR PRADESH

1. Number of MI Schemes

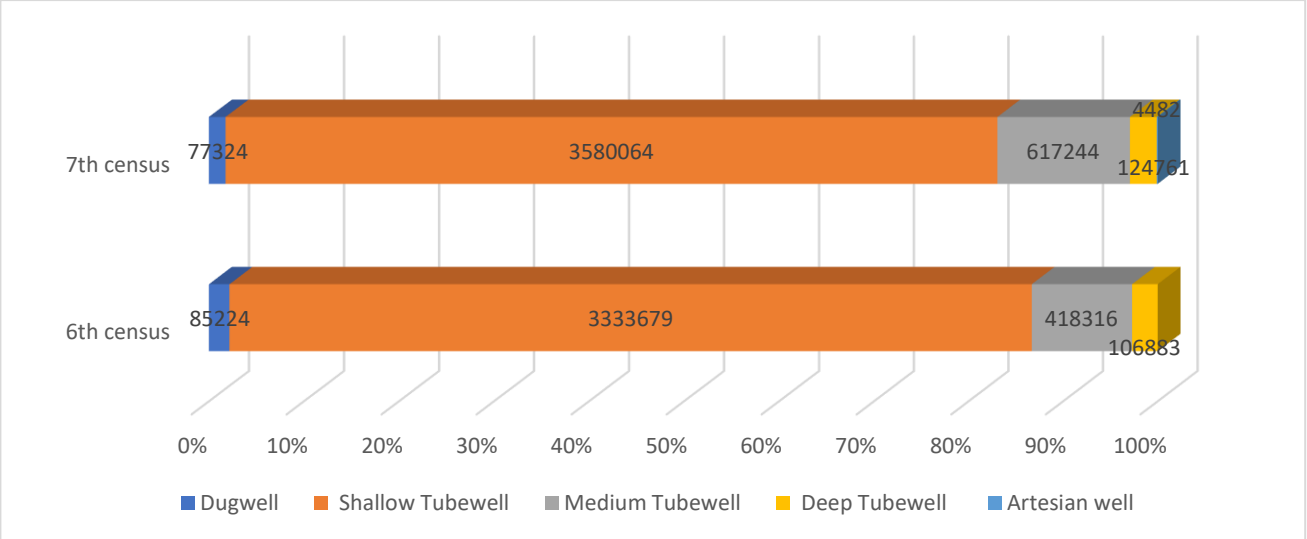
1.1 Uttar Pradesh reported **44,28,937** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **99.43% (44,03,875 schemes)** are Ground Water schemes and the remaining **0.57% (25,062 schemes)** are Surface Water schemes. It reflects that Ground Water schemes are prominent in Uttar Pradesh owing to the topography of the region. A comparison with the 6th Minor Irrigation Census reveals **11.38% increase** in the total number of schemes, from **39,76,317** in the 6th Census to **44,28,937** in the 7th Census.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



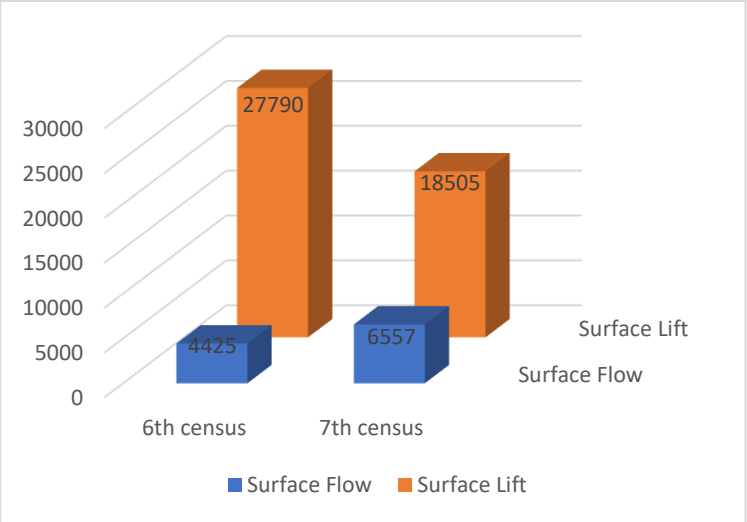
1.2 The composition of irrigation schemes changed between the 6th and 7th Minor Irrigation Censuses. Although the number of Surface-water schemes decreased from 32,215 to 25,062, they continued to account for less than 1% of the total schemes. Within the Ground-water category, the increase was primarily driven by Shallow Tube Wells which is shown in the chart given below.

Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



1.3 Surface water schemes decrease significantly from 32,215 to 25,062 schemes. Within this category, Surface Lift Schemes remained the predominant type, decreasing significantly from 27,790 to 18,505 schemes.

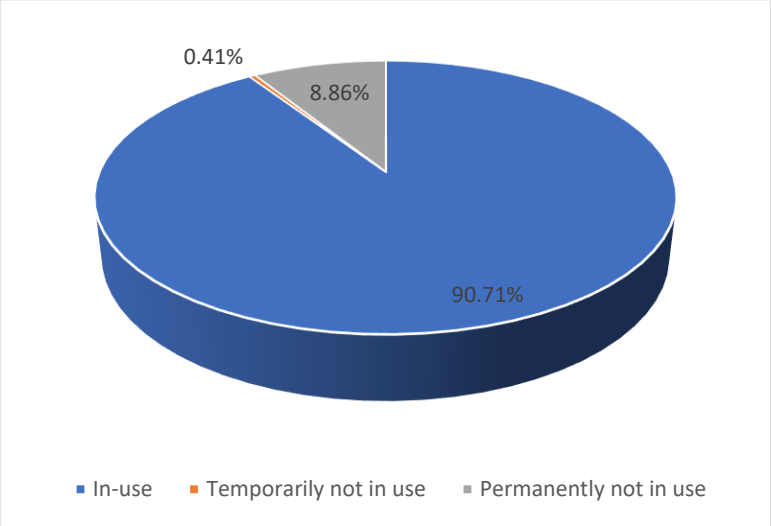
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 Out of the total 44,28,937 MI schemes, **90.71%** are currently 'In Use', **8.86%** are 'Permanently Not in Use', and **0.41%** are 'Temporarily Not in Use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

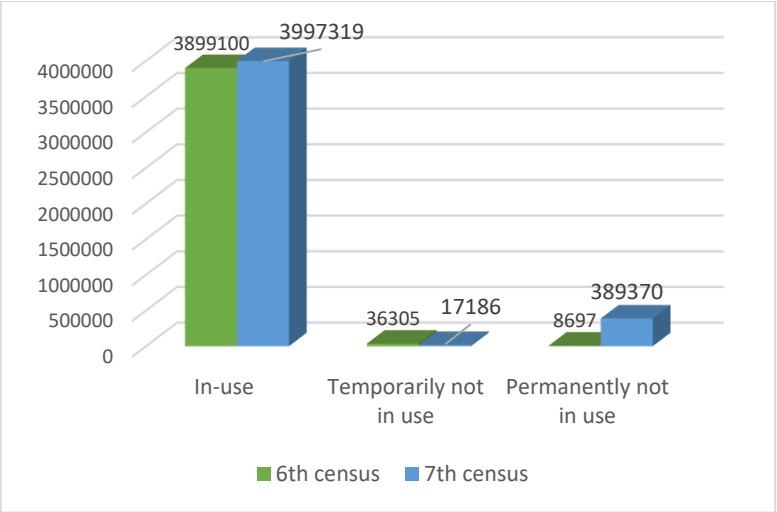
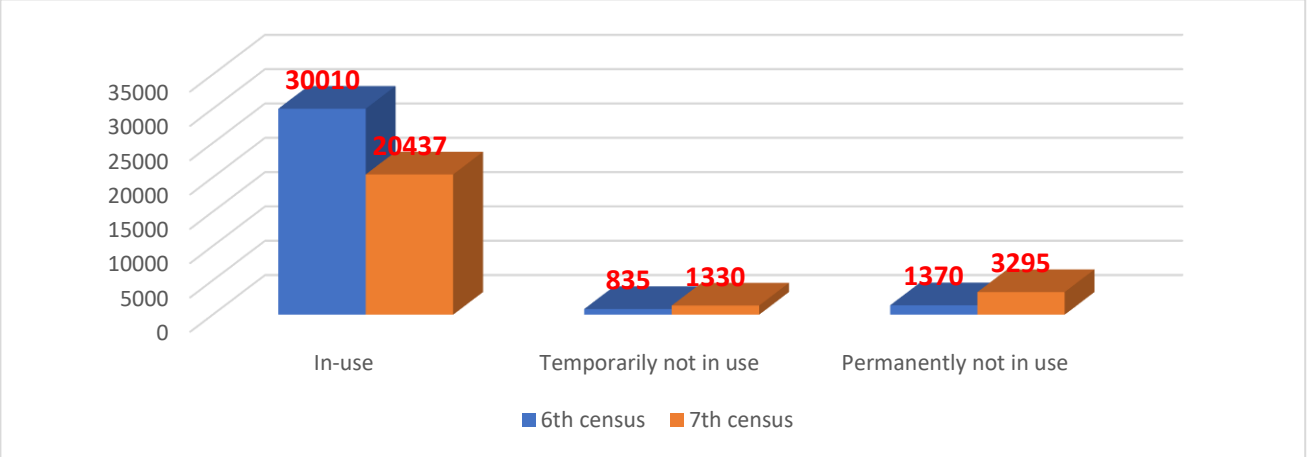


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

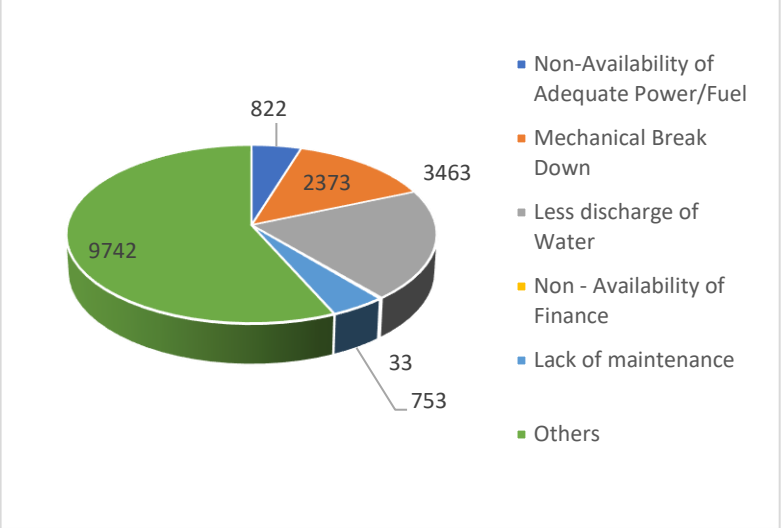


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, a total of 17,187 Ground-water (GW) schemes were reported 'Temporarily Not in Use'. The number of 'Temporarily Not in Use' Ground-water Schemes is shown in chart 7.

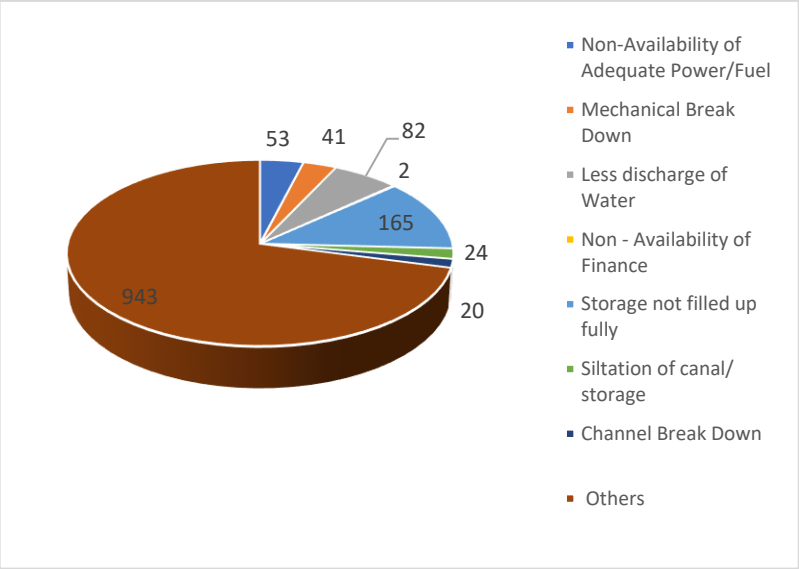
Chart 7: Number of 'Temporarily Not in Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, a total of 1,330 surface water (SW) schemes were reported 'Temporarily Not in Use'. Number of 'Temporarily Not in Use' Surface-water schemes is shown in chart 8.

Chart 8: Number of 'Temporarily Not in Use' Surface Water Schemes



3.3 Reason of 'Permanently Not in Use' GW Schemes

As per 7th Census, a total of 3,89,370 Ground-water (GW) schemes were reported 'Permanently Not in Use'. 'Dried up' is accounted as one of the major reasons of ground water and surface water schemes. Number of 'Permanently Not in Use' GW Schemes and SW Schemes is given in chart 9 and chart 10 below.

Chart 9: Number of 'Permanently Not in Use' Ground-water Schemes

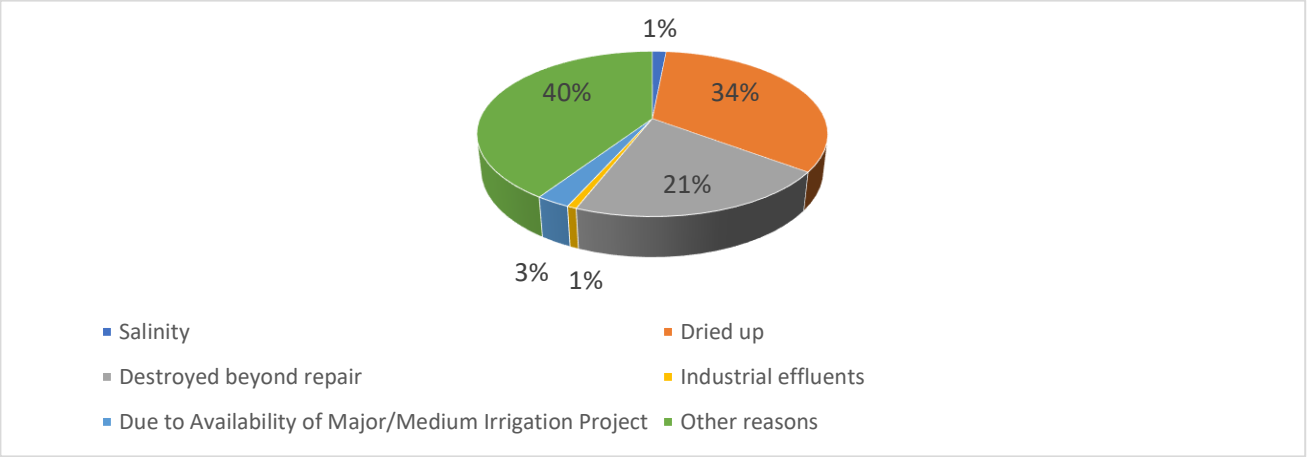
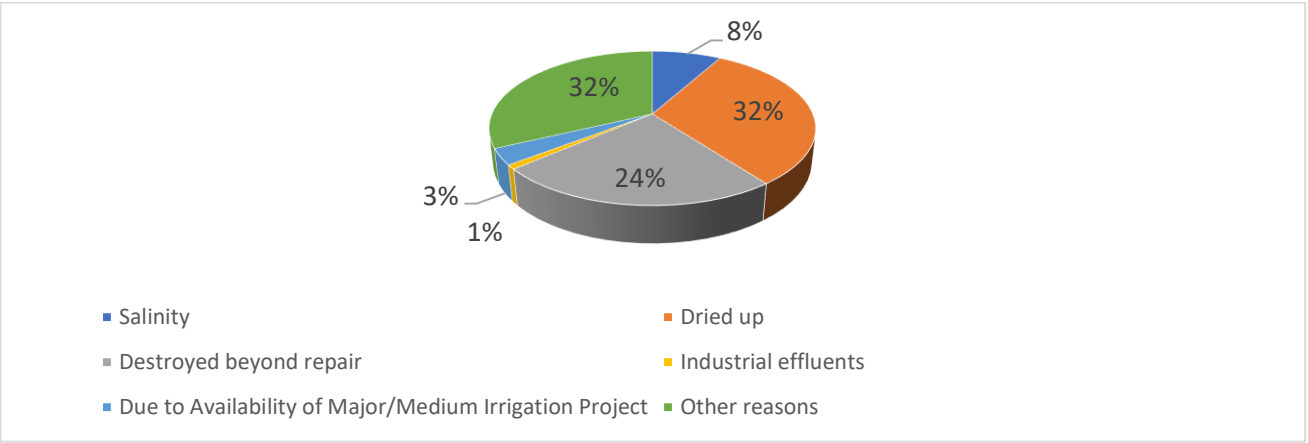


Chart 10: Number of 'Permanently Not in Use' Surface Water Schemes



4. Ownership of MI Schemes

4.1 Out of **44,28,937** MI schemes in Uttar Pradesh, majority of the schemes (98.4%) are owned by Individual Farmers and group of farmers. This shows that farmers are getting maximum benefit from MI schemes. Ownership Categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers), are shown in Charts 11, 12 and 13 respectively.

Chart 11: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

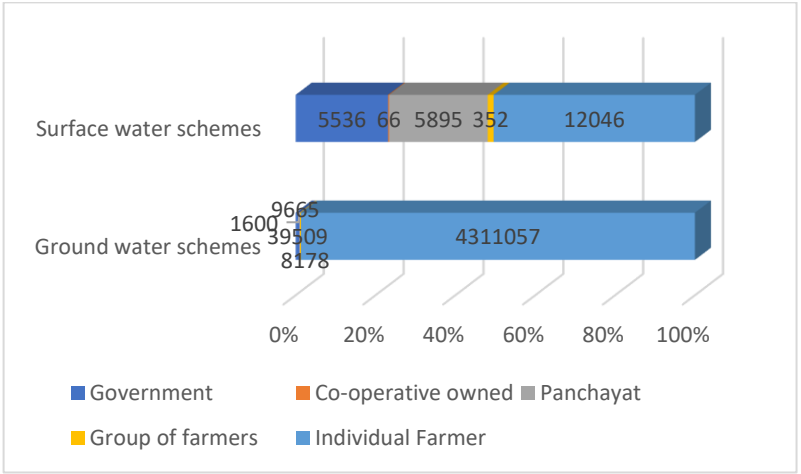


Chart 12: Ownership of Ground Water Schemes (Number)

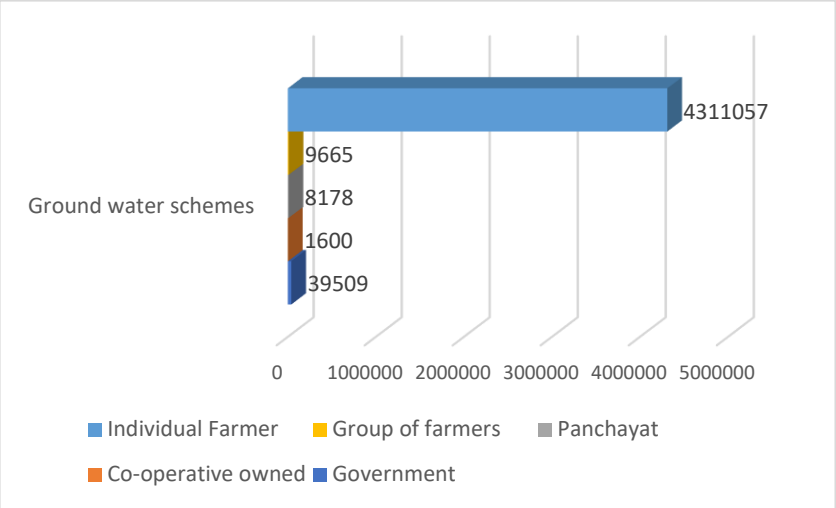
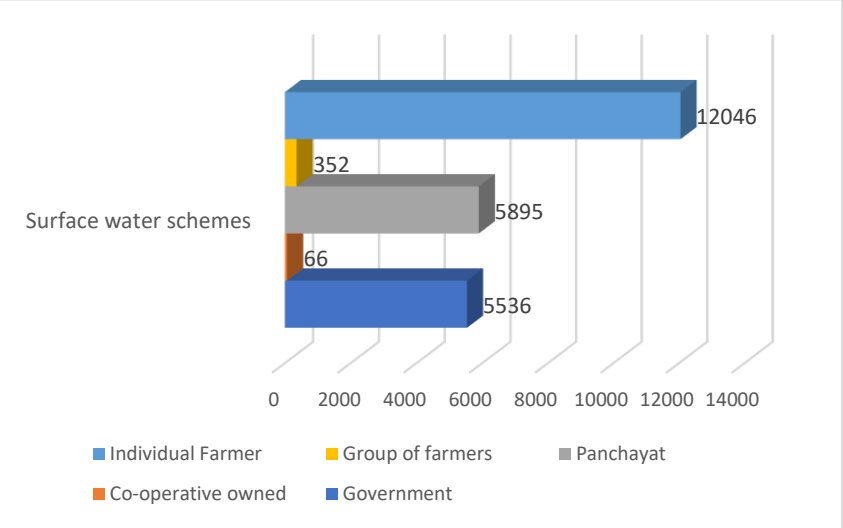


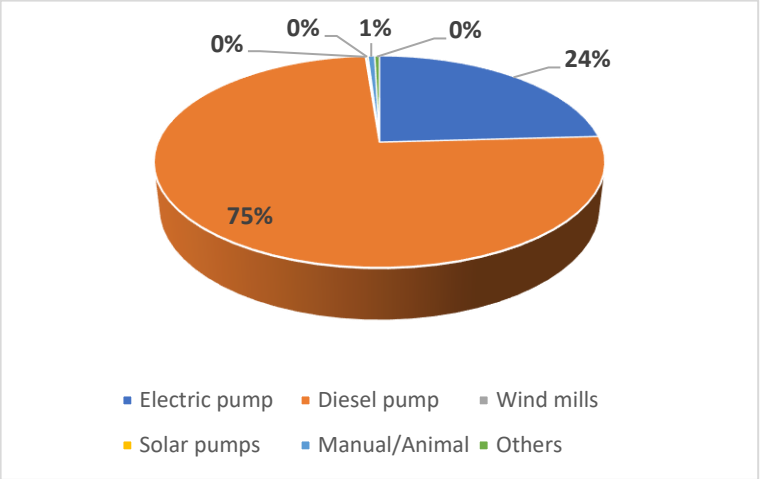
Chart 13: Ownership of Surface Water Schemes (Number)



5. Source of Energy

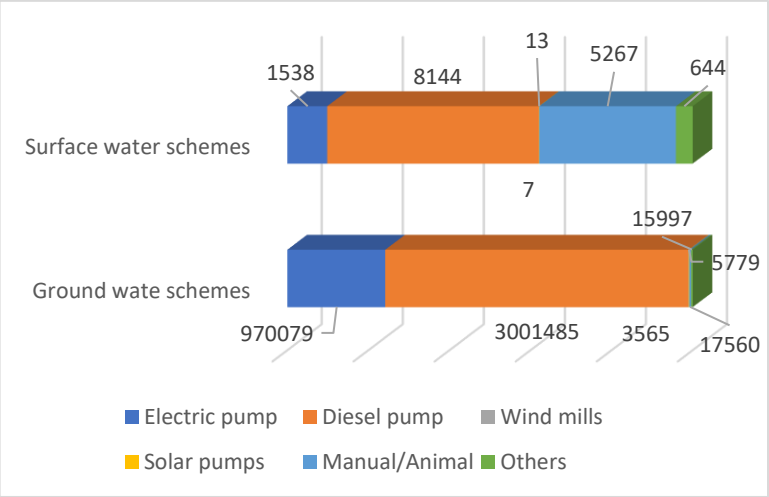
5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the category of ground water and surface lift schemes. The number of such schemes was 40,30,078. Out of these, 30,09,629 schemes (74.68%) used diesel as the primary source of energy, followed by electricity with 9,72,080 schemes (24.12%). Only 22,819 schemes (0.57%) used manual or animal power as the source of energy in the 7th MI Census.

Chart 14: Percentage distribution of MI schemes by Source of Energy



5.2 Percentage of surface lift and ground water irrigation scheme by source of energy is given in chart 15.

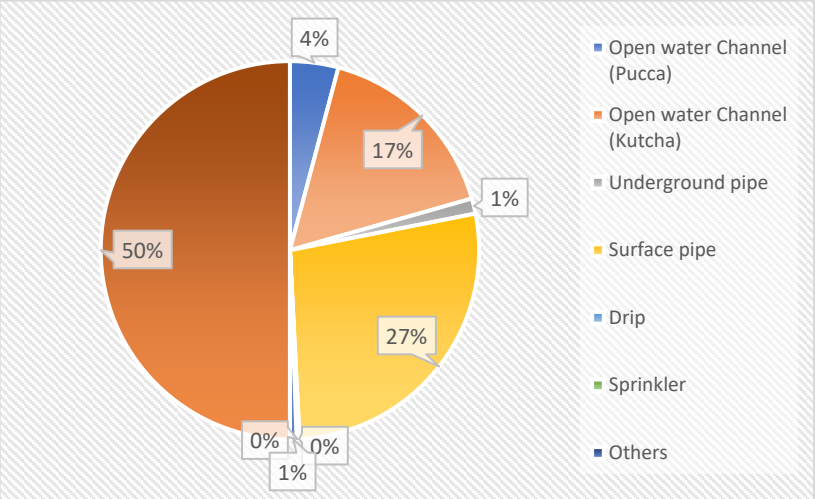
Chart 15: Number of Ground Water vs Surface Water Schemes by Source of Energy



6. Water Distribution Methods

6.1. As per the 7th Census, out of total of 40,17,756 'In Use' schemes, only 20437 (0.5%) were Surface Water schemes, while 3997319 (99.5%) were Ground Water schemes. In terms of water distribution method, Surface Pipe was the predominant mode of water distribution, accounting for 54.54% of the total, followed by Open Water Channel (Kutcha) (32.84%), Open Water Channel (Pucca) accounted for a much smaller share (8.25%), while Underground Pipe, Drip and Sprinkler each accounted close to 1% of the total.

Chart 16: Percentage distribution of Schemes by type of Water Distribution Methods



6.2. Among Ground Water schemes, Surface Pipe was the most commonly used water distribution method (21,81,973 schemes), followed by Open Water Channel [Kutcha] (13,15,647 schemes). On the contrary, Surface Water schemes were predominantly served through Surface Pipe (9,500 schemes).

6.3 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 16 above.

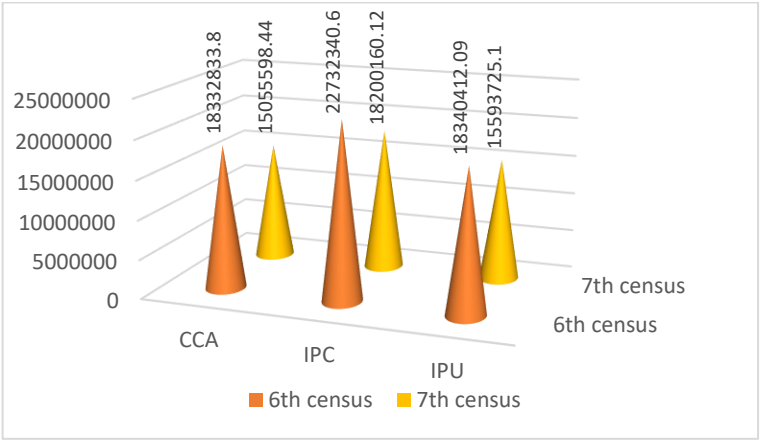
6.4. The percentage share of MI Schemes which distribute water through open water channel (unlined/kutcha) is reduced from 49.87% in 6th MI Census to 32.83% in 7th MI census indicating increase in efficiency.

7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 There has been a decline in the Culturable Command Area (CCA), Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU) in the State between the 6th and 7th MI Census. Compared to the 6th MI Census, the CCA declined by 17.87%, while the IPC decreased by 19.94% during the same period. The IPU also registered a decline of 14.97% over the 6th Census.

7.2 Despite the decline in absolute values, the IPU-to-IPC ratio improved from 0.8 (80%) in the 6th Census to 0.85 (85%) in the 7th Census, indicating a higher level of utilisation of the irrigation potential created.

Chart 17: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census (in ha)

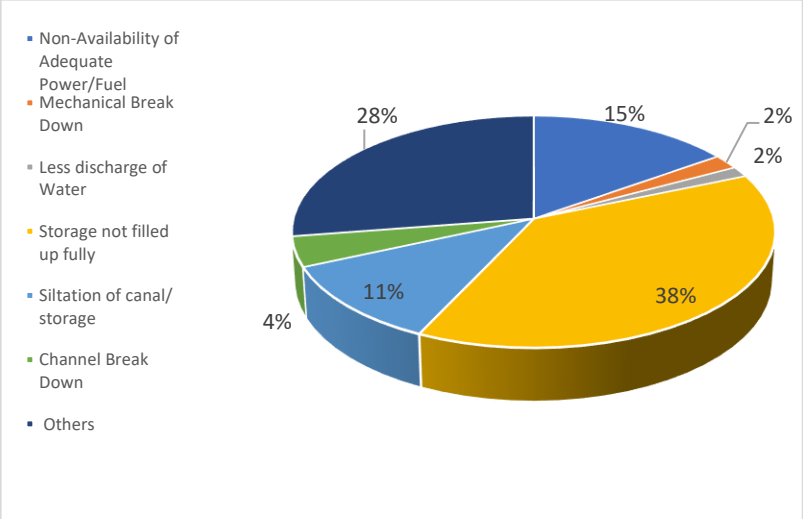


8. Underutilization of 'In Use' Schemes

8.1 It is observed in the previous rounds of MI censuses that many 'In Use' schemes remain underutilized due to various constraints. As per the 7th MI Census, 37,266 schemes out of 40,17,756 'In Use' schemes in Uttar Pradesh were underutilized for various reasons, while the remaining 99% of the 'In Use' schemes were functioning without any reported constraints.

8.2 Out of 39,97,319 'In Use' Ground-water schemes, only 36719 schemes were under-utilised. As per the 7th MI Census, out of 20,437 'In Use' SW schemes, 547 SW schemes were reported as underutilised. The major factors contributing to constraints in utilization of SW schemes are break-down of channels, siltation of canal/ storage and other reasons. The percentage distribution of Surface Water schemes by reason for underutilisation is shown in the pie chart below.

Chart 18: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 1,09,964 irrigation schemes, 5893 of which were surface water schemes and 1,04,071 of which were ground water schemes, indicating that Ground-water recharge activities were carried out predominantly through ground water schemes.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 1,53,239 Minor Irrigation schemes, constituting about 3.46% of the total schemes in Uttar Pradesh, were also used for drinking water supply, with Ground Water schemes being the primary source.

Key Parameters of 7th MI Census — Uttar Pradesh

Parameter		Unit	Value	%
Number of Schemes	Dug wells	No.	77,324	1.75
	Shallow Tubewell	No.	35,80,064	80.83
	Medium Tubewell	No.	6,17,244	13.94
	Deep Tubewells	No.	1,24,761	2.82
	Artesian Well	No.	4482	0.1

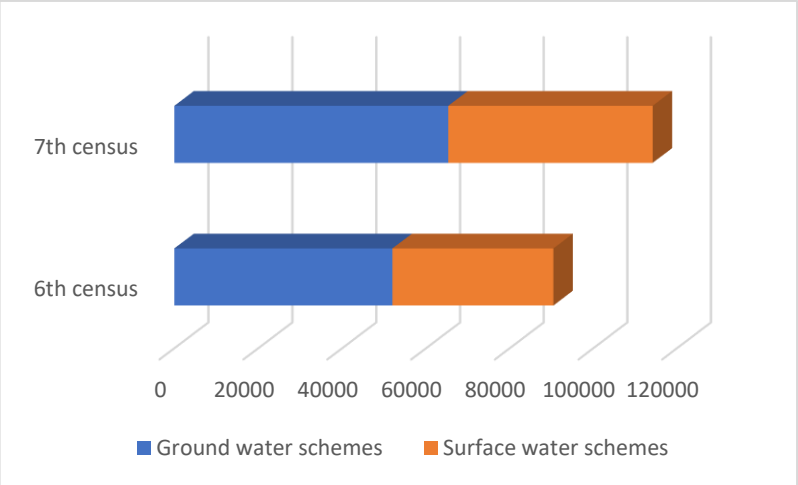
Parameter		Unit	Value			%
	Ground Water schemes	No.	**44,03,875**			99.43
	Surface Flow	No.	6,557			0.15
	Surface Lift	No.	18,505			0.42
	Surface Water schemes	No.	**25,062**			0.57
	Total schemes	No.	**44,28,937**			**100.0**
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	1,48,61,223.1	1,94,375.34	1,50,55,598.43	
	IPC	Ha	1,79,64,817.78	2,35,342.34	1,82,00,160.11	
	IPU	Ha	1,53,79,247.29	2,14,477.81	1,55,93,725.1	
	IPC of In Use schemes	Ha	1,66,79,403.52	2,15,867.11	1,68,95,270.64	
	IPU of In Use schemes	Ha	1,53,08,034.81	2,06,593.64	1,55,14,628.45	
	% Ratio of IPU to IPC	Ha	85.61%	91.13%	85.68%	
	Gap in IPC and IPU	Ha	25,85,570.49	20,864.53	26,06,435.01	
Ownership	Individual ownership	No.	43,11,057	12,046	43,23,103	97.61
	Group of Farmers	No.	9,665	352	10,017	0.23
	Public owned	No.	39,508	5,536	45,044	1.02
	Co-Operative Owned	No.	1,600	66	1,666	0.04
	Panchayat Owned	No.	8,178	5,895	14,073	0.32
	Others	No.	33,866	1,167	35,033	0.79
	Total	No.	**44,03,875**	**25,062**	**44,28,937**	**100.0**
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	3,30,555	1,069	3,31,624	8.25
	Open Water Channel (unlined/kutcha)	No.	13,15,647	3,737	13,19,384	32.84
	Underground pipe	No.	1,04,287	297	1,04,584	2.6
	Surface Pipe	No.	21,81,973	9,500	21,91,473	54.54
	Drip	No.	6,713	92	6,805	0.17
	Sprinklers	No.	13,229	464	13,693	0.341
	Others	No.	44,915	5,278	50,193	1.25
	Total	No.	**39,97,319**	**20,437**	**40,17,756**	**100.0**

2.24 UTTARAKHAND

1. Number of MI Schemes

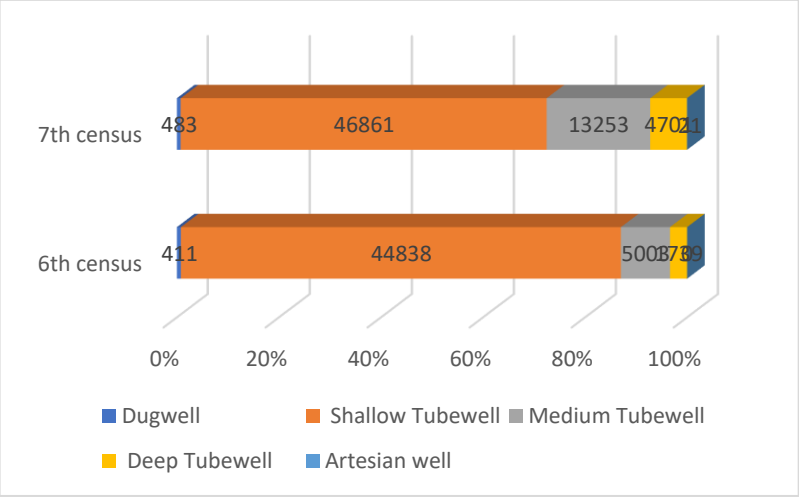
1.1 Uttarakhand reported **1,14,211** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **57.19% (65,319)** are Ground Water schemes and the remaining **42.81% (48,892)** are Surface Water schemes. It reflects that Ground Water schemes are prominent in Uttarakhand owing to the topography of the region. A comparison with the 6th Minor Irrigation Census reveals **26.25% increase** in the total number of schemes, from **90,464** in the 6th MI Census to **1,14,211** in the 7th Census.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



1.2 The number of Ground-water schemes increased from 51,991 during 6th MI Census to 65,319 in 7th MI census which account for nearly 57% of the total schemes. Within the Ground-water category, the increase was primarily driven by Shallow Tubewells which is shown in the chart given below.

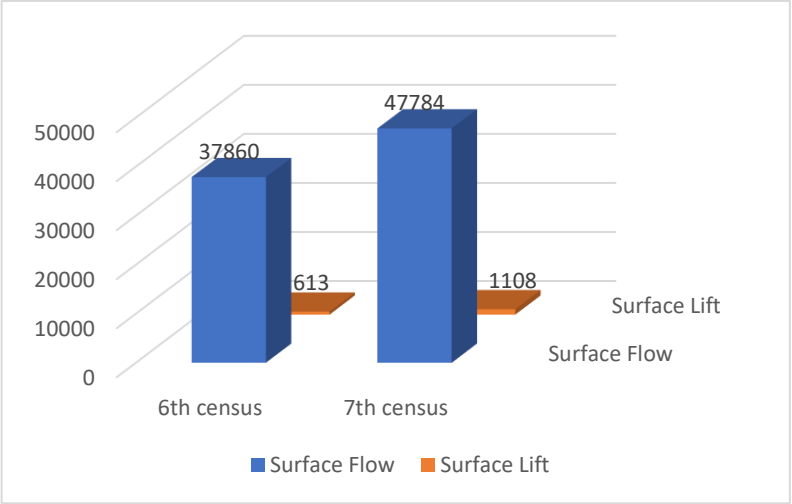
Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



1.3 Surface water schemes increased significantly from 38,473 during 6th MI Census to 48,892 schemes during 7th MI Census. Within this category, Surface Flow Schemes remained the predominant type, increasing from 37,860 to 47,784 schemes during same period.

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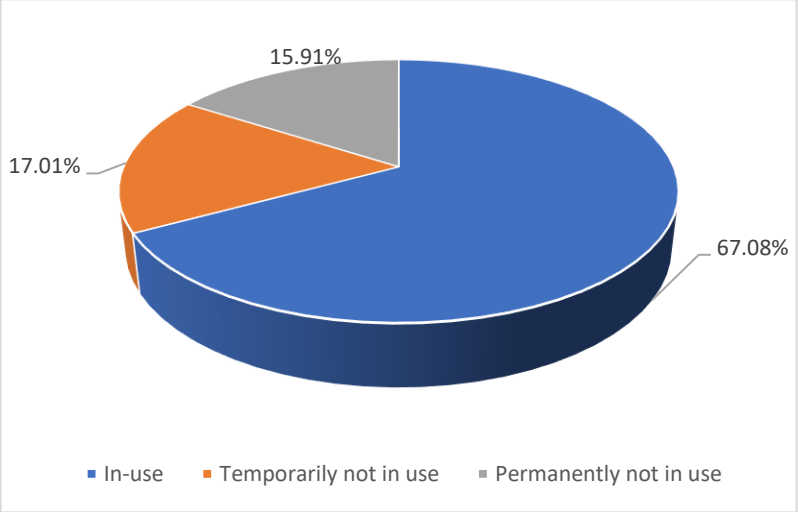
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 Out of the total 1,14,211 MI schemes, **67.08%** are currently 'In Use', **15.91%** are 'Permanently Not In Use', and **17.01%** are 'Temporarily Not In Use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

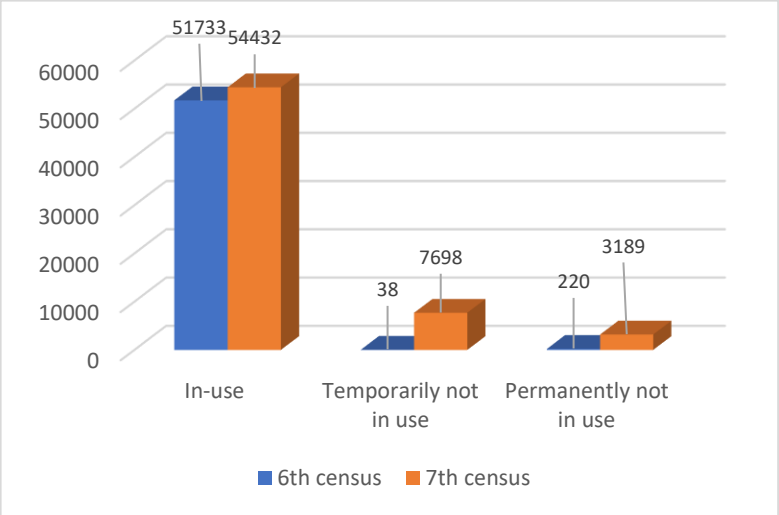
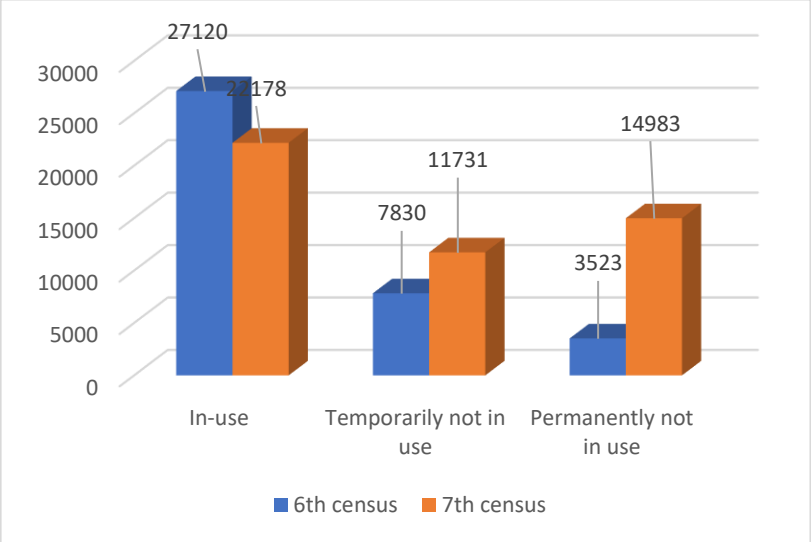


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

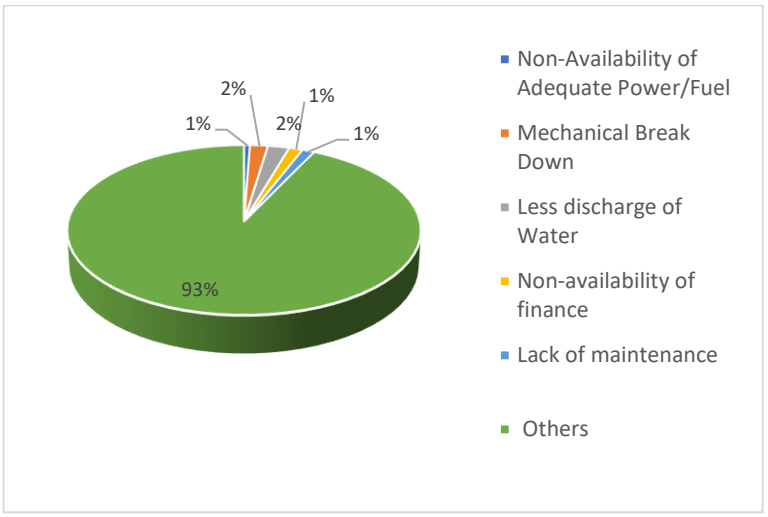


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

During 7th MI Census, out of total of 65319 GW schemes, 7,698 Ground-water (GW) schemes were reported as 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' GW Schemes is shown in chart 7.

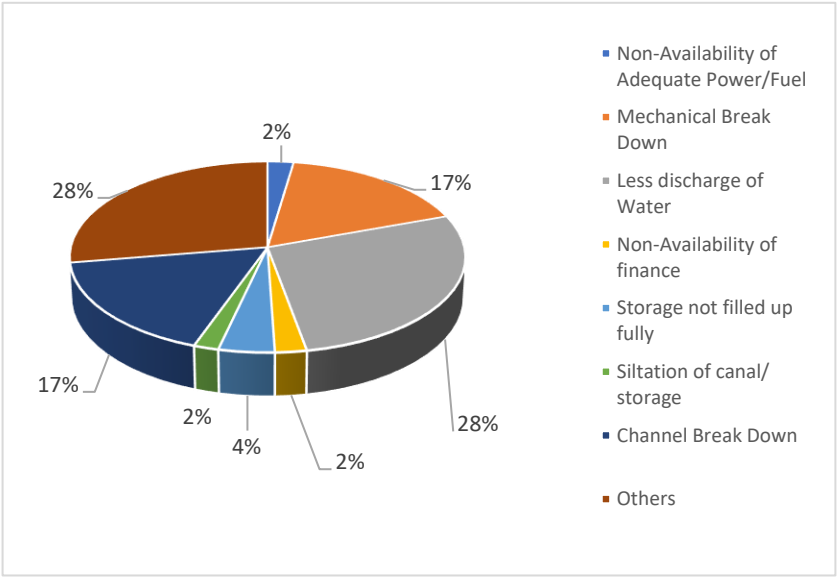
Chart 7: Reasons wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

During 7th MI Census, out of total of 48892 SW schemes, a total of 11,731 surface water (SW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' SW schemes is shown in chart 8.

Chart 8: Reason- wise percentage share of 'Temporarily Not-In Use' Surface Water Schemes



3.3 Reason of 'Permanently Not In Use' Schemes

During 7th MI Census, out of total of 65319 GW schemes, 3,189 Ground-water (GW) schemes were reported as 'Permanently Not in Use'. 'Destroyed beyond repair' is accounted as one of the major reasons of both GW and SW schemes. Reason wise percentage distribution of 'Permanently Not-In Use' GW Schemes and SW Schemes is given in chart 9 and chart 10 below.

Chart 9: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes

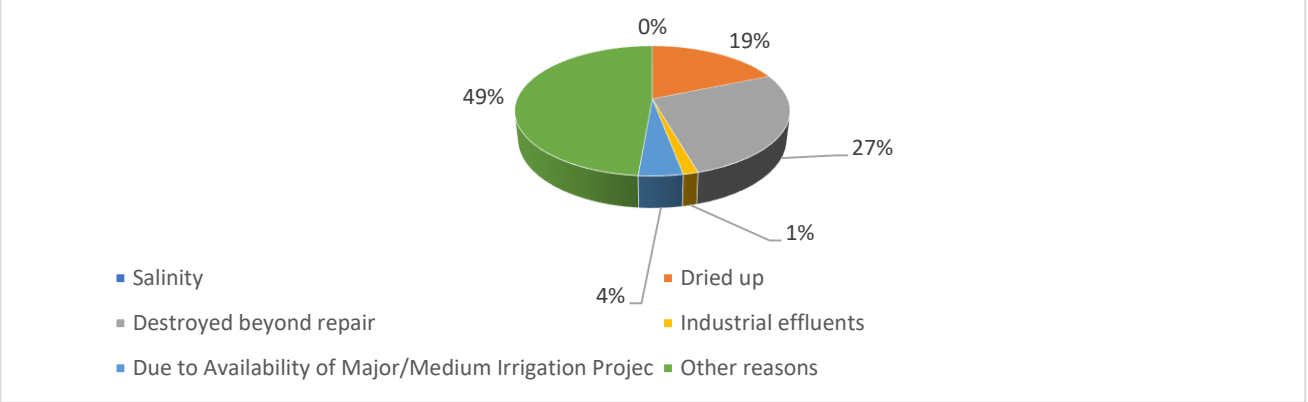
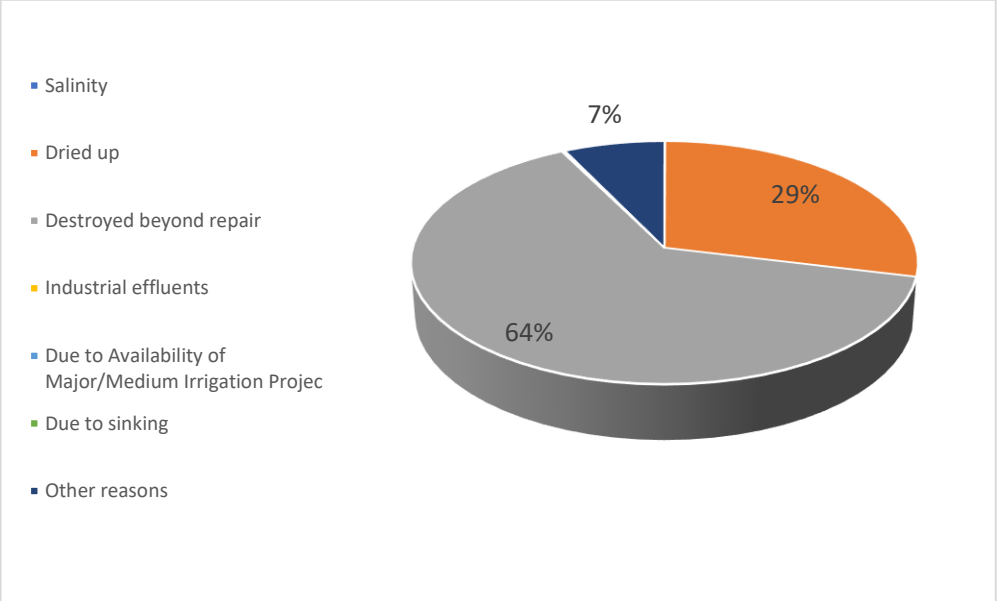


Chart 10: Reason wise percentage distribution of 'Permanently Not-In Use' Surface Water Schemes



4. Ownership of MI Schemes

4.1 Out of **1,14,211** MI schemes in Uttarakhand, 53.4% of the schemes are owned by Individual Farmers. This shows that farmers are getting noticeable benefit from MI schemes. Ownership Categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers), are shown in Charts 11, 12 and 13 respectively.

Chart 11: Distribution of Ownership Categories — Ground Water vs Surface Water Schemes

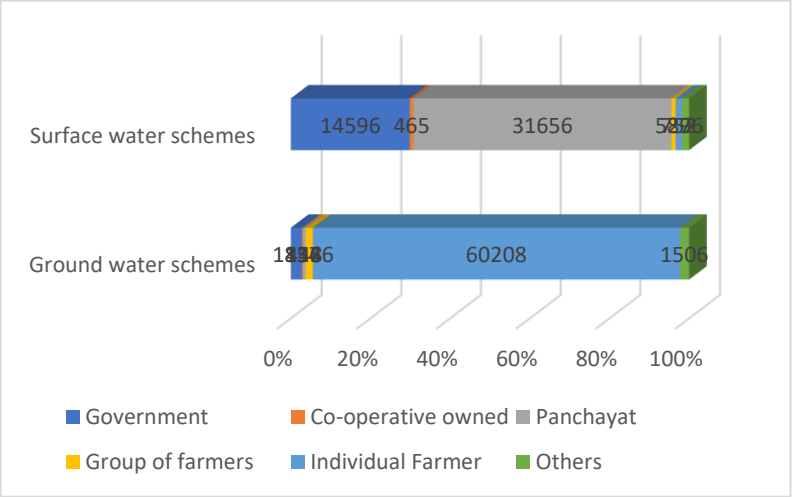


Chart 12: Ownership of Ground Water Schemes (Number)

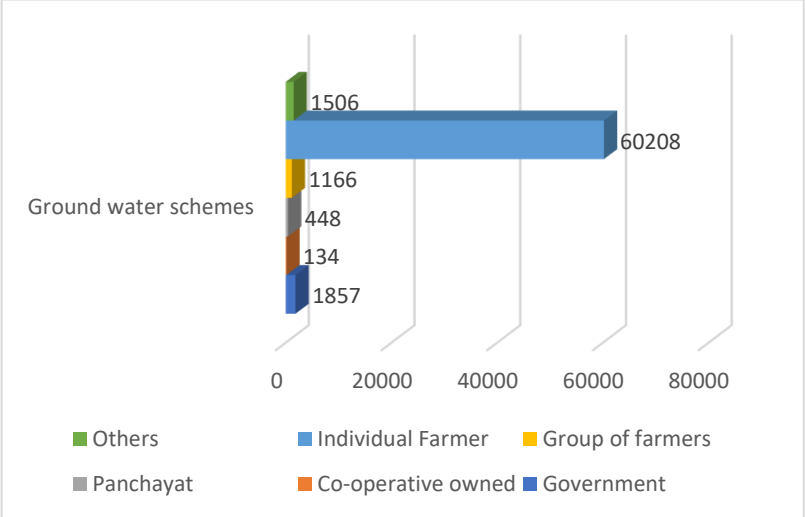
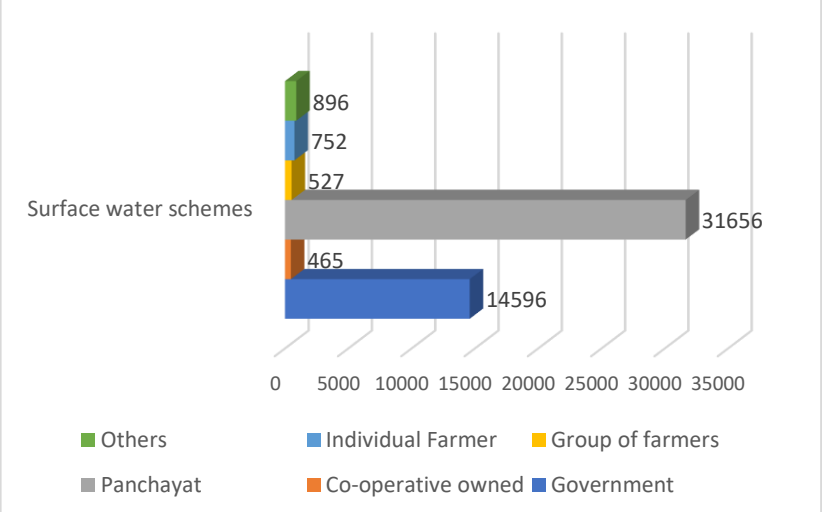


Chart 13: Ownership of Surface Water Schemes (Number)

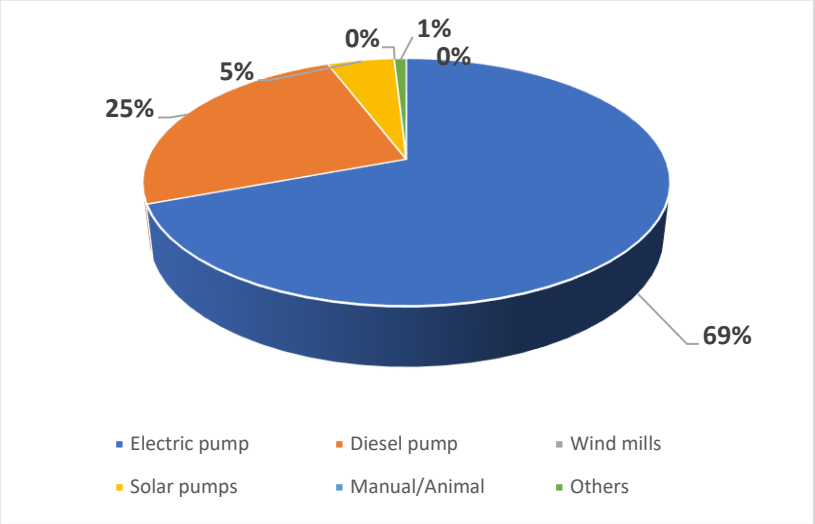


5. Source of Energy

5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the

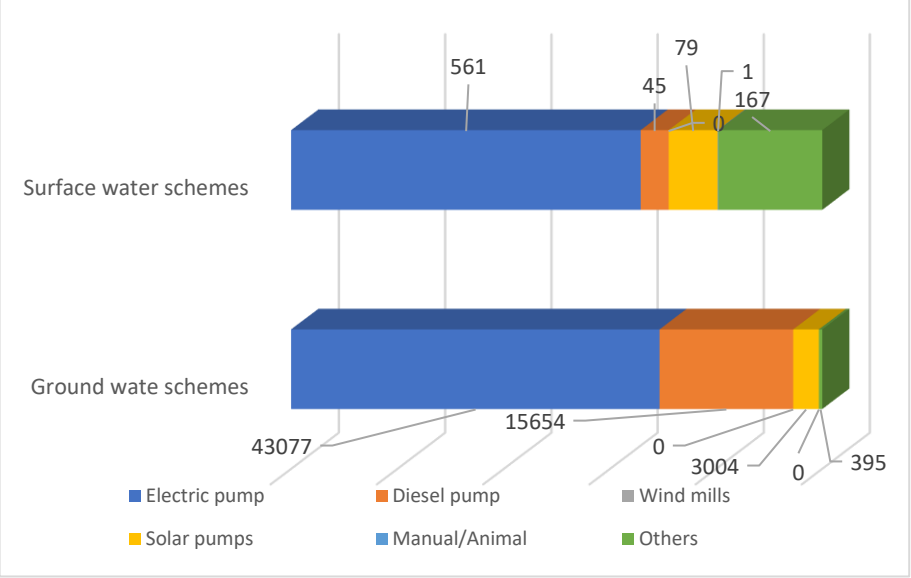
category of ground water and surface lift schemes. The number of such schemes is 62,983. Out of these, majority of schemes (69.28%) are using Electricity as source of energy followed by Diesel pumps (24.93%) and Solar pumps (4.89%) in the 7th MI Census.

Chart 14: Percentage distribution of MI schemes by Source of Energy



5.2 Number of surface lift and ground water irrigation scheme by source of energy is given in chart 15.

Chart 15: Number of Ground Water vs Surface Water Schemes by Source of Energy



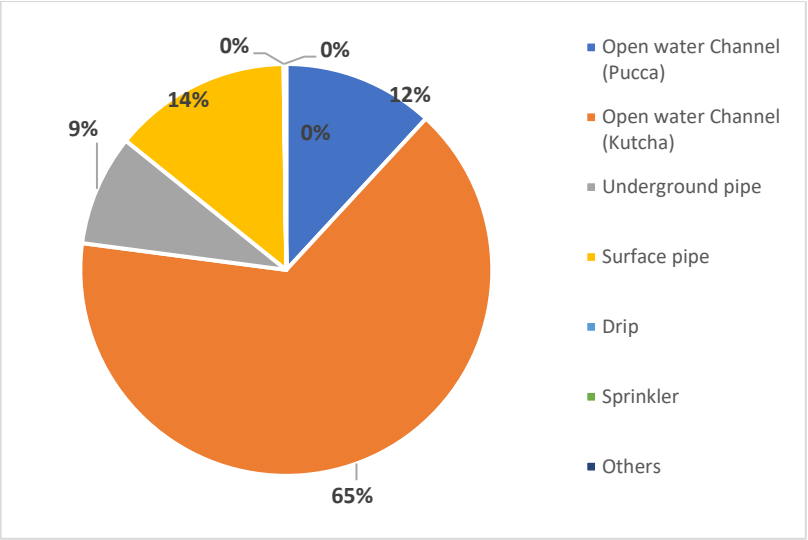
6. Water Distribution Methods

6.1. As per the 7th Census, out of total of 76,610 'In Use' schemes, 22,178 (28.95%) were Surface Water schemes, while 54,432 (71.05%) were Ground Water schemes. In terms of water distribution method, Open Water Channel (Kutcha) was the predominant mode of water distribution, accounting for 49.53% of the total, followed by Open Water Channel (Pucca) 27.52% and surface pipe 13.44%.

6.2. Among Ground Water schemes, Open Water Channel (Kutcha) was the most commonly used water distribution method (35,499 schemes), followed by Surface pipe (7,613 schemes). Surface Water schemes were also predominantly served through Open Water Channel (Pucca) (6,455 schemes).

6.3 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 16 below.

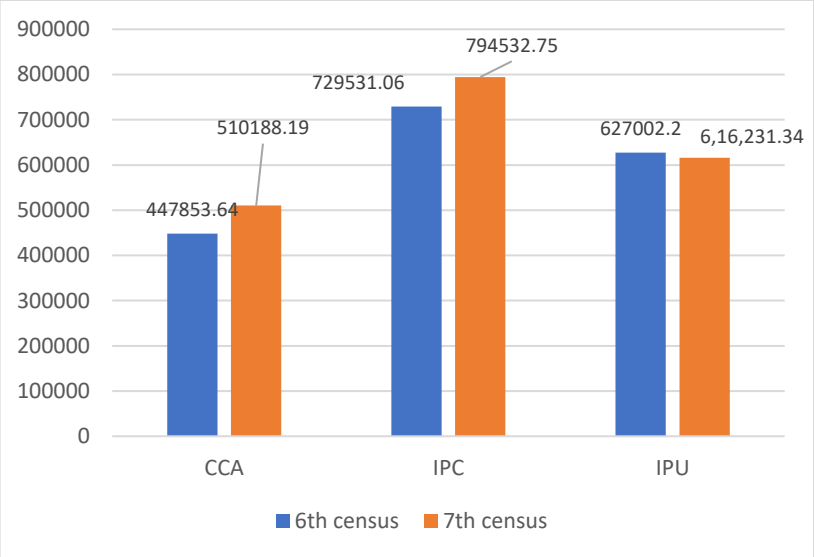
Chart 16: Percentage distribution of Ground Water (inner ring) and Surface Water (outer ring) Schemes by type of Water Distribution Methods



7. Culturable Command Area, Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 During 7th MI census, there has been an increase in the Culturable Command Area (CCA) by 13.92% and Irrigation Potential Created (IPC) by 8.91% in the State as compared to 6th MI census. However, the IPU registered a decline of 1.72% as compared to 6th MI Census which is shown in the chart 17.

Chart 17: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census



8. Underutilization of 'In Use' Schemes

8.1 It is observed in the previous rounds of MI censuses that many 'In Use' schemes remain underutilized due to various constraints. As per the 7th MI Census, 2,634 schemes out of 76,610 'In

Use' schemes in Uttarakhand were underutilized for various reasons, while the remaining 96.56% of the 'In Use' schemes were functioning without any reported constraints.

8.2 As per the 7th MI Census, out of 54,432 'In Use' GW schemes, 1,693 schemes were under-utilised on account of various reasons shown in Chart 18. Out of 22,178 'In Use' SW schemes, 941 schemes were reported as underutilised. The percentage distribution of GW and SW schemes by reason for underutilisation is shown in the Chart 18 and 19 below.

Chart 18: Percentage distribution of Ground Water schemes by reason for underutilisation

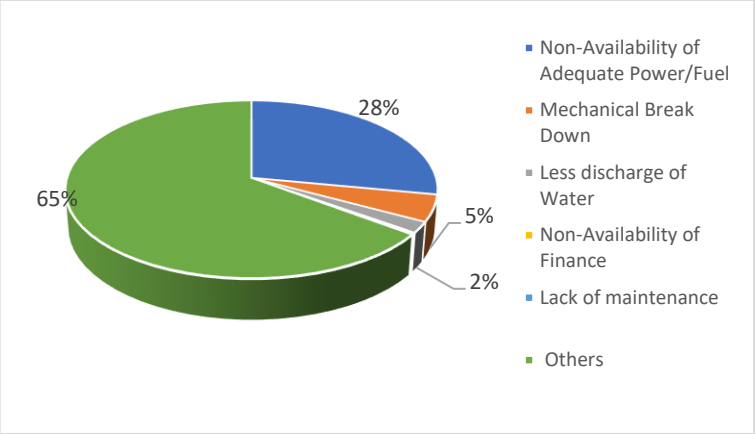
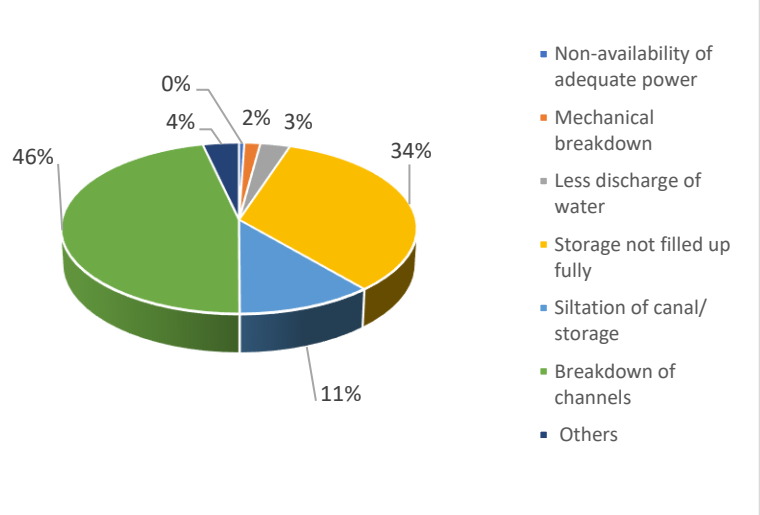


Chart 19: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 2,224 irrigation schemes, 1,474 of which were Ground water schemes and 750 of which were Surface water schemes, indicating that Ground-water recharge activities were carried out predominantly through ground water schemes.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 4,563 Minor Irrigation schemes, constituting about 3.99% of the total schemes in Uttarakhand, were used for drinking purpose.

Key Parameters of 7th MI Census — Uttarakhand

Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	483			0.74
	Shallow Tubewell	No.	46861			71.74
	Medium Tubewell	No.	13253			20.29
	Deep Tubewells	No.	4701			7.20
	Artesian Well	No.	21			0.03
	Ground Water schemes	No.	**65319**			57.19
	Surface Flow	No.	47784			97.73
	Surface Lift	No.	1108			2.27
	Surface Water schemes	No.	**48892**			42.81
	Total schemes	No.	**114211**			100.00
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	249041.59	261146.6	510188.19	
	IPC	Ha	381821.21	412711.5	794532.75	
	IPU	Ha	322499.01	293732.3	616231.34	
	IPC of In Use schemes	Ha	319168.44	234996.42	554164.86	
	IPU of In Use schemes	Ha	279619.50	211562.30	491181.80	
	% Ratio of IPU to IPC	Ha	84.46	71.17	77.56	
	Gap in IPC and IPU	Ha	59322.2	118979.2	178301.41	
Ownership	Individual ownership	No.	60208	752	60960	53.37
	Group of Farmers	No.	1166	527	1693	1.48
	Public owned	No.	1857	14596	16453	14.40
	Co-Operative Owned	No.	134	465	599	0.52
	Panchayat Owned	No.	448	31656	32104	28.11
	Others	No.	1506	896	2402	2.10
	Total	No.	65319	48892	114211	100.00
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	6455	14626	21081	27.52
	Open Water Channel (unlined/kutcha)	No.	35499	2443	37942	49.53
	Underground pipe	No.	4745	835	5580	7.28
	Surface Pipe	No.	7613	2687	10300	13.44
	Drip	No.	20	187	207	0.27

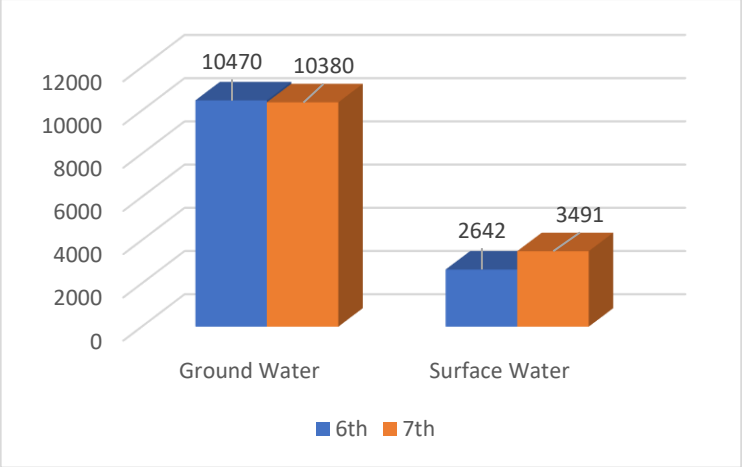
Parameter		Unit	Value			%
	Sprinklers	No.	2	51	53	0.07
	Others	No.	98	1349	1447	1.89
	Total	No.	54432	22178	76610	100

2.25 JAMMU AND KASHMIR

1. Number of MI Schemes

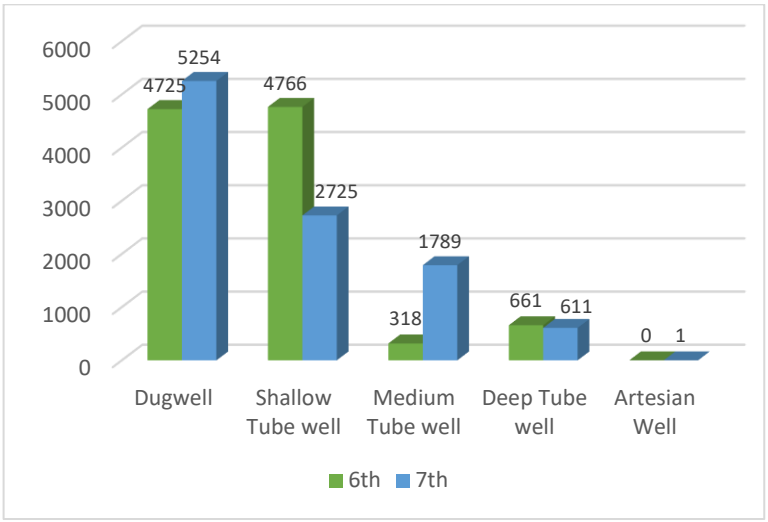
1.1 Jammu and Kashmir reported **13,871** Minor Irrigation (MI) schemes in the 7th Minor Irrigation Census, out of which **74.83% (10,380 schemes)** are Ground Water schemes and the remaining **25.18% (3,491 schemes)** are Surface Water schemes. It reflects that Ground Water schemes are prominent in Jammu and Kashmir owing to the topography of the region. A comparison with the 6th Minor Irrigation Census reveals **5.47% increase** in the total number of schemes, from **13,112** in the 6th Census to **13,871** in the 7th Census.

Chart 1: Number of Ground Water and Surface Water Schemes —7th vs 6th MI Census



1.2 The composition of irrigation schemes remained broadly unchanged between the 6th and 7th Minor Irrigation Censuses. Although the number of Ground-water schemes decreased from 10,470 to 10,380, they continued to account for approximately 75% of the total schemes. Within the Ground-water category, the decrease was primarily driven by Shallow Tube Wells which is shown in the chart given below.

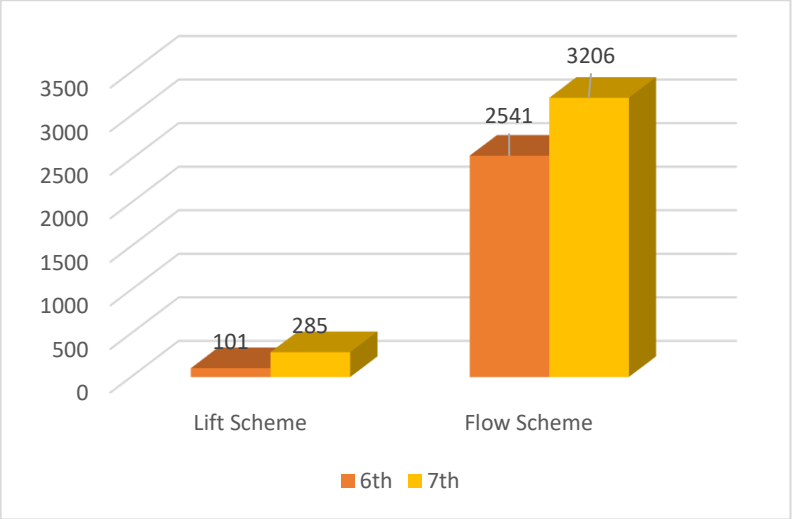
Chart 2: Number of Ground Water Schemes by Type —7th vs 6th MI Census



1.3 Surface water schemes make up approximately 25% of the irrigation infrastructure, increasing marginally from 2,642 to 3,491 schemes between the 6th and 7th Minor Irrigation Censuses.

Within this category, Surface Flow Schemes remained the predominant type, increasing slightly from 2,541 to 3,206 schemes.

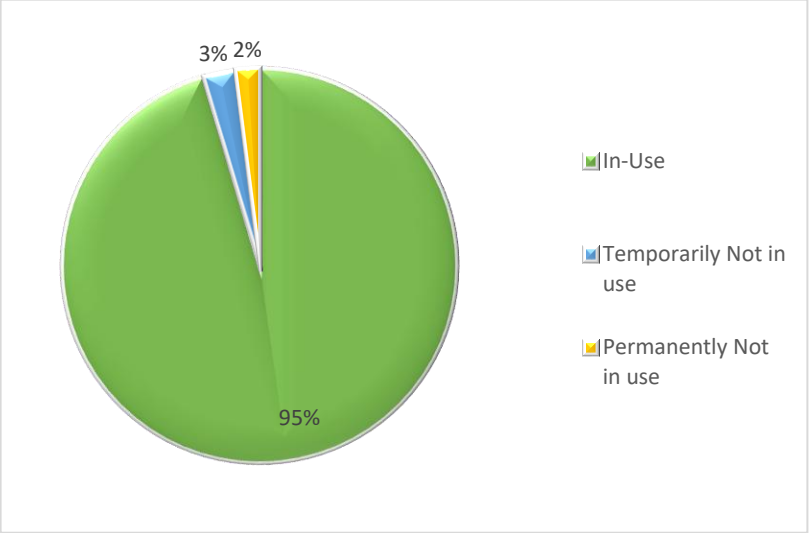
Chart 3: Number of Surface Water Schemes by Type — 7th vs 6th MI Census



2. Use Status of MI Schemes

2.1 Out of the total 13,871 MI schemes, **95%** are currently 'In Use', **2%** are 'Permanently Not in Use', and **3%** are 'Temporarily Not in Use'.

Chart 4: Percentage Share of 7th MI Schemes by Usage Status



2.2 Number of Ground Water Schemes & Surface water schemes by Use Status is shown in charts 5 and 6 respectively.

Chart 5: Number of Ground Water Schemes by Use status— 7th vs 6th MI Census

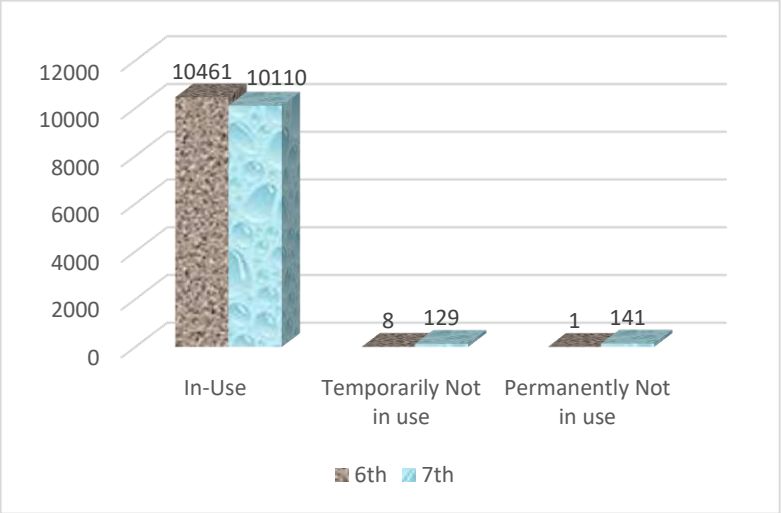
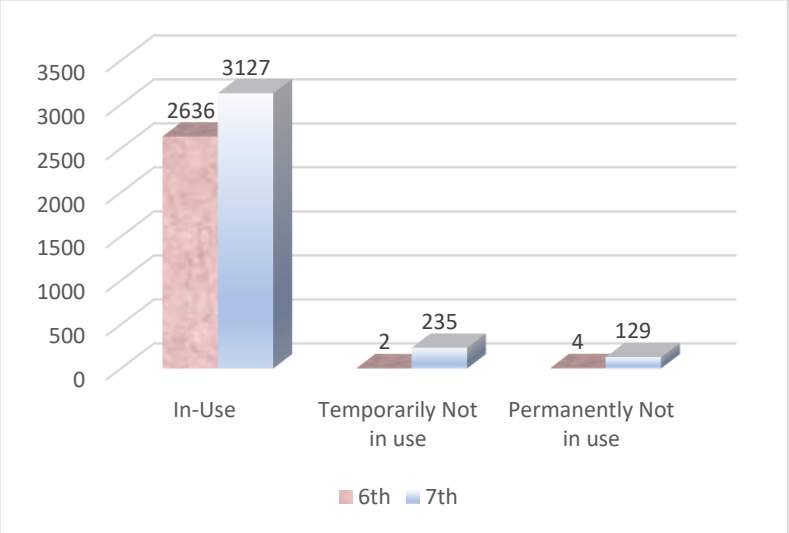


Chart 6: Number of Surface Water Schemes by Use status — 7th vs 6th MI Census

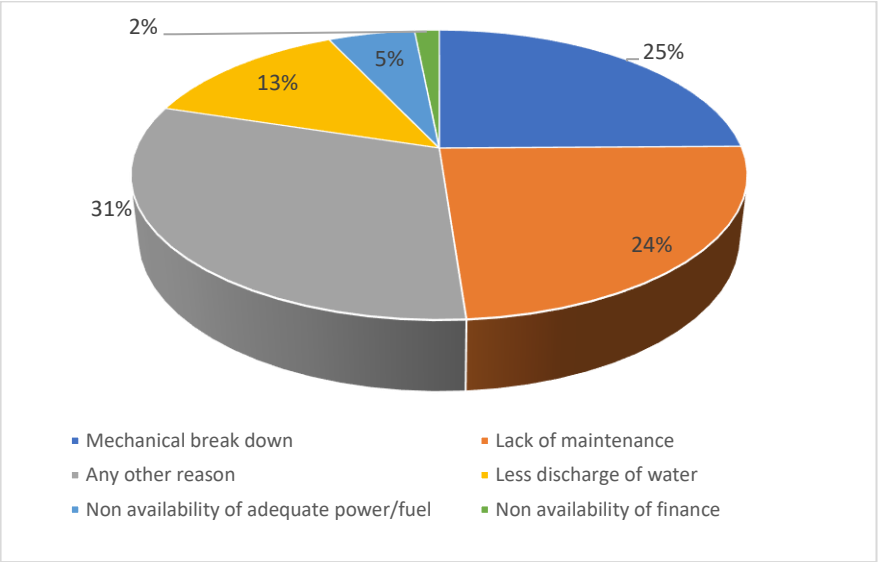


3. Reason for Not-In Use Schemes

3.1 Reason of 'Temporarily Not in Use' GW Schemes

As per the 7th Census, a total of 129 Ground-water (GW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Ground-water Schemes is shown in chart 8.

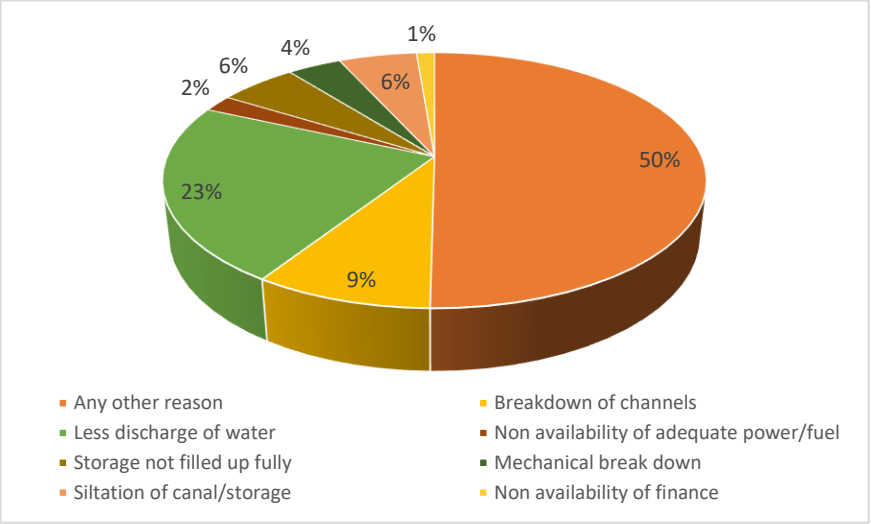
Chart 8: Reasons wise percentage distribution of 'Temporarily Not in Use' Ground-water Schemes



3.2 Reason of 'Temporarily Not in Use' SW schemes

As per the 7th Census, a total of 235 surface water (SW) schemes were reported 'Temporarily Not in Use'. Reason-wise percentage distribution of 'Temporarily Not-In Use' Surface-water schemes is shown in chart 9.

Chart 9: Reason- wise percentage share of 'Temporarily Not in Use' Surface Water Schemes



3.3 Reason of 'Permanently Not in Use' GW Schemes

As per 7th Census, a total of 141 Ground-water (GW) schemes were reported 'Permanently Not in Use'. Reason wise percentage distribution of 'Permanently Not-In Use' GW Schemes and SW Schemes is given in chart 10 and chart 11 below.

Chart 10: Reason-wise percentage distribution of 'Permanently Not-In Use' Ground-water Schemes

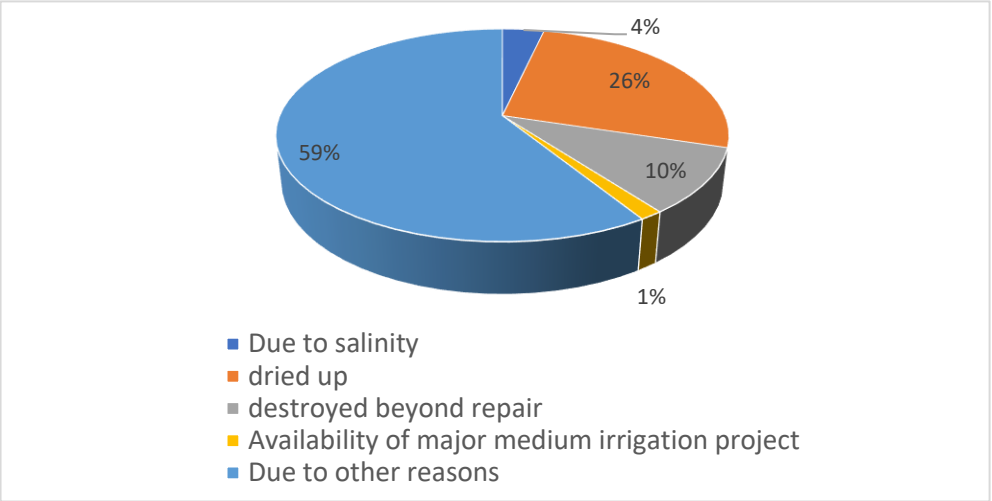
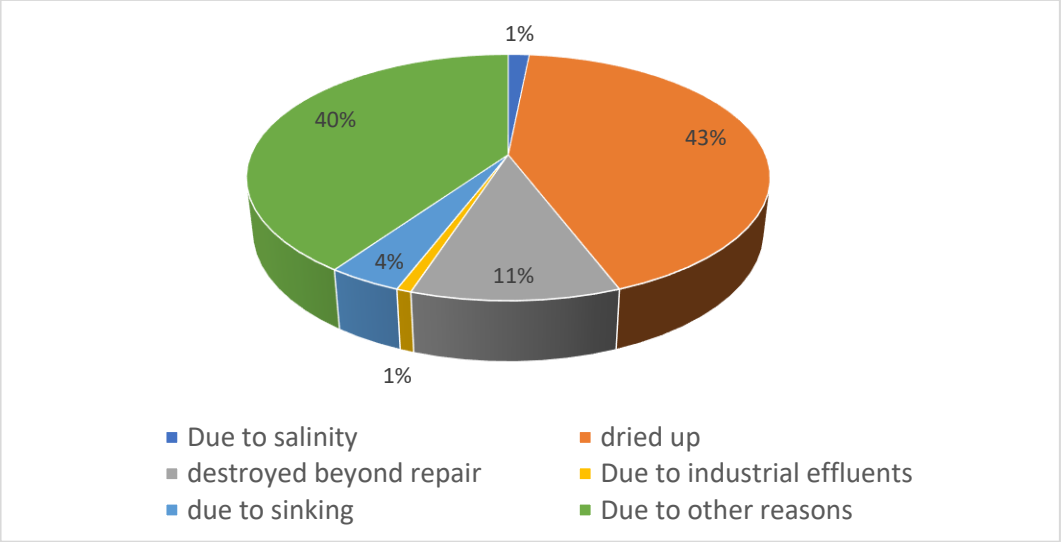


Chart 11: Reason wise percentage distribution of 'Permanently Not in Use' Surface Water Schemes



4. Ownership of MI Schemes

4.1 Out of **13,871** MI schemes in Jammu and Kashmir, majority of the Ground Water schemes (59% Ground Water schemes) are predominately owned by an Individual Farmer whereas majority of the Surface Water schemes (67% of Surface Water Schemes) are predominantly Govt. Owned. Ownership Categories of Ground Water and Surface Water schemes (percentage distribution as well as in numbers), are shown in Charts 12, 13 and 14 respectively.

Chart 12: Percentage distribution of Ownership Categories — Ground Water vs Surface Water Schemes

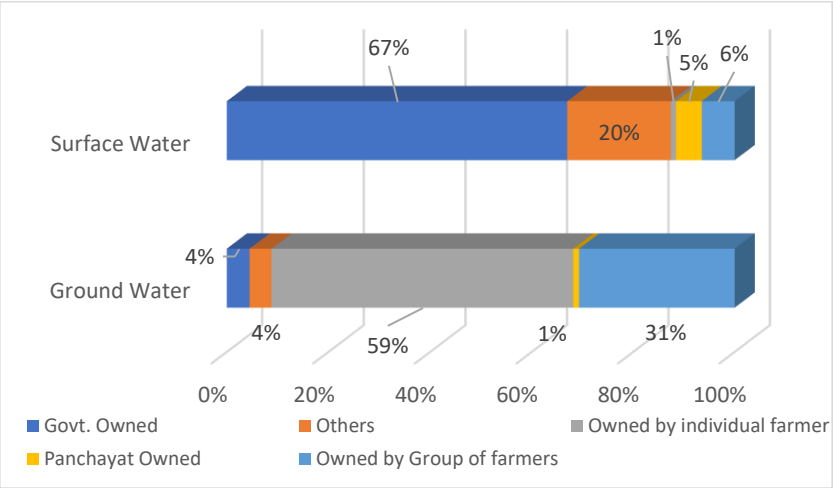


Chart 13: Ownership of Ground Water Schemes (Number)

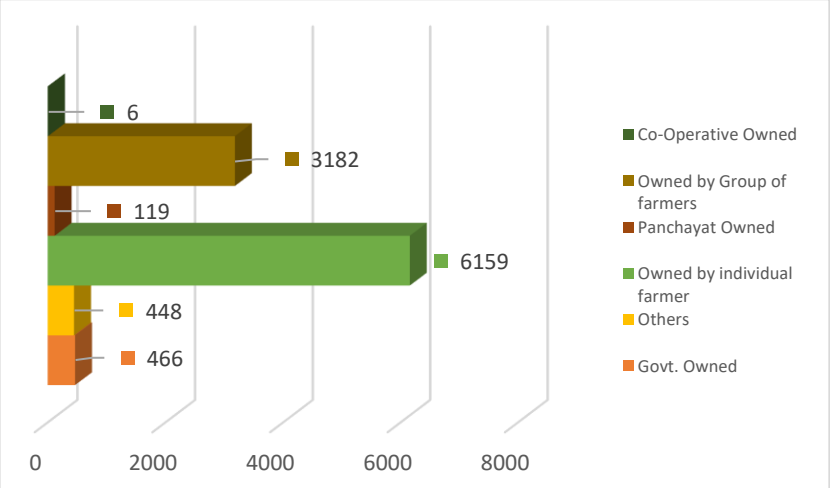
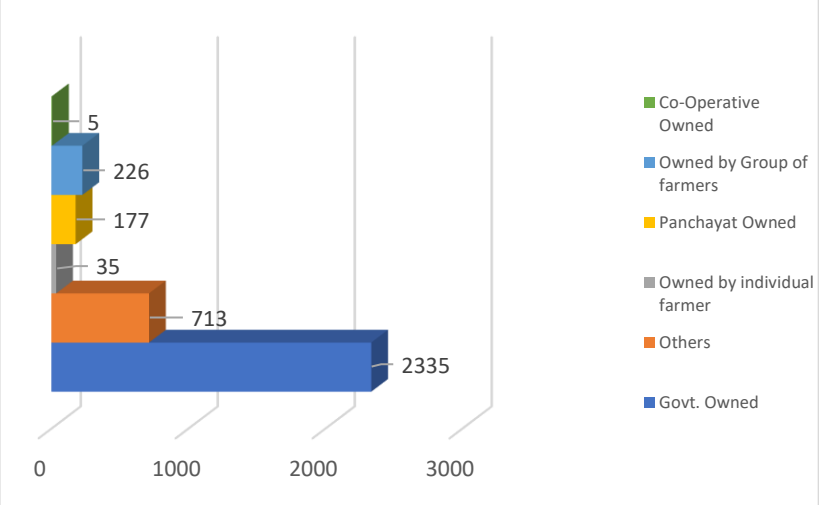


Chart 14: Ownership of Surface Water Schemes (Number)

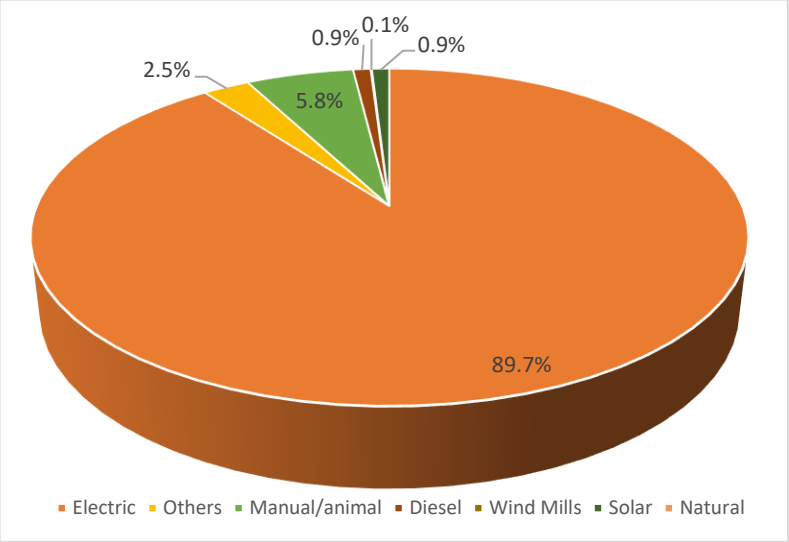


5. Source of Energy

5.1 The information on 'source of energy' used for operating lifting device for lifting water from the source was collected for 'in use' and 'temporarily not in use' schemes which comes under the

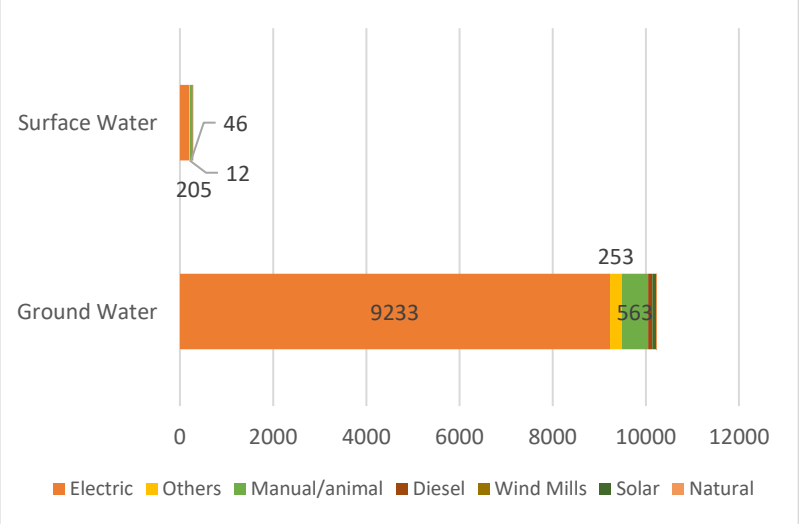
category of ground water and surface lift schemes. The number of such schemes is 10,517. Out of these 10,517 schemes, majority of schemes (89.7%) are using electricity as source of energy followed by manual or animals (5.8%) in the 7th MI Census.

Chart 15: Percentage distribution of MI schemes by Source of Energy



5.2 Number of surface lift and ground water irrigation scheme by source of energy is given in chart 16.

Chart 16: Number of Ground Water vs Surface Water Schemes by Source of Energy



6. Water Distribution Methods

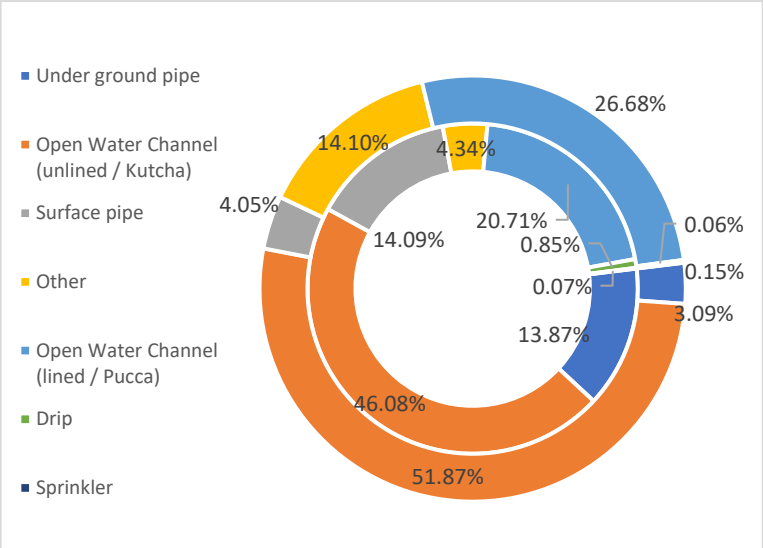
6.1. As per the 7th Census, out of total of 13,237 'In Use' schemes, 10,110 (76.4%) were Ground Water schemes while remaining 3127 (23.6%) were Surface Water schemes. In terms of water distribution method, Open Water Channel (Kutcha) was the predominant mode of water distribution, accounting for 48.2% of the total, followed by Open Water Channel (Pucca) 22.3%. Surface Pipe accounted for a smaller share (11.6%), while Drip, Sprinkler and other accounted for 6.8% of the total.

6.2. Among Ground Water schemes, Open Water Channel (Kutcha) was the most commonly used water distribution method (4,704 schemes), followed by Open Water Channel [Pucca] (2,105 schemes).

On the same lines, Surface Water schemes were predominantly served through Open Water Channel [Kutcha] (1674 schemes).

6.3 The percentage distribution of Ground Water and Surface Water schemes by type of water distribution method is shown in the chart 17 below.

Chart 17: Percentage distribution of Ground Water (inner ring) and Surface Water (outer ring) Schemes by type of Water Distribution Methods



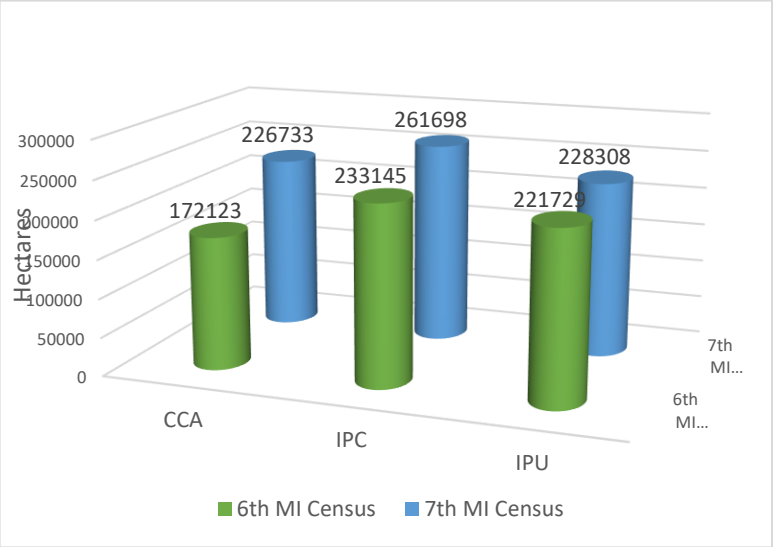
6.4. The percentage share of MI Schemes which distribute water through open water channel (unlined/kutcha) is reduced from 73% in 6th MI Census to 48.2% in 7th MI census indicating increase in efficiency.

7. Culturable Command Area (CCA), Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU)

7.1 There has been an increase in the Culturable Command Area (CCA), Irrigation Potential Created (IPC) and Irrigation Potential Utilised (IPU) in the State between the 6th and 7th MI Census. Compared to the 6th MI Census, the CCA increased by 31.7%, the IPC increased by 12.2% during the same period. The IPU also registered an increase of 2.96% over the 6th Census.

7.2 The IPU-to-IPC ratio decreased from 0.95 (95%) in the 6th Census to 0.87 (87%) in the 7th Census, indicating a lower level of utilisation of the irrigation potential created.

Chart 18: CCA, IPC and IPU for all MI Schemes — 7th vs 6th MI Census (in ha)

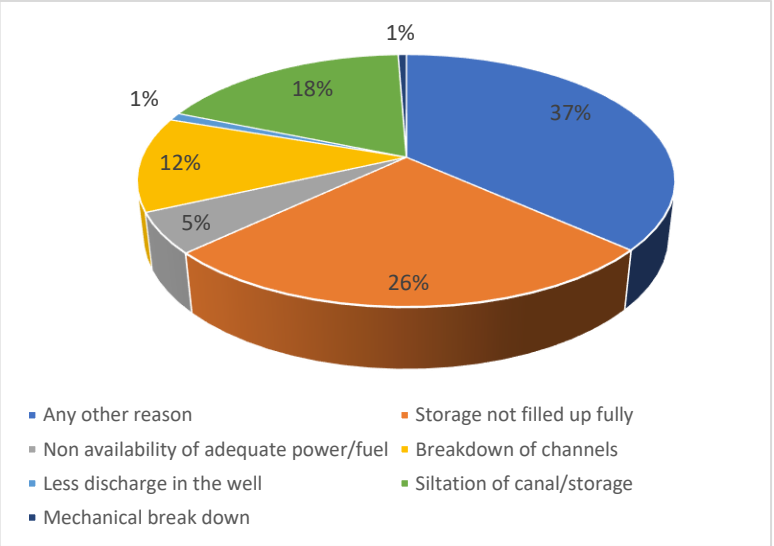


8. Underutilization of 'In Use' Schemes

8.1 It is observed in the previous rounds of MI censuses that many 'In Use' schemes remain underutilized due to various constraints. As per the 7th MI Census, 2,135 schemes out of 13,237 'In Use' schemes in Jammu and Kashmir were underutilized for various reasons, while the remaining 83.87% of the 'In Use' schemes were functioning without any reported constraints.

8.2 Out of 10,110 'In Use' Ground-water schemes, 1,633 schemes were under-utilised. As per the 7th Census, out of 3,127 'In Use' SW schemes, 502 SW schemes were reported as underutilised, compared to 73 out of 2,636 schemes in the 6th Census. The major factors contributing to constraints in utilization of SW schemes are storage, non-availability of power/fuel, break-down of channels, and other reasons. The percentage distribution of Surface Water schemes by reason for underutilisation is shown in the pie chart below.

Chart 19: Percentage distribution of Surface Water schemes by reason for underutilisation



9. Status of Ground Water Recharge

9.1 Ground-water recharge was undertaken through 1,226 irrigation schemes.

10. Number of Schemes used for drinking

10.1 As per the 7th MI Census, 2,987 Minor Irrigation schemes, constituting about 22% of the total schemes in Jammu and Kashmir, were also used for drinking water supply, with Ground Water schemes being the primary source.

Key Parameters of 7th MI Census — Jammu and Kashmir

Parameter		Unit	Value			%
Number of Schemes	Dug wells	No.	5254			37.9
	Shallow Tubewell	No.	2725			19.6
	Medium Tubewell	No.	1789			12.9
	Deep Tubewells	No.	611			4.4
	Artesian Well	No.	1			0.0
	Ground Water schemes	No.	**10380**			**74.8**
	Surface Flow	No.	3206			23.1
	Surface Lift	No.	285			2.1
	Surface Water schemes	No.	**3491**			**25.2**
	Total schemes	No.	**13,871**			**100.0**
			GW	**SW**	**Total**	
CCA, IPC and IPU	CCA	Ha	52,143.85	1,74,588.66	2,26,732.50	
	IPC	Ha	67,357.80	1,94,340.17	2,61,697.97	
	IPU	Ha	60,162.75	1,68,145.28	2,28,308.03	
	IPC of In Use schemes	Ha	65,378.79	1,78,651.27	2,44,030.06	
	IPU of In Use schemes	Ha	59,670.09	1,63,620.36	2,23,290.45	
	% Ratio of IPU to IPC		89.32%	86.52%	87.24%	
	Gap in IPC and IPU	Ha	5,708.70	15,030.92	20,739.61	
Ownership	Individual ownership	No.	6,159	35	6,194	44.7
	Group of Farmers	No.	3,182	226	3,408	24.6
	Govt. owned	No.	466	2335	2801	20.2
	Co-Operative Owned	No.	6	5	11	0.1
	Panchayat Owned	No.	119	177	296	2.1
	Others	No.	448	713	1,161	8.4
	Total	No.	**10,380**	**3,491**	**13,871**	**100.0**
Water Distribution methods (In Use schemes)	Open Water Channel (Lined/Pucca)	No.	2,105	849	2,954	22.3
	Open Water Channel (unlined/kutcha)	No.	4,704	1,674	6,378	48.2

Parameter		Unit	Value			%
	Underground pipe	No.	1,378	92	1,470	11.1
	Surface Pipe	No.	1,424	112	1,536	11.6
	Drip	No.	79	2	81	0.6
	Sprinklers	No.	6	2	8	0.1
	Others	No.	414	396	810	6.1
	Total	No.	**10,110**	**3,127**	**13,237**	**100.0**

3. SCHEDULE OF THE 7TH MINOR IRRIGATION CENSUS

SEVENTH CENSUS OF MINOR IRRIGATION SCHEMES
REFERENCE YEAR 2023-24 (AGRICULTURAL YEAR)

SURFACE WATER SCHEMES **Code: 02**

I. IDENTIFICATION PARTICULARS

(a)State: _____ **Code :** **(b) District:** _____ **Code:**

(c)Block/Tehsil: _____ **Code:** **(d) Village:** _____ Code:

(e) Latitude _____ **Longitude**_____

(f) Date of Enumeration:(DD/MM/YY) - -

II. SPECIFIC INFORMATION:

1. Serial Number of scheme :

2. Type of Scheme **Code:**

Surface Flow Scheme – 1, Surface Lift Scheme - 2

3.1 If code 1 in item 2, Nature of Surface Flow Scheme: **Code:**

Reservoirs - 1, Tanks/Ponds -2, Other Storages -3, Permanent diversion - 4, Temporary diversion - 5 ,
Water conservation-cum-ground water recharge schemes /percolation tanks/check dams etc - 6, Spring Channel - 7, Others - 9

3.2, If code 2 in item 2, Nature of Surface Lift Scheme: **Code:**

On River - 1, On Stream - 2, On drain/canal - 3 , On Tanks/Ponds/Reservoirs/check dams - 4, Others - 9

4. Owner of the Scheme (Name in case of individual farmer)

Name _____ **Code:**

Govt. owned - 1, Co-operative owned - 2, Panchayat owned - 3, Owned by Group of farmers - 4,
Owned by individual farmer - 5, Others – 9

5. Khasra number /Plot No./Survey No. in which the scheme is located _____

6(a). Total Holding of owner (in case of individual owner only) . **Ha.**

(b) Social Status of Owner (in case of individual owner only) **Code:**

Scheduled caste -1 , Scheduled tribe – 2 , OBC- 3, Others 9

(c) Gender of Owner (in case of individual owner only)

Male-1, Female-2, Transgender-3 **Code:**

7. Year of Commissioning of the Scheme **Code :**

Upto 2018-19- 1, during 2019-20 - 2, during 2020-21 - 3, during 2021-22- 4
during 2022-23 - 5 , during 2023-24 - 6

8. (a) Cost of construction of the scheme **(Rs.)**

(b) Cost of machinery **(Rs.)**

(c) Cost of maintenance during (2023-24) **(Rs.)**

9.(a) Major source of finance (upto 2) (For individual owners only) **Code :**

Bank loan - 1, Government fund - 2, Own savings - 3, Money lender - 4, Others - 9

9(b) .If any subsidy/assistance provided by Govt. / PSU , amount for (For All Schemes)

(i) Construction of Scheme/ digging **(Rs.)**

(ii) Cost of machinery/ distribution device **(Rs.)**

10. Current Status of the Scheme

(a) In use - 1, Temporarily Not in Use - 2, Permanently Not in use - 3 **Code:** ☐

(b) If code 2 or 3 in item 10(a), No. of years not in use ☐

11 . If code 2 in item 10 (a) reason for Temporarily "not in use" **Code:** ☐

Non availability of adequate power/ fuel – 1 , Mechanical break down – 2 ,
Less discharge of water - 3 , Non Availability of finance-4, Storage not filled up fully - 5
Siltation of canal/storage - 6, Breakdown of channels - 7, Any other reason - 9

12 . If code 3 in item 10 (a), reason for Permanently "not in use" **Code:** ☐

Due to salinity - 1, Dried up - 2 , Destroyed beyond repair - 3,
Due to sea water intrusion - 4, Due to industrial effluents - 5, Availability of
Major / Medium Irrigation Project - 6, Due to sinking -7, Due to other reasons - 9

13. Method used for water distribution: **Code :** ☐

Open Water Channel (lined / pucca) – 1, Open Water Channel(unlined / kutcha) - 2
Under ground pipe – 3, Surface pipe - 4, Drip - 5 , Sprinkler - 6 , Others -9

14. Types of lifting device (Only for Surface lift Scheme) ☐

Submersible pump - 1 , Centrifugal Pump - 2, Turbine/Jet pump - 3, Manual/animal - 4, Others - 9

15. Source of energy :(Only for Surface lift scheme) **Code :** ☐

Electric - 1, Diesel - 2, Wind Mills - 3, Solar - 4, Others - 9

16. Horse Power of Lifting device ☐☐.☐ **HP**

(ignore if lifting device is manual/animal)

17. Number of days pump operated (ignore, if lifting device is manual/animal)

During Kharif season ☐☐☐ **Days**

During Rabi season ☐☐☐ **Days**

For Perennial crop ☐☐☐ **Days**

During other season ☐☐☐ **Days**

18. Average hours of pumping per day (ignore, if lifting device is manual/animal)

During Kharif season ☐☐ **Hrs**

During Rabi season ☐☐ **Hrs**

For Perennial crop ☐☐ **Hrs**

During Other season ☐☐ **Hrs**

19 (a) Whether the scheme is located in the command of
Major/ Medium Schemes like Canals etc. **Code :** ☐

Yes --- 1
No --- 2

19(b) If Scheme is in command area i.e. code 1 in item 19(a),

(i) Name of the MMI Project_____

(ii) reasons for Scheme in Command Area of the MMI Project: **Code :** ☐

Water not available up to field from major/medium scheme-1,Water available but not adequate for irrigation-2
Water available but not useable for irrigation-3, Other reasons-9

19 (c) Whether the scheme is meant only for recharge of Ground water Yes-1, No-2 **Code:** ☐

(If yes **Keep item 20 to item 30 blank)**

20. Culturable Command Area [ ][ ][ ][ ].[ ][ ][ ] **Ha.**

SEASON WISE IRRIGATION POTENTIAL CREATED (IPC)

21. Kharif [ ][ ][ ][ ].[ ][ ][ ] Ha.

22. Rabi [ ][ ][ ][ ].[ ][ ][ ] Ha.

23. Perennial [ ][ ][ ][ ].[ ][ ][ ] Ha.

24. Other [ ][ ][ ][ ].[ ][ ][ ] Ha.

25. Total [ ][ ][ ][ ].[ ][ ][ ] Ha.

Season wise actual area irrigated during 2023-24 (IPU)

26. Kharif [ ][ ][ ][ ].[ ][ ][ ] Ha.

27. Rabi [ ][ ][ ][ ].[ ][ ][ ] Ha.

28. Perennial [ ][ ][ ][ ].[ ][ ][ ] Ha.

29. Other [ ][ ][ ][ ].[ ][ ][ ] Ha.

30. Total [ ][ ][ ][ ].[ ][ ][ ] Ha.

Note (i) If Scheme is out side command area of Major & Medium Scheme then complete IPU is to be reported.
(ii) If the Scheme is in the Command of Major & Medium Scheme then IPU is to be given as supplemented by MI Scheme. Thus the Gross IPU is to be apportioned in the ratio utilised by Major/Medium and MI Scheme.

31(i) Whether the scheme is under utilised (Only for In-use Schemes) Yes-1,No-2 code: [ ]

31(ii) If yes i.e. code 1 in item 31(i) , reasons for under utilisation of schemes **Code :** [ ]

Non availability of adequate power/fuel – 1 , Mechanical break down – 2 ,
Less discharge of water - 3 , Storage not filled up fully - 4, Siltation of canal/storage- 5
Breakdown of channels - 6, Any other reason - 9

32. Number of Villages covered by the scheme [ ][ ]

33. Specific features of Reservoirs,Tank,Other storages

(a) Designed Storage (in cubic metres) [ ][ ][ ][ ].[ ][ ]

(b) Filled up Storage (during 2023-24) **Code :** [ ]

Full - 1 , upto 3/4 - 2 , upto 1/2 -3, upto 1/4 - 4 , Nil/Negligible filled up - 5

(c) Status of filling up of storage Space **Code :** [ ]

(based on around 50% filling up of storages during last 5 year)

Filled up every year - 1 , Usually filled up - 2 , Rarely filled up - 3 , Never filled up - 4

34. Specific information releting to Water body [ ][ ]

(a) 21 Digit Sl no. as per Water body schedule in which the scheme is functioning

R/U	State		Distt.			Tehsil/Town/block						Village/Ward						Serial No.- within		

(b) Total number of schemes in the village in above water body. [ ][ ][ ]

(c) Sl. number of this scheme within village in the water body [ ][ ]

35. Whether the MI Scheme is used for 'Drinking Water' purpose? Yes-1, No-2 Code: [ ]

36. Whether the scheme was caputured in previous census? Yes-1, No-2 Code: [ ]

Checked by:
Name
Designation of the Suprevisory Officer
Mobile No.
Email:

Name of the Enumerator
Designation
Mobile No.
Email:

Annexure-4

SEVENTH CENSUS OF MINOR IRRIGATION SCHEMES
REFERENCE YEAR 2023-24 (AGRICULTURAL YEAR)

GROUND WATER SCHEMES **Code: 03**

I. IDENTIFICATION PARTICULARS

(a)State: _____ **Code :** [ ] **(b) District:** _____ **Code:** [ ][ ][ ]

(c)Block/Tehsil: _____ **Code:** [ ][ ][ ][ ][ ][ ] **(d) Village:** _____ **Code:** [ ][ ][ ][ ][ ][ ]

(e) Latitude _____ **Longitude**_____

(f) Date of Enumeration:(DD/MM/YY) [ ][ ] - [ ][ ] - [ ][ ]

II. SPECIFIC INFORMATION:

1. Serial Number of scheme : [ ][ ][ ][ ]

2. Type of Scheme **Code:** [ ]
Dug well-1, Tube well/ Borewell-2

3.1. If code 1 in item 2 above, type of Dug well:

: Dug-cum-bore well -1, Dug well Pucca -2, Dug well Kutcha -3, Others - 9 **Code:** [ ]

3.2.If code 2 in item 2 above, type of Tube well:
Shallow Tube well-1, Medium Tube well-2, Deep Tube well-3, Artesian Well-4 **Code:** [ ]

4. Owner of the Scheme (Name in case of individual farmer)
Name _____ **Code:** [ ]
Govt. owned - 1, Co-operative owned - 2, Panchayat owned - 3, Owned by Group of farmers - 4,
Owned by individual farmer - 5, Others – 9

5. (a) Khasra number /Plot No./Survey No. in which the scheme is located _____

(b) Location particulars /Land Mark _____

6(a). Total ownership Holding of owner (in case of individual owner only) [ ][ ][ ][ ].[ ][ ][ ] **Ha.**

(b) Social Status of Owner (in case of individual owner only) **Code:** [ ]
Scheduled caste -1 , Scheduled tribe – 2 , OBC- 3, Others- 9

(c) Gender of Owner (in case of individual owner only)
Male-1, Female-2, Transgender-3 **Code:** [ ]

7. Year of Commissioning of the Scheme **Code :** [ ]
Up to 2018-2019 - 1, during 2019-20 - 2, during 2020 -21 - 3, during 2021-22 - 4
during 2022-2023-5, during 2023-24 - 6

8. Details of the scheme

(a) Depth of the Dug well/Tube well (in meters) [ ][ ][ ].[ ][ ] Mtr

(b) Diameter **(In metres for dug well and mm for tube well)** [ ][ ].[ ][ ]

(c) Depth of Bore (in metres) **(in case of Dug-cum-borewell)** [ ][ ].[ ][ ] Mtr

(d) Distance from any nearest Dug well/Tube well (in meters) [ ][ ][ ][ ].[ ][ ] Mtr

9. (a) Cost of construction of the scheme **(Rs.)** [ ][ ][ ][ ][ ][ ][ ]

(b) Cost of machinery **(Rs.)** [ ][ ][ ][ ][ ][ ][ ]

(c) Cost of maintenance during (2023-2024) **(Rs.)** [ ][ ][ ][ ][ ][ ][ ]

10.(a) Major source of finance (upto 2) (For individual owners only) **Code :** [ ][ ]
Bank loan - 1, Government fund - 2, Own savings - 3, Money lender - 4, Others - 9

10(b). If any subsidy/assistance provided by Govt. / PSU , amount for (For All Schemes)

(i) Construction of Scheme/ drilling/digging **(Rs.)** [ ][ ][ ][ ][ ][ ][ ]

(ii) Cost of machinery/ distribution device **(Rs.)** [ ][ ][ ][ ][ ][ ][ ]

11. Current Status of the Scheme

(a) In use - 1, Temporarily Not in Use - 2, Permanently Not in use - 3 **Code:** ☐

(b) If code 2 or 3 in item 11(a), No. of years not in use ☐

12 . If code 2 in item 11 (a) reason for Temporarily "not in use" **Code:** ☐

Non availability of adequate power/fuel – 1 , Mechanical break down – 2 ,
Less discharge of water - 3, Non-availability of finance - 4,
Lack of maintenance - 5, Any other reason - 9

13 . If code 3 in item 11 (a), reason for Permanently "not in use" **Code:** ☐

Due to salinity - 1, Dried up - 2 , Destroyed beyond repair - 3
Due to sea water intrusion - 4, Due to industrial effluents - 5, Availability of
Major / Medium Irrigation Project - 6, Due to other reasons - 9

14. Method used for Water distribution **Code :** ☐

Open Water Channel (lined / pucca) – 1, Open Water Channel(unlined / kutcha) - 2
Under ground pipe – 3, Surface pipe - 4, Drip - 5 , Sprinkler - 6 , Other -9

15. Types of lifting device ☐

Submersible pump - 1 , Centrifugal Pump - 2, Turbine/Jet pump - 3, Manual/animal - 4, Others - 9

16. Source of energy for lifting device **Code :** ☐

Electric - 1, Diesel - 2, Wind Mills - 3, Solar - 4, Manual/animal - 5, Others -9

17. Horse Power of Lifting device ☐☐.☐ **HP**

(ignore if lifting device is manual/animal driven)

18. Number of days pump operated (ignore, if lifting device is manual/animal)

During Kharif season ☐☐☐ **Days**

During Rabi season ☐☐☐ **Days**

For Perennial crops ☐☐☐ **Days**

During Other Season ☐☐☐ **Days**

19. Average hours of pumping per day (ignore, if lifting device is manual/animal)

During Kharif season ☐☐ **Hrs**

During Rabi season ☐☐ **Hrs**

For Perennial crops ☐☐ **Hrs**

During Other Season ☐☐ **Hrs**

20 (a) Whether the scheme is located in the command of Major/ Medium Schemes like Canals etc. **Code :** ☐

Yes --- 1

No --- 2

20(b) If Scheme is in command area i.e. code 1 in item 20(a),

(i) Name of the MMI Project:_____

(ii) reasons for Scheme in the Command Area of the MMI Project **Code :** ☐

Water not available up to field from major/medium scheme-1,Water available but not adequate for irrigation-2
Water available but not useable for irrigation-3, Other reasons-9

20 (c) Whether the scheme is meant only for recharge of Ground water Yes-1, No-2 ☐

(If yes **Keep item 21 to item 31 blank)**

21. Culturable Command Area ☐☐☐☐.☐☐☐ **Ha.**

Season Wise Irrigation Potential Created (IPC)

22.	**Kharif**	**Ha.**
23.	**Rabi**	**Ha.**
24.	**Perennial**	**Ha.**
25.	**Other**	**Ha.**
26	**Total**	**Ha.**

Season wise actual area irrigated during 2023-24 (IPU)

27.	**Kharif**	**Ha.**
28.	**Rabi**	**Ha.**
29.	**Perennial**	**Ha.**
30.	**Other**	**Ha.**
31.	**Total**	**Ha.**

Note (i) If Scheme is out side command area of Major & Medium Scheme then complete IPU is to be reported.
(ii) If the Scheme is in the Command of Major & Medium Scheme then IPU is to be given as supplemented by MI Scheme. Thus the Gross IPU is to be apportioned in the ratio utilised by Major/Medium and MI Scheme.

32(i) Whether the scheme is under utilised (Only for In-use Schemes) Yes-1,No-2 code:

32(ii) If yes i.e. code 1 in item 32(i) , reasons for under utilisation of schemes **Code :**
Non availability of adequate power/fuel – 1 , Mechanical break down – 2 ,
Less discharge of water - 3 , Non availability of finance-4, Lack of Maintenance-5
Any other reason-9

33. Whether the MI Scheme is used for 'Drinking Water' purpose? Yes-1, No-2 Code:
34. Whether this Scheme was captured in previous census? Yes-1, No-2 Code:

Checked by
Name
Designation of the Supervisory Officer
Mobile No.
Email:

Name of the Enumerator
Designation
Mobile No.
Email:

SEVENTH CENSUS OF MINOR IRRIGATION SCHEMES
REFERENCE YEAR 2023-24 (AGRICULTURAL YEAR)
VILLAGE SCHEDULE **Code: 04**

I. IDENTIFICATION PARTICULARS

(a)State: _____ **Code :** | | **(b) District:** _____ **Code :**

(c)Block/Tehsil: Code | | | | | | | **(d)Village:** Code | | | | |

(e) Date of Enumeration: (DD/MM/YY) | | - | | | - | | |

II. SPECIFIC INFORMATION:

1. Is Village Tribal/ Non-Tribal ? **Code :** |
Tribal – 1 , Non-Tribal -2

2. (a) Is the Village covered by Major/ Medium Scheme **Code :** |
Yes -1, No - 2

(b) If yes, Name of Major/ Medium Scheme _____
(The information in items 3 to 7 of this schedule shall be based on village records)

3. Geographical Area In Whole number | | | | | | **Ha.**

4. Cultivable Area In Whole number | | | | | | **Ha.**

5. Net sown Area In Whole number | | | | | | **Ha.**

6. Gross Irrigated Area(By all sources) In Whole number

(i) During Kharif Season | | | | | | **Ha.**

(ii) During Rabi Season | | | | | | **Ha.**

(iii) For Perennial crops | | | | | | **Ha.**

(iv) During Other Season | | | | | | **Ha.**

(v) Total Gross Area Irrigated (Item 6 (i)+6(ii)+6(iii)+6(iv) | | | | | | **Ha.**

7. Net Area Irrigated (By all sources) In Whole number | | | | | | **Ha.**

8. Average Ground Water level (in Metres)

(i) Pre Monsoon) | | | | **Mtrs**

(ii) Post Monsoon) | | | | **Mtrs**

9. Whether Water Users association (WUA) exists in the village

Yes -1, No -2, Not known-3 Code : |

10 Summary of Number of Water bodies as per water body Schedules filled in the village

Pond	Tank	Lake	Reservoirs	Water conservation Schemes/percolation tanks/check-dams	Others	Total (Col. 1 to 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)

11. Summary of M I Schemes in the village as per all scheme schedules filled.

(i) Ground Water Schemes No. | | | |

(ii) Surface Water Schemes No. | | | |

(iii)Total Schemes No. | | | |

Checked by:
Name:
Designation of Supervisory officer:
Mobile No.:

Name:
Designation of Enumerator :
Mobile No:

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