GOVERNMENT OF GOA

REPORT OF FIFTH CENSUS OF MINOR IRRIGATION SCHEMES – GOA

2013-14

DIRECTORATE OF PLANNING, STATISTICS AND EVALUATION

PORVORIM - GOA

PREFACE

Irrigation plays a crucial role in the sustenance and growth of agriculture. Although agriculture proper is not the predominant sector of the economy of Goa, its contribution to the Gross State Domestic Product is sizeable.

Under the orbit of irrigation, a substantial share of irrigation across the State is contributed by Minor Irrigation Schemes with a Cultural Command Area (CCA) of less than 2000 Ha. The importance of minor irrigation schemes with short gestation period, lower investments and a major share in the irrigation sector cannot be underestimated.

Since planning and policy formation of this sector at the national as well as State level necessitates a sound and reliable database the Government of India has been conducting a Census of Minor Irrigation Schemes throughout the country with 100% Central Assistance on quinquennial basis. Goa is also participating in this National level program.

With changes in the groundwater scenario and a major shift to mechanized mode of water lifting and adoption of more efficient water distribution systems like drip and sprinkler irrigation, the share of different types of minor irrigation schemes have been changing overtime.

The 5th Minor Irrigation Census with reference year 2013-14 was conducted in Goa by the Directorate of Planning, Statistics and Evaluation as per the guidelines of the Ministry of Water Resources, Government of India under the guidance of the Joint Director DPSE, Shri V. B. Saxena. The efforts of the team of Enumerators, Supervisors, BDO Level Statistical Assistants/Coordinators involved in the fieldwork of the Census is appreciated.

This Census report is the team work of the administrative staff of the Minor Irrigation Census Cell of the Coordination Division of this Directorate, under the guidance of Ms. Neumani M. Rodrigues, Statistical Officer, with inputs from the State Water Resources Department.

This report brings out the results of the 5th Minor Irrigation Census with reference year 2013-14 conducted in Goa and presents a brief analysis of the Census results both at the State and District level. The detailed source-wise information on different types of Minor Irrigation sources can be seen in **Annexure-I.** It is hoped that this report will be useful for planners, administrators, agriculturists, ground water scientists and all concerned with irrigation development.

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Dated: July, 2021.

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CHAPTER – 1
GENERAL BACKGROUND

1.1 INTRODUCTION

Irrigation plays a crucial role in increasing cropping intensity as also the land productivity given the fact that agriculture plays a critical role in the overall growth of the Indian economy, not to mention the State economy. Agriculture also remains a major source of employment for rural workers and is also the largest consumer of water. Although, more than half the area under cultivation is rain-fed, monsoons can be unpredictable and therefore, coverage of more and more agricultural area under assured irrigation is a key strategy to meet the goal of the Central Government of doubling the farmers' income in the country by 2022.

1.2 CLASSIFICATION OF IRRIGATION

Irrigation is classified into Major, Medium and Minor Irrigation.

a) A scheme having Culturable Command Area (CCA) of more than 10,000 hectares (Ha) is termed as Major Irrigation scheme.
b) A scheme having CCA of more than 2000 Ha. and up to 10,000 Ha. is termed as Medium Irrigation scheme.
c) A scheme having CCA of up to 2000 Ha. individually is classified as Minor Irrigation scheme.

1.3 IMPORTANCE OF MINOR IRRIGATION SCHEMES

Major and Medium irrigation projects not only involve huge investments but also take long gestation periods. These projects often result in displacement of large number of families, settled in the catchments areas and give rise to problems associated with their rehabilitation. Some of these projects serve multi-purposes i.e. besides providing water for irrigation, they also cater to the domestic, industrial/commercial needs of the State as also for power generation.

Minor Irrigation schemes/projects on the other hand require relatively lesser investment and shorter gestation period and can be taken up with local resources and many a times without specialized technical skills. They also create employment opportunities in the rural areas and yield quicker and wide spread results. Minor Irrigation, therefore, plays an important role in the development of irrigation potential where scarce resources of the State are under pressure from several directions. The

expansion and improvement of irrigation facilities is, therefore, a key ingredient of agricultural and rural development.

1.4 MINOR IRRIGATION SCHEMES (MISs)

Minor irrigation schemes include all schemes of Ground Water and Surface Water development (both flow and lift) which as stated above have a CCA of upto 2000 Ha individually. The Ground Water Schemes are broadly categorized into (a) Dug wells and dug cum bore wells and (b) Tube wells (shallow, medium and deep). The Surface Water Schemes comprise (a) Surface flow schemes and (b) Surface lift schemes.

Ground Water Schemes

a) Dug wells: cover ordinary open wells of varying dimension dug or sunk from the ground surface into water bearing stratum to extract water for irrigation purpose. These also include dug-cum-bore wells. The construction of the open wells can be masonry or kutcha from which water is lifted with the help of animals/ human. Most of such schemes are of private nature belonging to individual cultivators. The diameter of the well ranges between 2 to 6 meters (mts.) and the depth between 8 and 15 mts. The Cultural Command Area (CCA) of a standard open well generally varies from 1 to 2 Ha. and in case of dug-cum-bore well, the capacity and depth is similar to that of tube wells.

b) Shallow tube-well: consists of a bore hole built into the ground with the purpose of tapping ground water from porous zones. In sedimentary formations, depth of a shallow tube well does not exceed 35 mts. These tube wells are either cavity tube-wells or strainer tube-wells. The success and popularity of the scheme depends on how cheap they are. The shallow tube wells are generally operated for 6 to 8 hours during irrigation season and give a yield of 100-200 cubic meters per day, which is roughly 2 times that of a dug well. Their CCA may go up to 10 Ha.

c) Medium Tube Well: consists of a bore hole built into the ground with the purpose of tapping ground water from porous zones. In sedimentary formations, depth of a medium tube well will be in the range of 35-70 mts. The medium tube wells are generally operated for 8-10 hours during irrigation season and give a yield of 200-300 cubic mts. per day, which is roughly 3 times that of a dug well. Their CCA may range from 10-15 Ha. The concept of medium tube wells was introduced during the 5^{th} MIC

as per the needs of State Governments to capture the rapid changes in the ground water sector.

d) Deep tube wells: usually extend to a depth of 70 mts. and more and are designed to give a discharge of 100 to 200 cubic mts. per hour. Deep tube wells are drilled by rotary percussion or rotary cum percussion rigs and operate round the clock during the irrigation season, depending upon the availability of power. Their annual output is roughly 15 times that of an average shallow tube well and are usually constructed as a public scheme owned and operated by Government Departments or Corporations. Their CCA may extend up to 50 Ha.

Surface Water Schemes

a) Surface flow irrigation schemes: comprise tanks, ponds, lakes, bandharas, diversion schemes, check dams, reservoirs, rain water harvesting structures etc. which also serve as water conservation cum ground water recharge scheme. These structures are generally prevalent in hilly regions. The command areas of such schemes are 20 Ha. or less. The large storage tanks whose command varies from 20 to 2000 Ha. are generally constructed by Government Departments or Local Bodies. These are the biggest items of surface minor irrigation works.

(i) Storage schemes: include tanks and reservoirs which impound water of streams and rivers for irrigation purposes by building a dam or bund which is of earth or masonry. After wells, tanks occupy a very important place under the minor irrigation program.

(ii) Diversion schemes: aim at providing gravity flow irrigation by mere diversion of stream water supply without creating any storage by constructing an obstruction (weir) or temporary bund across the stream for raising and diverting water. As compared to storage schemes they are economical but their feasibility is dependent on the presence of flow in the stream at the time of actual irrigation requirements. Such schemes being temporary, require frequent renovation and are liable to be washed away by floods or during the monsoons. Some diversion schemes are also constructed as kharif or monsoon channels supplying water only during the monsoon season and are useful for providing supplementary irrigation for paddy and preliminary watering for sowing of rabi crops.

(iii) Water conservation-cum-ground-water recharging Schemes: These include schemes which serve primarily to submerge agricultural land during monsoons for sowing post-monsoon crops and to improve moisture regime of the adjoining fields downstream for raising of post-monsoon crops without irrigation and also to replenish the ground water. An additional advantage of these schemes is that they help to conserve the soil. During the rainy season, water is stored upstream and the excess water is let out and the submerged land is released for cultivation. The other advantage of submerging land in this manner is that the first flood or monsoons brings a lot of silt which acts as rich manure. By preventing free flow of water across steep gradient, the soil of the land is also conserved.

b) Surface Lift Irrigation Scheme: are generally built in regions where the topography does not permit direct flow irrigation from rivers and streams and hence water has to be lifted into the irrigation channels. These works are similar to diversion schemes, but in addition, pumps are installed and pump houses constructed. These schemes being costly in operation, are feasible only in areas where water is available in the streams for at least about 200 days in a year, and cheap electric power is available. However, for lifting small amounts of discharge by individual cultivators, portable diesel engine pump sets are feasible as they provide greater flexibility and mobility for installation at different points of the water source or sources. The CCA of such schemes may go up to 20 hectares (Ha.).

CHAPTER – 2

CENSUS OF MINOR IRRIGATION SCHEMES (MIS)

2.1 NEED FOR CENSUS OF MINOR IRRIGATION SCHEMES (MIS)

Minor Irrigation Schemes (MIS) are implemented in the States by different departments including Agriculture, Irrigation/Water Resources, Rural Development, Land Administration, P.W.D., Panchayats etc. for the growth and development of minor irrigation.

A major share of irrigation across the country is contributed by minor irrigation schemes which necessitates the creation of a sound and reliable database on the minor irrigation sector in order to provide a strong foundation for planning and policy formulation.

Since the data/irrigation statistics from the States available with the Ministry of Water Resources, at the national level regarding potential created and utilized from various minor irrigation sources/schemes was conflicting, and efforts to reconcile much of the conflicting data were unsuccessful, it was pointed out by the National Commission of Agriculture and also by the Planning Commission way back in 1970 for the need to conduct a complete enumeration of minor irrigation sources through a Census throughout the country with 100% Central assistance to create a credible database.

2.2 CHRONOLOGY OF MINOR IRRIGATION CENSUS (MIC)

The 1st census of minor irrigation schemes was conducted with the reference year 1986-87 and the report was published in 1993. Thereafter, MI Censuses have been conducted with reference years 1993-94, 2000-01 and 2006-07. These censuses portray the changing composition of the minor irrigation sector as well as the diversities in irrigation practices across the country. The State of Goa has participated in all the censuses conducted thus far.

The schedules canvassed during each census are updated/revised by introducing new items of data collection depending on the need for filling up the data gaps.

2.3 5th MINOR IRRIGATION CENSUS (MIC) – OBJECTIVES

There is an increased focus of the Central Government on expansion of cultivable area under assured irrigation and improving on-farm water use efficiency under the

"Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)" with emphasis on growth and development of Minor Irrigation under the component of "Har Khet Ko Pani".

With changes in the ground water scenario and shift to mechanized mode of water lifting along with adoption of more efficient water distribution practices like drip and sprinkler, sub-surface pipes etc., the share of various types of minor irrigation schemes has been changing over time. In order to study the composition of the minor irrigation sector and irrigation potential created (IPC) and utilized (IPU) by the minor irrigation schemes as also to assess the factors contributing to the gap between IPC and IPU, the 5th MIC has been conducted in the country with reference year 2013-14.

2.4 NEW INITIATIVES ADOPTED IN 5TH MIC

New items of data collection like medium tube wells under Ground Water MI scheme, number of lifting devices, more than one sources of energy and sources of finance were introduced in the enumeration schedules so as to capture the diversities in the types of lifting devices, funding patterns, subsidy and sources of energy employed by the owners of the MI schemes. The field work was carried out in 2014-15.

A dedicated online portal was designed and maintained by the NIC and online data entry and validation was attempted for the first time using the portal which facilitated real time progress monitoring both by the State and the Central Governments.

Trainings in data processing were imparted by the Ministry through regional workshops and after completion of online data entry and validation by the State, comments were sought from the State on certain broad parameters based on the scrutiny of data from the tabulation reports generated by the Ministry. After rectifications and consistent data from the State, the data on the online portal was frozen to generate the final tables on various parameters and bring out the 5th MIC Report.

Keeping in view the above objectives, the 5th MIC of MI schemes has also been conducted in Goa as per the methodology, guidelines and timeline of the Government of India, Ministry of Water Resources, River Development and Ganga Rejuvenation, Minor Irrigation Statistics Wing, New Delhi.

CHAPTER – 3
METHODOLOGY OF 5TH MINOR IRRIGATION CENSUS (MIC)

3.1 CAPACITY BUIDING FOR DATA COLLECTION

The Centrally sponsored plan scheme "Rationalization of Minor Irrigation Statistics (RMIS)" was launched by the Ministry 1987-88 in all the States/UTs with 100% central assistance. From the IXth 5-Year Plan, the RMIS scheme was made a part of the Central sector plan scheme viz. "Development of Water Resources Information System (DWRIS)". During the XIIth 5-Year Plan, RMIS was a sub-component of the "Minor Irrigation Census (MIC)" scheme which in turn was a component of the DWRIS. Currently, MIC is a standalone component of the umbrella scheme, Pradhan Mantri Krishi Sinchai Yojana and Other Schemes. The main objective of the RMIS scheme is to build up a comprehensive and reliable database in the Minor Irrigation (MI) sector for effective planning and policymaking. The major activity under RMIS in the State is the conduct of MIC of all ground water and surface water sources which are mostly under private ownership.

In Goa, the Directorate of Planning, Statistics & Evaluation (DPSE), has been identified as the Nodal Department for compilation of minor irrigation statistics for the State. A State MIC Statistical Cell has been created within the Nodal Department to organize, co-ordinate and supervise the MIC as and when planned by the Central Ministry. Besides, the MIC Cell compiles and sends to the Ministry, the quarterly and annual physical and financial consolidated progress reports obtained from the State Agriculture Department and the Department of Water Resources. The posts sanctioned by the Ministry for the RMIS Cell in Goa are that of an Assistant Director, a Research Assistant and a peon for which the Ministry releases funds.

3.2 SCOPE AND COVERAGE OF DATA COLLECTION

As in the earlier censuses, the methodology followed for the conduct of the 5th MIC 2013-14 in Goa involved canvassing three paper based enumeration schedules viz. Village Schedule, Ground Water Schedule and Surface Water Schedule for collecting village level and MI scheme-wise data in rural areas. The field work was conducted during the period December 2014 to May 2015 for the agricultural reference year 2013-14 in all the 389 nos. of villages in Goa.

3.3 ORGANIZATION OF WORK of 5th MIC

The Directorate of Planning, Statistics & Evaluation (DPSE) is the Nodal Department/Implementing Agency for the conduct of the 5th MIC in Goa and the Director, DPSE is designated as the Minor Irrigation Census Commissioner for the purpose of the census.

A Technical Advisory Committee was constituted consisting of the Census Commissioner/Director DPSE, Director of Agriculture Department, Superintending Engineer – Minor Irrigation and Superintending Engineer – CADA from the Water Resources Department to plan, advise and guide the conduct of the MIC in Goa.

Primary enumeration work was entrusted to the Gram Sevaks/Talathis/Panchayat Secretaries and staff from Directorate of Agriculture, Water Resources Department and Block Development Offices to collect data at village level. Statistical Assistants from DPSE and Extension Officers at the Taluka level were appointed as Supervisors. The Collectors were designated as District Charge Officers for North Goa and South Goa districts respectively. The Dy. Directors and Statistical Officers from DPSE were designated as Additional District Charge Officers. Inspection of field work was entrusted to the Block Development Officers (BDOs) who were designated as Taluka level Charge Officers and the Statistical Assistants from DPSE posted at the block level were designated as Assistants to the Taluka level Charge Officers. The Research Assistants from DPSE were designated as Additional Taluka level Charge Officers.

3.4 TRAINING

The training for the 5th MIC 2013-14 was formally launched with the All India Training Workshop for the Trainers in New Delhi, in February 2014 for all States/UTs in order to discuss various modalities and preparedness of the States, administrative guidelines, enumeration schedules, instruction manuals, monthly progress report formats and supervisor's report formats, guidelines for inspection etc.

A two days' Western Zonal Regional Training cum Workshop was organized by the Ministry in September 2014 which was hosted in Goa for five States including Goa for senior officers who were appointed as Master Trainers for the MIC. The regional workshop was followed by the State level for all the various Charge Officers and Block/Taluka level trainings for the field enumerators and the supervisors at the lowest level through Power Point Presentations provided by the Ministry and which were customized to suit the needs of Goa State.

The training manuals highlighting important guidelines and definitions concerning irrigation schemes for use of field level officers and the schedules for collecting the data which were printed in advance in accordance with the Ministry's guidelines were made available to the field staff during the trainings.

3.5 INSTRUCTIONS FOR FILLING UP OF THE SCHEDULES

The model/specimen of the schedules and Instruction Manual for conducting the Minor Irrigation Census as well as the soft copy of the Presentation on instructions/guidelines to be followed in the conduct of fieldwork were provided by the Ministry of Water Resources, Minor Irrigation Division, Government of India. Based on the material provided by the Ministry, the Directorate of Planning, Statistics & Evaluation drafted the Instruction Manuals for the State of Goa.

The schedules to be canvassed by the enumerators were discussed thoroughly during the trainings. In order to obtain complete and realistic data, a press note was released through the Directorate of Information in the local dailies giving general information about the conduct of the Minor Irrigation Census, 2006-07 in Goa, personnel engaged, type of enquiry proposed, etc. in order to sensitize and solicit co-operation from the public to give the required information correctly.

There were in all three types of schedules designed by the Ministry for collecting the required data under this Census as follows:-

Schedule - 1	Ground water schemes
Schedule - 2	Surface water schemes
Schedule -3	Village Schedule

The format of these schedules is provided at **Annexure A.**

The Ground Water scheme schedule contained items for collection of detailed data related to specific ground water schemes viz. dug well, dug-cum-bore well, shallow tube well, medium tube well and deep tube well. One such schedule was filled for each MI scheme existing in the village for irrigation purpose, either in use or not in use from 2007-08 or later.

The Surface Water scheme schedule contained items for collection of detailed data related to specific surface water scheme, i.e. Surface flow or surface lift irrigation scheme. One such schedule was filled for each such scheme existing in the village for irrigation purpose, either in use or not in use from 2007-08 or later.

As the name suggests, the Village schedule contained items for collection of data about total agricultural area, irrigated area and the number of minor irrigation schemes, water bodies etc. in the village as a whole and was filled up by taking inputs from the respective Village Panchayat Officer possessing the village records.

3.6 FIELDWORK

The primary enumerators canvassed the schedules through house to house enquiry and collected information from the owners of the MI schemes/sources. The owners of the Minor Irrigation sources were farmers/Cooperative Societies/Government Departments/Private Organizations/Groups of farmers, etc. The physical verification of the MI schemes was also carried out by the enumerators to record certain parameters related to physical conditions of the scheme. The purpose of the Census was explained to the farmers and they were assured that the data furnished by them would be kept confidential. After filling up the schedules, the enumerators deposited the completed schedules with the BDOs at the taluka level.

3.7 SUPERVISION AND INSPECTION

Statistical Assistants from DPSE and Extension Officers at the Taluka level were appointed as Supervisors to monitor the progress of field work carried out by the enumerators by accompanying them as well as to assist them in their conceptual problems and in the event of any difficulties faced.

Periodical Inspection of field work was carried out by the Block Development Officers (BDOs) who were designated as Taluka level Charge Officers to monitor the overall quality of the fieldwork and to ensure correctness of the data collected. The Statistical Assistants from DPSE posted at the block level assisted the Taluka level Charge Officers in checking the data collected and the proper filling up of the schedules.

3.8 SAMPLE CHECK

As per the guidelines laid down by the Ministry of Water Resources, Government of India, sample checks were carried out by the Research Assistants from DPSE who were designated as Additional Taluka level Charge Officers in 24 sample villages (2 in each taluka) for ensuring quality and correctness of data collected, coverage of field work etc.

On completion of the fieldwork, the BDOs handed over the taluka-wise filled-in schedules (Village Schedule, Ground Water Schedule and Surface Water Schedule) to the State Nodal Department i.e. DPSE. The data received was scrutinized, verified and rectified by the Co-ordination staff of the Department. Wherever it was felt to re-confirm the data, field visits were conducted. Thereafter, trainings were imparted to the Co-ordination staff of the Department to take up the work of data entry in-house in addition to their normal office duties.

3.9 COMPUTERIZATION OF CENSUS DATA

For the first time, on-line web-based software was developed for computerization of the 5th MIC data by the NIC, Ministry of Water Resources, Government of India which eliminated the need for separate installation of software in the States as in the previous censuses. This initiative facilitated real time monitoring by viewing the progress of data entry both by the State and the Centre which was not only time saving but also helped in taking timely corrective action. Further, on-line data entry also eliminated the need for physical transmission of data to the Ministry in CDs as was done in the previous censuses. The real time census data as available in the tabulation reports was re-scrutinized at the national level and referred back to the State for comments and rectifications using software. After confirmation of the data from the State, the data was frozen to generate the final tabulation reports for bringing out the All India Report.

3.10 MONITORING PROCESS

As per the Census guidelines, the RMIS Cell of DPSE submitted the Monthly Progress Reports regarding the various phases of census work (in addition to the financial reports) to the Ministry of Water Resources in the prescribed performa by email/post. The on-line web based software of the Ministry also enabled to view the real time progress of data entry and validation of data for timely corrective action.

3.11 FINANCIAL ASPECTS

MIC being a 100% Central Sector scheme, funds were released by the Ministry for various activities related to the census. The funds were utilized in accordance with the Ministry's guidelines and all the Utilization Certificates were submitted in time. Audit of the census scheme has also been carried out.

CHAPTER – 4
CONCEPTS AND DEFINITIONS

4.1 CONCEPTS AND DEFINITIONS

A brief understanding of the basic concepts, terminology and definitions associated with the MIC is given below:

1. Cultivable Command Area (CCA): is the area which can be irrigated from a scheme and is fit for cultivation.

2. Cultivable area: consists of net area sown, current fallow, fallow lands, other lands, current fallow, culturable waste and land under miscellaneous tree crops**.**

3. Gross irrigated area: is the area irrigated under various crops during a year, counting the area irrigated under more than one crop during the same year as many times as the number of crops grown and irrigated.

4. Net irrigated area: is the area irrigated through any source in a year for a particular crop.

5. Irrigation Potential Created (IPC): is the total gross area proposed to be irrigated under different crops during a year by a scheme. The area proposed to be irrigated under more than one crop during the same year is counted as many times as the number of crops grown and irrigated. If original Irrigation Potential of the scheme is not known then the maximum area irrigated during the past five year or so may be taken as the IPC.

6. Irrigation Potential Utilized (IPU): is the gross area actually irrigated during reference year out of the gross proposed area to be irrigated by the scheme during the year.

7. Minor Irrigation (M.I.) Scheme: is a source of irrigation having CCA up to 2,000 hectares individually.

8. Medium Irrigation Scheme: is a source of irrigation having CCA of more than 2,000 hectares and up to 10,000 hectares individually.

9. Major Irrigation Scheme: is a source of irrigation having CCA more than 10,000 hectares.

10. Sprinkler Irrigation System: is a method of applying irrigation water which is similar to rainfall. Water is distributed through a system of pipes usually by pumping. It is then sprayed into the air of entire soil surface through spray heads so that it breaks up into small water drops which fall to the ground.

11. Drip irrigation System: Drip irrigation system delivers water to the crop using a network of mainlines, sub-mains and lateral lines with emission points spaced along their lengths. Each dripper/emitter, orifice supplies a measured, precisely controlled uniform application of water, nutrients, and other required growth substances directly into the root zone of the plant.

12. Non- Submersible or Centrifugal Pump: This is the most common type of pump. Typically the pump is ″close-coupled″ to an electric motor, i.e. the pump is mounted right on the end of the motor′s drive shaft and the pump case is bolted straight into the motor so that it looks like a single unit. This type of pump needs to be installed on a pad above the high water level if pumping from a lake or river.

13. Submersible Pump: Submersible pumps are installed completely underwater, including the motor. The pump consists of an electric motor and pump combined in asingle unit and shaped like a long cylinder. Although most submersibles are designed to be installed in a well, many can also be laid on their side on the bottom of a lake or stream. These pumps are more efficient because they only push the water, they do not need to suck water into them.

14. Turbines and Jet Pumps: A turbine pump is basically a centrifugal pump mounted underwater and attached by a shaft to a huge motor mounted above the water. Turbine pumps are very efficient and are used primarily for larger pump applications and are typically used on municipal water system wells, large parks, golf courses etc. where water is pumped from lakes.

15. Water body: All natural or artificial storages of water such as tanks, reservoirs, ponds, lakes, bandharas etc. fall under the purview of water bodies. These may be with or without masonry work and may be used for irrigation or other purposes.

16. Pond: is a small body of water usually earthen, and generally no one would require a boat to cross.

17. Tanks: is a shallow water storage usually larger than a pond created by constructing earthen or masonry barricades which receives water either from rains or any other water source.

18. Reservoirs: are large man made impoundments of varying magnitude created by erecting, bunds, dams, barrages or other hydraulic structures across streams or rivers serving one or more purposes such as irrigation, power generation, flood control or other water resource development projects.

CHAPTER – 5

GOA – A PROFILE

5.1 TOPOGRAPHY AND ADMINISTRATIVE STRUCTURE

The smallest of States in the country, Goa – a former Union Territory is the 25th State of India with effect from May 1987. It is a maritime State on the Arabian Sea coast bounded on the North by the State of Maharashtra and on the East and South by Karnataka. Goa lies between $15^0$48' 00" N and $14^0$53' 54" N Latitude and $74^0$20' 13" E and $73^0$40' 33" E Longitude.

Situated on the west coast of India, Goa forms part of the larger Sahyadri eco system covering a geographical area of 3,702 km^2 with Panaji as its Capital city. Broadly, the State comprises 3 distinct geographical divisions viz. Western Ghats i.e. Sahyadri ranges to the East of the State (which separates the State from the Deccan plateau further East), the Central Plains and the Coastal Plains. The major rivers flowing through Goa originate from the thickly wooded Western Ghats. The central plains comprise plateaus at elevations between 30 mts. to 300 mts. above mean sea level, whereas the coastal plains are alluvial lowlands formed by the estuaries at the mouths of the rivers draining into the Arabian Sea.

For administrative purposes, Goa is divided into 2 districts viz. North Goa District and South Goa District comprising 12 Talukas/Tehsils, 6 talukas in the North Goa District and 6 talukas in South Goa District, constituting 389 villages governed by 190 Village Panchayats. Sanguem Taluka in South Goa District occupies the highest coverage of 23 % of the total area, followed by Sattari in North Goa, occupying 13 %. Mormugao Taluka in South Goa occupies the least area i.e. 3 %.

5.2 CLIMATE

The climate in Goa is generally tropical - warm and humid. Barring the months from December to mid-February which are pleasantly cooler, the average temperature in the year is about 32^0C. Being located on the west coast of India, the State receives copious annual rainfall of about 2,500 to 5,000 mm from South-West monsoons for a short period of four months from June to September. Rainfall pattern is heaviest on the mountain ranges and its western slopes i.e. 5000 mm and it gradually reduces

towards the coastal plains i.e. 2500 mm. Relative humidity averages at 76% rising to as high as 89% in August.

5.3 SOILS

The undulating topography of Goa with diverse soil conditions especially on its eastern side, is intersected by a number of rivers flowing westwards, which provides a network of internal waterways. The soils in the State can be categorized into three types viz. i) Lateritic ii) Alluvial and iii) Sandy to Sandy loams. About 81 per cent of Goa's soils (2,75,900 Ha.) are lateritic and are sandy loam to silt loam in texture, fairly rich in organic matter and nitrogen but very deficient in Phosphate and Potash. The area along the sea coast and estuaries constituting about 11% are sandy to sandy loams and the remaining 8% of the soils are alluvial in nature. Soils in the Khazans and adjoining areas are alluvial, subject to saline water inundation and have high water table. Khazan lands are unique to Goa and consist of low lying areas, often below sea level, along the estuaries. An estimated 18,000 Ha. of land in Goa comprises Khazans and is basically utilized for cultivation of saline water resistant monsoon paddy crops followed by Rabi vegetables.

5.4 DEMOGRAPHY AND ECONOMY

As per the decennial Population Census 2011, Goa has a populace of 14,58,545 with a density of 394 persons per sq. km. as against a density of 382 persons at all India level. Among the different Talukas of the State, the density of population is highest in Mormugao Taluka with 1406 persons per sq.km, followed by Salcete with 1005 persons per sq.km. Sanguem Taluka has the lowest density of 75 persons per sq.km. Out of the total population, 62.17% is found to be residing in urban areas.

Goa is regarded as one of the most developed Indian States in terms of literacy and public infrastructure. Mining, tourism and fisheries are the mainstays of the Goan economy. As far as industries are concerned, pharmaceutical industries have a strong foothold. However, even though the State is naturally gifted with agricultural land and water resources, agriculture is registering a steady declining trend and the population engaged in agriculture has declined from 14% in 1971 to about 4% in 2011. Goa is dependent on neighboring States to supplement its need for food grains.

5.5 LAND UTILIZATION

The following table gives the details of land utilization in Goa during 2013-14

Sl. No.	Land Use Category	Area in Ha.	Percentage to total geographical area
1	**2**	**3**	**4**
1.	Total reported area according to village papers for land utilization	3,61,113	100.00
2.	Area under Forest	1,25,473	34.75
3.	Land not available for cultivation	37,137	10.28
4.	Other uncultivable land i) Permanent Pastures & other grazing lands ii) Land under miscellaneous tree crops and groves not included in net area sown iii) Cultivable waste including fallow land and current fallow	 1,305 580 67,412	 0.36 0.16 18.67
5.	Net area sown	1,29,206	35.78
6.	Area sown more than once	28,646	-
7.	Gross cropped area	1,57,852	-

Source: Statistical Pocket Book, 2013-14

Although the total geographical area according to the Survey of India is 3,70,200 Ha., as per the Settlement and Land Records Department (Land Survey Department), the total reported area according to village papers for land utilization is 3,61,113 Ha. More than 34% of the State's area is under forest cover, which comprises seven sanctuaries, protected forests, evergreen forests in the Western Ghats, mangroves, strand vegetation and plateau vegetation. Out of the total geographical area, only 35.78% is under cultivation, out of which a little over a quarter of the land receives irrigation.

5.6 AGRICULTURAL LAND HOLDINGS

As per the 9th Agriculture census 2010-11, there were 78,020 operational land holders in Goa with a total area of 88,994 Ha. of operational land holdings. The average size of a land holding in Goa is small i.e. a mere 1.14 Ha. The proportion of land holdings below 1 Ha. is about 77%. The details of the distribution of number and area of operational land holdings by size classes along with its percentages is given in the table below. It is evident from the table that the land distribution in Goa is very uneven.

Sl. No.	Size Classes (Ha.)	Total Holdings	
		Number	Area (Ha.)
1	2	3	4
1	Below 0.5	42414 (54.36)	14106.80 (15.85)
2	0.5 - 1.0	17486 (22.41)	13996.08 (15.73)
3	1.0 - 2.0	9817 (12.58)	17591.32 (19.77)
4	2.0 - 3.0	4397 (5.64)	12089.96 (13.59)
5	3.0 - 4.0	1310 (1.68)	4680.35 (5.26)
6	4.0 - 5.0	902 (1.16)	4207.34 (4.73)
7	5.0 - 7.5	775 (0.99)	5240.41 (5.89)
8	7.5 - 10.0	333 (0.43)	2929.71 (3.29)
9	10.0 - 20.0	399 (0.51)	6137.5 (6.90)
10	20.0 and above	187 (0.24)	8014.16 (9.01)
	Total	**78020 (100)**	**88993.63 (100)**

Source: Agriculture Census, 2010-11. Figures in brackets indicate percentages)

5.7 CROPPING PATTERNS

The soil and climatic conditions in Goa favour the growth of a wide variety of tropical crops. The principal crops comprise paddy/rice which is grown both in Kharif and Rabi seasons, cashew, arecanut, coconut, vegetables, pulses and fruits. Crops like paddy, ragi cereal, pulses, beans, other millets and vegetables are grown during the Kharif season (May to August). The Rabi season (December to February) crops cover paddy, pulses, beans, sweet potatoes and vegetables. Spices and orchard crops like coconut, arecanut and cashew, fruit crops like mango, jackfruit, breadfruit, papaya, banana and pineapple etc. Vegetables such as brinjal, ladies' fingers, radish, cucumber, pumpkin, different varieties of gourds, onions, chilies etc. are grown wherever irrigation facilities are available. Sugarcane is another crop cultivated on a large scale to cater to the sugar factory in the State.

The details of cropping pattern are given in Table 5.1 (a) below:

5.1 (a) ESTIMATES OF TOTAL AREA UNDER PRINCIPAL CROPS

Sl. No.	Crops	Total area under the crop (Ha.)	Percentage to the total cropped area
1	**2**	**3**	**4**
1	Rice		
	i)Kharif	28,330	17.95
	ii)Rabi	14,490	9.18
2	Ragi	18	0.01
3	Maize	0	0
4	Pulses	8,100	5.13
5	Groundnut	2,591	1.64
6	Arecanut	1,740	1.10
7	Coconut	25,750	16.31
8	Cashewnut	55,936	35.44
9	Sugarcane	872	0.55
10	Mango & Banana	7143	4.53
11	Pineapple	295	0.19
12	Vegetables	7004	4.44
13	Other fruits	3839	2.43
14	Oil palm	839	0.53
15	Pepper	737	0.47
16	Tree Species	168	0.10
17	Vanilla	0	0
Area under all crops		**1,57,852**	**100.00**

Note: Estimated figures relates to 2013-14
Source: Statistical Handbook of Goa 2013-14

5.8 CONTRIBUTION OF AGRICULTURE TO STATE INCOME

Though agriculture proper is not the predominant sector in the State it contributes a sizeable share to the State's income. The share of Agriculture to the Gross State Domestic Product (GSDP) of Goa for the year 2013-14 as prepared by the Directorate of Planning, Statistics and Evaluation on the basis of standard methodology recommended by the National Statistics Office of the Government of India, work out to Rs.1267.47 crores at current prices which represents 3.53% of the total gross regional income. At constant prices (2011-12), this share works out to Rs.1097.44 crores, i.e. 3.47 % of the State Domestic Product for the year 2013-14.

CHAPTER – 6

ORGANIZATION AND DEVELOPMENT OF IRRIGATION IN GOA

6.1 ORGANIZATION OF IRRIGATION SECTOR IN GOA

The Water Resources Department, Goa, has the jurisdiction for the overall development and management of water at source. The State has published the State Water Policy in the year 2000 to regulate, manage and develop the available water resources of the State and its integrated and judicious utilization in a scientific manner.

Under Water Resources Development Program, the State is successfully implementing the inter linking of rivers by transferring/diverting water from surplus rivers to deficient rivers to attain stability.

As per the Master Plans prepared by the Water Resources Department, to identify water potential and to assess the requirement of water in the State by the year 2051, an estimated 89,660 Ha. of agricultural land can be brought under irrigation, out of which 82,260 Ha. will be by surface water and 7,400 Ha. by ground water.

The following Acts have been enacted to regulate irrigation related activities in Goa.

a) Goa Irrigation Act, 1973 for construction, maintenance and regulation of canals for supply of water and certain other matters pertaining to irrigation.
b) Goa Command Area Development Act, 1997 to provide accelerated increase in agriculture and allied production in Goa through a program of comprehensive and systematic development of command area.

Under the irrigation sector, the activities are classified into (i) Major & Medium Irrigation (ii) Minor Irrigation including water conservation schemes and allied activities (iii) Command Area Development and (iv) Western Ghats Development Program (WGDP).

6.2 RIVER BASIN SYSTEM IN THE STATE

The river basin system in Goa consists of nine river basins as under:

Sr. No.	River Basin	Basin Area (Sq. kms)	% Area of Goa State	Length of river within the State of Goa (km)	Length within salinity zone (km)
1.	Terekhol	71	1.92	27.00	27.00
2.	Chapora	255	6.89	32.00	28.00
3.	Baga	50	1.35	10.00	10.00
4.	Mandovi/ Madei	1580	42.68	76.00	46.00
5.	Zuari	973	28.28	87.00	61.00
6.	Sal	301	8.13	40.00	22.00
7.	Saleri	149	4.02	11.00	5.00
8.	Talpona	233	6.29	41.00	7.00
9.	Galjibag	90	2.03	14.00	4.00

Out of the nine rivers in Goa, six rivers originate and flow exclusively within the State boundaries and do not have any Inter-State implications. However, out of the other three rivers, Terecol and Chapora originate in Maharashtra State and Mandovi and Zuari which originate in Karnataka State are the main and biggest rivers, which drain about 70% of the run-off generated in the State.

Plain land in the State is restricted to a few kilometers from the coastal line and since rivers flowing through the plain lands have very flat slopes at the estuarine reaches, acting as back waters of the sea, the tidal effect is felt right up to the foothills of the Western Ghats. Short lengths of rivers, deep marine ingress, steep slopes in the Western Ghats and reserved forests pose constraints for large storage structures. Due to thin soil cover and highly rugged configuration of the topography, heavy rainfall leads to high run off rendering the period from November to May dry. However, the State has provided adequate storage dams to meet the domestic, industrial, irrigation and other water supply needs of the State.

6.3 IRRIGATION PROJECTS

1. Major and Medium Irrigation Dams

There are 3 nos. of irrigation dams viz. Salaulim, Anjunem and Tillari. Out of these, 2 nos. of dams viz. Salaulim Irrigation dam (major) with culturable command area of 9,686 Ha and the Anjunem Irrigation dam (medium) with culturable command area of 2,100 Ha, are located in Goa and are functioning successfully. The Tillari Irrigation dam (major), with culturable command area of 14,521 Ha, an inter-State joint venture

of the Governments of Maharashtra and Goa is located at Tillariwada in Sindhadurga district of Maharashtra and the canal networks are shared in both the States.

2. Minor Irrigation

At the time of Goa's liberation in 1961, there were several sources of minor Irrigation such as lakes, ponds, wells, springs etc. There were also two small water reservoirs built by constructing dams at Khandepar across the river Khandepar and at Paroda across the river Kushavati, with Canal distribution systems, irrigating approximately 200 Ha. and 380 Ha. of land respectively. The total estimated area under irrigation from all these minor irrigation sources was 7,860 Ha. approximately.

However, post liberation, with the implementation of various developmental activities, the total irrigation potential created under minor irrigation has increased considerably as irrigation schemes such as open irrigation wells and bore wells, tube wells, minor irrigation tanks, canals, lift irrigation schemes, bandharas and post monsoon water harvesting structures are undertaken as per feasibility.

Post monsoon water harvesting is taken up through construction of a series of bandharas for augmentation of water sources especially during the lean season. A total number of 275 nos. of bandharas (permanent diversions and water conservation structures) have been constructed on various rivers/ nallahs and several are in various stages of construction. A bandhara is an environment friendly structure constructed across the river with piers and openings which are provided with removable gates or needles. The bandharas are either constructed for diversion of water or creating storage in the riverine system as well as for creating storages within the river banks by retarding the interflow of ground water into the riverine system.

In order to boost minor irrigation, the Government provides subsidy to individuals/groups of farmers for construction of new open wells/bore wells etc. There are 3 nos. of minor irrigation tanks constructed by the Government at Chapoli in Canacona taluka, Panchwadi in Ponda taluka and Amthane in Bicholim taluka having a combined cultural command area of 522 Ha.

3. Irrigation Program in the Hill Area/Western Ghats Region

Minor irrigation schemes having a smaller gestation period are implemented in the three talukas of Sattari, Sanguem and Canacona which lie in the Western Ghats region to serve the farming populace of these areas and help in their economic up-liftment.

CHAPTER – 7

BRIEF ANALYSIS OF THE 5th MINOR IRRIGATION CENSUS RESULTS

7.1 GENERAL

a) For the first time, a dedicated online portal for the 5th Minor Irrigation (MI) Census with reference year 2013-14 was developed by the Ministry which facilitated online data entry, updating, validation and tabulation. Due to the fact that data can be accessed by both Central level and State level users in real time, the bottle necks in data entry and validation were removed instantaneously which resulted in quick processing/ verification of data and finalization of results.

b) To capture the rapid changes in the ground water sector, the definition of shallow well has been refined and a new category of MI scheme namely Medium tube well (with depth ranging from 35 mts. to 70 mts.) has been introduced.

c) New items of data collection were added in the scheme schedules in order to capture the diversities in the types of lifting devices, funding pattern and sources of energy utilized by the owners of minor irrigation schemes.

7.2 CENSUS ANALYSIS

The 5th Minor Irrigation Census (MIC) was completed in Goa within the timeline of the Ministry of Water Resources, New Delhi. In all 7,755 nos. of minor irrigation sources were enumerated during the course of field operations, out of which 4770 nos. (62%) were ground water schemes and 2985 nos. (38%) were surface water schemes. Table 7.2 (a) below gives a district-wise comparison of the various ground and surface water minor irrigation schemes identified in Goa during the 4th and 5th Minor Irrigation Censuses.

7.2 (a) NUMBER AND TYPE OF MINOR IRRIGATION SCHEMES (DISTRICT-WISE) DURING THE YEARS 2006-07 AND 2013-14

Sl. No.	Type of Source	Total number of schemes enumerated during the 4th Minor Irrigation Census			Total number of schemes enumerated during the 5th Minor Irrigation Census		
		North Goa	South Goa	Total	North Goa	South Goa	Total
1.	Dug wells	2935 (68.70)	1336 (31.30)	4271 (100)	2828 (60.52)	1845 (39.48)	4673 (100)
2.	Shallow tube wells	35 (33.30)	70 (66.70)	105 (100)	61 (73.49)	22 (26.51)	83 (100)
3.	Medium tube wells	-	-	-	1 (100)	-	1 (100)
4.	Deep tube wells	25 (53.20)	22 (46.80)	47 (100)	5 (44.40)	8 (55.60)	13 (100)
5.	Surface flow schemes	848 (48.70)	893 (51.30)	1741 (100)	952 (44.40)	1192 (55.60)	2144 (100)
6.	Surface lift schemes	346 (38.0)	564 (62.0)	910 (100)	443 (52.68)	398 (47.32)	841 (100)
	All Sources	4189 (59.20)	2885 (40.80)	7074 (100)	4290 (55.32)	3465 (44.68)	7755 (100)

Note: Figures in brackets indicate percentages

A glance at the above table shows that dug wells is the dominant source of Irrigation in Goa with maximum number of wells i.e. 61% located in North Goa District. The surface flow irrigation is the 2nd largest widely used irrigation source with 2144 nos. of schemes with maximum schemes in South Goa i.e. 1192 nos. (56%) as against 952 nos. (44%) in North Goa District.

Lift Irrigation is another significant source of irrigation with 841 nos. of schemes in Goa, out of which, 51 nos. of schemes are owned by the Public Sector.

Table 7.2 (b) below gives details of minor irrigation sources ‘in use’ and ‘not in use’. The sources not in use is also inclusive of sources which are temporarily and permanently not in use. It has been observed that over a period of time, out of 7,755 nos. of sources, 201 nos. of sources of irrigation were not in use due to various factors such as intrusion of sea water, siltation, drying of water source and a general decline in agricultural activities.

7.2 (b) NUMBER OF IRRIGATION SOURCES BY TYPE IN USE AND NOT IN USE

Sl. No.	Type of Source	In Use			*Not in Use			Total		
		North Goa	South Goa	Goa State	North Goa	South Goa	Goa State	North Goa	South Goa	Goa State
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1	Dug wells	2727 (58.36)	1799 (38.50)	4526 (96.85)	101 (2.16)	46 (0.98)	147 (3.15)	2828 (60.52)	1845 (39.48)	4673 (100)
2	Shallow tube wells	60 (72.29)	16 (19.28)	76 (91.57)	1 (1.20)	6 (7.23)	7 (8.43)	61 (73.49)	22 (26.51)	83 (100)
3	Medium tube wells	1 (100)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	1 (100)
4	Deep Tube wells	5 (38.46)	8 (61.54)	13 (100)	0 (0)	0 (0)	0 (0)	5 (38.46)	8 (61.54)	13 (100)
5	Surface flow irrigation	939 (43.80)	1165 (54.34)	2104 (98.13)	13 (0.61)	27 (1.26)	40 (1.87)	952 (44.40)	1192 (55.60)	2144 (100)
6	Lift irrigation	438 (52.08)	396 (47.09)	834 (99.17)	5 (0.59)	2 (0.24)	7 (0.83)	443 (52.68)	398 (47.32)	841 (100)
	All Sources	4170 (53.77)	3384 (43.64)	7554 (97.41)	120 (1.55)	81 (1.04)	201 (2.59)	4290 (55.32)	3465 (44.68)	7755 (100)

*"Not in Use schemes" includes a total of 96 schemes which are temporarily not in use

74% of the area of land holdings in Goa i.e. 4,801 Ha. out of the total area of 6,503 Ha. are marginal in size and largely, cultivated area is rain fed. Given the fact that only about a quarter of cultivated area in the State receives irrigation, the proximity of source of irrigation to the operational holding enhances its productivity and promotes multi-cropping system. Table 7.2 (c) below presents the district-wise distribution of all minor irrigation sources according to the size of operational holdings in Goa.

It is seen from the table that ground water schemes, in particular dug wells accounted for a giant share in the irrigation of 4,262 Ha. which is nearly 66% of the total land holdings held by individual farmers in the State. Shallow tube wells irrigated 78 Ha. (1%) of the land holdings, whereas the share of deep tube wells was negligible.

Under surface water schemes, surface flow schemes irrigated 1,441 Ha. of the total land holdings i.e. 22% whereas lift irrigation was used to irrigate 711 Ha.(about 11%) of land holdings.

7.3 (c) DISTRIBUTION OF IRRIGATION SOURCES ACCORDING TO SIZE OF OPERATIONAL HOLDINGS BY INDIVIDUAL FARMERS

Sl. No.	Source	State/ District	Size of Holding (Ha.)					Total Holdings
			Marginal (0 – 1)	Small (1 – 2)	Semi Medium (2 – 4)	Medium (4 -10)	Large (Big >=10)	
1	2	3	4	5	6	7	8	9
1	Dug wells	Goa State	3242 (75.98)	575 (13.48)	275 (6.44)	131 (3.07)	44 (1.03)	4267 (100)
		North Goa	2031 (47.60)	319 (7.48)	142 (3.33)	66 (1.55)	30 (0.70)	2588 (60.65)
		South Goa	1211 (28.38)	256 (6.0)	133 (3.12)	65 (1.52)	14 (0.33)	1649 (39.35)
2	Shallow tube wells	Goa State	55 (70.51)	13 (16.67)	5 (6.41)	4 (5.13)	1 (1.28)	78 (100)
		North Goa	37 (47.44)	13 (16.67)	5 (6.41)	4 (5.13)	1 (1.28)	60 (76.92)
		South Goa	18 (23.08)	0 (0)	0 (0)	0 (0)	0 (0)	18 (23.08)
3.	Medium tube wells	Goa State	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		North Goa	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		South Goa	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
4.	Deep tube wells	Goa State	3 (50.0)	1 (16.67)	2 (33.33)	0 (0)	0 (0)	6 (100)
		North Goa	1 (16.67)	1 (16.67)	2 (33.33)	0 (0)	0 (0)	4 (66.67)
		South Goa	2 (33.33)	0 (0)	0 (0)	0 (0)	0 (0)	2 (33.33)
5.	Surface flow schemes	Goa State	1104 (76.61)	202 (14.02)	79 (5.48)	48 (3.33)	8 (0.56)	1441 (100)
		North Goa	386 (26.79)	57 (3.96)	32 (2.22)	11 (0.76)	2 (0.14)	488 (33.87)
		South Goa	718 (49.83)	145 (10.06)	47 (3.26)	37 (2.57)	6 (0.42)	953 (66.13)
6.	Surface lift schemes	Goa State	397 (55.84)	156 (21.94)	93 (13.08)	48 (6.75)	17 (2.39)	711 (100)
		North Goa	226 (31.79)	63 (8.86)	37 (5.20)	19 (2.67)	4 (0.56)	349 (49.09)
		South Goa	171 (24.05)	93 (13.08)	56 (7.88)	29 (4.08)	13 (1.83)	362 (50.91)
	All Sources	Goa State	4801 (73.83)	947 (14.56)	454 (6.98)	231 (3.55)	70 (1.08)	6503 (100)
		North Goa	2681 (41.23)	453 (6.97)	218 (3.35)	100 (1.54)	37 (0.57)	3489 (53.65)
		South Goa	2120 (32.60)	494 (7.60)	236 (3.63)	131 (2.01)	33 (0.51)	3014 (46.35)

Note: Figures in brackets indicate percentages.

The census also covered data related to ownership of irrigation sources according to the social status which is depicted in Table 7.2 (d) below.

7.2 (d) DISTRIBUTION OF OWNERSHIP OF IRRIGATION SOURCES ACCORDING TO SOCIAL STATUS

Sl. No.	Source	State/ District	Ownership according to Social Status				Other than Individual	Total (4 to 7)
			SC	ST	OBC	Others		
1	2	3	4	5	6	7	8	9
1.	Dug wells	Goa State	63 (1.35)	685 (14.66)	972 (20.80)	2547 (54.50)	406 (8.69)	4673 (100)
		North Goa	34 (1.20)	235 (8.31)	811 (28.68)	1508 (53.32)	240 (8.49)	2828 (100)
		South Goa	29 (1.57)	450 (24.39)	161 (8.73)	1039 (56.31)	166 (9.00)	1845 (100)
2.	Shallow tube wells	Goa State	1 (1.20)	6 (7.23)	27 (32.53)	44 (53.01)	5 (6.02)	83 (100)
		North Goa	0 (0)	0 (0)	24 (39.34)	36 (59.02)	1 (1.64)	61 (100)
		South Goa	1 (4.55)	6 (27.27)	3 (13.64)	8 (36.36)	4 (18.18)	22 (100)
3.	Medium tube wells	Goa State	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	1 (100)
		North Goa	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	1 (100)
		South Goa	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (100)
4.	Deep tube wells	Goa State	0 (0)	1 (7.69)	2 (15.38)	3 (23.08)	7 (53.85)	13 (100)
		North Goa	0 (0)	1 (20)	2 (40)	1 (20)	1 (20)	5 (100)
		South Goa	0 (0)	0 (0)	0 (0)	2 (25)	6 (75)	8 (100)
5.	Surface flow schemes	Goa State	27 (1.26)	520 (24.25)	245 (11.43)	649 (30.27)	703 (32.79)	2144 (100)
		North Goa	7 (0.74)	117 (12.29)	136 (14.29)	228 (23.95)	464 (48.74)	952 (100)
		South Goa	20 (1.68)	403 (33.81)	109 (9.14)	421 (35.32)	239 (20.05)	1192 (100)
6.	Surface lift schemes	Goa State	62 (7.37)	147 (17.48)	57 (6.78)	445 (52.91)	130 (15.46)	841 (100)
		North Goa	55 (12.42)	29 (6.55)	34 (7.67)	231 (52.14)	94 (21.22)	443 (100)
		South Goa	7 (1.76)	118 (29.65)	23 (5.78)	214 (53.77)	36 (9.05)	398 (100)
	All Sources	Goa State	153 (1.97)	1359 (17.52)	1303 (16.80)	3688 (47.56)	1252 (16.14)	7755 (100)
		North Goa	96 (2.24)	382 (8.90)	1007 (23.47)	2004 (46.71)	801 (18.67)	4290 (100)
		South Goa	57 (1.65)	977 (28.20)	297 (8.54)	1684 (48.60)	451 (13.02)	3465 (100)

Scheduled castes and Scheduled Tribes account for only 2% and 12% respectively of the total population of Goa. It can be seen from Table 7.2 (d) that only 153 nos.

(around 2%) of the total irrigation sources were owned by Scheduled Castes and 1,359 nos. of irrigation sources (nearly 18%) were owned by Scheduled Tribes. Other Backward Classes owned 1,303 nos. (about 17%) of irrigation sources. 48% of the total irrigation sources owned belonged to Other Categories.

The data related to culturable command area, gross irrigation potential created and area irrigated by various minor Irrigation sources has been presented in Table 7.2 (e) below:

7.2 (e) DISTRIBUTION OF CULTURABLE COMMAND AREA, GROSS IRRIGATION POTENTIAL CREATED AND AREA IRRIGATED ACCORDING TO MINOR IRRIGATION SOURCES

Sl. No.	Sources	Culturable Command Area (Ha.)			Gross Irrigation Potential created (Ha.)			Area irrigated (Ha.)		
		North Goa	South Goa	Goa State	North Goa	South Goa	Goa State	North Goa	South Goa	Goa State
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1.	Dug wells	1867.91 (57.40)	1383.55 (42.60)	3251.46 (100)	1827.40 (58.30)	1307.06 (41.70)	3134.46 (100)	1769.96 (57.90)	1284.56 (42.10)	3054.52 (100)
2.	Shallow tube wells	96.48 (91.90)	8.51 (8.10)	104.99 (100)	56.68 (87.50)	8.08 (12.50)	64.76 (100)	54.18 (88.70)	6.93 (11.30)	61.11 (100)
3.	Medium tube wells	0.5 (100)	0 (0)	0.5 (100)	0.5 (100)	0 (0)	0.5 (100)	0.5 (100)	0 (0)	0.5 (100)
4.	Deep tube wells	6.16 (77.30)	1.81 (22.70)	7.97 (100)	6.16 (77.30)	1.81 (22.70)	7.97 (100)	6.16 (77.30)	1.81 (22.70)	7.97 (100)
5.	Surface flow irrigation	1555.72 (55.30)	1256.59 (44.70)	2812.31 (100)	1466.69 (55.20)	1192.24 (44.80)	2658.93 (100)	1454.59 (55.60)	1160.70 (44.40)	2615.29 (100)
6.	Surface lift irrigation	1371.92 (64.20)	764.18 (35.80)	2136.10 (100)	970.35 (57.90)	706.08 (42.10)	1676.43 (100)	958.05 (57.80)	698.76 (42.20)	1656.81 (100)
	All Sources	**4898.69 (58.90)**	**3414.64 (41.10)**	**8313.33 (100)**	**4327.78 (57.40)**	**3215.27 (42.60)**	**7543.05 (100)**	**4243.44 (57.40)**	**3152.76 (42.60)**	**7396.20 (100)**

The Culturable Command Area (CCA) in Goa as per the 5th Minor Irrigation Census was 8,313.33 Ha for all sources of minor irrigation schemes which were in use, temporarily not in use and permanently not in use.

Dug wells was the most important and major source of minor irrigation with Culturable Command Area (CCA) of 3,251 Ha. (39%) as against the total area of 8,313 Ha. for the State, followed by Surface Flow irrigation with 2,812 Ha. (33.8%) and Surface lift

irrigation with 2,136 Ha. (25.7%). The share of shallow tube wells was a meagre 105 Ha. while irrigation from medium and deep tube wells was negligible. The CCA coverage in North Goa district was nearly 59% as compared to 41% in South Goa District. However, out of the total CCA of 8,313 Ha. the actual CCA for all sources of minor irrigation schemes actually in use was 8,196 Ha.

The gross irrigation potential created (IPC) in Goa from all irrigation sources enumerated during the 5th Minor Irrigation Census whether in use, temporarily not in use and permanently not in use was 7,543 Ha. However, the actual irrigation potential created from all sources of minor irrigation schemes actually in use was around 7,475 Ha. against which the utilization was 7,386 Ha. which means almost 98% of potential created from all irrigation sources in Goa was utilized.

The highlights of the 5th Minor Irrigation Census are presented in Chapter 8. The detailed data tables as per the Census results are appended.

CHAPTER – 8

KEY FINDINGS OF THE 5TH MINOR IRRIGATION CENSUS (MIC)

1. Minor Irrigation schemes continue to be the predominant source of irrigation in Goa, considering it being cost effective and having smaller gestation periods.
2. During the 5th MIC, 7,755 nos. of minor irrigation schemes were enumerated, 4,770 nos. of ground water schemes and 2,985 nos. of surface water schemes from the 2 districts and 389 nos. of villages in the State of Goa as compared to 4th Census (7,074 nos.).
3. There is a slight increase of about 10 % in the number of minor irrigation schemes in the 5th Census as compared to the previous census.
4. The irrigation potential created from all sources of minor irrigation schemes actually in use was around 7,475 Ha. against which the utilization was 7,386 Ha. which means almost 98% of potential created from all irrigation sources in Goa was utilized.
5. Under ground water schemes, dug wells is the predominant minor irrigation source across the State registering an increase of about 9.41% in the number of dug wells from 4,271 nos. in the 4th census to 4,673 nos. in the 5th census. Only one Medium tube well has been recorded under the newly introduced type of ground water scheme.
6. There were only 13 nos. of irrigation deep tube wells in Goa (5 nos. in North Goa and 8 nos. in South Goa) irrigating 7.97 Ha of land.
7. Bicholim taluka in North Goa possessed the highest number of ground water schemes (in use) i.e. 627 nos. followed by Canacona taluka (577 nos.) in South Goa.
8. Surface flow schemes contributed significantly for minor irrigation in the hilly terrains of Goa.
9. Surface flow minor irrigation schemes has increased from 1,741, nos. in 2006-07 to 2,144 nos. in 2013-14, irrigating 2615.29 Ha of land. Majority of these surface flow schemes are located in Ponda, Sanguem, Dharbandora and Quepem talukas.
10. Ponda taluka (819 nos.) in North Goa possessed highest number of surface water schemes followed by Sanguem taluka (663 nos.) in South Goa.
11. Majority of surface lift schemes are located in Satari, Ponda, Quepem and Sanguem talukas.
12. Irrigation potential created (IPC) and utilized (IPU) from Ground water schemes and Surface water schemes has decreased in the 5th MI Census.

13. Most minor irrigation schemes (95.98%) particularly, ground water schemes (96.52%) continue to remain under private ownership i.e. either owned by individual farmers or group of farmers.
14. Farmers' own savings continue to be the major source of financing for construction of minor irrigation schemes and installation of machinery.
15. Traditional mode of water distribution through open field channels for conveying water to the fields from the irrigation source has increased in the 5th MI census and it still remains the major mode of water distribution (57%). Correspondingly, efficient water distribution systems like drip, sprinkler and underground pipe is yet to take off in a big way. However, there is 2% increase in the share of these water distribution systems in the 5^{th} MIC from 14.22% to 16.26%.
16. Electricity is the predominant source of energy for operation of pump-sets for minor irrigation schemes in Goa. The most commonly used water lifting device is the centrifugal pump followed by the submersible pump.
17. All surface lift irrigation schemes use a single source of energy in which electricity is the dominant source (84%) followed by manual or animal power (8%).
18. In surface lift schemes, which are 'in use', around 98% are functioning without any constraints in utilization of potential.

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MINOR IRRIGATION CENSUS (2013-14) –TABLES INDEX

MINOR IRRIGATION CENSUS (2013-14)

Table. I MINOR IRRIGATION SCHEMES AT A GLANCE

State : GOA (In Nos.)

Sl.No	District/Taluka	No. of Villages	Total Number of Schemes								
			Ground Water					Surface Water			All Scheme (8+11)
			Dugwell	Shallow Tubewell	Medium Tubewell	Deep Tubewell	Total (4+5+6+7)	S. Flow Scheme	S. Lift Scheme	Total (9+10)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	North Goa	**227**	**2828**	**61**	**1**	**5**	**2895**	**952**	**443**	**1395**	**4290**
1	Bardez	38	571	10	0	0	581	30	2	32	613
2	Bicholim	29	633	1	0	0	634	106	71	177	811
3	Pernem	27	340	0	0	0	340	72	43	115	455
4	Ponda	28	534	20	1	3	558	669	151	820	1378
5	Satari	76	388	30	0	2	420	73	176	249	669
6	Tiswadi	29	362	0	0	0	362	2	0	2	364
	South Goa	**162**	**1845**	**22**	**0**	**8**	**1875**	**1192**	**398**	**1590**	**3465**
1	Canacona	9	576	10	0	7	593	110	76	186	779
2	Dharbandora	16	234	1	0	0	235	213	86	299	534
3	Mormugao	15	108	3	0	1	112	15	2	17	129
4	Quepem	40	346	1	0	0	347	144	108	252	599
5	Salcete	51	273	7	0	0	280	140	23	163	443
6	Sanguem	31	308	0	0	0	308	570	103	673	981
Total	**Goa**	**389**	**4673**	**83**	**1**	**13**	**4770**	**2144**	**841**	**2985**	**7755**

MINOR IRRIGATION CENSUS (2013-14)

Table. II MINOR IRRIGATION SCHEMES IN USE, CCA AND IRRIGATION POTENTIAL

State : GOA (Area in ha.)

Sl. No.	District/ Taluka	Ground Water				Surface Water				Total			
		In Use (Nos)	CCA	PC	PU	In Use (Nos)	CCA	PC	PU	In Use (Nos)	CCA	PC	PU
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	North Goa	**2793**	**1918.70**	**1842.27**	**1821.00**	**1377**	**2897.79**	**2429.98**	**2413.00**	**4170**	**4816.49**	**4272.25**	**4234.00**
1	Bardez	503	166.09	183.61	176.00	27	10.36	13.00	13.00	530	176.45	196.61	189.00
2	Bicholim	627	361.32	361.31	361.00	173	366.36	362.70	363.00	800	727.68	724.01	724.00
3	Pernem	333	189.08	189.08	184.00	110	232.32	232.32	231.00	443	421.40	421.40	415.00
4	Ponda	555	503.86	503.86	503.00	819	1126.11	1126.11	1114.00	1374	1629.97	1629.97	1617.00
5	Satari	414	480.59	401.65	398.00	246	1162.09	695.30	691.00	660	1642.68	1096.95	1089.00
6	Tiswadi	361	217.76	202.76	199.00	2	0.55	0.55	1.00	363	218.31	203.31	200.00
	South Goa	**1823**	**1377.74**	**1307.74**	**1293.00**	**1561**	**2012.01**	**1894.57**	**1859.00**	**3384**	**3379.75**	**3202.31**	**3152.00**
1	Canacona	577	222.62	222.02	222.00	183	176.33	176.33	176.00	760	398.95	398.35	398.00
2	Dharbandora	235	161.46	155.46	155.00	295	284.76	282.41	282.00	530	446.22	437.87	437.00
3	Mormugao	105	35.42	35.42	35.00	13	78.39	78.39	75.00	118	113.81	113.81	110.00
4	Quepem	346	259.07	257.07	255.00	252	407.05	402.47	401.00	598	666.12	659.54	656.00
5	Salcete	266	101.62	109.87	100.00	155	231.34	197.18	173.00	421	332.96	307.05	273.00
6	Sanguem	294	597.55	527.90	526.00	663	834.14	757.79	752.00	957	1421.69	1285.69	1278.00
Total	**Goa**	**4616**	**3296.44**	**3150.01**	**3114.00**	**2938**	**4909.80**	**4324.55**	**4272.00**	**7554**	**8196.24**	**7474.56**	**7386.00**

MINOR IRRIGATION CENSUS (2013-14)

Table. III MINOR IRRIGATION SCHEMES TEMPORARY NOT IN USE, CCA AND IRRIGATION POTENTIAL

State : GOA (Area in ha.)

Sl. No.	District/Taluka	Ground Water				Surface Water				Total			
		Temp. not in Use (Nos)	CCA	PC	PU	Temp. not in Use (Nos)	CCA	PC	PU	Temp. not in Use (Nos)	CCA	PC	PU
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	North Goa	**62**	**25.80**	**26.24**	**8.64**	**6**	**8.06**	**7.06**	**0.08**	**68**	**33.86**	**33.30**	**8.72**
1	Bardez	48	19.39	19.83	3.76	3	1.48	0.48	0.00	51	20.87	20.31	3.76
2	Bicholim	2	0.65	0.65	0.15	0	0.00	0.00	0.00	2	0.65	0.65	0.15
3	Pernem	5	1.93	1.93	0.90	0	0.00	0.00	0.00	5	1.93	1.93	0.90
4	Ponda	3	1.35	1.35	1.35	1	0.08	0.08	0.08	4	1.43	1.43	1.43
5	Satari	3	2.23	2.23	2.23	2	6.50	6.50	0.00	5	8.73	8.73	2.23
6	Tiswadi	1	0.25	0.25	0.25	0	0.00	0.00	0.00	1	0.25	0.25	0.25
	South Goa	**22**	**7.20**	**5.30**	**1.35**	**6**	**1.32**	**1.32**	**0.22**	**28**	**8.52**	**6.62**	**1.57**
1	Canacona	9	2.90	1.00	1.00	0	0.00	0.00	0.22	9	2.90	1.00	1.00
2	Dharbandora	0	0.00	0.00	0.00	4	0.22	0.22	0.00	4	0.22	0.22	0.22
3	Mormugao	4	1.37	1.37	0.05	1	0.10	0.10	0.00	5	1.47	1.47	0.00
4	Quepem	1	0.05	0.05	0.30	0	0.00	0.00	0.00	1	0.05	0.05	0.05
5	Salcete	8	2.88	2.88	0.00	1	1.00	1.00	0.00	9	3.88	3.88	0.30
6	Sanguem	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0.00	0.00	0.00
Total	**Goa**	**84**	**33.00**	**31.54**	**9.99**	**12**	**9.38**	**8.38**	**0.30**	**96**	**42.38**	**39.92**	**10.29**

MINOR IRRIGATION CENSUS(2013-14)

Table. IV MINOR IRRIGATION SCHEMES PERMANENTLY NOT IN USE, CCA AND IRRIGATION POTENTIAL LOST

State : GOA (Area in ha.)

Sl.No	District/Taluka	Ground Water			Surface Water			Total		
		Schemes Permanently Not in Use (Nos)	CCA	Potential Created but lost	Schemes Permanently Not in Use (Nos)	CCA	Potential Created but lost	Schemes Not in Use (Nos)	CCA	Potential Created but lost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	North Goa	**40**	**26.55**	**22.23**	**12**	**21.79**	**0.00**	**52**	**48.34**	**22.23**
1	Bardez	30	15.62	12.01	2	2.88	0.00	32	18.50	12.01
2	Bicholim	5	7.82	7.22	4	0.41	0.00	9	8.23	7.22
3	Pernem	2	0.11	0.00	5	13.50	0.00	7	13.61	0.00
4	Ponda	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
5	Satari	3	3.00	3.00	1	5.00	0.00	4	8.00	3.00
6	Tiswadi	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
	South Goa	**30**	**8.93**	**3.91**	**23**	**17.44**	**2.43**	**53**	**26.37**	**6.34**
1	Canacona	7	2.19	2.19	3	0.54	0.54	10	2.73	2.73
2	Dharbandora	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
3	Mormugao	3	0.48	0.00	3	7.25	1.89	6	7.73	1.89
4	Quepem	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
5	Salcete	6	1.02	0.42	7	6.50	0.00	13	7.52	0.42
6	Sanguem	14	5.24	1.30	10	3.15	0.00	24	8.39	1.30
Total	**Goa**	**70**	**35.48**	**26.14**	**35**	**39.23**	**2.43**	**105**	**74.71**	**28.57**

MINOR IRRIGATION CENSUS(2013-14)

Table. V SEASON WISE AREA IRRIGATED AS SUPPLEMENTARY SOURCE BY MINOR IRRIGATION SCHEMES

State : GOA (Area in ha.)

Sl. No.	District/ Taluka	Area Irrigated by Ground Water Scheme					Area Irrigated by Surface Water Schemes					Area Irrigated by Total Minor Irrigation Schemes				
		Kharif	Rabi	Perennial	Other	Total (3 to 6)	Kharif	Rabi	Perennial	others	Total (8 to 11)	Kharif	Rabi	Perennial	Others	Total (3 to16)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**0.00**	**3.62**	**4.60**	**1.05**	**9.27**	**0.00**	**44.59**	**3.72**	**35.00**	**83.31**	**0.00**	**48.21**	**8.32**	**36.05**	**92.58**
1	Bardez	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Bicholim	0.00	3.12	0.00	0.50	3.62	0.00	5.41	3.72	0.00	9.13	0.00	8.53	3.72	0.50	12.75
3	Pernem	0.00	0.00	0.00	0.00	0.00	0.00	39.18	0.00	35.00	74.18	0.00	39.18	0.00	35.00	74.18
4	Ponda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Satari	0.00	0.50	0.00	0.55	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.50	4.60	0.55	5.65
6	Tiswadi	0.00	0.00	4.60	0.00	4.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	South Goa	**0.00**	**0.00**	**1.00**	**0.00**	**1.00**	**9.46**	**37.61**	**28.69**	**2.00**	**77.76**	**9.46**	**37.61**	**29.69**	**2.00**	**78.76**
1	Canacona	0.00	0.00	0.00	0.00	0.00	3.20	0.00	0.02	0.00	3.22	3.20	0.00	0.02	0.00	3.22
2	Dharbandora	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Mormugao	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Quepem	0.00	0.00	1.00	0.00	1.00	0.00	29.37	28.67	2.00	60.04	0.00	29.37	29.67	2.00	61.04
5	Salcete	0.00	0.00	0.00	0.00	0.00	6.26	8.24	0.00	0.00	14.50	6.26	8.24	0.00	0.00	14.50
6	Sanguem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**Goa**	**0.00**	**3.62**	**5.60**	**1.05**	**10.27**	**9.46**	**82.20**	**32.41**	**37.00**	**161.07**	**9.46**	**85.82**	**38.01**	**38.05**	**171.34**

MINOR IRRIGATION CENSUS(2013-14)

Table VI(A) NUMBER OF SCHEMES PERMANENTLY NOT IN USE BY TYPE OF REASONS

State : GOA (Area in ha.)

Sl. No.	District/ Taluka	Ground Water Schemes Permanently not in use															
		Salinity		Dried up		Destroyed beyond repair		Sea water intrusion		Industrial effluents		Availability of Major/Medium Irrigation Projects		Other reasons		Total	
		Nos.	Potential Created but Lost	Nos.	Potential Created but Lost	Nos.	Potential Created but Lost	Nos.	Potential Created but Lost	Nos.	Potential Created but Lost	Nos.	Potential Created but Lost	Nos.	Potential Created but Lost	Nos.	Potential Created but Lost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	North Goa	**1**	**0.83**	**3**	**0.00**	**5**	**0.64**	**7**	**8.33**	**0**	**0.00**	**0**	**0.00**	**24**	**12.43**	**40**	**22.23**
1	Bardez	1	0.83	3	0.00	5	0.64	7	8.33	0	0.00	0	0.00	14	2.21	30	12.01
2	Bicholim	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	5	7.22	5	7.22
3	Pernem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0.00	2	0.00
4	Ponda	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Satari	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	3.00	3	3.00
6	Tiswadi	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	South Goa	**0**	**0.00**	**3**	**0.37**	**2**	**0.05**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**25**	**3.49**	**30**	**3.91**
1	Canacona	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	7	2.19	7	2.19
2	Dharbandora	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Mormugao	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	0.00	3	0.00
4	Quepem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Salcete	0	0.00	3	0.37	1	0.05	0	0.00	0	0.00	0	0.00	2	0.00	6	0.42
6	Sanguem	0	0.00	0	0.00	1	0.00	0	0.00	0	0.00	0	0.00	13	1.30	14	1.30
Total	**Goa**	**1**	**0.83**	**6**	**0.37**	**7**	**0.69**	**7**	**8.33**	**0**	**0.00**	**0**	**0.00**	**49**	**15.92**	**70**	**26.14**

MINOR IRRIGATION CENSUS(2013-14)

Table VI(B) NUMBER OF SCHEMES PERMANENTLY NOT IN USE BY TYPE OF REASONS

State : GOA (Area in ha.)

Sl. No	District/Taluka	Surface Water Schemes Permanently not in use due to											
		Salinity		Dried up		Destroyed beyond repair		Due to Sinking		Other reason		Total	
		Nos.	Potential Created but Lost	Nos.	Potential Created but Lost	Nos.	Potential Created but Lost	Nos.	Potential Created but Lost	Nos.	Potential Created but Lost	No.	Potential Created but Lost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	North Goa	**1**	**0.00**	**0**	**0.00**	**1**	**0.00**	**0**	**0.00**	**10**	**0.00**	**12**	**0.00**
1	Bardez	1	0.00	0	0.00	0	0.00	0	0.00	1	0.00	2	0.00
2	Bicholim	0	0.00	0	0.00	1	0.00	0	0.00	3	0.00	4	0.00
3	Pernem	0	0.00	0	0.00	0	0.00	0	0.00	5	0.00	5	0.00
4	Ponda	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Satari	0	0.00	0	0.00	0	0.00	0	0.00	1	0.00	1	0.00
6	Tiswadi	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	South Goa	**0**	**0.00**	**4**	**0.00**	**0**	**0.00**	**1**	**0.00**	**18**	**2.43**	**23**	**2.43**
1	Canacona	0	0.00	0	0.00	0	0.00	0	0.00	3	0.54	3	0.54
2	Dharbandora	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	1.89
3	Mormugao	0	0.00	0	0.00	0	0.00	0	0.00	3	1.89	3	0.00
4	Quepem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Salcete	0	0.00	4	0.00	0	0.00	0	0.00	3	0.00	7	0.00
6	Sanguem	0	0.00	0	0.00	0	0.00	1	0.00	9	0.00	10	0.00
Total	**Goa**	**1**	**0.00**	**4**	**0.00**	**1**	**0.00**	**1**	**0.00**	**28**	**2.43**	**35**	**2.43**

MINOR IRRIGATION CENSUS(2013-14)

Table.VII(A) MINOR IRRIGATION SCHEMES ACCORDING TO OWNERSHIP TYPE FOR GROUND WATER SCHEME

State : GOA (In Nos.)

Sl. No.	District/ Taluka	Ground water schemes owned by								
		Public					Private			Grand Total (7+10)
		Govt.	Coop Society	Panchayat	Others	Total (3 to 6)	Group of Farmers	Individual Farmer	Total (8 + 9)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	North Goa	**56**	**10**	**5**	**24**	**95**	**148**	**2652**	**2800**	**2895**
1	Bardez	9	1	0	10	20	42	519	561	581
2	Bicholim	0	0	0	4	4	6	624	630	634
3	Pernem	18	2	2	1	23	55	262	317	340
4	Ponda	0	0	0	0	0	16	542	558	558
5	Satari	25	6	3	3	37	5	378	383	420
6	Tiswadi	4	1	0	6	11	24	327	351	362
	South Goa	**22**	**4**	**5**	**40**	**71**	**105**	**1699**	**1804**	**1875**
1	Canacona	7	3	3	14	27	13	553	566	593
2	Dharbandora	2	0	0	3	5	0	230	230	235
3	Mormugao	0	0	1	0	1	47	64	111	112
4	Quepem	5	0	1	5	11	6	330	336	347
5	Salcete	6	0	0	15	21	35	224	259	280
6	Sanguem	2	1	0	3	6	4	298	302	308
Total	**Goa**	**78**	**14**	**10**	**64**	**166**	**253**	**4351**	**4604**	**4770**

MINOR IRRIGATION CENSUS(2013-14)

Table.VII(B) MINOR IRRIGATION SCHEMES ACCORDING TO OWNERSHIP TYPE FOR SURFACE WATER SCHEME

State : GOA (In Nos.)

Sl. No.	District/Taluka	Surface water schemes owned by								
		Public					Private			Grand Total (7+10)
		Govt.	Coop Society	Panchayat	Others	Total (3 to 6)	Group of Farmers	Individual Farmer	Total (8 + 9)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	North Goa	**77**	**5**	**7**	**16**	**105**	**453**	**837**	**1290**	**1395**
1	Bardez	8	0	1	2	11	2	19	21	32
2	Bicholim	6	0	1	3	10	32	135	167	177
3	Pernem	22	1	0	1	24	58	33	91	115
4	Ponda	0	0	5	7	12	333	475	808	820
5	Satari	41	4	0	3	48	26	175	201	249
6	Tiswadi	0	0	0	0	0	2	0	2	2
	South Goa	**13**	**5**	**3**	**20**	**41**	**234**	**1315**	**1549**	**1590**
1	Canacona	1	0	0	1	2	34	150	184	186
2	Dharbandora	3	1	0	2	6	5	288	293	299
3	Mormugao	0	0	3	0	3	8	6	14	17
4	Quepem	0	2	0	0	2	26	224	250	252
5	Salcete	5	0	0	11	16	72	75	147	163
6	Sanguem	4	2	0	6	12	89	572	661	673
Total	**Goa**	**90**	**10**	**10**	**36**	**146**	**687**	**2152**	**2839**	**2985**

MINOR IRRIGATION CENSUS(2013-14)

Table.VII(C) MINOR IRRIGATION SCHEMES ACCORDING TO OWNERSHIP TYPE FOR ALL SCHEMES

State : GOA (In Nos.)

Sl. No.	District/Taluka	Total Minor Irrigation Schemes owned by								
		Public					Private			Grand Total (7+10)
		Govt.	Coop Society	Panchayat	Others	Total (3 to 6)	Group of Farmers	Individual Farmer	Total (8 + 9)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	North Goa	**133**	**15**	**12**	**40**	**200**	**601**	**3489**	**4090**	**4290**
1	Bardez	17	1	1	12	31	44	538	582	613
2	Bicholim	6	0	1	7	14	38	759	797	811
3	Pernem	40	3	2	2	47	113	295	408	455
4	Ponda	0	0	5	7	12	349	1017	1366	1378
5	Satari	66	10	3	6	85	31	553	584	669
6	Tiswadi	4	1	0	6	11	26	327	353	364
	South Goa	**35**	**9**	**8**	**60**	**112**	**339**	**3014**	**3353**	**3465**
1	Canacona	8	3	3	15	29	47	703	750	779
2	Dharbandora	5	1	0	5	11	5	518	523	534
3	Mormugao	0	0	4	0	4	55	70	125	129
4	Quepem	5	2	1	5	13	32	554	586	599
5	Salcete	11	0	0	26	37	107	299	406	443
6	Sanguem	6	3	0	9	18	93	870	963	981
Total	**Goa**	**168**	**24**	**20**	**100**	**312**	**940**	**6503**	**7443**	**7755**

MINOR IRRIGATION CENSUS(2013-14)

Table.VIII(A) MINOR IRRIGATION SCHEMES (FOR INDIVIDUAL OWNERSHIP) ACCORDING TO HOLDING SIZE OF OWNER

State : GOA (In Nos.)

Sl. No.	District/Taluka	No. of Ground Water Schemes owned by					
		Marginal (0-1ha)	Small (1-2 ha)	Semi-Medium (2-4 ha)	Medium (4-10 ha)	Big (>=10ha)	Total (3 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**2069**	**333**	**149**	**70**	**31**	**2652**
1	Bardez	488	26	3	1	1	519
2	Bicholim	537	48	27	10	2	624
3	Pernem	207	43	6	5	1	262
4	Ponda	345	104	67	22	4	542
5	Satari	218	101	36	22	1	378
6	Tiswadi	274	11	10	10	22	327
	South Goa	**1231**	**256**	**133**	**65**	**14**	**1699**
1	Canacona	489	48	15	1	0	553
2	Dharbandora	128	45	32	21	4	230
3	Mormugao	54	8	2	0	0	64
4	Quepem	225	61	31	13	0	330
5	Salcete	203	16	4	1	0	224
6	Sanguem	132	78	49	29	10	298
Total	**Goa**	**3300**	**589**	**282**	**135**	**45**	**4351**

MINOR IRRIGATION CENSUS(2013-14)

Table.VIII(B) MINOR IRRIGATION SCHEMES (FOR INDIVIDUAL OWNERSHIP) ACCORDING TO HOLDING SIZE OF OWNER

State : GOA (In Nos.)

Sl.No.	District/Taluka	No. of Surface Water Schemes owned by					
		Marginal (0-1ha)	Small (1-2 ha)	Semi-Medium (2-4 ha)	Medium (4-10 ha)	Big (>=10ha)	Total (9 to 13)
(1)	(2)	(9)	(10)	(11)	(12)	(13)	(14)
	North Goa	**612**	**120**	**69**	**30**	**6**	**837**
1	Bardez	18	1	0	0	0	19
2	Bicholim	108	11	9	6	1	135
3	Pernem	27	3	1	1	1	33
4	Ponda	376	54	34	10	1	475
5	Satari	83	51	25	13	3	175
6	Tiswadi	0	0	0	0	0	0
	South Goa	**889**	**238**	**103**	**66**	**19**	**1315**
1	Canacona	105	27	14	4	0	150
2	Dharbandora	213	34	19	13	9	288
3	Mormugao	6	0	0	0	0	6
4	Quepem	125	49	25	22	3	224
5	Salcete	61	7	5	1	1	75
6	Sanguem	379	121	40	26	6	572
Total	**Goa**	**1501**	**358**	**172**	**96**	**25**	**2152**

MINOR IRRIGATION CENSUS(2013-14)

Table.IX(A) DISTRIBUTION OF GROUNDWATER SOURCES (IN USE) ACCORDING TO CONSTRAINTS IN UTILISATION OF POTENTIAL

(In Nos.)

Sl. No.	Source	No. of Groundwater sources in use	No.of Groundwater sources without constraints	No. of Groundwater sources Having Constraints in utillsation of potential						
				Non Availability of Adequate Power	Mechanical Break Down	Less discharge of Water	Non - Availability of Finance	Lack of Maintenance	Others	Total (5 to 10)
1	2	3	4	5	6	7	8	9	10	11
1	Dugwells	4526	4466	1	0	6	2	0	51	60
2	Shallow Tube	76	76	0	0	0	0	0	0	0
3	Medium Tube	1	1	0	0	0	0	0	0	0
4	Deep Tube	13	13	0	0	0	0	0	0	0
	All Ground water Sources - Goa State	**4616**	**4556**	**1**	**0**	**6**	**2**	**0**	**51**	**60**

MINOR IRRIGATION CENSUS(2013-14)

Table. IX(B) DISTRIBUTION OF SURFACE WATER SOURCES (IN USE) ACCORDING TO CONSTRAINTS IN UTILISATION OF POTENTIAL

(In Nos.)

Sl. No.	**Source**	No. of Surface water schemes in use	No.of Surface water schemes without constraints	No. of Surface water sources Having Constraints in utillsation of potential							
				Inadequate Power supply	Mechanical Break Down	Less discharge of Water	Storage not filled up fully	Silitation of Canal / Storage	Channel Break Down	Others	Total (5 to 11)
1	2	3	4	5	6	7	8	9	10	11	12
1	Surface Flow Schemes	2104	2090	0	0	1	0	0	0	13	14
2	Surface Lift Schemes	834	816	0	0	1	0	0	0	17	18
	All surface water Sources - Goa State	**2938**	**2906**	**0**	**0**	**2**	**0**	**0**	**0**	**30**	**32**

MINOR IRRIGATION CENSUS(2013-14)

Table. X DISTRIBUTION OF MINOR IRRIGTION SCHEMES (IN USE, TEMPORARILY NOT IN USE) ACCORDING TO SOURCE OF ENERGY

(In Nos.)

S. N	Source / Scheme	With one source of energy							With two Source of Energy								Grand Total (9+17)
		Electric Pump	Diesel pump	Wind mills	Solar pumps	Manual / Animal	Others	Total (3 to 8)	Electric & Diesel	Electric & Windmill	Electric & Solar	Diesel & Windmills	Diesel & Solar	Windmill & Solar	Others	Total (10 to 16)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Dug wells	3148	251	1	0	1053	140	4593	6	0	0	0	0	0	11	17	4610
2	Shallow Tube wells	75	1	0	0	0	0	76	0	0	0	0	0	0	0	0	76
3	Medium Tube wells	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
4	Deep Tube wells	13	0	0	0	0	0	13	0	0	0	0	0	0	0	0	13
5	Surface Flow Schemes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Surface Lift Schemes	707	53	1	0	69	8	838	0	0	0	0	0	0	0	0	838
	All Sources	**3944**	**305**	**2**	**0**	**1122**	**148**	**5521**	**6**	**0**	**0**	**0**	**0**	**0**	**11**	**17**	**5538**

MINOR IRRIGATION CENSUS (2013-14)

Table.XI AREA IRRIGATED FROM OTHER SOURCES BUT WITHIN THE COMMAND AREA OF ALL SOURCES

(In ha.)

S.N	District	No. of Schemes	Culturable Command Area	Net Area Irrigated from other sources but within the command				
				kharif	rabi	perennial	other	Total (5 to 8)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	9
1	Dug wells	4673	3251.46	0	3.62	5.6	1.05	10.27
2	Shallow Tube wells	83	104.99	0	0	0	0	0
3	Medium Tube wells	1	0.5	0	0	0	0	0
4	Deep Tube wells	13	7.97	0	0	0	0	0
5	Surface Flow Irrigation	2144	2812.31	9.46	46.08	4.42	2	61.96
6	Surface Lift Irrigation	841	2136.1	0	36.12	27.99	35	99.11
	All Sources	7755	8313.33	9.46	85.82	38.01	38.05	171.34

MINOR IRRIGATION CENSUS (2013-14)

Table.XII CCA AND SEASON WISE POTENTIAL CREATED THROUGH ALL SOURCES

(In ha.)

S.N	District	No. of		Culturable Command Area	Irrigation potential created					Gross Irrigation potential Utilised				
		In use	Not in Use		kharif	rabi	perennial	other	Total (6 to 9)	kharif	rabi	perennial	other	Total (11 to 14)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	9	10	11	12	13	14	15
1	Dug wells	4526	147	3251.46	107.57	630.01	2191.06	205.82	3134.46	85.13	608.91	2178.04	182.44	3054.52
2	Shallow Tube wells	76	7	104.99	14.06	16.45	28.45	5.8	64.76	13.51	16.45	28.45	2.7	61.11
3	Medium Tube wells	1	0	0.5	0	0	0.5	0	.5	0	0	0.5	0	.5
4	Deep Tube wells	13	0	7.97	0	1.86	5.96	0.15	7.97	0	1.86	5.96	0.15	7.97
5	Surface Flow Irrigation	2104	40	2812.31	147.87	1018.91	1384.07	108.08	2658.93	139.66	988.99	1381.22	105.42	2615.29
6	Surface Lift Irrigation	834	7	2136.1	18.35	226.29	1342	89.79	1676.43	17.15	225.59	1325.13	88.94	1656.81
	All Sources	7554	201	8313.33	287.85	1893.52	4952.04	409.64	7543.05	255.45	1841.8	4919.3	379.65	7396.2

MINOR IRRIGATION CENSUS (2013-14)

Table.XIII DISTRIBUTION OF GROUND WATER SCHEMES AND SURFACE WATER SOURCES OVER THE YEARS

(In Nos.)

Sl. No.	Scheme/ Source	Upto 2006-07	During 2007-08	During 2008-09	During 2009-10	During 2010-11	During 2011-12	During 2012-13	During 2013-14	Total
1	2	3	4	5	6	7	8	9	10	11
1	Dug wells	3479	495	227	284	106	78	4	0	4673
2	Shallow Tube wells	67	2	4	3	2	5	0	0	83
3	Medium Tube wells	0	1	0	0	0	0	0	0	1
4	Deep Tube wells	8	3	1	0	1	0	0	0	13
5	Surface Flow Irrigation	1681	346	47	28	20	19	3	0	2144
6	Surface Lift Irrigation	714	76	13	19	12	7	0	0	841
	All Sources - Goa State	**5949**	**923**	**292**	**334**	**141**	**109**	**7**	**0**	**7755**

MINOR IRRIGATION CENSUS (2013-14)

Table.XIV COMPARATIVE STATEMENT OF NUMBER OF IRRIGATION SOURCES IN THE FIRST, SECOND, THIRD, FOURTH AND FIFTH CENSUS

State/District	Census	Ground Water Sources	Surface Irrigation	Total
Goa State	1st Census	5212	3764	8976
	2nd Census	4022	3928	7950
	3rd Census	5206	4845	10051
	4th Census	4423	2651	7074
	5th Census	4770	2985	7755
	*Variation (%)	(+7.85)	(+12.60)	(+9.63)
North Goa District	1st Census	4133	1786	5919
	2nd Census	2891	2744	5635
	3rd Census	3819	3238	7057
	4th Census	2995	1194	4189
	5th Census	2895	1395	4290
	*Variation (%)	(-3.34)	(+16.83)	(+2.41)
South Goa District	1st Census	1079	1978	3057
	2nd Census	1131	1184	2315
	3rd Census	1387	1607	2994
	4th Census	1428	1457	2885
	5th Census	1875	1590	3465
	*Variation (%)	(+31.30)	(+9.13)	(+20.10)

* Variation as compared to 4th Minor Irrigation Census.

MINOR IRRIGATION CENSUS (2013-14)

Table.XV COMPARATIVE STATEMENT OF AREA IRRIGATED UNDER DIFFERENT IRRIGATION SOURCES IN THE FIRST, SECOND, THIRD, FOURTH AND FIFTH CENSUS

State/District	Census	Area irrigated under Ground Water Sources (Ha)	Area irrigated under Surface Irrigation Sources (Ha)	Total area irrigated under Irrigation Sources (Ha)
Goa State	1st Census	1962	9959.57	11921.58
	2nd Census	3517.41	13182.29	16699.7
	3rd Census	3602	10523	14125
	4th Census	4959	6894	11853
	5th Census	3123.99	4272.3	7396.29
	*Variation (%)	(-37.00)	(-38.03)	(-37.60)
North Goa District	1st Census	1217.53	5699.7	6917.23
	2nd Census	2239.07	7489.64	9728.7
	3rd Census	2171	5638	7809
	4th Census	2371	3390	5782
	5th Census	1821	2413	4234
	*Variation (%)	(-23.20)	(-28.82)	(-26.77)
South Goa District	1st Census	744.48	4259.87	5004.35
	2nd Census	1278.35	5692.65	6971
	3rd Census	1431	4885	6316
	4th Census	2567	3504	6071
	5th Census	1293	1859	3152
	*Variation (%)	(-49.63)	(-46.95)	(-48.08)

* Variation as compared to 4th Minor Irrigation Census.

MINOR IRRIGATION CENSUS (2013-14)

Table.XVI COMPARATIVE STATEMENT OF CENSUS WISE AND TALUKA WISE IRRIGATION SOURCES

(In Nos.)

Sl. No.	Name of the Taluka/ District/ State	Dug Wells					Shallow Tube Wells					Medium Tube Wells					Deep Tube Wells					Total (Ground Sources)				
		1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C
1	Bardez	998	659	972	555	571	2	0	0	0	10	0	0	0	0	0	0	0	0	0	0	1000	659	972	555	581
2	Bicholim	333	330	509	640	633	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	333	330	509	642	634
3	Pernem	623	586	345	180	340	1	0	0	3	0	0	0	0	0	0	0	0	0	2	0	624	586	345	185	340
4	Ponda	420	502	649	679	534	0	0	5	14	20	0	0	0	0	1	0	2	0	7	3	420	504	654	700	558
5	Sattari	126	279	373	320	388	0	20	9	15	30	0	0	0	0	0	0	16	57	16	2	126	315	439	351	420
6	Tiswadi	1630	497	900	561	362	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1630	497	900	562	362
	North Goa District	*4130*	*2853*	*3748*	*2935*	*2828*	*3*	*20*	*14*	*35*	*61*	*0*	*0*	*0*	*0*	*1*	*0*	*18*	*57*	*25*	*5*	*4133*	*2891*	*3819*	*2995*	*2895*
7	Canacona	430	451	528	304	576	1	4	9	59	10	0	0	0	0	0	0	0	2	18	7	431	455	539	381	593
8	Dharbandora	0	0	0	0	234	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235
9	Mormugao	81	81	109	110	108	2	2	1	3	3	0	0	0	0	0	0	0	0	4	1	83	83	110	117	112
10	Quepem	93	114	178	260	346	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0	95	114	179	261	347
11	Salcete	328	114	138	160	273	0	0	0	4	7	0	0	0	0	0	0	0	0	0	0	328	114	138	164	280
12	Sanguem	142	362	415	502	308	0	2	5	3	0	0	0	0	0	0	0	1	1	0	0	142	365	421	505	308
	South Goa District	*1074*	*1122*	*1368*	*1336*	*1845*	*3*	*8*	*16*	*70*	*22*	*2*	*0*	*0*	*0*	*0*	*0*	*1*	*3*	*22*	*8*	*1079*	*1131*	*1387*	*1428*	*1875*
	Goa State	**5204**	**3975**	**5116**	**4271**	**4673**	**6**	**28**	**30**	**105**	**83**	**2**	**0**	**0**	**0**	**1**	**0**	**19**	**60**	**47**	**13**	**5212**	**4022**	**5206**	**4423**	**4770**
	C- Census																								(Contd...)	

(Contd...)

MINOR IRRIGATION CENSUS (2013-14)

Table.XVI COMPARATIVE STATEMENT OF CENSUS WISE AND TALUKA WISE IRRIGATION SOURCES

(In Nos.)

Sl. No.	Name of the Taluka/ District/ State	Surface Flow Irrigation					Surface Lift Irrigation					Total (Surface Sources)					Total (All Sources)				
		1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C
1	Bardez	139	680	1248	55	30	22	0	0	10	2	161	680	1248	65	32	1161	1339	2220	620	613
2	Bicholim	134	209	117	46	106	73	73	55	90	71	207	282	172	136	177	540	612	681	778	811
3	Pernem	200	169	164	34	72	64	25	78	67	43	264	194	242	101	115	888	780	587	286	455
4	Ponda	630	1043	809	612	669	29	37	79	79	151	659	1080	888	691	820	1079	1584	1542	1391	1378
5	Sattari	354	179	242	95	73	111	154	207	94	176	465	333	449	189	249	591	648	888	540	669
6	Tiswadi	30	162	236	6	2	0	13	3	6	0	30	175	239	12	2	1660	672	1139	574	364
	North Goa District	*1487*	*2442*	*2816*	*848*	*952*	*299*	*302*	*422*	*346*	*443*	*1786*	*2744*	*3238*	*1194*	*1395*	5919	5635	7057	4189	4290
7	Canacona	705	289	194	239	110	101	105	24	39	76	806	394	218	278	186	1237	849	757	659	779
8	Dharbandora	0	0	0	0	213	0	0	0	0	86	0	0	0	0	299	0	0	0	0	534
9	Mormugao	13	13	73	30	15	0	20	1	8	2	13	33	74	38	17	96	116	184	155	129
10	Quepem	266	88	248	195	144	61	78	101	86	108	327	166	349	281	252	422	280	528	542	599
11	Salcete	238	103	212	81	140	10	9	40	13	23	248	112	252	94	163	576	226	390	258	443
12	Sanguem	406	241	318	348	570	178	238	396	418	103	584	479	714	766	673	726	844	1135	1271	981
	South Goa District	*1628*	*734*	*1045*	*893*	*1192*	*350*	*450*	*562*	*564*	*398*	*1978*	*1184*	*1607*	*1457*	*1590*	3057	2315	2994	2885	3465
	Goa State	**3115**	**3176**	**3861**	**1741**	**2144**	**649**	**752**	**984**	**910**	**841**	**3764**	**3928**	**4845**	**2651**	**2985**	**8976**	**7950**	**10051**	**7074**	**7755**
	C- Census																				

MINOR IRRIGATION CENSUS (2013-14)

Table.XVII COMPARATIVE STATEMENT OF CENSUS WISE AND TALUKA WISE NET AREA IRRIGATED UNDER VARIOUS MINOR IRRIGATION SCHEMES

(In Ha.)

Sl. No.	Name of the Taluka/ District/ State	Dug Wells					Shallow Tube Wells					Medium Tube Wells					Deep Tube Wells					Total (Ground Sources)				
		1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C
1	Bardez	116	132	255	331	175	0.7	0	0	0	5.5	0	0	0	0	0	0	0	0	0	0	117	132	255	331	180
2	Bicholim	137	317	280	366	361	0	0	0	1	0.2	0	0	0	0	0	0	0	0	0	0	137	317	280	367	361
3	Pernem	196	519	198	242	185	0.3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	197	519	198	243	185
4	Ponda	253	591	539	432	481	0	0	10	18	11	0	0	0	0	0.5	0	11	0	11	4	253	602	549	461	497
5	Sattari	241	441	401	578	369	0	27	14	24	35	0	0	0	0	0	0	19	51	161	2.2	241	487	466	763	406
6	Tiswadi	273	182	423	227	200	0	0	0	0	1.9	0	0	0	0	0	0	0	0	0	0	273	182	423	227	201
	North Goa District	1217	2182	2096	2176	1770	1	27	24	43	54	0	0	0	0	0.5	0	30	51	173	6.2	1218	2239	2171	2392	1831
7	Canacona	172	236	264	782	220	2	1.6	10	49	1.8	0	0	0	0	0	0	0	3	13	1.7	174	238	277	844	223
8	Dharbando	0	0	0	0	154	0	0	0	0	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	155
9	Mormugao	23.8	44.6	23	55	34.5	0.9	1	1	0	0.1	0	0	0	0	0	0	0	0	0	0.2	24.7	45.6	24	55	34.7
10	Quepem	139	225	296	257	254	0	0	0	0	0.8	0	0	0	0	0	14	0	0	0	0	153	225	296	257	255
11	Salcete	102	75.7	114	36	97.1	0	0	0	11	2.8	0	0	0	0	0	0	0	0	0	0	102	75.7	114	47	99.8
12	Sanguem	291	674	689	1359	526	0	5.7	25	5	0	0	0	0	0	0	0	15	6	0	0	291	695	720	1364	526
	South Goa District	728	1255	1386	2489	1285	2.9	8.3	36	65	6.9	0	0	0	0	0	14	15	9	13	1.8	744	1278	1431	2567	1293
	Goa State	1944	3437	3482	4665	3055	3.9	35	60	108	61	0	0	0	0	0.5	14	45	60	186	8	1962	3517	3602	4959	3124
	C- Census																								(Contd...)	

(Contd...)

MINOR IRRIGATION CENSUS (2013-14)

Table.XVII COMPARATIVE STATEMENT OF CENSUS WISE AND TALUKA WISE NET AREA IRRIGATED UNDER VARIOUS MINOR IRRIGATION SCHEMES

(In Ha.)

Sl. No.	Name of the Taluka/ District/ State	Surface Flow Irrigation					Surface Lift Irrigation					Total (Surface Sources)					Total (All Sources)				
		1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C	1st C	2nd C	3rd C	4th C	5th C
1	Bardez	422.1	171	281	174	12.3	15.3	0	0	5	0.7	437	171.2	281	179	13	554.1	303.1	536	510	193.19
2	Bicholim	791.7	1736	786	413	270	96.1	135	152	291	93	888	1871	938	704	363	1025	2188	1218	1071	724.16
3	Pernem	1019	842	806	133	126	203	149	265	174	106	1223	990.3	1071	307	231	1420	1509	1269	550	416.44
4	Ponda	1633	2204	1500	1155	921	88.3	106	191	227	193	1722	2310	1691	1382	1114	1975	2912	2240	1843	1610.65
5	Sattari	731.2	449	641	171	125	568	815	815	577	566	1300	1264	1456	748	691	1541	1751	1922	1511	1097.04
6	Tiswadi	130.1	874	197	66	0.55	0	8.55	4	4	0	130	882.9	201	70	0.55	403.2	1065	624	297	201.96
	North Goa District	4728	6276	4211	2112	1455	972	1214	1427	1278	958	5700	7490	5638	3390	2413	6917	9729	7809	5782	4243.44
7	Canacona	250.1	335	432	463	84.4	68	94.1	35	55	91.9	318	429.6	467	518	176	491.8	667.3	744	1362	399.32
8	Dharbandora	0	0	0	0	123	0	0	0	0	159	0	0	0	0	282	0	0	0	0	437.44
9	Mormugao	126.4	313	70	21	74.4	0	60.9	1	4	0.23	126	373.4	71	25	74.7	151.1	419	95	80	109.38
10	Quepem	331.3	300	306	357	210	277	651	360	486	191	608	950.3	666	843	401	761.4	1175	962	1100	655.99
11	Salcete	1095	874	811	73	149	4.22	10.9	48	5	24	1099	884.8	859	78	173	1201	960.5	973	125	273.16
12	Sanguem	1044	1383	1148	755	519	1065	1672	1674	1285	233	2108	3055	2822	2040	752	2399	3749	3542	3404	1277.47
	South Goa District	2846	3204	2767	1669	1161	1414	2488	2118	1835	699	4260	5693	4885	3504	1859	5004	6971	6316	6071	3152.76
	Goa State	7575	9480	6978	3781	2615	2385	3702	3545	3113	1657	9960	13182	10523	6894	4272	11922	16700	14125	11853	7396.2
	C- Census																				

DUG WELLS

MINOR IRRIGATION CENSUS (2013-14)

Table.1.1 NUMBER OF DUGWELLS BY TYPE

State : GOA (In Nos.)

Sl. No	District/Taluka	Pucca	Kutcha	Dug-cum bore well	Others	Total (3 to 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	North Goa	**2527**	**295**	**1**	**5**	**2828**
1	Bardez	369	201	0	1	571
2	Bicholim	601	30	0	2	633
3	Pernem	337	2	0	1	340
4	Ponda	512	21	1	0	534
5	Satari	380	7	0	1	388
6	Tiswadi	328	34	0	0	362
	South Goa	**1364**	**471**	**6**	**4**	**1845**
1	Canacona	545	31	0	0	576
2	Dharbandora	161	71	0	2	234
3	Mormugao	55	53	0	0	108
4	Quepem	299	42	5	0	346
5	Salcete	84	188	0	1	273
6	Sanguem	220	86	1	1	308
Total	**Goa**	**3891**	**766**	**7**	**9**	**4673**

MINOR IRRIGATION CENSUS (2013-14)

Table.1.2 DISTRIBUTION OF DUGWELLS ACCORDING TO OWNERSHIP

State : GOA (In Nos.)

Sl. No	District/Taluka	Public					Private			
		Govt. Owned	Coop Society	Panchayat Owned	Other	Total (3 to 6)	Group of Farmers	Individual Farmer	Total (8 to 9)	Grand Total (7 + 10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	North Goa	**55**	**10**	**5**	**24**	**94**	**146**	**2588**	**2734**	**2828**
1	Bardez	9	1	0	10	20	42	509	551	571
2	Bicholim	0	0	0	4	4	6	623	629	633
3	Pernem	18	2	2	1	23	55	262	317	340
4	Ponda	0	0	0	0	0	14	520	534	534
5	Satari	24	6	3	3	36	5	347	352	388
6	Tiswadi	4	1	0	6	11	24	327	351	362
	South Goa	**17**	**4**	**5**	**40**	**66**	**100**	**1679**	**1779**	**1845**
1	Canacona	3	3	3	14	23	10	543	553	576
2	Dharbandora	1	0	0	3	4	0	230	230	234
3	Mormugao	0	0	1	0	1	46	61	107	108
4	Quepem	5	0	1	5	11	6	329	335	346
5	Salcete	6	0	0	15	21	34	218	252	273
6	Sanguem	2	1	0	3	6	4	298	302	308
Total	**Goa**	**72**	**14**	**10**	**64**	**160**	**246**	**4267**	**4513**	**4673**

MINOR IRRIGATION CENSUS (2013-14)

Table.1.3 DISTRIBUTION OF DUGWELLS ACCORDING TO SOCIAL STATUS OF OWNER

State : GOA (In Nos.)

Sl.No	District/Taluka	No. of Dugwells owned by						
		Scheduled Caste	Scheduled Tribe	OBC	Others	Total (3 to 6)	Owned by other than individual farmer (incl. Public & Group of farmers)	Total (7+8)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	North Goa	**34**	**235**	**811**	**1508**	**2588**	**240**	**2828**
1	Bardez	10	4	295	200	509	62	571
2	Bicholim	12	32	170	409	623	10	633
3	Pernem	0	3	118	141	262	78	340
4	Ponda	4	131	140	245	520	14	534
5	Satari	7	12	6	322	347	41	388
6	Tiswadi	1	53	82	191	327	35	362
	South Goa	**29**	**450**	**161**	**1039**	**1679**	**166**	**1845**
1	Canacona	14	100	47	382	543	33	576
2	Dharbandora	1	59	39	131	230	4	234
3	Mormugao	1	4	24	32	61	47	108
4	Quepem	5	81	15	228	329	17	346
5	Salcete	2	77	10	129	218	55	273
6	Sanguem	6	129	26	137	298	10	308
Total	**Goa**	**63**	**685**	**972**	**2547**	**4267**	**406**	**4673**

MINOR IRRIGATION CENSUS (2013-14)

Table.1.4 DISTRIBUTION OF DUGWELLS ACCORDING TO THE INDIVIDUAL OWNER'S HOLDING SIZE

State : GOA (In Nos.)

Sl. No.	District/Taluka	No. of Dugwells by size class of owned					
		Marginal (0-1 ha)	Small (1-2 ha)	Semi Medium (2-4 ha)	Medium (4-10 ha)	Big (>=10 ha)	Total (3 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**2031**	**319**	**142**	**66**	**30**	**2588**
1	Bardez	480	24	3	1	1	509
2	Bicholim	536	48	27	10	2	623
3	Pernem	207	43	6	5	1	262
4	Ponda	332	99	64	21	4	520
5	Satari	202	94	32	19	0	347
6	Tiswadi	274	11	10	10	22	327
	South Goa	**1211**	**256**	**133**	**65**	**14**	**1679**
1	Canacona	479	48	15	1	0	543
2	Dharbandora	128	45	32	21	4	230
3	Mormugao	51	8	2	0	0	61
4	Quepem	224	61	31	13	0	329
5	Salcete	197	16	4	1	0	218
6	Sanguem	132	78	49	29	10	298
Total	**Goa**	**3242**	**575**	**275**	**131**	**44**	**4267**

MINOR IRRIGATION CENSUS (2013-14)

Table.1.5 DISTRIBUTION OF DUGWELLS ACCORDING TO MAJOR SOURCE (UNDER INDIVIDUAL OWNERSHIP) OF FINANCE

State : GOA (In Nos.)

Sl. No.	District/ Taluka	With one source of Finance						With two Sources of finance								Grand Total (8+16)
		Bank loan	Govt. Fund	Own Saving	Money Lender	Others	Total (3 to 7)	Own Saving & Bank Loan	Own Saving & Govt Fund	Own Saving & Money Lender	Bank Loan & Govt Fund	Bank Loan & Money Lender	Govt Fund & Money Lender	Others	Total (9 to15)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**144**	**136**	**1988**	**4**	**290**	**2562**	**5**	**12**	**0**	**1**	**0**	**0**	**8**	**26**	**2588**
1	Bardez	20	8	380	0	96	504	3	1	0	0	0	0	1	5	509
2	Bicholim	8	15	537	1	59	620	0	0	0	1	0	0	2	3	623
3	Pernem	12	10	228	1	6	257	2	3	0	0	0	0	0	5	262
4	Ponda	7	2	486	0	25	520	0	0	0	0	0	0	0	0	520
5	Satari	22	90	216	2	6	336	0	8	0	0	0	0	3	11	347
6	Tiswadi	75	11	141	0	98	325	0	0	0	0	0	0	2	2	327
	South Goa	**34**	**31**	**1439**	**8**	**163**	**1675**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**4**	**1679**
1	Canacona	0	13	521	0	9	543	0	0	0	0	0	0	0	0	543
2	Dharbandora	3	0	219	1	7	230	0	0	0	0	0	0	0	0	230
3	Mormugao	1	3	56	1	0	61	0	0	0	0	0	0	0	0	61
4	Quepem	16	7	177	0	129	329	0	0	0	0	0	0	0	0	329
5	Salcete	14	7	178	1	15	215	0	1	0	0	0	0	2	3	218
6	Sanguem	0	1	288	5	3	297	1	0	0	0	0	0	0	1	298
Total	**Goa**	**178**	**167**	**3427**	**12**	**453**	**4237**	**6**	**13**	**0**	**1**	**0**	**0**	**10**	**30**	**4267**

MINOR IRRIGATION CENSUS (2013-14)

Table.1.6 DISTRIBUTION OF DUGWELLS BY STATUS OF UTILISATION

State : GOA (In Nos.)

Sl. No	District/Taluka	Dugwells in use	Dugwells not in use			Grand Total (3+6)
			Temporary	Permanent	Total (4+5)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	North Goa	**2727**	**62**	**39**	**101**	**2828**
1	Bardez	493	48	30	78	571
2	Bicholim	626	2	5	7	633
3	Pernem	333	5	2	7	340
4	Ponda	531	3	0	3	534
5	Satari	383	3	2	5	388
6	Tiswadi	361	1	0	1	362
	South Goa	**1799**	**22**	**24**	**46**	**1845**
1	Canacona	564	9	3	12	576
2	Dharbandora	234	0	0	0	234
3	Mormugao	103	4	1	5	108
4	Quepem	345	1	0	1	346
5	Salcete	259	8	6	14	273
6	Sanguem	294	0	14	14	308
Total	**Goa**	**4526**	**84**	**63**	**147**	**4673**

MINOR IRRIGATION CENSUS (2013-14)

Table.1.7 DISTRIBUTION OF DUGWELLS TEMPORARILY NOT IN USE BY REASONS

State : GOA (In Nos./In ha)

Sl. No	District/ Taluka	Non Availability of Adequate Power/Fuel		Mechanical Break Down		Less discharge of Water		Non - Availability of Finance		Lack of Maintenance		Others		Total	
		No.	PL	No.	PL	No.	PL	No.	PL	No.	PL	No.	PL	No.	PL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	North Goa	**2**	**0.08**	**2**	**0.10**	**12**	**2.15**	**1**	**0.00**	**1**	**0.20**	**44**	**15.07**	**62**	**17.60**
1	Bardez	1	0.08	1	0.10	10	2.15	0	0.00	1	0.20	35	13.54	48	16.07
2	Bicholim	0	0.00	0	0.00	1	0.00	0	0.00	0	0.00	1	0.50	2	0.50
3	Pernem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	5	1.03	5	1.03
4	Ponda	0	0.00	1	0.00	1	0.00	0	0.00	0	0.00	1	0.00	3	0.00
5	Satari	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0.00	3	0.00
6	Tiswadi	0	0.00	0	0.00	0	0.00	1	0.00	0	0.00	0	0.00	1	0.00
	South Goa	**1**	**0.50**	**1**	**0.00**	**1**	**0.10**	**0**	**0.00**	**0**	**0.00**	**19**	**3.35**	**22**	**3.95**
1	Canacona	0	0.00	1	0.00	0	0.00	0	0.00	0	0.00	8	0.00	9	0.00
2	Dharbandora	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Mormugao	1	0.50	0	0.00	0	0.00	0	0.00	0	0.00	3	0.87	4	1.37
4	Quepem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.00	1	0.00
5	Salcete	0	0.00	0	0.00	1	0.10	0	0.00	0	0.00	7	2.48	8	2.58
6	Sanguem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total	**Goa**	**3**	**0.58**	**3**	**0.10**	**13**	**2.25**	**1**	**0.00**	**1**	**0.20**	**63**	**18.42**	**84**	**21.55**

MINOR IRRIGATION CENSUS (2013-14)

Table.1.8 DISTRIBUTION OF DUGWELLS PERMANENTLY NOT IN USE BY REASONS

State : GOA (In Nos./In ha)

Sl. No	District/ Taluka	Salinity		Dried up		Destroyed beyond repair		Sea water intrusion		Industrial effluents		Availability of Major/ Medium		Other reasons		Total	
		No.	PL	No.	PL	No.	PL	No.	PL	No.	PL	No.	PL	No.	PL	No.	PL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	North Goa	**1**	**0.83**	**3**	**0.00**	**5**	**0.64**	**7**	**8.33**	**0**	**0.00**	**0**	**0.00**	**23**	**10.43**	**39**	**20.23**
1	Bardez	1	0.83	3	0.00	5	0.64	7	8.33	0	0.00	0	0.00	14	2.21	30	12.01
2	Bicholim	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	5	7.22	5	7.22
3	Pernem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0.00	2	0.00
4	Ponda	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Satari	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	1.00	2	1.00
6	Tiswadi	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	South Goa	**0**	**0.00**	**3**	**0.37**	**2**	**0.05**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**19**	**2.39**	**24**	**2.81**
1	Canacona	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	1.09	3	1.09
2	Dharbandora	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Mormugao	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.00	1	0.00
4	Quepem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Salcete	0	0.00	3	0.37	1	0.05	0	0.00	0	0.00	0	0.00	2	0.00	6	0.42
6	Sanguem	0	0.00	0	0.00	1	0.00	0	0.00	0	0.00	0	0.00	13	1.30	14	1.30
Total	**Goa**	**1**	**0.83**	**6**	**0.37**	**7**	**0.69**	**7**	**8.33**	**0**	**0.00**	**0**	**0.00**	**42**	**12.82**	**63**	**23.04**

MINOR IRRIGATION CENSUS (2013-14)

Table.1.9 DISTRIBUTION OF DUGWELLS IN USE ACCORDING TO WATER DISTRIBUTION SYSTEM AND POTENTIAL UTILISED

State : GOA (In Nos./ In ha.)

Sl. No	District/ Taluka	Open Water				Under ground pipe		Surface pipe		Drip		Sprinkler		Others		Total	
		Lined/ Pucca		Unlined /Kutcha													
		No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	North Goa	**89**	**58.95**	**1272**	**707.20**	**42**	**48.28**	**289**	**149.82**	**15**	**15.22**	**515**	**527.20**	**505**	**254.65**	**2727**	**1761.32**
1	Bardez	15	6.62	371	129.24	0	0.00	63	22.03	1	0.10	2	0.25	41	12.68	493	170.92
2	Bicholim	11	1.89	137	68.32	6	1.02	67	25.59	3	0.50	108	121.76	294	142.03	626	361.11
3	Pernem	7	3.81	208	112.40	2	6.25	80	39.49	0	0.00	1	0.29	35	21.81	333	184.05
4	Ponda	15	17.90	177	167.68	17	17.40	33	17.27	4	2.12	265	251.49	20	5.41	531	479.27
5	Satari	14	9.40	172	126.79	17	23.61	32	39.35	7	12.50	129	149.01	12	6.05	383	366.71
6	Tiswadi	27	19.33	207	102.77	0	0.00	14	6.09	0	0.00	10	4.40	103	66.67	361	199.26
	South Goa	**143**	**118.03**	**488**	**547.13**	**65**	**53.05**	**597**	**260.21**	**9**	**4.65**	**242**	**218.50**	**255**	**81.64**	**1799**	**1283.21**
1	Canacona	75	69.39	2	0.80	13	5.10	373	99.31	2	0.10	87	40.66	12	3.17	564	218.53
2	Dharbandora	4	1.20	108	53.26	18	19.00	45	34.91	0	0.00	55	44.24	4	1.25	234	153.86
3	Mormugao	2	0.28	13	4.96	7	5.70	13	9.73	0	0.00	0	0.00	68	13.82	103	34.49
4	Quepem	47	38.18	98	87.10	16	16.49	88	50.71	3	1.10	35	41.84	58	18.65	345	254.07
5	Salcete	13	5.08	104	30.93	0	0.00	25	13.00	0	0.00	4	3.00	113	44.75	259	96.76
6	Sanguem	2	3.90	163	370.08	11	6.76	53	52.55	4	3.45	61	88.76	0	0.00	294	525.50
Total	**Goa**	**232**	**176.98**	**1760**	**1254.33**	**107**	**101.33**	**886**	**410.03**	**24**	**19.87**	**757**	**745.70**	**760**	**336.29**	**4526**	**3044.53**

MINOR IRRIGATION CENSUS(2013-14)

Table.1.10 DISTRIBUTION OF DUGWELLS (IN USE, TEMPORARILY NOT IN USE) ACCORDING TO WATER LIFTING DEVICES

State : GOA (In Nos.)

Sl. No	District/ Taluka	With One lifting Device						With two lifting Device					Grand Total (8+13)
		Submersible Pump	Centrifugal Pump	Turbine	Manual / Animal	Others	Total (3 to 7)	Submersible & Centrifugal Pump	Submersible & Turbine	Centrifugal & Turbine	Others	Total (9 to12)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	North Goa	**833**	**1043**	**0**	**761**	**136**	**2773**	**5**	**0**	**0**	**11**	**16**	**2789**
1	Bardez	192	99	0	42	3	336	2	0	0	0	2	338
2	Bicholim	3	80	0	198	74	355	0	0	0	7	7	362
3	Pernem	104	87	0	347	0	538	0	0	0	3	3	541
4	Ponda	179	285	0	103	59	626	1	0	0	1	2	628
5	Satari	225	142	0	17	0	384	2	0	0	0	2	386
6	Tiswadi	130	350	0	54	0	534	0	0	0	0	0	534
	South Goa	**675**	**839**	**0**	**292**	**14**	**1820**	**1**	**0**	**0**	**0**	**1**	**1821**
1	Canacona	16	81	0	170	0	267	0	0	0	0	0	267
2	Dharbandora	413	145	0	13	2	573	0	0	0	0	0	573
3	Mormugao	189	118	0	28	11	346	0	0	0	0	0	346
4	Quepem	46	182	0	5	1	234	0	0	0	0	0	234
5	Salcete	5	288	0	0	0	293	1	0	0	0	1	294
6	Sanguem	6	25	0	76	0	107	0	0	0	0	0	107
Total	**Goa**	**1508**	**1882**	**0**	**1053**	**150**	**4593**	**6**	**0**	**0**	**11**	**17**	4610

MINOR IRRIGATION CENSUS (2013-14)

Table.1.11A DISTRIBUTION OF DUGWELLS BY LOCATION IN THE COMMAND OF MAJOR / MEDIUM PROJECTS

State : GOA (In Nos.)

Sl. No	District/ Taluka	No. of Dugwell by Location			
		Outside command	Inside command	Inside command for augmentation only	Total (3 to 5)
(1)	(2)	(3)	(4)	(5)	(6)
	North Goa	**2811**	**17**	**0**	**2828**
1	Bardez	571	0	0	571
2	Bicholim	625	8	0	633
3	Pernem	340	0	0	340
4	Ponda	534	0	0	534
5	Satari	379	9	0	388
6	Tiswadi	362	0	0	362
	South Goa	**1844**	**1**	**0**	**1845**
1	Canacona	576	0	0	576
2	Dharbandora	234	0	0	234
3	Mormugao	108	0	0	108
4	Quepem	345	1	0	346
5	Salcete	273	0	0	273
6	Sanguem	308	0	0	308
Total	**Goa**	**4655**	**18**	**0**	**4673**

MINOR IRRIGATION CENSUS (2013-14)

Table.1.11B CCA AND SEASON WISE POTENTIAL CREATED THROUGH ALL DUGWELLS

State : GOA (In ha.)

Sl. No.	District/ Taluka	Culturable Command Area	Irrigation potential created				
			Kharif	Rabi	Perennial	Other	Total (4 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**1867.91**	**73.41**	**415.92**	**1224.66**	**113.41**	**1827.40**
1	Bardez	195.59	66.92	97.07	22.66	23.29	209.94
2	Bicholim	369.59	0.69	77.32	267.47	23.50	368.98
3	Pernem	191.12	0.00	140.21	18.83	31.97	191.01
4	Ponda	480.62	0.55	13.55	460.96	5.56	480.62
5	Satari	412.98	2.70	13.85	328.20	29.09	373.84
6	Tiswadi	218.01	2.55	73.92	126.54	0.00	203.01
	South Goa	**1383.55**	**34.16**	**214.09**	**966.40**	**92.41**	**1307.06**
1	Canacona	223.15	0.75	97.63	120.8	1.49	220.65
2	Dharbandora	159.96	6.64	7.92	136.8	2.60	153.96
3	Mormugao	36.61	0.00	3.34	18.1	15.13	36.56
4	Quepem	258.32	0.00	48.26	203.3	4.77	256.32
5	Salcete	102.72	26.77	47.49	5.3	30.77	110.37
6	Sanguem	602.79	0.00	9.45	482.1	37.65	529.20
Total	**Goa**	**3251.46**	**107.57**	**630.01**	**2191.06**	**205.82**	**3134.46**

MINOR IRRIGATION CENSUS (2013-14)

Table.1.12 SEASON WISE POTENTIAL UTILISED THROUGH ALL DUGWELLS

State : GOA (Area in ha.)

Sl. No.	District/ Taluka	Area irrigated during 2013-2014														
		Inside Command of Major/Medium					Outside Command					Total				
		Kharif	Rabi	Perennial	Others	Total (3 to 6)	Kharif	Rabi	Perennial	Others	Total (8 to11)	Kharif (3+8)	Rabi (4+9)	Perennial (5+10)	Others (6+11)	Total (13 to16)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**0.00**	**3.62**	**4.60**	**1.05**	**9.27**	**52.35**	**399.13**	**1211.89**	**97.32**	**1760.69**	**52.35**	**402.75**	**1216.49**	**98.37**	**1769.96**
1	Bardez	0.00	0.00	0.00	0.00	0.00	47.46	90.76	20.59	15.87	174.68	47.46	90.76	20.59	15.87	174.68
2	Bicholim	0.00	3.12	0.00	0.50	3.62	0.69	73.80	266.57	16.58	357.64	0.69	76.92	266.57	17.08	361.26
3	Pernem	0.00	0.00	0.00	0.00	0.00	0.00	134.35	18.83	31.77	184.95	0.00	134.35	18.83	31.77	184.95
4	Ponda	0.00	0.00	0.00	0.00	0.00	0.55	13.55	460.96	5.56	480.62	0.55	13.55	460.96	5.56	480.62
5	Satari	0.00	0.50	4.60	0.55	5.65	1.10	12.75	321.90	27.54	363.29	1.10	13.25	326.50	28.09	368.94
6	Tiswadi	0.00	0.00	0.00	0.00	0.00	2.55	73.92	123.04	0.00	199.51	2.55	73.92	123.04	0.00	199.51
	South Goa	**0.00**	**0.00**	**1.00**	**0.00**	**1.00**	**32.78**	**206.16**	**960.55**	**84.07**	**1283.56**	**32.78**	**206.16**	**961.55**	**84.07**	**1284.56**
1	Canacona	0.00	0.00	0.00	0.00	0.00	0.75	97.63	120.75	0.40	219.53	0.75	97.63	120.75	0.40	219.53
2	Dharbandora	0.00	0.00	0.00	0.00	0.00	6.64	7.92	136.70	2.60	153.86	6.64	7.92	136.70	2.60	153.86
3	Mormugao	0.00	0.00	0.00	0.00	0.00	0.00	2.47	18.09	13.93	34.49	0.00	2.47	18.09	13.93	34.49
4	Quepem	0.00	0.00	1.00	0.00	1.00	0.00	48.06	200.29	4.77	253.12	0.00	48.06	201.29	4.77	254.12
5	Salcete	0.00	0.00	0.00	0.00	0.00	25.39	41.93	5.02	24.72	97.06	25.39	41.93	5.02	24.72	97.06
6	Sanguem	0.00	0.00	0.00	0.00	0.00	0.00	8.15	479.70	37.65	525.50	0.00	8.15	479.70	37.65	525.50
Total	**Goa**	**0.00**	**3.62**	**5.60**	**1.05**	**10.27**	**85.13**	**605.29**	**2172.44**	**181.39**	**3044.25**	**85.13**	**608.91**	**2178.04**	**182.44**	**3054.52**

SHALLOW TUBEWELLS

MINOR IRRIGATION CENSUS (2013-14)

Table.2.1 DISTRIBUTION OF SHALLOW TUBEWELLS ACCORDING TO OWNERSHIP

State : GOA (In Nos.)

Sl. No	District/Taluka	Public					Private			
		Govt. Owned	Coop Society	Panchayat Owned	Other	Total (3 to 6)	Group of Farmers	Individual Farmer	Total (8 to 9)	Grand Total (7 + 10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	North Goa	**1**	**0**	**0**	**0**	**1**	**0**	**60**	**60**	**61**
1	Bardez	0	0	0	0	0	0	10	10	10
2	Bicholim	0	0	0	0	0	0	1	1	1
3	Pernem	0	0	0	0	0	0	0	0	0
4	Ponda	0	0	0	0	0	0	20	20	20
5	Satari	1	0	0	0	1	0	29	29	30
6	Tiswadi	0	0	0	0	0	0	0	0	0
	South Goa	**1**	**0**	**0**	**0**	**1**	**3**	**18**	**21**	**22**
1	Canacona	0	0	0	0	0	2	8	10	10
2	Dharbandora	1	0	0	0	1	0	0	0	1
3	Mormugao	0	0	0	0	0	0	3	3	3
4	Quepem	0	0	0	0	0	0	1	1	1
5	Salcete	0	0	0	0	0	1	6	7	7
6	Sanguem	0	0	0	0	0	0	0	0	0
Total	**Goa**	**2**	**0**	**0**	**0**	**2**	**3**	**78**	**81**	**83**

MINOR IRRIGATION CENSUS (2013-14)

Table.2.2 DISTRIBUTION OF SHALLOW TUBEWELLS ACCORDING TO SOCIAL STATUS OF OWNER

State : GOA (In Nos.)

Sl.No	District	No. of Shallow Tubewells owned by						
		Scheduled Caste	Scheduled Tribe	OBC	Others	Total (3 to 6)	Owned by other than individual farmer (incl. Public & Group of farmers)	Total (7+8)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	North Goa	**0**	**0**	**24**	**36**	**60**	**1**	**61**
1	Bardez	0	0	5	5	10	0	10
2	Bicholim	0	0	0	1	1	0	1
3	Pernem	0	0	0	0	0	0	0
4	Ponda	0	0	19	1	20	0	20
5	Satari	0	0	0	29	29	1	30
6	Tiswadi	0	0	0	0	0	0	0
	South Goa	**1**	**6**	**3**	**8**	**18**	**4**	**22**
1	Canacona	1	5	0	2	8	2	10
2	Dharbandora	0	0	0	0	0	1	1
3	Mormugao	0	0	3	0	3	0	3
4	Quepem	0	0	0	1	1	0	1
5	Salcete	0	1	0	5	6	1	7
6	Sanguem	0	0	0	0	0	0	0
Total	**Goa**	**1**	**6**	**27**	**44**	**78**	**5**	**83**

MINOR IRRIGATION CENSUS (2013-14)

Table.2.3 DISTRIBUTION OF SHALLOW TUBEWELLS ACCORDING TO THE INDIVIDUAL OWNER'S HOLDING SIZE

State : GOA (In Nos.)

Sl. No.	District/Taluka	No. of Dugwells by size class of owned					
		Marginal (0-1 ha)	Small (1-2 ha)	Semi Medium (2-4 ha)	Medium (4-10 ha)	Big (>=10 ha)	Total (3 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**37**	**13**	**5**	**4**	**1**	**60**
1	Bardez	8	2	0	0	0	10
2	Bicholim	1	0	0	0	0	1
3	Pernem	0	0	0	0	0	0
4	Ponda	13	4	0	1	0	18
5	Satari	15	7	2	3	1	28
6	Tiswadi	0	0	3	0	0	3
	South Goa	**18**	**0**	**0**	**0**	**0**	**18**
1	Canacona	8	0	0	0	0	8
2	Dharbandora	0	0	0	0	0	0
3	Mormugao	3	0	0	0	0	3
4	Quepem	1	0	0	0	0	1
5	Salcete	6	0	0	0	0	6
6	Sanguem	0	0	0	0	0	0
Total	**Goa**	**55**	**13**	**5**	**4**	**1**	**78**

MINOR IRRIGATION CENSUS (2013-14)

Table.2.4 DISTRIBUTION OF SHALLOW TUBEWELLS ACCORDING TO MAJOR SOURCE (UNDER INDIVIDUAL OWNERSHIP) OF FINANCE

State : GOA (In Nos.)

Sl. No.	District/ Taluka	With one source of Finance						With two Sources of finance								Grand Total (8+16)
		Bank loan	Govt. Fund	Own Saving	Money Lender	Others	Total (3 to 7)	Own Saving & Bank Loan	Own Saving & Govt Fund	Own Saving & Money Lender	Bank Loan & Govt Fund	Bank Loan & Money Lender	Govt Fund & Money Lender	Others	Total (9 to 15)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**2**	**18**	**39**	**0**	**0**	**59**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**60**
1	Bardez	0	1	9	0	0	10	0	0	0	0	0	0	0	0	10
2	Bicholim	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
3	Pernem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Ponda	0	0	20	0	0	20	0	0	0	0	0	0	0	0	20
5	Satari	2	17	9	0	0	28	0	1	0	0	0	0	0	1	29
6	Tiswadi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	South Goa	**0**	**2**	**15**	**0**	**1**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**
1	Canacona	0	0	7	0	1	8	0	0	0	0	0	0	0	0	8
2	Dharbandora	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Mormugao	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3
4	Quepem	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
5	Salcete	0	2	4	0	0	6	0	0	0	0	0	0	0	0	6
6	Sanguem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**Goa**	**2**	**20**	**54**	**0**	**1**	**77**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**78**

MINOR IRRIGATION CENSUS (2013-14)

Table.2.5 DISTRIBUTION OF SHALLOW TUBEWELLS BY STATUS OF UTILISATION

State : GOA (In Nos.)

Sl. No	District/Taluka	Shallow Tubewells in use	Shallow Tubewells not in use			Grand Total (3+6)
			Temporary	Permanent	Total (4+5)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	North Goa	**60**	**0**	**1**	**1**	**61**
1	Bardez	10	0	0	0	10
2	Bicholim	1	0	0	0	1
3	Pernem	0	0	0	0	0
4	Ponda	20	0	0	0	20
5	Satari	29	0	1	1	30
6	Tiswadi	0	0	0	0	0
	South Goa	**16**	**0**	**6**	**6**	**22**
1	Canacona	6	0	4	4	10
2	Dharbandora	1	0	0	0	1
3	Mormugao	1	0	2	2	3
4	Quepem	1	0	0	0	1
5	Salcete	7	0	0	0	7
6	Sanguem	0	0	0	0	0
Total	**Goa**	**76**	**0**	**7**	**7**	**83**

MINOR IRRIGATION CENSUS (2013-14)

Table.2.6 SEASON WISE POTENTIAL UTILISED THROUGH ALL SHALLOW TUBEWELLS

State : GOA (Area in ha.)

Sl. No.	District/ Taluka	Area irrigated during 2013-2014														
		Inside Command of Major/Medium Project					Outside Command					Total				
		Kharif	Rabi	Perennial	Others	Total (3 to 6)	Kharif	Rabi	Perennial	Others	Total (8 to11)	Kharif (3+8)	Rabi (4+9)	Perennial (5+10)	Others (6+11)	Total (13 to16)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**10.06**	**15.52**	**26.60**	**2.00**	**54.18**	**10.06**	**15.52**	**26.60**	**2.00**	**54.18**
1	Bardez	0.00	0.00	0.00	0.00	0.00	0.00	5.51	0.00	0.00	5.51	0.00	5.51	0.00	0.00	5.51
2	Bicholim	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.20	0.00	0.00	0.20	0.00	0.20
3	Pernem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Ponda	0.00	0.00	0.00	0.00	0.00	8.16	10.01	1.42	0.00	19.59	0.00	10.01	1.42	0.00	11.43
5	Satari	0.00	0.00	0.00	0.00	0.00	1.90	0.00	24.98	2.00	28.88	8.16	0.00	24.98	2.00	35.14
6	Tiswadi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90	0.00	0.00	0.00	1.90
	South Goa	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.45**	**0.93**	**1.85**	**0.70**	**6.93**	**3.45**	**0.93**	**1.85**	**0.70**	**6.93**
1	Canacona	0.00	0.00	0.00	0.00	0.00	1.20	0.30	0.30	0.00	1.80	1.20	0.30	0.30	0.00	1.80
2	Dharbandora	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	1.50	0.00	0.00	1.50	0.00	1.50
3	Mormugao	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.08	0.00	0.08	0.00	0.00	0.08
4	Quepem	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.30	0.80	0.00	0.50	0.00	0.30	0.80
5	Salcete	0.00	0.00	0.00	0.00	0.00	2.25	0.05	0.05	0.40	2.75	2.25	0.05	0.05	0.40	2.75
6	Sanguem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**Goa**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**13.51**	**16.45**	**28.45**	**2.70**	**61.11**	**13.51**	**16.45**	**28.45**	**2.70**	**61.11**

MINOR IRRIGATION CENSUS (2013-14)

Table.2.7 DISTRIBUTION OF SHALLOW TUBEWELLS PERMANENTLY NOT IN USE BY REASONS

State : GOA (In Nos./In ha)

Sl. No	District/ Taluka	Salinity		Dried up		Destroyed beyond repair		Sea water intrusion		Industrial effluents		Availability of Major/ Medium Irrigation Projects		Other reasons		Total	
		No.	PL	No.	PL	No.	PL	No.	PL	No.	PL	No.	PL	No.	PL	No.	PL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	North Goa	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**1**	**2.00**	**1**	**2.00**
1	Bardez	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Bicholim	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Pernem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
4	Ponda	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Satari	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	2.00	1	2.00
6	Tiswadi	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	South Goa	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**6**	**1.10**	**6**	**1.10**
1	Canacona	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	4	1.10	4	1.10
2	Dharbandora	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Mormugao	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0.00	2	0.00
4	Quepem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Salcete	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
6	Sanguem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total	**Goa**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**7**	**3.10**	**7**	**3.10**

MINOR IRRIGATION CENSUS (2013-14)

Table.2.8 DISTRIBUTION OF SHALLOW TUBEWELLS IN USE ACCORDING TO WATER DISTRIBUTION SYSTEM AND POTENTIAL UTILISED

State : GOA (In Nos./ In ha.)

Sl. No	District/ Taluka	Open Water				Under ground pipe		Surface pipe		Drip		Sprinkler		Others		Total	
		Lined/ Pucca		Unlined /Kutcha													
		No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	North Goa	**1**	**0.40**	**28**	**17.99**	**1**	**0.80**	**5**	**6.20**	**0**	**0.00**	**25**	**28.79**	**0**	**0.00**	**60**	**54.18**
1	Bardez	0	0.00	10	5.51	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	10	5.51
2	Bicholim	0	0.00	1	0.20	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.20
3	Pernem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
4	Ponda	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	20	19.59	0	0.00	20	19.59
5	Satari	1	0.40	17	12.28	1	0.80	5	6.20	0	0.00	5	9.20	0	0.00	29	28.88
6	Tiswadi	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	South Goa	**0**	**0.00**	**1**	**1.50**	**1**	**0.10**	**7**	**1.88**	**0**	**0.00**	**1**	**0.80**	**6**	**2.65**	**16**	**6.93**
1	Canacona	0	0.00	0	0.00	0	0.00	6	1.80	0	0.00	0	0.00	0	0.00	6	1.80
2	Dharbandora	0	0.00	1	1.50	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	1.50
3	Mormugao	0	0.00	0	0.00	0	0.00	1	0.08	0	0.00	0	0.00	0	0.00	1	0.08
4	Quepem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.80	0	0.00	1	0.80
5	Salcete	0	0.00	0	0.00	1	0.10	0	0.00	0	0.00	0	0.00	6	2.65	7	2.75
6	Sanguem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total	**Goa**	**1**	**0.40**	**29**	**19.49**	**2**	**0.90**	**12**	**8.08**	**0**	**0.00**	**26**	**29.59**	**6**	**2.65**	**76**	**61.11**

MINOR IRRIGATION CENSUS(2013-14)

Table.2.9 DISTRIBUTION OF SHALLOW TUBEWELLS (IN USE, TEMPORARILY NOT IN USE) ACCORDING TO WATER LIFTING DEVICES

State : GOA (In Nos.)

Sl. No	District/ Taluka	With One lifting Device						With two lifting Device					Grand Total (8+13)
		Submersible Pump	Centrifugal Pump	Turbine	Manual/ Animal	Others	Total (3 to 7)	Submersible & Centrifugal Pump	Submersible & Turbine	Centrifugal & Turbine	Others	Total (9 to12)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	North Goa	**46**	**14**	**0**	**0**	**0**	**60**	**0**	**0**	**0**	**0**	**0**	**60**
1	Bardez	10	0	0	0	0	10	0	0	0	0	0	10
2	Bicholim	1	0	0	0	0	1	0	0	0	0	0	1
3	Pernem	0	0	0	0	0	0	0	0	0	0	0	0
4	Ponda	13	7	0	0	0	20	0	0	0	0	0	20
5	Satari	22	7	0	0	0	29	0	0	0	0	0	29
6	Tiswadi	0	0	0	0	0	0	0	0	0	0	0	0
	South Goa	**12**	**4**	**0**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**16**
1	Canacona	5	1	0	0	0	6	0	0	0	0	0	6
2	Dharbandora	1	0	0	0	0	1	0	0	0	0	0	1
3	Mormugao	0	1	0	0	0	1	0	0	0	0	0	1
4	Quepem	0	1	0	0	0	1	0	0	0	0	0	1
5	Salcete	6	1	0	0	0	7	0	0	0	0	0	7
6	Sanguem	0	0	0	0	0	0	0	0	0	0	0	0
Total	**Goa**	**58**	**18**	**0**	**0**	**0**	**76**	**0**	**0**	**0**	**0**	**0**	**76**

MINOR IRRIGATION CENSUS (2013-14)

Table.2.10A DISTRIBUTION OF SHALLOW TUBEWELLS BY LOCATION IN THE COMMAND OF MAJOR / MEDIUM PROJECTS

State : GOA (In Nos.)

Sl. No	District/ Taluka	No. of Shallow Tubewells by Location			
		Outside command	Inside command	Inside command for augmentation only	Total (3 to 5)
(1)	(2)	(3)	(4)	(5)	(6)
	North Goa	**61**	**0**	**0**	**61**
1	Bardez	10	0	0	10
2	Bicholim	1	0	0	1
3	Pernem	0	0	0	0
4	Ponda	20	0	0	20
5	Satari	30	0	0	30
6	Tiswadi	0	0	0	0
	South Goa	**22**	**0**	**0**	**22**
1	Canacona	10	0	0	10
2	Dharbandora	1	0	0	1
3	Mormugao	3	0	0	3
4	Quepem	1	0	0	1
5	Salcete	7	0	0	7
6	Sanguem	0	0	0	0
Total	**Goa**	**83**	**0**	**0**	**83**

MINOR IRRIGATION CENSUS (2013-14)

Table.2.10B CCA AND SEASON WISE POTENTIAL CREATED THROUGH ALL SHALLOW TUBEWELLS

State : GOA (In ha.)

Sl. No.	District/ Taluka	Culturable Command Area	Irrigation potential created				
			Kharif	Rabi	Perennial	Other	Total (4 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**96.48**	**10.56**	**15.52**	**26.60**	**4.00**	**56.68**
1	Bardez	5.51	0.00	5.51	0.00	0.00	5.51
2	Bicholim	0.20	0.00	0.00	0.20	0.00	0.20
3	Pernem	0.00	0.00	0.00	0.00	0.00	0.00
4	Ponda	20.09	8.66	10.01	1.42	0.00	20.09
5	Satari	70.68	1.90	0.00	24.98	4.00	30.88
6	Tiswadi	0.00	0.00	0.00	0.00	0.00	0.00
	South Goa	**8.51**	**3.50**	**0.93**	**1.85**	**1.80**	**8.08**
1	Canacona	2.90	1.20	0.30	0.3	1.10	2.90
2	Dharbandora	1.50	0.00	0.00	1.5	0.00	1.50
3	Mormugao	0.51	0.00	0.08	0.0	0.00	0.08
4	Quepem	0.80	0.00	0.50	0.0	0.30	0.80
5	Salcete	2.80	2.30	0.05	0.1	0.40	2.80
6	Sanguem	0.00	0.00	0.00	0.0	0.00	0.00
Total	**Goa**	**104.99**	**14.06**	**16.45**	**28.45**	**5.80**	**64.76**

MEDIUM TUBEWELLS

MINOR IRRIGATION CENSUS (2013-14)

Table.3.1 DISTRIBUTION OF MEDIUM TUBEWELLS ACCORDING TO OWNERSHIP

State : GOA (In Nos.)

Sl. No	District/Taluka	Public					Private			
		Govt. Owned	Coop Society	Panchayat Owned	Other	Total (3 to 6)	Group of Farmers	Individual Farmer	Total (8 to 9)	Grand Total (7 + 10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	North Goa	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**
1	Bardez	0	0	0	0	0	0	0	0	0
2	Bicholim	0	0	0	0	0	0	0	0	0
3	Pernem	0	0	0	0	0	0	0	0	0
4	Ponda	0	0	0	0	0	1	0	1	1
5	Satari	0	0	0	0	0	0	0	0	0
6	Tiswadi	0	0	0	0	0	0	0	0	0
	South Goa	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1	Canacona	0	0	0	0	0	0	0	0	0
2	Dharbandora	0	0	0	0	0	0	0	0	0
3	Mormugao	0	0	0	0	0	0	0	0	0
4	Quepem	0	0	0	0	0	0	0	0	0
5	Salcete	0	0	0	0	0	0	0	0	0
6	Sanguem	0	0	0	0	0	0	0	0	0
Total	**Goa**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**

MINOR IRRIGATION CENSUS (2013-14)

Table.3.2 DISTRIBUTION OF MEDIUM TUBEWELLS ACCORDING TO SOCIAL STATUS OF OWNER

State : GOA (In Nos.)

Sl. No	District	No. of Medium Tubewells owned by						
		Scheduled Caste	Scheduled Tribe	OBC	Others	Total (3 to 6)	Owned by other than individual farmer (incl. Public & Group of farmers)	Total (7+8)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	North Goa	**0**	**0**	**0**	**0**	**0**	**1**	**1**
1	Bardez	0	0	0	0	0	0	0
2	Bicholim	0	0	0	0	0	0	0
3	Pernem	0	0	0	0	0	0	0
4	Ponda	0	0	0	0	0	1	1
5	Satari	0	0	0	0	0	0	0
6	Tiswadi	0	0	0	0	0	0	0
	South Goa	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1	Canacona	0	0	0	0	0	0	0
2	Dharbandora	0	0	0	0	0	0	0
3	Mormugao	0	0	0	0	0	0	0
4	Quepem	0	0	0	0	0	0	0
5	Salcete	0	0	0	0	0	0	0
6	Sanguem	0	0	0	0	0	0	0
Total	**Goa**	**0**	**0**	**0**	**0**	**0**	**1**	**1**

MINOR IRRIGATION CENSUS (2013-14)

Table.3.3 DISTRIBUTION OF MEDIUM TUBEWELLS IN USE ACCORDING TO WATER DISTRIBUTION SYSTEM AND POTENTIAL UTILISED

State : GOA (In Nos./ In ha.)

Sl. No	District/ Taluka	Open Water				Under ground pipe		Surface pipe		Drip		Sprinkler		Others		Total	
		Lined/ Pucca		Unlined /Kutcha													
		No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	North Goa	**0**	**0.00**	**1**	**1.50**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**1**	**1.50**
1	Bardez	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Bicholim	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Pernem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
4	Ponda	0	0.00	1	1.50	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	1.50
5	Satari	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
6	Tiswadi	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	South Goa	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**
1	Canacona	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Dharbandora	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Mormugao	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
4	Quepem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Salcete	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
6	Sanguem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total	**Goa**	**0**	**0.00**	**1**	**1.50**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**1**	**1.50**

MINOR IRRIGATION CENSUS(2013-14)

Table.3.4 DISTRIBUTION OF MEDIUM TUBEWELLS (IN USE, TEMPORARILY NOT IN USE) ACCORDING TO WATER LIFTING DEVICES

State : GOA (In Nos.)

Sl. No	District/ Taluka	With One lifting Device						With two lifting Device					Grand Total (8+13)
		Submersible Pump	Centrifugal Pump	Turbine	Manual / Animal	Others	Total (3 to 7)	Submersible & Centrifugal Pump	Submersible & Turbine	Centrifugal & Turbine	Others	Total (9 to12)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	North Goa	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**
1	Bardez	0	0	0	0	0	0	0	0	0	0	0	0
2	Bicholim	0	0	0	0	0	0	0	0	0	0	0	0
3	Pernem	0	0	0	0	0	0	0	0	0	0	0	0
4	Ponda	1	0	0	0	0	1	0	0	0	0	0	1
5	Satari	0	0	0	0	0	0	0	0	0	0	0	0
6	Tiswadi	0	0	0	0	0	0	0	0	0	0	0	0
	South Goa	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1	Canacona	0	0	0	0	0	0	0	0	0	0	0	0
2	Dharbandora	0	0	0	0	0	0	0	0	0	0	0	0
3	Mormugao	0	0	0	0	0	0	0	0	0	0	0	0
4	Quepem	0	0	0	0	0	0	0	0	0	0	0	0
5	Salcete	0	0	0	0	0	0	0	0	0	0	0	0
6	Sanguem	0	0	0	0	0	0	0	0	0	0	0	0
Total	**Goa**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**

MINOR IRRIGATION CENSUS (2013-14)

Table.3.5 DISTRIBUTION OF MEDIUM TUBEWELLS BY STATUS OF UTILISATION

State : GOA (In Nos.)

Sl. No	District/Taluka	Medium Tubewells in use	Medium Tubewells not in use			Grand Total (3+6)
			Temporary	Permanent	Total (4+5)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	North Goa	**1**	**0**	**0**	**0**	**1**
1	Bardez	0	0	0	0	0
2	Bicholim	0	0	0	0	0
3	Pernem	0	0	0	0	0
4	Ponda	1	0	0	0	1
5	Satari	0	0	0	0	0
6	Tiswadi	0	0	0	0	0
	South Goa	**0**	**0**	**0**	**0**	**0**
1	Canacona	0	0	0	0	0
2	Dharbandora	0	0	0	0	0
3	Mormugao	0	0	0	0	0
4	Quepem	0	0	0	0	0
5	Salcete	0	0	0	0	0
6	Sanguem	0	0	0	0	0
Total	**Goa**	**1**	**0**	**0**	**0**	**1**

MINOR IRRIGATION CENSUS (2013-14)

Table.3.6A DISTRIBUTION OF MEDIUM TUBEWELLS BY LOCATION IN THE COMMAND OF MAJOR / MEDIUM PROJECTS

State : GOA (In Nos.)

Sl. No	District/ Taluka	No. of Medium Tubewells by Location			
		Outside command	Inside command	Inside command for augmentation only	Total (3 to 5)
(1)	(2)	(3)	(4)	(5)	(6)
	North Goa	**1**	**0**	**0**	**1**
1	Bardez	0	0	0	0
2	Bicholim	0	0	0	0
3	Pernem	0	0	0	0
4	Ponda	1	0	0	1
5	Satari	0	0	0	0
6	Tiswadi	0	0	0	0
	South Goa	**0**	**0**	**0**	**0**
1	Canacona	0	0	0	0
2	Dharbandora	0	0	0	0
3	Mormugao	0	0	0	0
4	Quepem	0	0	0	0
5	Salcete	0	0	0	0
6	Sanguem	0	0	0	0
Total	**Goa**	**1**	**0**	**0**	**1**

MINOR IRRIGATION CENSUS (2013-14)

Table.3.6B CCA AND SEASON WISE POTENTIAL CREATED THROUGH ALL MEDIUM TUBEWELLS

State : GOA (In ha.)

Sl. No.	District/ Taluka	Culturable Command Area	Irrigation potential created				
			Kharif	Rabi	Perennial	Other	Total (4 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**0.50**	**0.00**	**0.00**	**0.50**	**0.00**	**0.50**
1	Bardez	0.00	0.00	0.00	0.00	0.00	0.00
2	Bicholim	0.00	0.00	0.00	0.00	0.00	0.00
3	Pernem	0.00	0.00	0.00	0.00	0.00	0.00
4	Ponda	0.50	0.00	0.00	0.50	0.00	0.50
5	Satari	0.00	0.00	0.00	0.00	0.00	0.00
6	Tiswadi	0.00	0.00	0.00	0.00	0.00	0.00
	South Goa	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
1	Canacona	0.00	0.00	0.00	0.00	0.00	0.00
2	Dharbandora	0.00	0.00	0.00	0.00	0.00	0.00
3	Mormugao	0.00	0.00	0.00	0.00	0.00	0.00
4	Quepem	0.00	0.00	0.00	0.00	0.00	0.00
5	Salcete	0.00	0.00	0.00	0.00	0.00	0.00
6	Sanguem	0.00	0.00	0.00	0.00	0.00	0.00
Total	**Goa**	**0.50**	**0.00**	**0.00**	**0.50**	**0.00**	**0.50**

MINOR IRRIGATION CENSUS (2013-14)

Table.3.7 SEASON WISE POTENTIAL UTILISED THROUGH ALL MEDIUM TUBEWELLS

State : GOA (Area in ha.)

Sl. No.	District/ Taluka	Area irrigated during 2013-2014														
		Inside Command of Major/Medium Project					Outside Command					Total				
		Kharif	Rabi	Perennial	Others	Total (3 to 6)	Kharif	Rabi	Perennial	Others	Total (8 to11)	Kharif (3+8)	Rabi (4+9)	Perennial (5+10)	Others (6+11)	Total (13 to16)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.50**	**0.00**	**0.50**	**0.00**	**0.00**	**0.50**	**0.00**	**0.50**
1	Bardez	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Bicholim	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Pernem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Ponda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50	0.00	0.00	0.50	0.00	0.50
5	Satari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Tiswadi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	South Goa	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
1	Canacona	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Dharbandora	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Mormugao	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Quepem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Salcete	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Sanguem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**Goa**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.50**	**0.00**	**0.50**	**0.00**	**0.00**	**0.50**	**0.00**	**0.50**

DEEP TUBEWELLS

MINOR IRRIGATION CENSUS (2013-14)

Table.4.1 DISTRIBUTION OF DEEP TUBEWELLS ACCORDING TO OWNERSHIP

State : GOA (In Nos.)

Sl. No	District/Taluka	Public					Private			
		Govt. Owned	Coop Society	Panchayat Owned	Other	Total (3 to 6)	Group of Farmers	Individual Farmer	Total (8 to 9)	Grand Total (7 + 10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	North Goa	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**5**	**5**
1	Bardez	0	0	0	0	0	0	0	0	0
2	Bicholim	0	0	0	0	0	0	0	0	0
3	Pernem	0	0	0	0	0	0	0	0	0
4	Ponda	0	0	0	0	0	1	2	3	3
5	Satari	0	0	0	0	0	0	2	2	2
6	Tiswadi	0	0	0	0	0	0	0	0	0
	South Goa	**4**	**0**	**0**	**0**	**4**	**2**	**2**	**4**	**8**
1	Canacona	4	0	0	0	4	1	2	3	7
2	Dharbandora	0	0	0	0	0	0	0	0	0
3	Mormugao	0	0	0	0	0	1	0	1	1
4	Quepem	0	0	0	0	0	0	0	0	0
5	Salcete	0	0	0	0	0	0	0	0	0
6	Sanguem	0	0	0	0	0	0	0	0	0
Total	**Goa**	**4**	**0**	**0**	**0**	**4**	**3**	**6**	**9**	**13**

MINOR IRRIGATION CENSUS (2013-14)

Table.4.2 DISTRIBUTION OF DEEP TUBEWELLS ACCORDING TO SOCIAL STATUS OF OWNER

State : GOA (In Nos.)

Sl. No	District/Taluka	No. of Deep Tubewells owned by						
		Scheduled Caste	Scheduled Tribe	OBC	Others	Total (3 to 6)	Owned by other than individual farmer (incl. Public & Group of farmers)	Total (7+8)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	North Goa	**0**	**1**	**2**	**1**	**4**	**1**	**5**
1	Bardez	0	0	0	0	0	0	0
2	Bicholim	0	0	0	0	0	0	0
3	Pernem	0	0	0	0	0	0	0
4	Ponda	0	0	2	0	2	1	3
5	Satari	0	1	0	1	2	0	2
6	Tiswadi	0	0	0	0	0	0	0
	South Goa	**0**	**0**	**0**	**2**	**2**	**6**	**8**
1	Canacona	0	0	0	2	2	5	7
2	Dharbandora	0	0	0	0	0	0	0
3	Mormugao	0	0	0	0	0	1	1
4	Quepem	0	0	0	0	0	0	0
5	Salcete	0	0	0	0	0	0	0
6	Sanguem	0	0	0	0	0	0	0
Total	**Goa**	**0**	**1**	**2**	**3**	**6**	**7**	**13**

MINOR IRRIGATION CENSUS (2013-14)

Table.4.3 DISTRIBUTION OF DEEP TUBEWELLS ACCORDING TO THE INDIVIDUAL OWNER'S HOLDING SIZE

State : GOA (In Nos.)

Sl. No.	District/Taluka	No. of Deep Tubewells by size class of owned					
		Marginal (0-1 ha)	Small (1-2 ha)	Semi Medium (2-4 ha)	Medium (4-10 ha)	Big (>=10 ha)	Total (3 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**1**	**1**	**2**	**0**	**0**	**4**
1	Bardez	0	0	0	0	0	0
2	Bicholim	0	0	0	0	0	0
3	Pernem	0	0	0	0	0	0
4	Ponda	0	1	1	0	0	2
5	Satari	1	0	1	0	0	2
6	Tiswadi	0	0	0	0	0	0
	South Goa	**2**	**0**	**0**	**0**	**0**	**2**
1	Canacona	2	0	0	0	0	2
2	Dharbandora	0	0	0	0	0	0
3	Mormugao	0	0	0	0	0	0
4	Quepem	0	0	0	0	0	0
5	Salcete	0	0	0	0	0	0
6	Sanguem	0	0	0	0	0	0
Total	**Goa**	**3**	**1**	**2**	**0**	**0**	**6**

MINOR IRRIGATION CENSUS (2013-14)

Table.4.4 DISTRIBUTION OF DEEP TUBEWELLS ACCORDING TO MAJOR SOURCE (UNDER INDIVIDUAL OWNERSHIP) OF FINANCE

State : GOA (In Nos.)

Sl. No.	District/ Taluka	With one source of Finance						With two Sources of finance								Grand Total (8+16)
		Bank loan	Govt. Fund	Own Saving	Money Lender	Others	Total (3 to 7)	Own Saving & Bank Loan	Own Saving & Govt Fund	Own Saving & Money Lender	Bank Loan & Govt Fund	Bank Loan & Money Lender	Govt Fund & Money Lender	Others	Total (9 to 15)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**0**	**1**	**2**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
1	Bardez	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Bicholim	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Pernem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Ponda	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
5	Satari	0	1	0	0	1	2	0	0	0	0	0	0	0	0	2
6	Tiswadi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	South Goa	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
1	Canacona	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
2	Dharbandora	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Mormugao	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Quepem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Salcete	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Sanguem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**Goa**	**0**	**1**	**4**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**

MINOR IRRIGATION CENSUS (2013-14)

Table.4.5 DISTRIBUTION OF DEEP TUBEWELLS BY STATUS OF UTILISATION

State : GOA (In Nos.)

Sl. No	District/Taluka	Deep Tubewells in use	Deep Tubewells not in use			Grand Total (3+6)
			Temporary	Permanent	Total (4+5)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	North Goa	**5**	**0**	**0**	**0**	**5**
1	Bardez	0	0	0	0	0
2	Bicholim	0	0	0	0	0
3	Pernem	0	0	0	0	0
4	Ponda	3	0	0	0	3
5	Satari	2	0	0	0	2
6	Tiswadi	0	0	0	0	0
	South Goa	**8**	**0**	**0**	**0**	**8**
1	Canacona	7	0	0	0	7
2	Dharbandora	0	0	0	0	0
3	Mormugao	1	0	0	0	1
4	Quepem	0	0	0	0	0
5	Salcete	0	0	0	0	0
6	Sanguem	0	0	0	0	0
Total	**Goa**	**13**	**0**	**0**	**0**	**13**

MINOR IRRIGATION CENSUS (2013-14)

Table.4.6A DISTRIBUTION OF DEEP TUBEWELLS BY LOCATION IN THE COMMAND OF MAJOR / MEDIUM PROJECTS

State : GOA (In Nos.)

Sl. No	District/ Taluka	No. of Deep Tubewells by Location			
		Outside command	Inside command	Inside command for augmentation only	Total (3 to 5)
(1)	(2)	(3)	(4)	(5)	(6)
	North Goa	**5**	**0**	**0**	**5**
1	Bardez	0	0	0	0
2	Bicholim	0	0	0	0
3	Pernem	0	0	0	0
4	Ponda	3	0	0	3
5	Satari	2	0	0	2
6	Tiswadi	0	0	0	0
	South Goa	**8**	**0**	**0**	**8**
1	Canacona	7	0	0	7
2	Dharbandora	0	0	0	0
3	Mormugao	1	0	0	1
4	Quepem	0	0	0	0
5	Salcete	0	0	0	0
6	Sanguem	0	0	0	0
Total	**Goa**	**13**	**0**	**0**	**13**

MINOR IRRIGATION CENSUS (2013-14)

Table.4.6B CCA AND SEASON WISE POTENTIAL CREATED THROUGH ALL DEEP TUBEWELLS

State : GOA (In ha.)

Sl. No.	District/ Taluka	Culturable Command Area	Irrigation potential created				
			Kharif	Rabi	Perennial	Other	Total (4 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**6.16**	**0.00**	**0.40**	**5.76**	**0.00**	**6.16**
1	Bardez	0.00	0.00	0.00	0.00	0.00	0.00
2	Bicholim	0.00	0.00	0.00	0.00	0.00	0.00
3	Pernem	0.00	0.00	0.00	0.00	0.00	0.00
4	Ponda	4.00	0.00	0.40	3.60	0.00	4.00
5	Satari	2.16	0.00	0.00	2.16	0.00	2.16
6	Tiswadi	0.00	0.00	0.00	0.00	0.00	0.00
	South Goa	**1.81**	**0.00**	**1.46**	**0.00**	**0.15**	**1.61**
1	Canacona	1.66	0.00	1.46	0.00	0.00	1.46
2	Dharbandora	0.00	0.00	0.00	0.00	0.00	0.00
3	Mormugao	0.15	0.00	0.00	0.00	0.15	0.15
4	Quepem	0.00	0.00	0.00	0.00	0.00	0.00
5	Salcete	0.00	0.00	0.00	0.00	0.00	0.00
6	Sanguem	0.00	0.00	0.00	0.00	0.00	0.00
Total	**Goa**	**7.97**	**0.00**	**1.86**	**5.76**	**0.15**	**7.77**

MINOR IRRIGATION CENSUS (2013-14)

Table.4.7 SEASON WISE POTENTIAL UTILISED THROUGH ALL DEEP TUBEWELLS

State : GOA (Area in ha.)

Sl. No.	District/ Taluka	Area irrigated during 2013-2014														
		Inside Command of Major/Medium					Outside Command					Total				
		Kharif	Rabi	Perennial	Others	Total (3 to 6)	Kharif	Rabi	Perennial	Others	Total (8 to11)	Kharif (3+8)	Rabi (4+9)	Perennial (5+10)	Others (6+11)	Total (13 to16)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.40**	**5.76**	**0.00**	**6.16**	**0.00**	**0.40**	**5.76**	**0.00**	**6.16**
1	Bardez	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Bicholim	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Pernem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Ponda	0.00	0.00	0.00	0.00	0.00	0.00	0.40	3.60	0.00	4.00	0.00	0.40	3.60	0.00	4.00
5	Satari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.16	0.00	2.16	0.00	0.00	2.16	0.00	2.16
6	Tiswadi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	South Goa	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.46**	**0.20**	**0.15**	**1.81**	**0.00**	**1.46**	**0.20**	**0.15**	**1.81**
1	Canacona	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.20	0.00	1.66	0.00	1.46	0.20	0.00	1.66
2	Dharbandora	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Mormugao	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.15	0.00	0.00	0.00	0.15	0.15
4	Quepem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Salcete	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Sanguem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**Goa**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.86**	**5.96**	**0.15**	**7.97**	**0.00**	**1.86**	**5.96**	**0.15**	**7.97**

MINOR IRRIGATION CENSUS (2013-14)

Table.4.8 DISTRIBUTION OF DEEP TUBEWELLS IN USE ACCORDING TO WATER DISTRIBUTION SYSTEM AND POTENTIAL UTILISED

State : GOA (In Nos./ In ha.)

Sl. No	District/ Taluka	Open Water				Under ground pipe		Surface pipe		Drip		Sprinkler		Others		Total	
		Lined/ Pucca		Unlined /Kutcha													
		No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	North Goa	**0**	**0.00**	**2**	**2.16**	**0**	**0.00**	**0**	**0.00**	**1**	**2.00**	**2**	**2.00**	**0**	**0.00**	**5**	**6.16**
1	Bardez	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Bicholim	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Pernem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
4	Ponda	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	2	2.00	0	0.00	3	4.00
5	Satari	0	0.00	1	0.16	0	0.00	0	0.00	1	2.00	0	0.00	0	0.00	2	2.16
6	Tiswadi	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	South Goa	**0**	**0.00**	**0**	**0.00**	**0**	**0.00**	**6**	**1.46**	**0**	**0.00**	**1**	**0.20**	**1**	**0.15**	**8**	**1.81**
1	Canacona	0	0.00	0	0.00	0	0.00	6	1.46	0	0.00	1	0.20	0	0.00	7	1.66
2	Dharbandora	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Mormugao	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.15	1	0.15
4	Quepem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Salcete	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
6	Sanguem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total	**Goa**	**0**	**0.00**	**2**	**2.16**	**0**	**0.00**	**6**	**1.46**	**1**	**2.00**	**3**	**2.20**	**1**	**0.15**	**13**	**7.97**

MINOR IRRIGATION CENSUS(2013-14)

Table.4.9 DISTRIBUTION OF DEEP TUBEWELLS (IN USE, TEMPORARILY NOT IN USE) ACCORDING TO WATER LIFTING DEVICES

State : GOA (In Nos.)

Sl. No	District/ Taluka	With One lifting Device						With two lifting Device					Grand Total (8+13)
		Submersible Pump	Centrifugal Pump	Turbine	Manual/ Animal	Others	Total (3 to 7)	Submersible & Centrifugal Pump	Submersible & Turbine	Centrifugal & Turbine	Others	Total (9 to12)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	North Goa	**2**	**3**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**5**
1	Bardez	0	0	0	0	0	0	0	0	0	0	0	0
2	Bicholim	0	0	0	0	0	0	0	0	0	0	0	0
3	Pernem	0	0	0	0	0	0	0	0	0	0	0	0
4	Ponda	1	2	0	0	0	3	0	0	0	0	0	3
5	Satari	1	1	0	0	0	2	0	0	0	0	0	2
6	Tiswadi	0	0	0	0	0	0	0	0	0	0	0	0
	South Goa	**3**	**5**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**8**
1	Canacona	2	5	0	0	0	7	0	0	0	0	0	7
2	Dharbandora	0	0	0	0	0	0	0	0	0	0	0	0
3	Mormugao	1	0	0	0	0	1	0	0	0	0	0	1
4	Quepem	0	0	0	0	0	0	0	0	0	0	0	0
5	Salcete	0	0	0	0	0	0	0	0	0	0	0	0
6	Sanguem	0	0	0	0	0	0	0	0	0	0	0	0
Total	**Goa**	**5**	**8**	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**13**

SURFACE FLOW SCHEMES

MINOR IRRIGATION CENSUS (2013-14)

Table.5.1 NUMBER OF SURFACE FLOW SCHEMES BY TYPE

State : GOA (In Nos.)

Sl. No	District/Taluka	Type of Surface Flow Schemes								
		Resovior	Tanks/ Ponds	Other Storage	Permanent Diversion	Temporary Diversion	Water conservation cum-ground water recharge schemes/precolation tanks/check dams etc.	Spring Channel	Others	Total (3 to 10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	North Goa	**367**	**74**	**9**	**70**	**204**	**30**	**140**	**58**	**952**
1	Bardez	5	1	0	0	14	1	7	2	**30**
2	Bicholim	36	2	5	11	12	3	7	30	**106**
3	Pernem	0	8	1	0	32	4	16	11	**72**
4	Ponda	309	60	3	41	113	21	108	14	**669**
5	Satari	17	3	0	18	31	1	2	1	**73**
6	Tiswadi	0	0	0	0	2	0	0	0	**2**
	South Goa	**44**	**22**	**7**	**98**	**687**	**77**	**157**	**100**	**1192**
1	Canacona	6	0	0	9	31	3	4	57	**110**
2	Dharbandora	5	1	0	37	154	0	6	10	**213**
3	Mormugao	0	0	0	0	4	0	10	1	**15**
4	Quepem	3	5	3	17	51	51	9	5	**144**
5	Salcete	18	15	4	23	26	22	8	24	**140**
6	Sanguem	12	1	0	12	421	1	120	3	**570**
Total	**Goa**	**411**	**96**	**16**	**168**	**891**	**107**	**297**	**158**	**2144**

MINOR IRRIGATION CENSUS (2013-14)

Table.5.2 DISTRIBUTION OF SURFACE FLOW SCHEMES ACCORDING TO OWNERSHIP

State : GOA (In Nos.)

Sl. No	District/Taluka	Public					Private			
		Govt. Owned	Coop Society	Panchayat Owned	Other	Total (3 to 6)	Group of Farmers	Individual Farmer	Total (8 to 9)	Grand Total (7 + 10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	North Goa	**46**	**2**	**6**	**13**	**67**	**397**	**488**	**885**	**952**
1	Bardez	8	0	1	2	11	1	18	19	30
2	Bicholim	6	0	1	3	10	28	68	96	106
3	Pernem	15	1	0	1	17	43	12	55	72
4	Ponda	0	0	4	6	10	315	344	659	669
5	Satari	17	1	0	1	19	8	46	54	73
6	Tiswadi	0	0	0	0	0	2	0	2	2
	South Goa	**7**	**1**	**3**	**17**	**28**	**211**	**952**	**1164**	**1192**
1	Canacona	0	0	0	1	1	29	80	109	110
2	Dharbandora	1	0	0	1	2	3	208	211	213
3	Mormugao	0	0	3	0	3	7	5	12	15
4	Quepem	0	0	0	0	0	22	122	144	144
5	Salcete	4	0	0	10	14	62	64	126	140
6	Sanguem	2	1	0	5	8	88	473	562	570
Total	**Goa**	**53**	**3**	**9**	**30**	**95**	**608**	**1440**	**2049**	**2144**

MINOR IRRIGATION CENSUS (2013-14)

Table.5.3 DISTRIBUTION OF SURFACE FLOW SCHEMES ACCORDING TO SOCIAL STATUS OF OWNER

State : GOA (In Nos.)

Sl.No	District/Taluka	No. of Surface Flow Schemes owned by						
		Scheduled Caste	Scheduled Tribe	OBC	Others	Total (3 to 6)	Owned by other than individual farmer (incl. Public & Group of farmers)	Total (7+8)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	North Goa	**7**	**117**	**136**	**228**	**488**	**464**	**952**
1	Bardez	0	0	16	2	18	12	30
2	Bicholim	0	4	17	47	68	38	106
3	Pernem	0	0	3	9	12	60	72
4	Ponda	7	113	100	124	344	325	669
5	Satari	0	0	0	46	46	27	73
6	Tiswadi	0	0	0	0	0	2	2
	South Goa	**20**	**403**	**109**	**421**	**953**	**239**	**1192**
1	Canacona	0	45	9	26	80	30	110
2	Dharbandora	2	47	39	120	208	5	213
3	Mormugao	0	3	0	2	5	10	15
4	Quepem	1	86	9	26	122	22	144
5	Salcete	1	5	1	57	64	76	140
6	Sanguem	16	217	51	190	474	96	570
Total	**Goa**	**27**	**520**	**245**	**649**	**1441**	**703**	**2144**

MINOR IRRIGATION CENSUS (2013-14)

Table.5.4 DISTRIBUTION OF SURFACE FLOW SCHEMES ACCORDING TO THE INDIVIDUAL OWNER'S HOLDING SIZE

State : GOA (In Nos.)

Sl. No.	District/Taluka	No. of Surface Flow Schemes by size class of owned					
		Marginal (0-1 ha)	Small (1-2 ha)	Semi Medium (2-4 ha)	Medium (4-10 ha)	Big (>=10 ha)	Total (3 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**386**	**57**	**32**	**11**	**2**	**488**
1	Bardez	17	1	0	0	0	18
2	Bicholim	56	7	4	1	0	68
3	Pernem	9	1	1	1	0	12
4	Ponda	286	32	21	4	1	344
5	Satari	18	16	6	5	1	46
6	Tiswadi	0	0	0	0	0	0
	South Goa	**718**	**145**	**47**	**37**	**6**	**953**
1	Canacona	75	4	1	0	0	80
2	Dharbandora	181	15	4	5	3	208
3	Mormugao	5	0	0	0	0	5
4	Quepem	75	20	12	14	1	122
5	Salcete	52	6	5	1	0	64
6	Sanguem	330	100	25	17	2	474
Total	**Goa**	**1104**	**202**	**79**	**48**	**8**	**1441**

MINOR IRRIGATION CENSUS (2013-14)

Table.5.5 DISTRIBUTION OF SURFACE FLOW SCHEMES ACCORDING TO MAJOR SOURCE (UNDER INDIVIDUAL OWNERSHIP) OF FINANCE

State : GOA (In Nos.

Sl. No.	District/ Taluka	With one source of Finance						With two Sources of finance								Grand Total (8+16)
		Bank loan	Govt. Fund	Own Saving	Money Lender	Others	Total (3 to 7)	Own Saving & Bank Loan	Own Saving & Govt Fund	Own Saving & Money Lender	Bank Loan & Govt Fund	Bank Loan & Money Lender	Govt Fund & Money Lender	Others	Total (9 to 15)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**2**	**5**	**442**	**1**	**37**	**487**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**488**
1	Bardez	0	0	3	0	15	18	0	0	0	0	0	0	0	0	18
2	Bicholim	1	0	65	1	1	68	0	0	0	0	0	0	0	0	68
3	Pernem	0	3	9	0	0	12	0	0	0	0	0	0	0	0	12
4	Ponda	0	1	327	0	15	343	1	0	0	0	0	0	0	1	344
5	Satari	1	1	38	0	6	46	0	0	0	0	0	0	0	0	46
6	Tiswadi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	South Goa	**8**	**5**	**847**	**3**	**85**	**948**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**5**	**953**
1	Canacona	0	0	71	0	9	80	0	0	0	0	0	0	0	0	80
2	Dharbandora	0	0	207	0	1	208	0	0	0	0	0	0	0	0	208
3	Mormugao	0	0	5	0	0	5	0	0	0	0	0	0	0	0	5
4	Quepem	4	1	50	1	66	122	0	0	0	0	0	0	0	0	122
5	Salcete	2	0	59	0	3	64	0	0	0	0	0	0	0	0	64
6	Sanguem	2	4	455	2	6	469	0	0	0	0	0	0	5	5	474
Total	**Goa**	**10**	**10**	**1289**	**4**	**122**	**1435**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**6**	**1441**

MINOR IRRIGATION CENSUS (2013-14)

Table.5.6 DISTRIBUTION OF SURFACE FLOW SCHEMES BY STATUS OF UTILISATION

State : GOA (In Nos.)

Sl. No	District/Taluka	Surface Flow Schemes in use	Surface Flow Schemes not in use			Grand Total (3+6)
			Temporary	Permanent	Total (4+5)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	North Goa	**939**	**4**	**9**	**13**	**952**
1	Bardez	25	3	2	5	30
2	Bicholim	104	0	2	2	106
3	Pernem	67	0	5	5	72
4	Ponda	668	1	0	1	669
5	Satari	73	0	0	0	73
6	Tiswadi	2	0	0	0	2
	South Goa	**1165**	**4**	**23**	**27**	**1192**
1	Canacona	107	0	3	3	110
2	Dharbandora	210	3	0	3	213
3	Mormugao	12	0	3	3	15
4	Quepem	144	0	0	0	144
5	Salcete	132	1	7	8	140
6	Sanguem	560	0	10	10	570
Total	**Goa**	**2104**	**8**	**32**	**40**	**2144**

MINOR IRRIGATION CENSUS (2013-14)

Table.5.7 DISTRIBUTION OF SURFACE FLOW SCHEMES TEMPORARILY NOT IN USE BY REASONS

State : GOA (In Nos.)

Sl. No	District/ Taluka	No. of Surface Flow Schemes Temporarily not in use due to							
		Non Availability of Adequate Power/Fuel	Mechanical Break Down	Less discharge of Water	Storage no filled up fully	Siltation of Channel / Storage	Channel Break Down	Others	Total (3 to 9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	North Goa	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**4**
1	Bardez	0	0	0	0	0	0	3	3
2	Bicholim	0	0	0	0	0	0	0	0
3	Pernem	0	0	0	0	0	0	0	0
4	Ponda	0	0	1	0	0	0	0	1
5	Satari	0	0	0	0	0	0	0	0
6	Tiswadi	0	0	0	0	0	0	0	0
	South Goa	**1**	**2**	**0**	**0**	**0**	**0**	**1**	**4**
1	Canacona	0	0	0	0	0	0	0	0
2	Dharbandora	1	2	0	0	0	0	0	3
3	Mormugao	0	0	0	0	0	0	0	0
4	Quepem	0	0	0	0	0	0	0	0
5	Salcete	0	0	0	0	0	0	1	1
6	Sanguem	0	0	0	0	0	0	0	0
Total	**Goa**	**1**	**2**	**1**	**0**	**0**	**0**	**4**	**8**

MINOR IRRIGATION CENSUS (2013-14)

Table.5.8 DISTRIBUTION OF SURFACE FLOW SCHEMES PERMANENTLY NOT IN USE BY REASONS

State : GOA | In Nos.

Sl. No	District/ Taluka	Salinity	Dried up	Destroyed beyond repair	Sinking	Other reasons	Total
		No.	No.	No.	No.	No.	No.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**1**	**0**	**0**	**0**	**8**	**9**
1	Bardez	1	0	0	0	1	2
2	Bicholim	0	0	0	0	2	2
3	Pernem	0	0	0	0	5	5
4	Ponda	0	0	0	0	0	0
5	Satari	0	0	0	0	0	0
6	Tiswadi	0	0	0	0	0	0
	South Goa	**0**	**4**	**0**	**1**	**18**	**23**
1	Canacona	0	0	0	0	3	3
2	Dharbandora	0	0	0	0	0	0
3	Mormugao	0	0	0	0	3	3
4	Quepem	0	0	0	0	0	0
5	Salcete	0	4	0	0	3	7
6	Sanguem	0	0	0	1	9	10
Total	**Goa**	**1**	**4**	**0**	**1**	**26**	**32**

MINOR IRRIGATION CENSUS (2013-14)

Table.5.9 DISTRIBUTION OF SURFACE FLOW SCHEMES IN USE ACCORDING TO WATER DISTRIBUTION SYSTEM AND POTENTIAL UTILISED

State : GOA (In Nos./ In ha.)

Sl. No	District/ Taluka	Open Water				Under ground pipe		Surface pipe		Drip		Sprinkler		Others		Total	
		Lined/ Pucca		Unlined /Kutcha													
		No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	North Goa	**74**	**106.13**	**699**	**1231.64**	**3**	**0.90**	**10**	**9.35**	**7**	**5.77**	**60**	**46.73**	**86**	**53.98**	**939**	**1454.51**
1	Bardez	13	7.76	11	4.34	0	0.00	1	0.20	0	0.00	0	0.00	0	0.00	25	12.30
2	Bicholim	4	1.60	41	237.82	1	0.10	0	0.00	0	0.00	3	5.15	55	25.05	104	269.73
3	Pernem	11	30.69	43	82.00	0	0.00	5	3.50	0	0.00	2	0.60	6	9.20	67	125.99
4	Ponda	36	39.35	544	815.00	2	0.80	1	0.15	7	5.77	55	40.98	23	18.73	668	920.78
5	Satari	10	26.73	58	91.93	0	0.00	3	5.50	0	0.00	0	0.00	2	1.00	73	125.16
6	Tiswadi	0	0.00	2	0.55	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0.55
	South Goa	**120**	**99.86**	**951**	**954.89**	**7**	**16.36**	**14**	**7.79**	**1**	**1.00**	**14**	**45.16**	**58**	**35.47**	**1165**	**1160.53**
1	Canacona	85	75.52	14	4.15	1	0.01	3	0.63	0	0	1	0.02	3	4.10	107	84.43
2	Dharbandora	5	1.22	194	119.02	1	0.15	1	0.25	0	0	1	0.70	8	1.55	210	122.89
3	Mormugao	0	0.00	11	74.20	0	0.00	0	0.00	0	0	0	0.00	1	0.23	12	74.43
4	Quepem	18	13.60	119	182.25	0	0.00	2	1.60	0	0	4	12.00	1	1.00	144	210.45
5	Salcete	8	7.07	71	100.75	5	16.20	3	2.06	0	0	1	0.10	44	23.14	132	149.32
6	Sanguem	4	2.45	542	474.52	0	0.00	5	3.25	1	1.00	7	32.34	1	5.45	560	519.01
Total	**Goa**	**194**	**205.99**	**1650**	**2186.53**	**10**	**17.26**	**24**	**17.14**	**8**	**6.77**	**74**	**91.89**	**144**	**89.45**	**2104**	**2615.04**

MINOR IRRIGATION CENSUS (2013-14)

Table.5.10 DISTRIBUTION OF SURFACE FLOW SCHEMES BY LOCATION IN THE COMMAND OF MAJOR / MEDIUM PROJECTS

State : GOA (In Nos.)

Sl. No	District/ Taluka	No. of Surface Flow Schemes by Location			
		Outside command	Inside command	Inside command for augmentation only	Total (3 to 5)
(1)	(2)	(3)	(4)	(5)	(6)
	North Goa	**928**	**22**	**2**	**952**
1	Bardez	29	0	1	30
2	Bicholim	86	20	0	106
3	Pernem	70	2	0	72
4	Ponda	668	0	1	669
5	Satari	73	0	0	73
6	Tiswadi	2	0	0	2
	South Goa	**1149**	**29**	**14**	**1192**
1	Canacona	103	7	0	110
2	Dharbandora	213	0	0	213
3	Mormugao	15	0	0	15
4	Quepem	122	13	9	144
5	Salcete	127	9	4	140
6	Sanguem	569	0	1	570
Total	**Goa**	**2077**	**51**	**16**	**2144**

MINOR IRRIGATION CENSUS (2013-14)

Table.5.11 CCA AND SEASON WISE POTENTIAL CREATED THROUGH ALL SURFACE FLOW SCHEMES

State : GOA (In ha.)

Sl. No.	District/ Taluka	Culturable Command Area	Irrigation potential created				
			Kharif	Rabi	Perennial	Other	Total (4 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**1555.72**	**24.49**	**460.07**	**948.81**	**33.32**	**1466.69**
1	Bardez	14.37	2.29	10.49	0.00	0.00	12.78
2	Bicholim	273.57	0.00	90.65	172.74	6.34	269.73
3	Pernem	140.32	0.00	102.59	3.60	20.63	126.82
4	Ponda	931.15	22.20	233.11	675.84	0.00	931.15
5	Satari	195.76	0.00	22.88	96.43	6.35	125.66
6	Tiswadi	0.55	0.00	0.35	0.20	0.00	0.55
	South Goa	**1256.59**	**123.38**	**558.84**	**435.26**	**74.76**	**1192.24**
1	Canacona	84.97	73.80	10.00	0.63	0.54	84.97
2	Dharbandora	124.46	1.70	62.02	59.49	0.30	123.51
3	Mormugao	85.41	0.00	79.05	0.00	1.00	80.05
4	Quepem	216.43	6.20	111.28	91.41	2.96	211.85
5	Salcete	181.81	41.68	88.83	21.62	20.72	172.85
6	Sanguem	563.51	0.00	207.66	262.11	49.24	519.01
Total	**Goa**	**2812.31**	**147.87**	**1018.91**	**1384.07**	**108.08**	**2658.93**

MINOR IRRIGATION CENSUS (2013-14)

Table.5.12 SEASON WISE POTENTIAL UTILISED THROUGH ALL SURFACE FLOW SCHEMES

State : GOA (Area in ha.)

Sl. No.	District/ Taluka	Area irrigated during 2013-2014														
		Inside Command of Major/Medium					Outside Command					Total				
		Kharif	Rabi	Perennial	Others	Total (3 to 6)	Kharif	Rabi	Perennial	Others	Total (8 to11)	Kharif (3+8)	Rabi (4+9)	Perennial (5+10)	Others (6+11)	Total (13 to16)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**0.00**	**9.59**	**0.60**	**0.00**	**10.19**	**24.49**	**441.18**	**945.81**	**32.92**	**1444.40**	**24.49**	**450.77**	**946.41**	**32.92**	**1454.59**
1	Bardez	0.00	0.00	0.00	0.00	0.00	2.29	10.01	0.00	0.00	12.30	2.29	10.01	0.00	0.00	12.30
2	Bicholim	0.00	5.41	0.60	0.00	6.01	0.00	85.24	172.14	6.34	263.72	0.00	90.65	172.74	6.34	269.73
3	Pernem	0.00	4.18	0.00	0.00	4.18	0.00	97.98	3.60	20.23	121.81	0.00	102.16	3.60	20.23	125.99
4	Ponda	0.00	0.00	0.00	0.00	0.00	22.20	224.72	673.94	0.00	920.86	22.20	224.72	673.94	0.00	920.86
5	Satari	0.00	0.00	0.00	0.00	0.00	0.00	22.88	95.93	6.35	125.16	0.00	22.88	95.93	6.35	125.16
6	Tiswadi	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.20	0.00	0.55	0.00	0.35	0.20	0.00	0.55
	South Goa	**9.46**	**36.49**	**3.82**	**2.00**	**51.77**	**105.71**	**501.73**	**430.99**	**70.50**	**1108.93**	**115.17**	**538.22**	**434.81**	**72.50**	**1160.70**
1	Canacona	3.20	0.00	0.02	0.00	3.22	70.60	10.00	0.61	0.00	81.21	73.80	10.00	0.63	0.00	84.43
2	Dharbandora	0.00	0.00	0.00	0.00	0.00	1.70	62.02	59.04	0.30	123.06	1.70	62.02	59.04	0.30	123.06
3	Mormugao	0.00	0.00	0.00	0.00	0.00	0.00	73.43	0.00	1.00	74.43	0.00	73.43	0.00	1.00	74.43
4	Quepem	0.00	28.37	3.80	2.00	34.17	6.20	81.71	87.61	0.76	176.28	6.20	110.08	91.41	2.76	210.45
5	Salcete	6.26	8.12	0.00	0.00	14.38	27.21	66.91	21.62	19.20	134.94	33.47	75.03	21.62	19.20	149.32
6	Sanguem	0.00	0.00	0.00	0.00	0.00	0.00	207.66	262.11	49.24	519.01	0.00	207.66	262.11	49.24	519.01
Total	**Goa**	**9.46**	**46.08**	**4.42**	**2.00**	**61.96**	**130.20**	**942.91**	**1376.80**	**103.42**	**2553.33**	**139.66**	**988.99**	**1381.22**	**105.42**	**2615.29**

SURFACE LIFT SCHEMES

MINOR IRRIGATION CENSUS (2013-14)

Table.6.1 NUMBER OF SURFACE LIFT SCHEMES BY TYPE

State : GOA (In Nos.)

Sl. No	District/Taluka	Type of Surface Lift Schemes					
		On River	On Stream	On drain/canal	On Tanks/Ponds/Reservoirs/Check-dams	Others	Total (3 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**202**	**33**	**4**	**147**	**57**	**443**
1	Bardez	0	0	0	2	0	2
2	Bicholim	20	14	2	5	30	71
3	Pernem	14	5	0	1	23	43
4	Ponda	19	4	0	127	1	151
5	Satari	149	10	2	12	3	176
6	Tiswadi	0	0	0	0	0	0
	South Goa	**245**	**46**	**9**	**70**	**28**	**398**
1	Canacona	60	0	0	4	12	76
2	Dharbandora	79	4	0	1	2	86
3	Mormugao	0	1	0	0	1	2
4	Quepem	55	31	6	9	7	108
5	Salcete	0	9	3	7	4	23
6	Sanguem	51	1	0	49	2	103
Total	**Goa**	**447**	**79**	**13**	**217**	**85**	**841**

MINOR IRRIGATION CENSUS (2013-14)

Table.6.2 DISTRIBUTION OF SURFACE LIFT SCHEMES ACCORDING TO OWNERSHIP

State : GOA (In Nos.)

Sl. No	District/Taluka	No. of Surface Lift Schemes owned by								
		Public					Private			
		Govt. Owned	Coop Society	Panchayat Owned	Other	Total (3 to 6)	Group of Farmers	Individual Farmer	Total (8 to 9)	Grand Total (7 + 10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	North Goa	**31**	**3**	**1**	**3**	**38**	**56**	**349**	**405**	**443**
1	Bardez	0	0	0	0	0	1	1	2	2
2	Bicholim	0	0	0	0	0	4	67	71	71
3	Pernem	7	0	0	0	7	15	21	36	43
4	Ponda	0	0	1	1	2	18	131	149	151
5	Satari	24	3	0	2	29	18	129	147	176
6	Tiswadi	0	0	0	0	0	0	0	0	0
	South Goa	**6**	**4**	**0**	**3**	**13**	**23**	**362**	**385**	**398**
1	Canacona	1	0	0	0	1	5	70	75	76
2	Dharbandora	2	1	0	1	4	2	80	82	86
3	Mormugao	0	0	0	0	0	1	1	2	2
4	Quepem	0	2	0	0	2	4	102	106	108
5	Salcete	1	0	0	1	2	10	11	21	23
6	Sanguem	2	1	0	1	4	1	98	99	103
Total	**Goa**	**37**	**7**	**1**	**6**	**51**	**79**	**711**	**790**	**841**

MINOR IRRIGATION CENSUS (2013-14)

Table.6.3 DISTRIBUTION OF SURFACE LIFT SCHEMES ACCORDING TO SOCIAL STATUS OF OWNER

State : GOA (In Nos.)

Sl.No	District/Taluka	No. of Surface Lift Schemes owned by						
		Scheduled Caste	Scheduled Tribe	OBC	Others	Total (3 to 6)	Owned by other than individual farmer (incl. Public & Group of farmers)	Total (7+8)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	North Goa	**55**	**29**	**34**	**231**	**349**	**94**	**443**
1	Bardez	0	0	1	0	1	1	2
2	Bicholim	1	1	2	63	67	4	71
3	Pernem	0	0	3	18	21	22	43
4	Ponda	51	17	25	38	131	20	151
5	Satari	3	11	3	112	129	47	176
6	Tiswadi	0	0	0	0	0	0	0
	South Goa	**7**	**118**	**23**	**214**	**362**	**36**	**398**
1	Canacona	0	56	1	13	70	6	76
2	Dharbandora	1	16	12	51	80	6	86
3	Mormugao	0	0	0	1	1	1	2
4	Quepem	5	38	6	53	102	6	108
5	Salcete	0	1	1	9	11	12	23
6	Sanguem	1	7	3	87	98	5	103
Total	**Goa**	**62**	**147**	**57**	**445**	**711**	**130**	**841**

MINOR IRRIGATION CENSUS (2013-14)

Table.6.4 DISTRIBUTION OF SURFACE LIFT SCHEMES ACCORDING TO THE INDIVIDUAL OWNER'S HOLDING SIZE

State : GOA (In Nos.)

Sl. No.	District/Taluka	No. of Surface Lift Schemes by size class of owned					
		Marginal (0-1 ha)	Small (1-2 ha)	Semi Medium (2-4 ha)	Medium (4-10 ha)	Big (>=10 ha)	Total (3 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**226**	**63**	**37**	**19**	**4**	**349**
1	Bardez	1	0	0	0	0	1
2	Bicholim	52	4	5	5	1	67
3	Pernem	18	2	0	0	1	21
4	Ponda	90	22	13	6	0	131
5	Satari	65	35	19	8	2	129
6	Tiswadi	0	0	0	0	0	0
	South Goa	**171**	**93**	**56**	**29**	**13**	**362**
1	Canacona	30	23	13	4	0	70
2	Dharbandora	32	19	15	8	6	80
3	Mormugao	1	0	0	0	0	1
4	Quepem	50	29	13	8	2	102
5	Salcete	9	1	0	0	1	11
6	Sanguem	49	21	15	9	4	98
Total	**Goa**	**397**	**156**	**93**	**48**	**17**	**711**

MINOR IRRIGATION CENSUS (2013-14)

Table.6.5 DISTRIBUTION OF SURFACE LIFT SCHEMES ACCORDING TO MAJOR SOURCE (UNDER INDIVIDUAL OWNERSHIP) OF FINANCE

State : GOA (In Nos.)

Sl. No.	District/ Taluka	With one source of Finance						With two Sources of finance								Grand Total (8+16)
		Bank loan	Govt. Fund	Own Saving	Money Lender	Others	Total (3 to 7)	Own Saving & Bank Loan	Own Saving & Govt Fund	Own Saving & Money Lender	Bank Loan & Govt Fund	Bank Loan & Money Lender	Govt Fund & Money Lender	Others	Total (9 to 15)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**15**	**9**	**306**	**1**	**19**	**348**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**349**
1	Bardez	0	1	2	0	0	1	0	0	0	0	0	0	0	0	1
2	Bicholim	2	0	58	0	7	67	0	0	0	0	0	0	0	0	67
3	Pernem	0	0	20	0	0	20	0	1	0	0	0	0	0	1	21
4	Ponda	2	2	117	0	10	131	0	0	0	0	0	0	0	0	131
5	Satari	11	6	109	1	2	129	0	0	0	0	0	0	0	0	129
6	Tiswadi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	South Goa	**13**	**5**	**302**	**0**	**31**	**351**	**0**	**4**	**0**	**2**	**0**	**1**	**4**	**11**	**362**
1	Canacona	1	4	60	0	5	70	0	0	0	0	0	0	0	0	70
2	Dharbandora	0	0	79	0	1	80	0	0	0	0	0	0	0	0	80
3	Mormugao	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
4	Quepem	8	0	71	0	23	102	0	0	0	0	0	0	0	0	102
5	Salcete	0	0	9	0	2	11	0	0	0	0	0	0	0	0	11
6	Sanguem	4	1	82	0	0	87	0	4	0	2	0	1	4	11	98
Total	**Goa**	**28**	**14**	**608**	**1**	**50**	**699**	**0**	**5**	**0**	**2**	**0**	**1**	**4**	**12**	**711**

MINOR IRRIGATION CENSUS (2013-14)

Table.6.6 DISTRIBUTION OF SURFACE LIFT SCHEMES BY STATUS OF UTILISATION

State : GOA (In Nos.)

Sl. No	District/Taluka	Surface Lift Schemes in use	Surface Lift Schemes not in use			Grand Total (3+6)
			Temporary	Permanent	Total (4+5)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	North Goa	**438**	**2**	**3**	**5**	**443**
1	Bardez	2	0	0	0	2
2	Bicholim	69	0	2	2	71
3	Pernem	43	0	0	0	43
4	Ponda	151	0	0	0	151
5	Satari	173	2	1	3	176
6	Tiswadi	0	0	0	0	0
	South Goa	**396**	**2**	**0**	**2**	**398**
1	Canacona	76	0	0	0	76
2	Dharbandora	85	1	0	1	86
3	Mormugao	1	1	0	1	2
4	Quepem	108	0	0	0	108
5	Salcete	23	0	0	0	23
6	Sanguem	103	0	0	0	103
Total	**Goa**	**834**	**4**	**3**	**7**	**841**

MINOR IRRIGATION CENSUS (2013-14)

Table.6.7 DISTRIBUTION OF SURFACE LIFT SCHEMES TEMPORARILY NOT IN USE BY REASONS

State : GOA (In Nos./In ha)

Sl. No	District/ Taluka	No. of Surface Lift Schemes Temporarily not in use due to							
		Non Availability of Adequate Power/Fuel	Mechanical Break Down	Less discharge of Water	Storage no filled up fully	Siltation of Channel / Storage	Channel Break Down	Others	Total (3 to 9)
		No.	No.	No.	No.	No.	No.	No.	No.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	North Goa	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
1	Bardez	0	0	0	0	0	0	0	0
2	Bicholim	0	0	0	0	0	0	0	0
3	Pernem	0	0	0	0	0	0	0	0
4	Ponda	0	0	0	0	0	0	0	0
5	Satari	1	0	0	0	0	0	1	2
6	Tiswadi	0	0	0	0	0	0	0	0
	South Goa	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
1	Canacona	0	0	0	0	0	0	0	1
2	Dharbandora	1	0	0	0	0	0	0	1
3	Mormugao	0	0	0	0	0	0	1	0
4	Quepem	0	0	0	0	0	0	0	0
5	Salcete	0	0	0	0	0	0	0	0
6	Sanguem	0	0	0	0	0	0	0	0
Total	**Goa**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**4**

MINOR IRRIGATION CENSUS (2013-14)

Table.6.8 DISTRIBUTION OF SURFACE LIFT SCHEMES PERMANENTLY NOT IN USE BY REASONS

State : GOA

Sl. No	District/ Taluka	No. of Surface Lift Schemes Permanently not in use due to					
		Salinity	Dried up	Destroyed beyond repair	Sinking	Other reasons	Total
		No.	No.	No.	No.	No.	No.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**0**	**0**	**1**	**0**	**2**	**3**
1	Bardez	0	0	0	0	0	**0**
2	Bicholim	0	0	1	0	1	2
3	Pernem	0	0	0	0	0	0
4	Ponda	0	0	0	0	0	0
5	Satari	0	0	0	0	1	1
6	Tiswadi	0	0	0	0	0	0
	South Goa	**0**	**0**	**0**	**0**	**0**	**0**
1	Canacona	0	0	0	0	0	0
2	Dharbandora	0	0	0	0	0	0
3	Mormugao	0	0	0	0	0	0
4	Quepem	0	0	0	0	0	0
5	Salcete	0	0	0	0	0	0
6	Sanguem	0	0	0	0	0	0
Total	**Goa**	**0**	**0**	**1**	**0**	**2**	**3**

MINOR IRRIGATION CENSUS (2013-14)

Table.6.9 DISTRIBUTION OF SURFACE LIFT SCHEMES IN USE ACCORDING TO WATER DISTRIBUTION SYSTEM AND POTENTIAL UTILISED

State : GOA (In Nos./ In ha.)

Sl. No	District/ Taluka	Open Water				Under ground pipe		Surface pipe		Drip		Sprinkler		Others		Total	
		Lined/ Pucca		Unlined /Kutcha													
		No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU	No.	PU
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	North Goa	**44**	**416.55**	**201**	**213.14**	**5**	**20.78**	**47**	**50.79**	**9**	**12.80**	**100**	**190.61**	**32**	**36.77**	**438**	**958.05**
1	Bardez	0	0.00	1	0.30	0	10.39	0	0.00	0	0.00	0	0.00	1	0.40	2	0.70
2	Bicholim	3	3.25	13	12.06	2	0.00	6	5.57	3	0.80	19	32.83	23	10.57	69	92.97
3	Pernem	5	71.20	13	13.74	1	0.89	22	18.06	1	1.00	0	0.00	1	1.20	43	105.50
4	Ponda	3	1.30	103	115.72	0	0.30	1	0.80	0	0.00	41	72.32	3	3.10	151	193.24
5	Satari	33	340.80	71	71.32	2	0.00	18	26.36	5	11.00	40	85.46	4	21.50	173	565.64
6	Tiswadi	0	0.00	0	0.00	0	9.20	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	South Goa	**21**	**76.81**	**202**	**258.09**	**11**	**28**	**34**	**32.83**	**2**	**13.80**	**89**	**175.59**	**37**	**113.59**	**396**	**698.71**
1	Canacona	2	3.20	1	2.00	0	0.00	19	8.00	0	0.00	35	54.10	19	24.60	76	91.90
2	Dharbandora	1	3.50	44	70.40	8	19.00	5	9.15	1	0.80	23	55.47	3	0.65	85	158.97
3	Mormugao	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0.23	1	0.23
4	Quepem	9	57.05	79	74.84	1	1.20	4	3.68	1	13.00	5	17.46	9	23.39	108	190.62
5	Salcete	9	13.06	9	6.65	1	1.80	2	0.90	0	0.00	0	0.00	2	1.62	23	24.03
6	Sanguem	0	0.00	69	104.20	1	6.00	4	11.10	0	0.00	26	48.56	3	63.10	103	232.96
Total	**Goa**	**65**	**493.36**	**403**	**471.23**	**16**	**48.78**	**81**	**83.62**	**11**	**26.60**	**189**	**366.20**	**69**	**150.36**	**834**	**1656.76**

MINOR IRRIGATION CENSUS(2013-14)

Table.6.10 DISTRIBUTION OF SURFACE LIFT SCHEMES (IN USE, TEMPORARILY NOT IN USE) ACCORDING TO WATER LIFTING DEVICES

State : GOA (In Nos.)

Sl. No	District/ Taluka	With One lifting Device						With two lifting Device					Grand Total (8+13)
		Submersible Pump	Centrifugal Pump	Turbine	Manual/ Animal	Others	Total (3 to 7)	Submersible & Centrifugal Pump	Submersible & Turbine	Centrifugal & Turbine	Others	Total (9 to12)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	North Goa	**142**	**255**	**0**	**43**	**0**	**440**	**0**	**0**	**0**	**0**	**0**	**440**
1	Bardez	0	1	0	1	0	2	0	0	0	0	0	2
2	Bicholim	38	14	0	17	0	69	0	0	0	0	0	69
3	Pernem	5	33	0	5	0	43	0	0	0	0	0	43
4	Ponda	4	137	0	10	0	151	0	0	0	0	0	151
5	Satari	95	70	0	10	0	175	0	0	0	0	0	175
6	Tiswadi	0	0	0	0	0	0	0	0	0	0	0	0
	South Goa	**13**	**353**	**0**	**26**	**4**	**396**	**2**	**0**	**0**	**0**	**2**	**398**
1	Canacona	4	70	0	2	0	76	0	0	0	0	0	76
2	Dharbandora	0	83	0	2	0	85	1	0	0	0	1	86
3	Mormugao	0	0	0	2	0	2	0	0	0	0	0	2
4	Quepem	6	95	0	3	4	108	0	0	0	0	0	108
5	Salcete	0	7	0	15	0	22	1	0	0	0	1	23
6	Sanguem	3	98	0	2	0	103	0	0	0	0	0	103
Total	**Goa**	**155**	**608**	**0**	**69**	**4**	**836**	**2**	**0**	**0**	**0**	**2**	**838**

MINOR IRRIGATION CENSUS (2013-14)

Table.6.11 DISTRIBUTION OF SURFACE LIFT SCHEMES BY LOCATION IN THE COMMAND OF MAJOR / MEDIUM PROJECTS

State : GOA (In Nos.)

Sl. No	District/ Taluka	No. of Surface Lift Schemes by Location			
		Outside command	Inside command	Inside command for augmentation only	Total (3 to 5)
(1)	(2)	(3)	(4)	(5)	(6)
	North Goa	**438**	**5**	**0**	**443**
1	Bardez	2	0	0	2
2	Bicholim	70	1	0	71
3	Pernem	39	4	0	43
4	Ponda	151	0	0	151
5	Satari	176	0	0	176
6	Tiswadi	0	0	0	0
	South Goa	**366**	**32**	**0**	**398**
1	Canacona	76	0	0	76
2	Dharbandora	86	0	0	86
3	Mormugao	2	0	0	2
4	Quepem	77	31	0	108
5	Salcete	22	1	0	23
6	Sanguem	103	0	0	103
Total	**Goa**	**804**	**37**	**0**	**841**

MINOR IRRIGATION CENSUS (2013-14)

Table.6.12 CCA AND SEASON WISE POTENTIAL CREATED THROUGH ALL SURFACE LIFT SCHEMES

State : GOA (In ha.)

Sl. No.	District/ Taluka	Culturable Command Area	Irrigation potential created				
			Kharif	Rabi	Perennial	Other	Total (4 to 7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	North Goa	**1371.92**	**3.85**	**134.80**	**756.86**	**74.84**	**970.35**
1	Bardez	0.35	0.35	0.35	0.00	0.00	0.70
2	Bicholim	93.20	0.20	30.14	51.55	11.08	92.97
3	Pernem	105.50	0.00	61.99	6.85	36.66	105.50
4	Ponda	195.04	0.00	8.56	186.48	0.00	195.04
5	Satari	977.83	3.30	33.76	511.98	27.10	576.14
6	Tiswadi	0.00	0.00	0.00	0.00	0.00	0.00
	South Goa	**764.18**	**14.50**	**91.49**	**585.14**	**14.95**	**706.08**
1	Canacona	91.90	9.50	9.10	73.30	0.00	91.90
2	Dharbandora	160.52	2.50	0.75	147.92	7.95	159.12
3	Mormugao	0.33	0.00	0.23	0.00	0.10	0.33
4	Quepem	190.62	0.00	38.23	152.19	0.20	190.62
5	Salcete	57.03	2.50	17.63	0.50	4.70	25.33
6	Sanguem	263.78	0.00	25.55	211.23	2.00	238.78
Total	**Goa**	**2136.10**	**18.35**	**226.29**	**1342.00**	**89.79**	**1676.43**

MINOR IRRIGATION CENSUS (2013-14)

Table.6.13 SEASON WISE POTENTIAL UTILISED THROUGH ALL SURFACE LIFT SCHEMES

State : GOA (Area in ha.)

Sl. No.	District/ Taluka	Area irrigated during 2013-2014														
		Inside Command of Major/Medium					Outside Command					Total				
		Kharif	Rabi	Perennial	Others	Total (3 to 6)	Kharif	Rabi	Perennial	Others	Total (8 to11)	Kharif (3+8)	Rabi (4+9)	Perennial (5+10)	Others (6+11)	Total (13 to16)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	North Goa	**0.00**	**35.00**	**3.12**	**35.00**	**73.12**	**2.85**	**99.15**	**743.09**	**39.84**	**884.93**	**2.85**	**134.15**	**746.21**	**74.84**	**958.05**
1	Bardez	0.00	0.00	0.00	0.00	3.12	0.35	0.35	0.00	0.00	0.70	0.35	0.35	0.00	0.00	0.70
2	Bicholim	0.00	0.00	3.12	0.00	70.00	0.20	30.14	48.43	11.08	89.85	0.20	30.14	51.55	11.08	92.97
3	Pernem	0.00	35.00	0.00	35.00	0.00	0.00	26.99	6.85	1.66	35.50	0.00	61.99	6.85	36.66	105.50
4	Ponda	0.00	0.00	0.00	0.00	0.00	0.00	8.06	185.18	0.00	193.24	0.00	8.06	185.18	0.00	193.24
5	Satari	0.00	0.00	0.00	0.00	0.00	2.30	33.61	502.63	27.10	565.64	2.30	33.61	502.63	27.10	565.64
6	Tiswadi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	South Goa	**0.00**	**1.12**	**24.87**	**0.00**	**25.99**	**14.30**	**90.32**	**554.05**	**14.10**	**672.77**	**14.30**	**91.44**	**578.92**	**14.10**	**698.76**
1	Canacona	0.00	0.00	0.00	0.00	0.00	9.50	9.10	73.30	0.00	91.90	9.50	9.10	73.30	0.00	91.90
2	Dharbandora	0.00	0.00	0.00	0.00	0.00	2.50	0.75	147.82	7.95	159.02	2.50	0.75	147.82	7.95	159.02
3	Mormugao	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.23	0.00	0.23	0.00	0.00	0.23
4	Quepem	0.00	1.00	24.87	0.00	25.87	0.00	37.23	127.32	0.20	164.75	0.00	38.23	152.19	0.20	190.62
5	Salcete	0.00	0.12	0.00	0.00	0.12	2.30	17.46	0.20	3.95	23.91	2.30	17.58	0.20	3.95	24.03
6	Sanguem	0.00	0.00	0.00	0.00	0.00	0.00	25.55	205.41	2.00	232.96	0.00	25.55	205.41	2.00	232.96
Total	**Goa**	**0.00**	**36.12**	**27.99**	**35.00**	**99.11**	**17.15**	**189.47**	**1297.14**	**53.94**	**1557.70**	**17.15**	**225.59**	**1325.13**	**88.94**	**1656.81**

c/134

FIFTH CENSUS OF MINOR IRRIGATION SCHEMES
REFERENCE YEAR 2013-14
VILLAGE SCHEDULE

I. IDENTIFICATION: (STANDARD CODES AS UPDATED BY STATES)

State: _____ **Code :** ☐☐ **District:** _____ **Code :** ☐☐

Block/Tehsil: _____ **Code:** ☐☐☐ **Village:** _____ **Code :** ☐☐☐☐

Date of Enumeration: ☐☐-☐☐-☐☐

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(s) of Major/ Medium Scheme _____

   (Note : The information in item 3 to 7 of this schedule shall be based on village records)

3. **Geographical Area** ☐☐☐☐☐☐☐ **Ha.**
4. **Cultivable Area** ☐☐☐☐☐☐☐ **Ha.**
5. **Net Area Sown** ☐☐☐☐☐☐☐ **Ha.**
6. **Gross Area Irrigated (season wise)** (by all sources)
   - (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 (i)+(ii)+(iii)+(iv) ☐☐☐☐.☐☐ **Ha.**
7. **Net Area Irrigated** (by all sources) ☐☐☐☐.☐☐ **Ha.**
8. **Average Ground Water level (in Meters)** (pre-monsoon) ☐☐☐.☐☐
9. **Number of waterbodies (both natural and constructed)**
   - **(a) for irrigation and in use** (i) **Reservoirs/ Minor Dam** ☐☐
   - (ii) **Ponds/ Tanks** ☐☐
   - (iii) **Other Storages/ Check-dams** ☐☐
   - **(b) for irrigation but Defunct** (i) **Total Number** ☐☐
   - (ii) **Number which can be revived** ☐☐
   - **(C) for non-irrigation** (i) **Number** ☐☐
   - (ii) **Area of such water bodies** ☐☐☐☐.☐☐ **Ha.**
10. **Whether Water Users association (WUA) exists in the village** Code : ☐
    Yes -1, No -2

Summary of M I Schemes in the village as per all scheme schedules filled

NO. OF M I SCHEMES

Ground Water Schemes	☐☐☐☐☐
Surface Water Schemes	☐☐☐☐☐
Total Schemes	☐☐☐☐☐

Checked by:
Name
Designation of Supervisory officer:
Mobile No.:

Signature of Enumerator:
Name
Designation of Enumerator :
Mobile No.

Remarks:

128
374

C/133

FIFTH CENSUS OF MINOR IRRIGATION SCHEMES
REFERENCE YEAR 2013-14

SCHEDULE 1 : GROUND WATER SCHEMES

I. IDENTIFICATION: (STANDARD CODES AS UPDATED BY STATES)

State: _____ **Code :** [ ][ ] **District:** _____ **Code:** [ ][ ]

Block/Tehsil: _____ **Code:** [ ][ ][ ] **Village:** _____ **Code:** [ ][ ][ ][ ]

Date of Enumeration: [ ][ ] - [ ][ ] - [ ][ ]

II. SPECIFIC INFORMATION:

1. Serial Number of scheme : [ ][ ][ ][ ]

2. Type of Scheme **Code:** [ ]

Dug Well – 1, Shallow Tube well - 2, Medium Tube Well-3 Deep Tube well - 4

3. 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

4. (a) Khasra number /Plot No./Survey No. in which the scheme is located _____

(b) Location particulars _____

5(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

6. Year of Commissioning of the Scheme **Code :** [ ]

On or before 2006-2007 - 1, during 2007-08 - 2, during 2008 -09 - 3, during 2009-10 - 4
during 2010-11 - 5 , during 2011-12 -6 , during 2012-13 - 7 during 2013-14 - 8

7. Nature of scheme in case of Dug Well **Code :** [ ]

: Dug-cum-bore well -1, Pucca -2, Kutcha - 3, Others -9

(to be classified pucca, or kutcha/ others only if it is not a dug-cum-bore well)

8. Details of the scheme

(a) Depth of the well/Tube well (in metres) [ ][ ][ ] . [ ][ ]

(b) Diameter **(unit in meters for dug well and mm for tube well)** [ ][ ] . [ ][ ]

(c) Depth of Bore (in meters) **(in case of Dug-cum-borewell)** [ ][ ][ ] . [ ][ ]

(d) Distance of nearest well/Tube-well (in metres) [ ][ ][ ][ ] . [ ][ ]

9. (a) Cost of construction of the scheme **(Rs.)** [ ][ ][ ][ ][ ][ ][ ]

(b) Cost of machinery **(Rs.)** [ ][ ][ ][ ][ ][ ][ ]

(c) Cost of maintenance during (2013-14) **(Rs.)** [ ][ ][ ][ ][ ][ ][ ]

10. Major sources of finance (upto top 2) **Code :** [ ][ ]

(a) Bank loan - 1, Government fund - 2, Own savings - 3, Money lender - 4, Others - 9

(b) Whether any subsidy/assistance provided by Govt. / PSU

on (i) Construction of Scheme/ drilling **(Rs.)** [ ][ ][ ][ ][ ][ ][ ]

(ii) Cost of machinery/ distribution device **(Rs.)** [ ][ ][ ][ ][ ][ ][ ]

11. Current Status of the Scheme **Code:**

(a) In use - 1, Temporarily Not in Use - 2, Permanently Not in use - 3

(b) If not in use since when Specify the no. of years

12 . Reason code for Temporarily "not in use" Scheme (code - 2 in item 11(a)) **Code:**

Non availability of adequate power/fuel — 1 , Mechanical break down — 2 ,

Less discharge in the well - 3, Non-availability of finance - 4,

Lack of maintinence - 5, Any other reason - 9

13 . Reason code for Permanently "not in use" Scheme (code - 3 in item 11(a)) **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. Water distribution / application method used Code :

Open Water Channel (lined / pucca) - 1, Open Water Channel(unlined / kucha) - 2

Under ground pipe 3, Surface pipe - 4, Drip - 5 , Sprinkler - 6 , Other - 9

15. (a) No. of Lifting devices

(b) Types of device **(** up to two) Code :

Submersible pump - 1 , Centrifugal Pump - 2, Turbine - 3, Manual/animal - 4, Other - 9 Code :

16. Source of energy for Lifting devices (up to two) Code :

Electric - I, Diesel - 2, Wind Mills - 3, Solar - 4, Manual/animal - 5, Others - 9

17. Horse Power of all Lifting devices HP

(ignore if lifting device is manual/animal driven)

18. Number of days operating pump (ignore, if lifting device is manual/animal driven)

During Kharif season Days

During Rabi season Days

Perennial Days

Other season Days

19. Average hours of pumping per day (ignore, if lifting device is manual/animal driven)

During Kharif season Hrs

During Rabi season Hrs

Perennial Hrs

Other season Hrs

20. Culturable Command Area **Ha.**

21. Whether the scheme is located in the command of

Major & Medium Schemes like Canals etc. Code:

No --- 1 (Keep item 34 to item 38 blank)

Yes --- 2 (Keep item 27 to item 31 blank)

Yes(for augumentation only) -- 3 (Keep item 22 to item 38 blank)

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 2013-14 (IPU)

27. Kharif Ha.

28. Rabi Ha.

29. Perennial Ha.

30. Other j Ha.

31. Total Ha.

32. Whether the scheme is functioning well since its commissioning ? Code :

Yes=1 / No=2)

33. If No:Maximum Potential utilised from the Scheme in any year Ha.

SEASON WISE AREA IRRIGATED BY THE MINOR IRRIGATION SCHEMES (DURING 2013-14) AS SUPPLEMENTARY SOURCE IN THE COMMAND OF MAJOR & MEDIUM SCHEMES

34. Kharif Ha.

35. Rabi Ha.

36. Perennial Ha.

37. Other Ha.

38. Total Ha.

39.(i) Whether, under utilisation of schemes if Yes =1, No =2 Code :

(ii) if Yes, Reasons for under-utilisation

Non availability of adequate power — 1 , Mechanical break down — 2 , Code :

Less discharge in the well - 3 , Non-availability of finance-4, Lack of Maintenance-5

Any other reason -9

Checked by: Signature of Enumerator:

Name Name

Designation Designation

Mobile No.: Mobile No.:

Remarks: If there is postive entry in item 38 then reasons may be given here

FIFTH CENSUS OF MINOR IRRIGATION SCHEMES
REFERENCE YEAR 2013-14

SCHEDULE 2 : SURFACE WATER SCHEMES

I. IDENTIFICATION: (STANDARD CODES AS UPDATED BY STATES)

State: Code : District: Code:

Block/ Tehsil: Code: Village: Code:

Date of Enumeration:

11. SPECIFIC INFORMATION:

1. Serial Number of scheme :

2. Type of Scheme Code:

Surface Flow Scheme -- 1, Surface Lift Scheme - 2

3. 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 fanner - 5, Others 9

4. Khasra number /Plot No./Survey No. in which the scheme is located

Ha.

5(a). Total Holding of owner (in case of individual owner only)

(b) Social Status of Owner (in case of individual owner only) Code:

Scheduled caste -1 Scheduled tribe 2 , OBC- 3, Others- 9

6. Year of Commissioning of the Scheme Code :

During or'before 2006-07 - I, during 2007-08 - 2, during 2008-09 - 3, during 2009-10- 4
during 2010-11 - 5 , during 2011-12 - 6 , during 2012-13 - 7 during 2013-14 - 8

7. Nature of scheme Code :

For Surface Flow Scheme : 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, Other - 9

For Surface lift Scheme : On River - 1, On Stream - 2, On drain/canal - 3 , On Tanks/Ponds/Reservoirs/check-dams - 4,
Others -9

8. (a) Cost of construction of the scheme (Rs.)

(b) Cost of machinery (Rs.)

(c) Cost of maintenance during (2013-14) (Rs.)

9. Major sources of finance (up to Top 2) Code :

(a) Bank loan - 1, Government fund - 2, Own savings - 3, Money lender - 4, Others - 9

(b) Whether any subsidy/assistance provided by Govt. / PSU
on (i) Construction of Scheme/ digging (Rs.)
(ii) Cost of machinery/ distribution device (Rs.)

10. Current Status of the Scheme **Code:**

(a) In use - I, Temporarily Not in Use - 2, Permanently Not in use - 3

(b) If not in use since when Specify the no. of years

11 . Reason code for Temporarily "not in use" Scheme (code - 2 in item 10(a)) **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

12 . Reason code for Permanently "not in use" Scheme (cpde - 3 in item 10(a)) **Code:**

Due to salinity - 1, Dried up - 2 , Destroyed beyond repair - 3,
Due to sinking - 4, Due to other reasons - 9

13. Water distribution / application method Code :

Open Water Channel (lined / pucca) --• 1, Open Water Channehunlined / lcucha) - 2
Under ground pipe — 3, Surface pipe - 4, Drip - 5 , Sprinkler -.6 , Others -9

14. (a) No. of Lifting devices

(b) Types of lifting device **(** upto two types only) Code :

Submersible pump - 1 , Centrifugal Pump - 2, Turbine - 3, Manual/animal - 4, Code :

Other - 9

15. Source of energy for Lifting devices (up to two) Code :

Electric - 1, Diesel - 2, Wind Mills - 3, Solar - 4, Manual/animal - 5, Others - 9

16. Horse Power of Lifting device (ignore, if lifting device is manual/animal driven) HP

17. Number of days operating pump (ignore, if lifting device is manual/animal driven)

During Kharif season Days

During Rabi season Days

Perennial Days

Other season Days

18. Average hours of pumping per day (ignore, if lifting device is manual/animal driven)

During Kharif season Hrs

During Rabi season Hrs

Perennial Hrs

Other season Hrs

19. Culturable Command Area **Ha.**

20. Whether the scheme is located in the command of
Major & Medium Schemes like Canals etc. Code :

No --- I (Keep item 33 to item 37 blank)
Yes --- 2 (Keep item 26 to item 30 blank)
Yes(for augumentation only) --- 3 (Keep item 21 to item 37 blank)

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 201344 (IPU)

26. Kharif **Ha.**

27. Rabi **Ha.**

28. Perennial **Ha.**

29. Other **Ha.**

30. Total **Ha.**

31. Whether the scheme is functioning well since its commissioning **Code :**

Yes = 1, No = 2

32. If No in item 31 , then Maximum Potential utilised from the Scheme in any year

Ha.

SEASON WISE AREA IRRIGATED BY THE MINOR IRRIGATION SCHEMES (DURING 2013-14) AS SUPPLEMENTARY SOURCE IN THE COMMAND OF MAJOR & MEDIUM SCHEMES

33. Kharif **Ha.**

34. Rabi **Ha.**

35. Perennial **Ha.**

36. Other **Ha**

37. Total

38.(i) Whether under utilisation of schemes if Yes =1, No =2 **Code :**

(ii) if Yes, Reasons for under-utilisation

Non availability of adequate power —1 , Mechanical break down — 2 **Code :**

Less discharge of water - 3 , Storage not filled up fully - 4, Siltation of canal/storage- 5

Breakdown of channels - 6, Any other reason - 9

39. Specific features of Reservoirs,Tank,Other storages

(a) Designed Storage **(in cubic metres)**

(b) Filled up Storage (**during 2013-14)** **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 - I , Usually filled up - 2 , Rarely filled up - 3 , Never filled up - 4

(d) Number of Villages covered by the scheme

40. Whether the Scheme has benifited Ground Water in the area **Code**

Yes - 1 , No - 2 . Can't say - 3

Checked by: Signature of Enumerator:

Name Name

Designation Designation

Mobile No.: Mobile No.:

Remarks: If there is postive entry in item 37, then reasons may be given here