

**MANUAL
FOR
DATA COLLECTION**

IN

**6th MINOR IRRIGATION CENSUS
[Reference Year: 2017-18]**

**GOVERNMENT OF INDIA
MINISTRY OF WATER RESOURCES,
RIVER DEVELOPMENT & GANGA REJUVENATION
MINOR IRRIGATION (STATISTICS) WING**

SCHEDULES OF ENQUIRY

In 6th MI Census, three types of schedules are prescribed, viz. - (i) Village schedule, (ii) Ground Water scheme Schedule, and (iii) Surface Water Scheme Schedule. In addition to these, in the Census of Water bodies, two types of schedules are prescribed (i) Urban Schedule (ii) one schedule for collection of data for each water body in the village and urban areas.

As the name suggests, the village schedule contains items for collection of information about total agricultural area, irrigated area and the number of Minor Irrigation schemes, water bodies in the village as a whole and shall be filled up by the village Patwari/ officer possessing the village revenue records.

- i. The Ground Water scheme schedules will contain items for collection of detailed data related to specific ground water schemes viz. dug well, shallow tube well, medium tube well and deep tube well. One such schedule will be filled for each such scheme existing in the village for irrigation purpose. Schedules are to be filled up for Schemes commissioned during or before 2017-2018 only. However, the Schemes which are Permanently not in use for irrigation purpose in 2013-14 or before, will be out of coverage of this Census.
- ii. The Surface Water Scheme schedules will contain items for collection of detailed data related to specific surface water scheme, i.e. Surface flow or surface lift irrigation scheme. One such schedule will be filled for each such scheme existing in the village for irrigation purpose. Schedules are to be filled up for Schemes commissioned during or before 2017-2018 only. However, the Schemes which are Permanently not in use for irrigation purpose in 2013-14 or before, will be out of coverage of this Census.
- iii. The urban schedule contains identification particulars of the Urban area, date of enumeration, total number of wards in the town and the ward wise and type wise number of water body schedules filled by the enumerator.
- iv. The Water body schedules will contain items for collection of detailed data related to type of water body, uses, cost, ownership, repair, photograph, latitude and longitude of water body, storage capacity etc.
- v. The Census data will be collected through canvassing enumeration schedules for each revenue village and all minor irrigation schemes. Schedules are to be filled up for Schemes commissioned during or before 2017-2018 only. However, the Schemes which are Permanently not in use for irrigation purpose in 2013-14 or before, will be out of coverage of this Census. In case of institution owned Minor Irrigation works water bodies, it will be necessary to verify the information from available records also.

CONCEPTS AND DEFINITIONS for MINOR IRRIGATION CENSUS:

Culturable Command Area (CCA):

The area which can be irrigated from a scheme and is fit for cultivation.

Cultivable area:

It consists of net area sown, current fallow, fallow lands, other than current fallow, culturable waste and land under miscellaneous tree crops.

Gross Irrigated Area:

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.

Net Irrigated area:

Net irrigated area is the area cultivated and irrigated at least once in the reference year in any one season or for any one crop.

Irrigation Potential Created (IPC):

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.

Irrigation Potential Utilised (IPU):

The gross area actually irrigated during reference year out of the gross proposed area to be irrigated by the scheme during the year.

Minor Irrigation (M.I.) Scheme:

A scheme having CCA up to 2,000 hectares individually is classified as minor irrigation scheme. **It will also include the schemes meant only for recharge of ground water.**

Medium Irrigation Scheme:

A scheme having CCA more than 2,000 hectares and up to 10,000 hectares individually is a medium irrigation scheme.

Major Irrigation Scheme:

A scheme having CCA more than 10,000 hectares is major irrigation scheme.

Sprinkler Irrigation System:

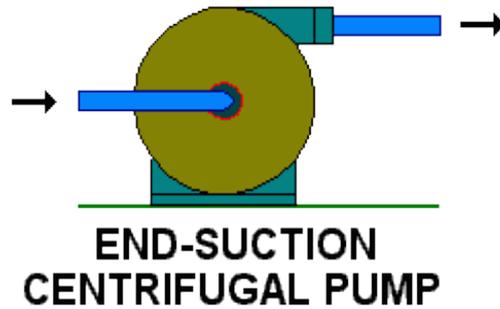
Sprinkler Irrigation is a method of applying irrigation water which is similar to rainfall. Water is distributed through a system of pipes usually by pumping. It is then sprayed into the air of entire soil surface through spray heads so that it breaks up into small water drops which fall to the ground.

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.

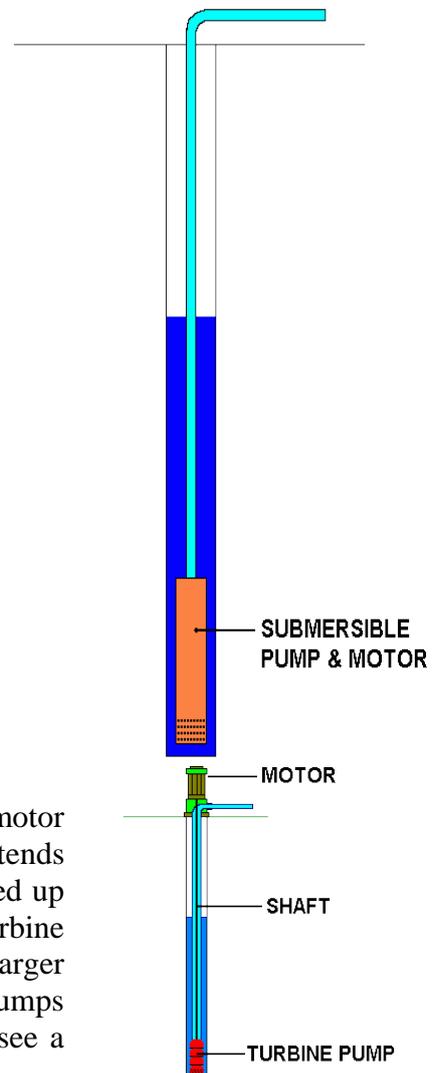
Non- Submersible or Centrifugal Pump:

The most common type of pump. Typically the pump is "close-coupled" to an electric motor, that is, 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. The water typically enters the pump through a "suction inlet" centered on one side of the pump, and exits at the top. Almost all portable pumps are end-suction centrifugals. If the pump isn't one of the next two types, then chances are it is an end-suction centrifugal. This type of pump needs to be installed on a pad above the high water level if pumping from a lake or river.



Submersible Pump:

Submersible pumps are installed completely underwater, including the motor. The pump consists of an electric motor and pump combined in a single unit. Typically the pump will be shaped like a long cylinder so that it can fit down inside of a well casing. 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. Another common installation method for lakes and rivers is to mount the submersible pump underwater to the side of a pier pile (post). Submersibles don't need to be primed since they are already under water. They also tend to be more efficient because they only push the water, they don't need to suck water into them. Most submersible pumps must be installed in a special sleeve if they are not installed in a well, and sometimes they need a sleeve even when installed in a well. The sleeve forces water coming into the pump to flow over the surface of the pump motor to keep the motor cool. Without the sleeve the pump will burn up. Because the power cord runs down to the pump through the water it is very important that it be protected from accidental damage.



Turbines and Jet Pumps:

A turbine pump is basically a centrifugal pump mounted underwater and attached by a shaft to a motor mounted above the water. The shaft usually extends down the center of a large pipe. The water is pumped up this pipe and exits directly under the motor. Turbine pumps are very efficient and are used primarily for larger pump applications. They are typically the type of pumps used on municipal water system wells. When you see a

huge motor mounted on its end over a well that is most likely a turbine pump. One uses turbine pumps for large parks and golf courses where we are pumping from lakes. The turbine pump is mounted in a large concrete vault with a pipe connecting it to the lake. The water flows by gravity into the vault where it enters the pump. The pump motors are suspended over the vault on a frame. A jet pump is similar to a turbine pump but it works by redirecting water back down to the intake to help lift the water.

1. GROUND WATER SCHEMES

- A. **Dug-well:** It covers ordinary open wells of varying dimension dug or sunk from the ground surface into water bearing stratum to extract water for irrigation purposes. These are broadly dug-cum-bore wells now-a-days or masonry wells/ kutchra wells water from which are lifted with the help of animals/ human. Most of such schemes are of private nature belonging to individual cultivator. The parameter of the well ranges between 2 to 6 meters and the depth between 8 and 15 meters. CCA of a well operated with the help of human/ animals generally varies from 1 to 2 hectares and in case of Dug-cum-Bore Well it may be as in case of a Tube Well of similar capacity and depth of bore.
- B. **Shallow tube-well:** It consists of a bore hole built into ground with the purpose of tapping ground water from porous zones. In sedimentary formations depth of a shallow tube well does not exceed 35 meters. These tube wells are either cavity tube-wells or strainer tube-wells. These are usually drilled by percussion method using hand boring sets and sometimes percussion rigs. Success and popularity of the scheme depends on how cheap they are. A coir structure formed by binding coir strings over an iron frame is being used as strainer. In shallow water table areas, bamboo frames are also used. Sometimes steel pipe casing are replaced by pipes constructed by rapping bituminised gunny bags over the bamboo frame. These are called bore wells, in which bore-hole is stable without a lining in the bottom portion and a tube is inserted only in the upper zone. The shallow tube wells are generally operated for 6 to 8 hours during irrigation season and give 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 hectares.
- C. **Medium Tube Well** It consists of a bore hole built into 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 meters. The medium tube wells are generally operated for 8-10 hours during irrigation season and give yield of 200-300 cubic meters per day, which is roughly 3 times that of a dug well. Their CCA may go from 10-15 hectares.
- D. **Deep tube wells:** It usually extends to the depth of 70 meter and more and is designed to give a discharge of 100 to 200 cubic meters per hour. The deep tube wells are drilled by rotary percussion or rotary cum percussion rigs. These tube wells 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 public scheme which are owned and operated by government departments or corporations. Their CCA may go up to 50 hectares.

2. SURFACE WATER SCHEMES

A. Surface flow irrigation scheme:

These schemes use rainwater for irrigation purposes either by storing it or by diverting it from a stream, nalah or river. Sometimes, permanent diversions are constructed for utilising the flowing water of a stream or river. Temporary diversions are also constructed in many areas which are usually washed away during the rainy season. The small storage tanks are called ponds or bundhis which are mostly community owned. The command areas of such schemes are 20 hectares or less. The large storage tanks whose command varies from 20 to 2000 hectares are generally constructed by government departments or local bodies. These are the biggest items of surface minor irrigation works.

(i) Storage schemes(Tanks and other storages)

Storage schemes include tanks and reservoirs which impound water of streams and rivers for irrigation purposes. After wells, tanks occupy a very important place under the minor irrigation programme. They provide nearly two-third of the total irrigation from minor sources in the states of Andhra Pradesh, Karnataka, Kerala, Maharashtra, Orissa and Tamilnadu. Tracts with undulating topography and rocky sub-strata are eminently suitable for tank irrigation. Besides, there exists scope for further construction of tanks in many areas. A large number of existing tanks in southern States have gone into disuse due to long neglect of repairs. Renovation of these tanks so as to restore the lost irrigation potential is being accorded priority under the minor irrigation programme.

The essential features of these schemes are

- a. a bund or a dam which is generally of earth, but is also sometimes partly or fully masonry,
- b. anicut and feeder channels to divert water from adjoining catchments,
- c. a waste weir to dispose of surplus flood water,
- d. sluice or sluices to let out water for irrigation, and
- e. conveyance and distribution system.

The size of the storage is determined by the run-off expected on the basis of dependable monsoon rainfall in the catchment and by the fact whether the rainfall and cropping pattern would permit more than one filling of the tank.

(ii) Diversion schemes :

These schemes aim at providing gravity flow irrigation by mere diversion of stream water supply without creating any storage. 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. Essentially such schemes consist of

- a. an obstruction (weir) or bund constructed across the stream for raising and diverting water; the weir being called anicut in the South, bandhara in Maharashtra and Gujarat, and Bandh in the Assam region, and
- b. an artificial channel, known as kul in the hilly areas, pyne in Chhota Nagpur and Bihar and dong in the Assam region.

In case of small schemes which have prominent scope in the hilly tracts and foot hill plains, the water is usually diverted by constructing temporary bunds across the streams, made up of earth, stones or even bamboos. The discharge handled being of small order, the bund on the head of the channel is not provided with any gated structure for controlling and regulating the flow. Construction of work, is, therefore, simple and cheap and can be handled to a large extent by the people themselves. However, these constructions being temporary, require frequent renovation. The bunds are liable to be washed away by every major flood. The channels also get silted up and scoured frequently. It is essential that whenever such schemes aim at diverting higher discharges, say more than 5 to 10 cusecs, or tackle streams having high intensity of flood discharge, proper regulation structures equipped with suitable types of gates are provided. Weir has to be provided with scouring sluices in order to regulate the flow of silt in the off-taking channels. The construction of masonry weir is comparatively simpler and cheaper where rocky foundation is available beneath the streambed. The design of the weir on permeable and erodible foundation is more complicated and requires specialised engineering knowledge.

The irrigation capacity of the diversion schemes is dependent on the actual flow in the stream at the time the irrigation is required. The cold weather and the hot weather flow, therefore, need to be ascertained carefully before deciding the feasibility and economics of these schemes. This is particularly important in the case of non-snow fed flashy streams that spurt to lift suddenly in the rainy season after which the discharge in them dwindles down to appreciable quantity. Some diversion schemes are also constructed as kharif or monsoon channels supplying water only during the monsoon season. Such schemes are useful for providing supplemental irrigation for paddy and preliminary watering for sowing of rabi.

In most of the hilly tracts, small irrigation channels called 'kuls' are the only means of irrigation. These channels carry water diverted from streams by constructing temporary or pucca bunds across the streams. These channels are often constructed in hazardous hilly terrain under very difficult conditions. To avoid seepage of water and for the sake of stability, these channels are lined in most of the reaches.

(iii) Water conservation-cum-ground-water recharging Schemes:

Under this head are included schemes which serve primarily one or more of the following purposes:

- a. submerging agricultural land during monsoon for sowing post-monsoon crops,
- b. improving moisture regime of the adjoining fields downstream for raising of post-monsoon crops without irrigation and replenishing the ground water.

An additional advantage of these schemes is that they help to conserve the soil. When constructed in the head water region serving catchment area of tanks down below, they serve the important purpose of retarding the silting rate of these tanks.

The system of water conservation through field embankments is peculiar to central Indian tracts and is commonly in vogue in the northern Madhya Pradesh, Bundhelkhand region of Uttar Pradesh and eastern Rajasthan. In the Bundhelkhand region, these works are popularly known as 'bundhies', which consist of earthen embankments thrown across gently sloping ground. During the rainy season, water is stored upstream and the land gets submerged. If the land slope is gradual, often large areas get submerged even by low embankments. Ordinarily, no direct irrigation is carried out and benefit is mostly due to submergence. In nearly all these areas, the soil is generally black which is retentive of moisture. After remaining submerged under water during the rainy season, the soil retains sufficient moisture to grow good rabi crops. The remaining water is let out and the submerged land released for cultivation. The other advantage of submerging land in this manner is that the first flood 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.

Ahars in Bihar, which store water for irrigation of paddy fields, also function somewhat in a similar manner. Water is let out in October for irrigating the rice fields and the drained out fields in the bed of the ahars are cultivated with rabi crops. The head water tanks popularly in vogue in Orissa have a similar role to perform. These consist of bunds put up across slope at the head of gullies with the objective of impounding and diverting the cumulative run-off into the wider valley area downstream of the bunds by percolation, seepage and surface flow. Surface channels are provided in the flanks to carry floodwater received in excess of the storage capacity of the bunds during the monsoon season.

Percolation tanks primarily constructed for the purpose of recharging ground water are in vogue in Maharashtra, Tamilnadu, Kerala and Rajasthan. Check-dams or rapats are in vogue in Rajasthan. They consist of bunds constructed across the streams for

the purpose of retarding the surface flow and also the sub-surface flow to some extent by making the bed slope of the stream flattened. This results in increased percolation of water in the sub-soil with consequent increase of the ground water supply.

B. Surface Lift Irrigation Scheme:

In regions where the topography does not permit direct flow irrigation from rivers and streams, 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

- a. gravity flow irrigation is not possible
- b. there is keen demand for irrigation and cultivators are enthusiastic,
- c. water is available in the streams for at least about 200 days in a year, and
- d. cheap electric power is available.

Installation of diesel operated pump sets for lifting water makes the operation and maintenance cost of these schemes exorbitantly high. However, for lifting small order 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. In some areas Solar Pumps are also used for lifting water. The CCA of such schemes may go up to 20 hectares.

GENERAL INSTRUCTIONS FOR FILLING SCHEDULES

VILLAGE SCHEDULE

This is to be filled up for each village in the district. Some **general information about the village is to be written**. The items are self explanatory.

I. IDENTIFICATION PARTICULARS:

The name of the State/ District/ Block (Tehsil)/ Village will be **recorded with respective codes as updated by States/ UTs and sent to NIC. The name and codes given in updated directory for the State/UT has to be used.**

Date of enumeration: Date of enumeration has to be recorded in the format dd/mm/yy

II. SPECIFIC INFORMATION:

Item no. 1: If the village is classified as tribal village depending upon the proportion of tribal population living in the village, as per definition in the state, it will be treated as tribal and code 1 will be given, otherwise code 2 will be given.

Item no. 2: (a) If the village is covered by any major or medium irrigation scheme, code 1 will be entered otherwise code 2 will be given.

b) If answer is yes in item 2 (a), the name(s) of the major or medium schemes providing irrigation in the village area will be noted.

Item no. 3: Geographical area: Total Geographical area of the village including populated, agricultural and non-agricultural area will be noted as per village records in Ha in whole number.

Item no. 4: Cultivable Area: Total area of the village which is fit for cultivation in any season will be included in cultivable area in Ha in whole number. It should be less than or at most equal to the geographical area of the village as recorded in item no-3. In case, there is significant decrease in cultivable area, reasons may be given in remarks.

Item no. 5: Net Sown Area: Total area in the village which has been cultivated and any crop is sown in any one season of the year will be taken as net sown area in Ha in full number and the same area will not be counted again if it is sown for more than one crop in different seasons. Any area will be counted only once. Net sown area should be less than cultivable area.

Item no. 6: Gross area irrigated (By all sources): Gross area irrigated will be noted season-wise for different crop seasons. It will be noted in Ha. Any area which is sown and irrigated with a crop in a particular season will be counted for that season and similar procedure will be followed for all crops and all seasons counting the area irrigated under more than one crop during the same year as many times as the number of crops grown and irrigated. Gross area irrigated in any season should not be more than net area sown.

Item no. 7: Net Irrigated Area: Net Irrigated Area will be noted as area cultivated and irrigated at least once in the reference year in any one season or for any one crop. It will be noted in Ha. Any area cultivated and irrigated for more than one crop will be recorded only once.

Item no. 8: Average Ground water level (In Meters): Ground water level in the village for Pre Monsoon and Post Monsoon will separately be recorded in meters for the reference year 2017-18. Average ground water level in the village should be taken as observed prior to on-set of monsoon before the agricultural year 2017-18 and after the monsoon.

Item no. 9: Whether Water Users association (WUA) exists in the village: If there is any association of cultivators for taking decisions on matters related to utilization of water either for major/ medium irrigation projects or for public sector minor irrigation scheme(s) in the village, it will be considered in this item and answer will be given as code 1 if yes, and code 2 if no. Efforts should be made to get the information. However, if the information is not available despite best efforts, then code 3 i.e. not known may be recorded.

Item no. 10: Summary of Number of water bodies as per all water body schedules filled in the village: This should be recorded after filling up detailed schedule of water bodies for entire village. The number of water bodies should be separately reported by type. The total in col. 7 of item 10 i.e. total number of water bodies should tally with the number of water body schedules filled for ensuring completeness at the data processing stage.

Item no. 11: Summary of M.I. Schemes in the village: This should be recorded after filling up detailed schedules of each Minor Irrigation Scheme in the village. The total number of schemes enumerated separately for ground water and surface water and their total will be recorded in the space provided in the schedule for ensuring completeness at the data processing stage.

Name of Enumerator, designation, mobile number and remarks (if any) should be written in CAPITAL letters clearly and signature should be with date.

Name of Supervisor, designation, mobile number and remarks (if any) should be written in CAPITAL letters clearly and signature should be with date.

GENERAL INSTRUCTIONS FOR FILLING GROUND WATER SCHEDULES

All ground water schemes viz., Dug wells, Shallow Tube Wells, Medium Tube Wells and Deep Tube Wells in the village which are mainly for irrigation purpose and are complete, will be listed and enumerated. Ground water schemes which are used for irrigation purpose or are meant only for recharge of ground water will be included for filling ground water scheme schedule. In such schemes which are 'permanently not in use' for irrigation purposes in 2013-14 or before will not be covered in this Census. It may be ensured that no eligible scheme is missed. It may be noted that if the command area of a scheme spreads in more than one village, in that case also it will be treated as one scheme only in the village where it is located. Separate schedule will be filled for each ground water scheme.

Schedules are to be filled up for schemes commissioned during or before 2017-18 only.

I - IDENTIFICATION PARTICULARS:

The name of the State/ District/ Block (Tehsil)/ Village will be **recorded with respective codes as updated by States/ UTs and sent to NIC. The name and codes given in updated directory for the State has to be used.**

Date of enumeration: Date of enumeration has to be recorded in the format dd/mm/yy

II - SPECIFIC INFORMATION:

Item no. 1: Serial No. of the Scheme:

The ground water schemes in a village should be given running serial numbers. This will serve as an identification no. of that particular ground water scheme in that village. While giving serial no. of the scheme, it is to be noted that data collection work has to be started from North-west corner of the concerned village and moving in serpentine way, serial numbers are to be given starting from 0001 separately for ground water and surface water schemes in each village.

Item No. 2: Type of Scheme:

Type of the scheme, whether it is Dug well or Tube well, is to be recorded in this item. If it is Dug well code 1 to be given and code 2 will be reported for Tube well. If in one dug well more than one bore wells are installed and the irrigated area from different borings is common, it will be treated as one scheme. However, if the irrigated area is different for different borings in a dug well, each boring will be treated as a separate scheme and separate schedules will be filled for each scheme.

Item 3.1: If code 1 in item 2, type of Dug well:

In case there is a dug well in which bore well has been installed, it should be classified as dug-cum-bore well and code 1 to be given in item 3.1. If a well is not dug-cum-bore well then only it should be classified either as Pucca or Kutcha well depending on its walls being masonry or of Kutcha material. No dug-cum-bore well should be classified as Pucca or Kutcha well. The code for Dug well Pucca is 2 and Dug well Kutcha is 3. Any other type of dug well can be classified as code 9.

Item 3.2: If code 2 in item 2, type of Tube well:

The codes are 1 for Shallow Tube well, 2 for Medium Tube well and 3 for Deep Tube well. In case of Tube wells, those having depth of bore up to 35 meter will be classified as shallow tube wells, while those tube wells having depth of bore in the range 35-70 meters will be classified as medium tube wells. Tube wells having depth of bore more than 70 meters will be included in deep tube wells.

Item No. 4: Owner of the Scheme:

Name of the owner should be recorded in case of individual farmer being owner of the scheme and appropriate code should be given.

Govt. Owned - 1, Cooperative owned – 2, Panchayat Owned - 3
Owned by Group of Farmers – 4, Owned by individual farmer - 5
Others – 9.

The owner of the scheme may be farmer /cooperative society/government department / organization / group of farmers. The type of ownership is to be indicated in this item with code. In case of absentee, it may be enquired from the neighbor or from the person who is in possession of the scheme.

Item No.5 (a): Khasra No./ Plot No./ Survey no. in which the scheme is located

Khasra no./ Plot no./ Survey no./ in which the scheme is installed shall be noted against this item for physical verification etc. which may be needed at a later date.

Item No.5 (b) Location particulars:

Location particulars of the schemes will be given based on permanent land marks, so that it can be uniquely identified. While each MI scheme will be given a number in the village, it will be marked by paint on the body of the scheme which is easily visible. However, location particulars with the help of permanent landmarks giving existence of some unique feature on any side of the scheme, plot where it is located should be mentioned e.g. any tree by name, building, temple, any small structure created or existence of any hill/drain/canal/road in any direction of the scheme.

Item No. 6(a): Total Ownership holding of the Owner (0.000 Ha.)

This item should be filled up **in case of individual owner only**. Total area owned by the owner in any part of the country is to be mentioned in hectares. The land owned by owner of the scheme in his/ her name only will be mentioned in ha with 3 decimal points against this item. At the time of filling of this schedule if the ownership holding is available in local units it may be noted by pencil as such and later at the time of finalizing the schedule, local units may be converted into ha with the help of calculator and then it should be filled.

Item No.6 (b): Social Status of owner (in case of individual owner only):

Appropriate code for social status, scheduled caste, scheduled tribe, OBC or others as the case may be, will be given **in case of individual owner only**. Schedule Caste – 1, Schedule Tribe - 2, OBC - 3, Others – 9.

The social status as per the central govt. notification may only be used. In some States, some castes have been recognized as special backward classes only within the state for state

govt. jobs but not for central govt. purpose, such classifications should not be considered. If a caste is included in SC/ST or OBC for All India selection then only it should be considered for particular classification.

Item No.6 (c): Gender of Owner (in case of individual owner only):

The code for gender of owner i.e. male (code-1), female (code-2) and transgender (Code- 3) is to be reported in this item.

Item No.7: Year of Commissioning of the scheme

Appropriate code for the year of commissioning of the scheme should be mentioned. The schemes which were installed during 2013-14 or before are to be indicated with code number '1'.The codes are:

On or before 2013-14 – 1,	During 2014-15	– 2
During 2015-16 – 3,	During 2016-17	– 4
During 2017-18	5	

The schemes to be covered in 6th MI census may be properly understood. In ground water schemes, such dug wells commissioned during 2013-14 or before and are **permanently `not in use` should not be included.**

Item No. 8: Details of the Scheme:

The depth of Dug well/tube-well/dug-cum-bore well, diameter, depth of bore (In case of Dug-cum bore well), distance from any nearest well/ tube well will be noted in meters (except for diameter of tube well which will be recorded in mm).

Item No 9(a): Cost of construction of Scheme (in Rs.):

The cost of construction (excluding the cost of machinery) of the scheme at the time of its installation will be reported in this item. Cost of construction of the scheme should include cost incurred in construction of well/ tube well including cost of drilling, cost of masonry work for lining the channels or construction of water distribution joint, small hut or room covering the well/ tube well including labour cost. In case of tube well, the cost incurred for installing one or more poles for bringing electric cable up to the tube well site should also be included.

Item No 9(b): Cost of Machinery:

Any cost of machinery for motor/ pump/ water distribution devices like pipe, drip or sprinkler, solar power panel should be included in cost of machinery in this item in Rs. It may include cost incurred on purchasing such equipments over the years.

Item No 9(c): Annual cost of maintenance during the year 2017-18:

It may be noted in Rupees taking into account the repair and maintenance expenses borne on the schemes during the reference year 2017-18. The nature of replacements and additions to machinery may not be included here.

Item No 10(a): Major Sources of finance (This item should be filled up in case of individual owner only):

It is intended to find out two major sources of financing of the scheme which could be through farmers' own savings, bank loan or Government fund. Appropriate codes will be recorded in this item. In case the scheme is financed by two or more sources, the source from which larger amount has been taken is to be recorded in first place and the second important source in the second space. The codes are:

Bank Loan - 1, Government fund- 2, Own savings - 3
Money lender – 4, others – 9

In this item, the source of money for constructing the scheme or purchasing machinery may be considered. In case money is neither taken from government or from bank/ money lenders then either it may be from own savings or from friends and relatives. In case there is interest on loan from friends/relatives, it should be classified as from money lenders. Loan from co-operative societies may be taken as govt. loan and from co-operative banks or Gramin banks/ land development banks, it should be included in bank loan.

Item No 10(b): If any subsidy/ assistance provided by Govt./ PSU:

In this item, amount of subsidy received for construction of the MI scheme or for purchase of machinery for installation of scheme or for machinery including water distribution system will be noted in Rupees separately (i) for cost of construction/drilling/digging (ii) for cost of machinery/distribution device etc. If any subsidy or financial assistance is provided for construction of well/ tube well or for machinery it may be noted in this item. In case MGNREGA assistance is provided for construction of well/ tube well or for water channel or under-ground installation of the same, it may be valued and included against this item for the concerned part.

Item No. 11 (a): Current Status of the Scheme The information whether the scheme is “in use” at present or “not in use” Temporarily or Permanently will be recorded in codes.

In use - 1
Temporarily “Not in use” - 2
Permanently “Not in use” - 3

As mentioned earlier, the reference year for 6th MI Census is 2017-18. The wells which are not ‘in use’ during last two years before the reference year i.e. 2015-16 and 2016-17 due to temporary reasons but has also not been abandoned for use are categorized as ‘temporarily not in use’. The remaining schemes i.e. the schemes excluding ‘in use’ and ‘temporary not in use’ may be classified as ‘permanently not in use’.

Item No. 11 (b): Number of years not in use:

The period in number of years since ‘not in use’ will be noted against this item. It will be noted for both ‘temporarily not in use’ or ‘permanently not in use’. In case of schemes permanently not in use, such schemes cannot be out of use from or before 2013-14, since those schemes would be out of coverage of 6th MI census.

Item No. 12: Reason code for Temporarily “not in use” Scheme (code-2 in item 11 (a))

Reason should be given in code for the schemes which are temporarily “not in use”. Codes are as under:

Non availability of adequate power/ fuel - 1, Mechanical breakdown –2, Less discharge of water - 3, Non-availability of finance-4, Lack of maintenance-5, Any other reason – 9

Item No. 13: Reason code for permanently “not in use” Scheme (code-3 in item 11(a))

Reason should be given in code for the schemes which are permanently “not in use”. Codes are given below:

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

Item No 14: Method used for Water distribution:

Farmers are adopting different type of water distribution devices for irrigation. Sprinkler and drip irrigation methods have gained popularity among the farmers besides conventional methods of ground water channel. Appropriate code is to be indicated for the water distribution devices being used by the farmers.

Open Water Channel (lined/ pucca)	- 1
Open Water Channel (unlined/ Kutcha)	- 2
Under Ground pipe	- 3
Surface Pipe	-4
Drip	- 5
Sprinkler	- 6
Others	- 9

Item No 15: Types of Lifting Device:

The type of devices used for lifting water from the source is to be indicated here by appropriate code. The codes are: Submersible Pump - 1, Centrifugal Pump - 2, Turbine/ Jet Pump– 3, Manual/ animal – 4, others – 9.

Item No 16: Source of Energy:

The source of energy used for operating lifting devices for lifting water from the source is to be indicated by appropriate code:

Electric - 1, Diesel – 2, Wind Mill – 3, Solar – 4, Manual/ animal – 5, others – 9.

Item No 17: Horse Power of Lifting devices (ignore, if lifting device is manual/animal):

Horse Power of the lifting device used may be reported. In case of manual/ animal driven, this item will be crossed (X).

Item No. 18. Number of days pump operated (ignore, if lifting device is manual/animal):

The information is to be given for each season separately as per actual number of days of operation as informed by the farmer. In case of manual/ animal driven, this item will be crossed (X).

Item No. 19. Average Hours of pumping per day:

These are to be given for each season separately as per actual average number of hours operated as informed by the farmer. In case of manual/ animal driven, this item will be crossed (X).

Item No. 20(a): whether the scheme is located in the command of Major/ Medium Schemes like Canal etc:

Some of the minor irrigation schemes may be located in the command of major/ medium schemes for conjunctive use. Such schemes are also to be enumerated. The appropriate code depending upon their use may be noted in this item as:

No - 1

Yes - 2

Item 20(b): If the scheme is in command area i.e. code 2 in item 20(a):

Normally, it is expected that there should be less number of MI scheme in the command area of major/ medium schemes as the water may be available for irrigation from Medium or Major Scheme. Despite that if any MI scheme exists in the command area, the reason for the same may be reported. The codes are: Water not available up to field from major/ medium scheme-1, Water available but not adequate for irrigation-2, Water available but not usable for irrigation-3, other reasons-9. The name of command area may be reported in item 20b(i) and the reason code for scheme in the command area may be reported in item 20(b)(ii).

Item 20(c): Whether the scheme is meant only for recharge of Ground water Yes-1, No-2:

There may be schemes which are not used for irrigation and merely for augmentation i.e. the scheme is meant only for recharge of Ground water. The same may be ensured when tube well or dug-well is constructed mainly to remove water only. In such cases, code 1 can be given and item 21 to 31 should be left blank. This type of cases may be very few. Most of cases would be scheme meant for irrigation i.e. having code 2 in item 20 (c).

Item No.21: Culturable Command Area (CCA) (in Ha.):

In this column, the area proposed to be irrigated by the scheme during reference period should be indicated in hectare. It is generally the measurement of the field proposed to be irrigated by the scheme at the time of installation. In case the scheme is very old and the old Culturable command area is not feasible, due to change in land use etc., the current maximum Culturable command area of the scheme will be noted. If the CCA is spread over to another village also, the whole CCA for the scheme may be entered for the scheme in the village where it is located.

Item No 22 to Item No 26: Season wise Irrigation Potential Created (IPC):

It is intended to find out the gross irrigation potential created from the scheme. It will indicate the area under Kharif, Rabi, perennial crops and other season proposed to be irrigated. The total of item 22 to 25 is to be noted in item 26. The figures under item 22, 23 & 25 should be season wise area proposed to be irrigated by the scheme. The figure under item 24 is for perennial crops. If the scheme has been improved upon by major addition in machinery or

water distribution devices added, then revised potential is to be indicated. Item 26 will indicate the gross irrigation potential created. Irrigation potential created will be recorded in Ha up to two places of decimals.

Item No 27 to Item No 31: Season wise actual area irrigated during 2017-18 (IPU)

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In these columns, the area actually irrigated under kharif, rabi, perennial crops and for other season during the year 2017-18 shall be reported. Item 31 will indicate the gross irrigation potential utilized. Figure in each item from 27 to 31 would normally be less than or equal to the figure in item 22 to 26. Irrigation potential utilised will be recorded in Ha up to two places of decimals.

There may be some minor irrigation schemes which are located in the command area of major/ medium irrigation projects and serve the purpose of supplementary irrigation. For example a Dug well/ Tube well in the command area of Major or Medium Scheme. It will be decided on the basis of actual availability of water from the Major/ Medium Irrigation project in to the fields under the coverage of the MI scheme concerned. In order to assess the extent of such supplementary irrigation, data is to be recorded under item 27 to 31.

For recording the potential utilized through the scheme which are situated in command area of Major/medium irrigation project, gross irrigated area will be divided in proportion to number of times MI scheme is used to irrigate the field. For example, if the field is irrigated two times by M.I. scheme and three times by major/ medium scheme, then irrigation potential utilized by M.I. scheme will be 2/5 times of the field area.

Item No 32(i): Whether the scheme is underutilized. (Only for In-use Schemes):

For in-use schemes, it has to be ascertained whether it is under-utilised and if Yes, code 1 is to be given otherwise code 2 is to be given. Scheme shall be considered under-utilised if IPU is significantly less than IPC.

If a MI Scheme is in the Command Area of Major/ Medium Scheme and IPU of the Scheme is less than IPC, even then it may not be underutilized as it is providing the necessary supplementary irrigation. It is clarified that for the schemes outside the command area, schemes shall be considered underutilized if the IPU in item 31 is significantly less than IPC in item 26 and scheme situated outside command area i.e code 1 in item 20(a). For schemes within the Command Area, ratio of IPU to IPC will not be the actual deciding factor for underutilization of the scheme. Enumerator has to decide on the actual situation of the scheme in the field. Similarly, for the schemes meant only for recharge of ground water, enumerator has to decide whether scheme is underutilized or not on the basis of actual situation of the scheme in the field, since, IPC and IPU are not relevant in these types of schemes.

Item 32(ii): If yes i.e., code 1 in item 32(i): If the scheme is underutilized, reason for the under-utilisation of scheme is to be recorded in terms of codes. The codes are:

Non availability of adequate power/ fuel	- 1
Mechanical break-down	- 2
Less discharge of water	- 3
Non availability of Finance	- 4
Lack of Maintenance	- 5
Any other reason	- 9

Name of Enumerator, designation, mobile number and remarks (if any) should be written in CAPITAL letters clearly and signature should be with date.

Name of Supervisor, designation, mobile number and remarks (if any) should be written in CAPITAL letters clearly and signature should be with date.

GENERAL INSTRUCTIONS FOR FILLING SURFACE WATER SCHEDULES

All surface water schemes, namely, surface flow and surface lift schemes in the village which are mainly for irrigation purpose or are meant only for recharge of ground water will be included for filling surface water scheme schedule. All schemes in the village are to be listed and enumerated. It may be ensured that no scheme is left. It may be noted that if the command area of a scheme spreads in more than one village, in that case also it will be treated as one scheme only in the village where it is located. Schedules are to be filled up for schemes commissioned during or before 2017-18 only. However, the schemes which are 'permanently not in use' for irrigation purposes in 2013-14 or before will not be included in the coverage of this Census. Care may be taken not to miss any scheme. Separate schedule will be filled for each surface water scheme.

I – IDENTIFICATION PARTICULARS:

The name of the State/ District/ Block (Tehsil)/ Village will be **recorded with respective codes as updated by States/ UTs and sent to NIC. The name and codes given in updated directory for the State has to be used.**

Date of enumeration: Date of enumeration has to be recorded in the format dd/mm/yy

II - SPECIFIC INFORMATION:

Item No. 1: Serial No. of the Scheme: The surface water schemes in a village should be given running serial numbers. This will serve as an identification no. of that particular surface water scheme in that village. While giving serial no. of the scheme, it is to be noted that data collection work has to be started from North-west corner of the concerned village and moving in serpentine way, serial numbers are to be given starting from 0001 separately for ground water and surface water schemes in each village.

Item No. 2: Type of Scheme: The type of the scheme is to be recorded in terms of code as below:

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

Such schemes like ponds or tanks/ reservoirs with capacity of irrigation up to 2000 Ha with water distribution by way of flow through channels up to the fields will be included in surface flow scheme (code 1). Those schemes in which water is being lifted from drain/ rivers or pond/ tanks with the help of pump sets by diesel/ electric power or by manual/ animal driven method will be included in surface lift scheme. Any pond or tank which is not used for irrigation purposes and it is only for fishing/ drinking, such water bodies will not be considered for filling surface water scheme schedule. Such ponds/ tanks/ reservoirs may be within the residential area of the village or near the fringes of the village and sometimes away from the village as well. As such, due care may be taken with regard to such water bodies to know the use of such bodies with the help of knowledgeable persons of the village.

Item 3.1: If code 1 in item 2, nature of Surface Flow Scheme:

If the Scheme is Surface Flow, the nature of scheme code may be recorded. Definition may be referred while recording nature of scheme which is given in Concept and Definition part. The codes are:

Reservoirs - 1, Tanks/ ponds -2, Other Storages -3, Permanent diversion - 4, Temporary diversion - 5, Water conservation-cum-ground water recharge schemes / percolation tanks/ check dams etc. – 6, Spring Channel - 7, Others – 9;

Code 1 will be given in case of reservoirs which are larger in size and specially constructed for irrigation purposes. Code 2 may be given for ponds/ tanks. A tank is neither very small and nor very large but it may require a ferry or boat to cross it while ponds are small water bodies mostly kutchra in nature and do not require a ferry or boat for crossing from one side to the other. Permanent diversions are those which are channels created to divert water from some surface water bodies for permanently diverting water for irrigation purposes. Temporary diversions are such diversions which are made for some time by kutchra construction for diverting water from some surface water bodies for irrigation purposes for short duration.

Item 3.2: If code 2 in item 2, Nature of Surface Lift Scheme:

If the Scheme is Surface Lift, any one code from the codes given may be recorded. On River - 1, On Stream - 2, on drain/ canal - 3, On Tanks/ Ponds/ Reservoirs/ check dams - 4, others -9

Item No. 4: Owner of the Scheme:

Name should be recorded in case of individual farmer being owner of the scheme and appropriate code should be given. Codes are:

Govt. Owned - 1 , Cooperative owned – 2, Panchayat Owned - 3
Owned by Group of Farmers – 4, Owned by individual farmer - 5
Others – 9.

The owner of the scheme may be farmer /cooperative society/ government department / organization / group of farmers. The type of ownership is to be indicated in this item with code. In case of absentee, it may be enquired from the neighbour or from the person who is in possession of the scheme.

Item No.5: Khasra No./ Plot No./ Survey No. in which the scheme is located

Khasra no./ Plot no./ Survey no. in which the scheme is installed shall be noted against this item for physical verification etc. which may be needed at a later date.

Item No. 6(a): Total holding of the Owner (in case of individual owner only):

This item should be filled up in case of individual owner only. The total area owned by the owner in any part of the country is to be recorded in hectares. The land owned by owner of the scheme in his/ her name will be mentioned in ha up to 3 decimal points against this item. At the time of filling of this schedule, if the ownership holding is available in local units, it may be noted by pencil as such and later at the time of finalizing the schedule, local units may be converted into ha with the help of calculator and then it should be filled.

Item No.6 (b): Social Status of owner (in case of individual owner only):

Appropriate code for social status, scheduled caste, scheduled tribe, OBC or others as the case may be, will be given in case of individual owner only. Schedule Caste – 1, Schedule Tribe - 2, OBC - 3, Others – 9.

The social status as per the central govt. notification may only be used. In some states, some castes have been recognized as special backward classes only within the state for state govt. jobs but not for central govt. purpose. Such classifications should not be considered. If a caste is included in SC, ST or OBC for All India selection, then only it should be considered for particular classification.

Item No.6 (c): Gender of Owner (in case of individual owner only):

The code for gender of owner i.e. male (code-1), female (code-2) and transgender (Code- 3) is to be reported in this item.

Item No.7: Year of Commissioning of the scheme:

Appropriate code for the year of commissioning of the scheme should be mentioned. The schemes which were installed during 2013-14 or before are to be indicated with code number '1'. The codes are:

On or before 2013-14 – 1,	During 2014-15	– 2
During 2015-16 – 3,	During 2016-17	– 4
During 2017-18 – 5		

Item No 8(a): Cost of construction of Scheme (in Rs.):

The cost of construction (excluding the cost of machinery) of the scheme at the time of its installation will be reported in this item. Cost of the construction in case of surface water schemes may include cost of labour for digging the pond/ tank/ other storage or diversion with or without masonry work and it may include cost of land in case land is actually purchased by the owner for constructing water body.

Item No 8(b): Cost of Machinery:

Any cost of machinery for motor/ pump/ water distribution devices like pipe, drip or sprinkler, solar power panel should be included in the cost of machinery in this item in Rs. It may include cost incurred on purchasing such equipments over the years.

Item No 8(c): Annual cost of maintenance during the year 2017-18:

It may be noted in Rupees taking into account the repair and maintenance expenses borne on the scheme during the reference year 2017-18. The nature of replacements and additions to machinery may not be included here but in the cost of machinery. Maintenance cost will include cost of de-silting of pond/ tank/reservoir and other storage, repair of the boundaries/ channels or lifting device, pipes etc.

Item No 9(a): Major Sources of finance (up to 2) (This item should be filled up in case of individual owner only):

It is intended to find out two major sources of financing of the scheme which could be through farmers' own savings, bank loan or Government fund. Appropriate codes will be recorded in this item. In case the scheme is financed by two or more sources, the source from which larger amount has been taken is to be recorded in first place and the second important source in the second space. The codes are:

Bank Loan - 1, Government fund - 2, Own savings - 3
Money lender - 4, others - 9

In this item, the source of money for constructing the scheme or purchasing machinery may be considered. In case money is neither taken from government or from bank/ money lenders then either it may be from own savings or from friends and relatives. In case there is interest on loan from friends/ relatives, it should be classified as from money lenders. Loan from co-operative societies may be taken as govt. loan and from co-operative banks or Gramin banks/ land development banks; it should be included in bank loan.

Item No 9(b): If any subsidy/ assistance provided by Govt./ PSU:

In this item amount of subsidy received for construction of the MI scheme or for purchase of machinery for installation of scheme or for machinery including water distribution system will be noted in Rupees separately (i) for cost of construction/digging, (ii) for cost of machinery/distribution device etc. If any subsidy or financial assistance is provided for construction or for machinery it may be noted in this item. In case MGNREGA assistance is provided for construction, the same may be valued and included against this item for the concerned part.

Item No. 10 (a): Current Status of the Scheme: The information whether the scheme is “in use” at present or “not in use” temporarily or permanently will be recorded in codes.

In use	- 1
Temporarily “Not in use”	- 2
Permanently “Not in use”	- 3

As mentioned earlier, the reference year for 6th MI Census is 2017-18. The scheme, which is not ‘in use’ during last two years before the reference year i.e. 2015-16 and 2016-17 due to temporary reasons but has also not been abandoned for use, is categorized as temporarily ‘not in use’. The remaining schemes i.e. the schemes excluding ‘in use’ and ‘temporary not in use’ may be classified as ‘permanently not in use’.

Item No. 10 (b): Number of years not in use:

The period in number of years since ‘not in use’ will be noted against this item. It will be noted for both ‘temporarily not in use’ and ‘permanently not in use’. The schemes which are out of use in 2013-14 or before would be out of coverage of 6th MI Census.

Item No.11: If code 2 in item 10(a), reason for “Temporary not in use” Scheme:

Reason should be given in code for the schemes which are temporarily “not in use”. Codes are as under:

Non availability of adequate power/ fuel - 1, Mechanical breakdown - 2, Less discharge of water - 3, Non availability of finance - 4, Storage not filled up fully - 5, Siltation of Canal/ Storage - 6 , Breakdown of channels - 7, Any other reason - 9

Item No. 12: If code 3 in item 10(a), reason for “Permanently not in use” Scheme:

Reason should be given in code for the schemes which are permanently “not in use”. Codes are:

Due to salinity – 1, Dried up – 2, Destroyed beyond repair – 3, Due to sea water intrusion-4, Due to industrial effluents-5, Availability of Major/Medium Irrigation Project-6, Due to sinking - 7, Due to other reason - 9

Item No 13: Method used for Water distribution:

Farmers are adopting different type of water distribution devices for irrigation. Sprinkler and drip irrigation methods have gained popularity among the farmers besides conventional methods of ground water channel. Appropriate code is to be indicated for the water distribution devices being used by the farmers.

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

Under Ground Pipe	- 3
Surface Pipe	-4
Drip	- 5
Sprinkler	- 6
Others	- 9

Item No 14: Type of Lifting Device (Only for Surface lift scheme): The type of device used for lifting water from the source is to be indicated here by appropriate code. The codes are:

Submersible Pump- 1, Centrifugal Pump - 2, Turbine/Jet pump – 3, Manual/animal – 4, others – 9.

Item No 15: Source of Energy (Only for surface lift scheme): The source of energy used for operating lifting device for lifting water is to be indicated by appropriate code. Codes are:

Electric - 1, Diesel – 2, Wind Mill – 3, Solar – 4, Manual/animal – 5, others - 9.

Item No 16: Horse Power of Lifting device (ignore, if lifting device is manual/animal)

Horse power of lifting device (only for surface lift scheme) is to be recorded. In case of manual/animal driven, this item will be crossed (X).

Item No. 17: Number of days pump operated (ignore, if lifting device is manual/animal): These are to be given for each season separately as per actual number of days of operation as informed by the farmer.

Item No. 18: Average Hours of pumping per day: These are to be given for each season separately as per actual average number of hours operated as informed by the farmer.

Item No. 19(a): Whether the scheme is located in the command of Major and Medium Schemes like Canal etc.:

Some of the minor irrigation schemes may be located in the command of major/medium schemes for conjunctive use. Such schemes are also to be enumerated. The appropriate code depending upon their use may be noted in this item as:

- No - 1
- Yes - 2

Item 19(b): If the scheme is in command area i.e. code 2 in item 19(a):

Normally, it is expected that there should be less number of MI scheme in the command area of major/ medium schemes as the water may be available for irrigation from Medium or Major Scheme. Despite that if any MI scheme exists in the command area, the reason for the same may be reported. The codes are: Water not available up to field from major/medium scheme-1, Water available but not adequate for irrigation-2, Water available but no useable for

irrigation-3, other reasons-9. The name of command area may be reported in item 19b(i) and the reason code for scheme in the command area may be reported in item 19(b)(ii).

Item 19(c): Whether the scheme is meant only for recharge of Ground water: Yes-1, No-2:

There may be schemes which are not used for irrigation and merely for augmentation i.e. the scheme is meant only for recharge of Ground water. In such cases, code 1 can be given and item 20 to 30 should be left blank. This type of cases may be very few. Most of cases would be scheme meant for irrigation i.e. having code 2 in item 19 (c).

Item No.20: Culturable Command Area (CCA) (in Ha.):

In this column, the area proposed to be irrigated by the scheme during reference period should be indicated in hectare. It is generally the measurement of the field proposed to be irrigated by the scheme at the time of installation. In case the scheme is very old and the old culturable command area is not feasible, due to change in land use etc., the current maximum culturable command area of the scheme will be noted. If the CCA is spread over to another village also, the whole CCA for the scheme may be entered in the village where it is located.

Item No 21 to Item No 25: Season wise Irrigation Potential Created (IPC):

It is intended to find out the gross irrigation potential created from the scheme. It will indicate the area under Kharif, Rabi, perennial crops and other seasonal crops proposed to be irrigated. The total of item 21 to 24 is to be noted in item 25. The figures under item 21, 22 & 24 should be season wise area proposed to be irrigated by the scheme. The figure under item 23 is for perennial crops. If the scheme has been improved upon then revised potential is to be indicated. Item 25 will indicate the gross irrigation potential created. Irrigation potential will be recorded up to two places of decimals.

Item No 26 to Item No 30: Season wise actual area irrigated during 2017-18 (IPU)

In these columns, the area actually irrigated under kharif, rabi, perennial crops and other seasonal crops during the year 2017-18 shall be reported. Item 30 will indicate the gross irrigation potential utilised. Figure in item 30 would normally be less than or equal to the figure in item 25.

There may be some minor irrigation schemes which are located in the command area of major/ medium irrigation projects and serve the purpose of supplementary irrigation For example, a lift scheme on Tank/ Pond/ Drain may be in the command area of Major or Medium Scheme. In order to assess the extent of such supplementary irrigation, data is to be recorded in item 26 to 30.

For recording the potential utilized through the scheme which are situated in command area of Major/medium irrigation project in such cases, gross irrigated area will be divided in proportion to number of times MI scheme is used to irrigate the field. For example, if the field is irrigated two times by M.I. scheme and three times by major / medium scheme, then irrigation potential utilized by M.I. scheme will be 2/5 times of the field area.

Item No 31(i): Whether the scheme is underutilized (Only for In-use Schemes):

For in-use schemes, it has to be ascertained whether it is under-utilised and if Yes, code 1 is to be given otherwise code 2 is to be given. Scheme shall be considered under-utilised if the IPU is significantly less than IPC.

If a MI Scheme is in the Command Area of Major/ Medium Scheme and IPU of the Scheme is less **than IPC, even then it may not be underutilized** as it is providing the necessary supplementary irrigation. It is clarified that for the schemes outside the command area, schemes shall be considered underutilized if the IPU in item 30 is significantly less than IPC in item 25 and scheme is out side the command area i.e code 1 in Item 19 (a). Further, for schemes within the Command Area, ratio of IPU to IPC will not be the actual deciding factor for underutilization of the scheme. Enumerator has to decide on the actual situation of the scheme in the field. Similarly, for the schemes meant only for recharge of ground water, enumerator has to decide whether scheme is underutilized or not on the basis of actual situation of the scheme in the field, since, IPC and IPU are not relevant in these types of schemes.

Item 31(ii): If yes, i.e. code 1 in item 31(i), reasons for under utilisation of scheme:

If Scheme is underutilized, reason for under-utilisation of the scheme is to be mentioned in terms of codes. The codes are:

Non availability of adequate power	- 1
Mechanical break-down	- 2
Less discharge of water	- 3
Storage not fully filled up	-4
Siltation of Canal/ Storage	-5
Break down of Channels	-6
Any other reason	- 9

Item No. 32 :Number of villages covered by the scheme: The number of villages covered by the scheme will be noted against this item. Even if a scheme is used for irrigation in more than one village, its particulars will be included in the schedule under the village where scheme is located and its entire irrigation potential created or irrigation potential used will be covered in one schedule in the village where that scheme is located.

Item No. 33: Specific Features of Reservoirs, Tanks etc.:

It is intended to collect some specific information regarding the surface water scheme used for storing water. Information regarding storage in items 33(a) to 33(c) have to be filled only if information in item 3.1 is either code 1,2, 3 or in Item 3.2, it is 4. It may be noted that if there are more than one surface lift schemes in a Pond/ Tank /Reservoir/Other storage, then item 33(a) to item 33(c) has to be recorded in the schedule of 1st surface lift scheme only on that Pond/ Tank /Reservoir/Other storage. In other surface lift scheme schedules on same Pond/ Tank /Reservoir/other storage, items 33(a) to item 33(c) will be left blank to avoid duplication of data.

(a) **Designed Storage (in cubic meters):** Designed storage of the tank/ pond/ reservoir under survey may be obtained with the help of surface area and the average depth or from the records, if available. The designed capacity of the reservoir may be available in records as these are generally owned by public sector, i.e. owned by cooperatives/ govt. department and information may be taken from the records. In case of ponds/ tanks owned by individual farmers, its approximate volume in terms of cubic meters may be estimated after conversion from local units as obtained from the owners.

(b) **Filled up Storage (during 2017-18):** The information may be recorded in codes:
Full -1, up to 3/4 - 2, up to 1/2 -3, up to 1/4 - 4, Nil/ Negligible filled up – 5.

The Code will be entered depending upon the extent of filling up of storage during reference period.

(c) **Status of filling up of storage:** The appropriate code will be decided on the basis of 50% filling up of storage in last 5 years. The codes are

Filled up every year - 1,
Usually filled up - 2,
Rarely filled up - 3,
Never filled up - 4

Item No. 34: Specific information relating to Water Body:

(a) **21 Digit water body serial number as per water body schedule:** If the surface water scheme, for which MI schedule is being filled up, is on a water body, then 21 digit water body code given in the water body schedule will be recorded in this item also i.e this item is to be copied from relevant water body schedule canvassed separately in the Census of Water body.

(b) **Total number of schemes in the village in above water body:** Total number of schemes functioning from the water body (within village) has to be reported in item 34(b).

(c) **Serial number of this scheme within the village in the water body:** This is serial number of the scheme on the water body with Unique ID reported in item 34(a). Last serial number reported in col. 34 (c) will be equal to total number of schemes reported in the item 34(b).

Name of Enumerator, designation, mobile number and remarks (if any) should be written in CAPITAL letters clearly and signature should be with date.

Name of Supervisor, designation, mobile number and remarks (if any) should be written in CAPITAL letters clearly and signature should be with date.
