NITI Aayog

Government of India

Composite Mater Management Index

March, 2017

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Abbreviations

AIBP – Accelerated Irrigation Benefits Programme

BCM – Billion Cubic Metres

CAD & WM – Command Area Development and Water Management

cm – Centimetre

IPC – Irrigation Potential Created

IPU – Irrigation Potential Utilised

ISF – Irrigation Service Fee

IWMP – Integrated Watershed Management Programme

KPIs – Key Performance Indicators

mha – Million Hectare

Max - Maximum

MGNREGS - Mahatma Gandhi Rural Employment Guarantee Scheme

MMI – Major and Medium Irrigation

MoWR, RD&GR – Ministry of Water Resources, River Development and Ganga Rejuvenation

NITI – National Institution for Transforming India

NRCP - National River Conservation Programme

O&M – Operation and Maintenance

PIM – Participatory Irrigation Management

PMKSY – Pradhan Mantri Krishi Sinchayee Yojana

RKVY – Rashtriya Krishi Vikas Yojana

UTs – Union Territories

WUAs – Water Users Associations

Background and Rationale

The annual precipitation including snowfall, which is the main source of water in India, is about 4000 billion cubic meters (BCM). However, the average annual rainfall varies considerably from one region of the country to another. The North East region receives about 1000 cm and Western Rajasthan gets less than 10 cm of annual precipitation. Further, most of the rainfall occurs during the season of south-west monsoon in four months i.e. from June to September.

About 53.3 percent of total precipitation is lost due to evapotranspiration which leaves a balance of 1869 BCM water in the country. Further, about 40 per cent of the potential available can’t be put to beneficial use due to topographical constraints and uneven distribution of water resources over space and time. Thus utilizable water potential of the country is estimated to be 1123 BCM consisting of 690 BCM of surface water and 433 BCM of ground water (Box 1.1).

**Box 1.1**

**Status on Average Annual Water Availability**

* Precipitation received 4000 BCM (100%)
* Water Resources Potential 1869 BCM (46.7%)
* Utilizable Water Resources 1123 BCM (28.1%)

Ground Water 433 BCM (10.8%)

Surface Water 690 BCM (17.2%)

(Figures in parentheses are per cent of total precipitation)

Availability of both surface and ground water varies from one region to another. In view of limitations on availability of water resources and rising demand for water, sustainable management of water resources has acquired critical importance. NITI Aayog has developed a Composite Water Management Index as a useful tool to assess and further improve the performance in efficient management of water resources. The index would provide useful information for the States and also for the concerned Central Ministries/Departments enabling them to formulate and implement suitable strategies for better management of water resources. It has been finalized after an elaborate exercise including seeking feedback from the States and consultation with reputed experts.

The Index has a set of 28 Key Performance Indicators (KPIs) covering irrigation status, drinking water and other water-related sectors. Critical areas such as source augmentation; major and medium irrigation; watershed development; participatory irrigation practices; sustainable on-farm water use practices; rural drinking water; urban water supply and sanitation; and policy & governance have been accorded high priority. The index would serve as a useful tool to track performance in the water sector and take corrective measures timely for achieving better outcomes thereby meeting the citizens’ expectations satisfactorily.

Sectors Prioritized for Water Management Index

1. Source Augmentation (Restoration of Water Bodies)
2. Source Augmentation (Groundwater)
3. Major and Medium Irrigation - Supply Side Management
4. Watershed Development - Supply Side Management
5. Demand Side Management – Participatory Irrigation Practices
6. Demand Side Management – Sustainable on-farm Water Use Practices
7. Rural Drinking Water
8. Urban Water Supply and Sanitation
9. Policy and Governance

Key Performance Indicators

| **Tracking Water Management Initiatives in States/UTs**  **(Composite Water Management Index)** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **State:** | |  | | | | | **Year : 2016-17** |
| Sr. No. | Key Performance Indicator (KPI) | | Unit | Value of KPI | | Remarks | |
| 1 | 2 | | 3 | 4 | | 5 | |
| **A. Source Augmentation (Restoration of Water Bodies)** | | | | | | | |
| 1 (a) | Area irrigated by water bodies restored during the financial year 2015-16 as compared to the irrigation potential area of total number of water bodies identified for restoration. | | % |  | |  | |
| 1 (b) | Area irrigated by water bodies restored during the financial year 2016-17 as compared to the irrigation potential area of total number of water bodies identified for restoration. | | % |  | |  | |
| **B. Source Augmentation (Groundwater)** | | | | | | | |
| 2 (a) | Percentage of overexploited and critical assessment units those have experienced rise in water table [recorded by the observation wells tapping the shallow aquifer monitored by the State (piezometers installed for the purpose) and CGWB] to total number of assessment units in pre-monsoon 2016 in comparison to pre-monsoon 2015 | | % |  |  | | |
| 2 (b) | Percentage of overexploited and critical assessment units those have experienced rise in water table [recorded by the observation wells tapping the shallow aquifer monitored by the State (piezometers installed for the purpose) and CGWB] to total number of assessment units in pre-monsoon 2017 in comparison to pre-monsoon 2016 | | % |  |  | | |
| 3 (a) | Percentage of areas of major groundwater re-charging identified and mapped for the State as on 31.3.2016? | | % |  |  | | |
| 3 (b) | Percentage of areas of major groundwater re-charging identified and mapped for the State as on 31.3.2017 | | % |  |  | | |
| 4 (a) | Percentage of mapped area covered with infrastructure for re-charging groundwater to the total mapped area as on 31.03.2016. | | % |  |  | | |
| 4 (b) | Percentage of mapped area covered with infrastructure for re-charging groundwater to the total mapped area as on 31.03.2017 | | % |  |  | | |
| 5 | Has the State notified any Act or a regulatory framework for regulation of Groundwater use/ management? | | Yes/ No |  |  | | |
| **C. Major and Medium Irrigation - Supply Side Management** | | | | | | | |
| 6 (a) | % of Irrigation Potential Utilized (IPU) to Irrigation Potential Created (IPC) as on 31.03.2016 | | % |  |  | | |
| 6 (b) | % of Irrigation Potential Utilized (IPU) to Irrigation Potential Created (IPC) as on 31.03.2017 | | % |  |  | | |
| 7 (a) | Total number of major and medium irrigation projects in the State | | No. |  |  | | |
| 7 (b) | Number of projects assessed and identified for the IPC-IPU gap in the State? | | No. |  |  | | |
| 8 | Expenditure incurred on works (excluding establishment expenditure) for maintenance of irrigation assets per hectare of command area during the Financial Year 2016-17? | | Rs./ ha |  |  | | |
| 9 (a) | The length of the canal and distribution network lined as on 31.03.2016 vis-à-vis the total length of canal and distribution network found suitable (selected) for lining for improving conveyance efficiency. | | % |  |  | | |
| 9 (b) | The length of the canal and distribution network lined as on 31.03.2017 vis-à-vis the total length of canal and distribution network needed (selected) for lining for improving conveyance efficiency. | | % |  |  | | |
| **D. Watershed Development - Supply Side Management** | | | | | | | |
| 10 | Area under rain-fed agriculture as a percentage of the net cultivated area as on 31.3.2016 or previous year | | % |  |  | | | |
| 11 | Number of water harvesting structures constructed or rejuvenated as compared to the target (sanctioned projects under IWMP, RKVY, MGNREGS and other schemes) during the Financial Year 2016-17. | | % |  |  | | |
| 12 (a) | Assets created under IWMP | | No. |  |  | | |
| 12 (b) | Percentage of assets created under IWMP geo-tagged as on 31.03.2016 | | % |  |  | | |
| 12 (c) | Percentage of assets created under IWMP geo-tagged as on 31.3.2017. | | % |  |  | | |
| **E. Demand Side Management – Participatory Irrigation Practices** | | | | | | | |
| 13 | Has the State notified any law/ legal framework to facilitate Participatory Irrigation Management (PIM) through Water User Associations (WUAs)? | | Yes/ No |  |  | | |
| 14 (a) | Irrigated Command Area in the State as on 31.03.2016 | | ha |  |  | | |
| 14 (b) | Percentage of irrigated command areas having WUAs involved in the O&M of irrigation facilities (minor distributaries and CAD&WM) as on 31.3.2016 | | % |  |  | | |
| 14 (c) | Irrigated Command Area in the State as on 31.03.2017 | | ha |  |  | | |
| 14 (d) | Percentage of irrigated command areas having WUAs involved in the O&M of irrigation facilities (minor distributaries and CAD&WM) as on 31.3.2017 | | % |  |  | | |
| 15 (a) | Total irrigation service fee collected during the financial year 2015-16 | |  |  |  | | |
| 15 (b) | Percentage of Irrigation Service Fee (ISF) retained by WUAs as compared to the fee collected by WUAs during the Financial Year 2015-16. | | % |  |  | | |
| 15 (c) | Total irrigation service fee collected during the financial year 2016-17 | |  |  |  | | |
| 15 (d) | Percentage of Irrigation Service Fee (ISF) retained by WUAs as compared to fee collected by WUAs during the Financial Year 2016-17. | | % |  |  | | |
| **F. Demand Side Management – Sustainable on-farm Water Use Practices** | | | | | | | |
| 16 (a) | Area cultivated by adopting standard cropping pattern as per agro-climatic zoning, to total area under cultivation as on 31.03.2016 | | % |  |  | | |
| 16 (b) | Area cultivated by adopting standard cropping pattern as per agro-climatic zoning, to total area under cultivation as on 31.03.2017 | | % |  |  | | |
| 17 (a) | Has the State segregated agriculture power feeder? | | Yes/ No |  |  | | |
| 17 (b) | Area in the state covered with segregated agriculture power feeder as compared to the total area under cultivation with power supply during 2015-16. | | % |  |  | | |
| 17 (c) | Area in the state covered with segregated agriculture power feeder as compared to the total area under cultivation with power supply during 2016-17. | |  |  |  | | |
| 18 (a) | Is electricity to tube wells/ water pumps charged in the State? | | Yes/ No |  |  | | |
| 18 (b) | If yes, then whether it is charged as per fixed charges? | | Yes/ No |  |  | | |
| 18 (c) | If yes, then whether it is charged on the basis of metering? | | Yes/ No |  |  | | |
| 19 (a) | Total Irrigated Area in the State as on 31.03.2016 | | ha |  |  | | |
| 19 (b) | Area covered with micro-irrigation systems as compared to total irrigated area as on 31.03.2016. | | % |  |  | | |
| 19 (c) | Total Irrigated Area in the State as on 31.03.2017 | | ha |  |  | | |
| 19 (d) | Area covered with micro-irrigation systems as compared to total irrigated area as on 31.03.2017 | | % |  |  | | |
| **G. Rural Drinking Water** | | | |  |  | | |
| 20 (a) | Proportion of total rural habitations fully covered with drinking water supply as on 31.03.2016. | | % |  |  | | |
| 20 (b) | Proportion of total rural habitations fully covered with drinking water supply as on 31.03.2017. | | % |  |  | | |
| 21 (a) | % reduction in rural habitations affected by Water Quality problems during the Financial Year 2015-16 | | % |  |  | | |
| 21 (b) | % reduction in rural habitations affected by Water Quality problems during the Financial Year 2016-17 | | % |  |  | | |
| **H. Urban Water Supply and Sanitation** | | | | | | | |
| 22 (a) | % of urban population being provided drinking water supply as on 31.03.2016 | | % |  |  | | |
| 22 (b) | % of urban population being provided drinking water supply as on 31.03.2017 | | % |  |  | | |
| 23 (a) | Total estimated generation of waste water in the urban areas as on 31.03.2016 | | Vol./ cum |  |  | | |
| 23 (b) | Capacity installed in the state to treat the urban waste-water as a proportion of the total estimated waste water generated in the urban areas of the state as on 31.03.2016 | | % |  |  | | |
| 24 (a) | % waste-water treated during 2015-16 | | % |  |  | | |
| 24 (b) | % waste-water treated during 2016-17 | | % |  |  | | |
| **I. Policy and Governance** | | |  |  |  | | |
| 25 | Whether the State has enacted any legislation for protection of water bodies and water-supply channels and prevention of encroachment into/on them? | | Yes/ No |  |  | | |
| 26 | Whether the State has any framework for rain water harvesting in public and private buildings? | | Yes/no |  |  | | |
| 27 (a) | Percentage of households being provided water supply and charged for water in the urban areas as on 31.3.2016? | | % |  |  | | |
| 27 (b) | Percentage of households being provided water supply and charged for water in the urban areas as on 31.3.2017? | | % |  |  | | |
| 28 (a) | Does the State have a separate integrated Data Centre for water resources? | | Yes/ No |  |  | | |
| 28 (b) | Whether the data is being updated on the integrated data centre on a regular basis? | | Yes/ No |  |  | | |

Water Management Index

Explanatory Notes for various Key Performance Indicators

| Sr. No. | Key Performance Indicator | Explanatory Notes |
| --- | --- | --- |
| 1. Source Augmentation (Restoration of Water Bodies) | | |
| 1 (a) | Area irrigated by water bodies restored during the financial year 2015-16 as compared to the area of total number of water bodies identified for restoration. | The achievement in % of Irrigated Area from restored water bodies (Lakes/Ponds/Reservoirs/Tanks) used for the purpose of irrigation constructed under various programmes such as PMKSY, IWMP, MGNREGA and other Central/States programme/ and also initiative under PRI’s need to be reported. The data may be sourced from MI census of the MOWR,RD & GR/ State Government. |
| 1 (b) | Area irrigated by water bodies restored during the financial year 2016-17 as compared to to the area of total number of water bodies identified for restoration. |
| B. Source Augmentation (Groundwater) | | |
| 2 (a) | Percentage of overexploited and critical assessment units those have experienced rise in water table [recorded by the observation wells tapping the shallow aquifer monitored by the State (piezometer installed for the purpose) and CGWB] to total number of assessment units in pre-monsoon 2016 in comparison to pre-monsoon 2015 | Central Ground Water Board, Dynamic Groundwater Resources of India, 2011; and other reports of the States and the MoWR, RD & GR may be referred to. Improvement in performance based on the water level observation by the piezometers specifically installed for the purpose in the State (reduction of over-exploited and critical blocks) would be considered for scoring. |
| 2 (b) | Percentage of overexploited and critical assessment units those have experienced rise in water table [recorded by the observation wells tapping the shallow aquifer monitored by the State (piezometer installed for the purpose) and CGWB] to total number of assessment units in pre-monsoon 2017 in comparison to pre-monsoon 2016 | -do- |
| 3 (a) | Percentage of areas of major groundwater re-charging identified and mapped for the State as on 31.3.2016? | As there are selected recharging zones where the soil texture and type where in the permeability is high enough to drain the water to aquifer quickly. The State needs to identify such areas and map them vis-à-vis the recharging activities being taken.  Geo-coordinates need to be indicated on the mapped areas. |
| 3 (b) | Percentage of areas of major groundwater re-charging identified and mapped for the State as on 31.3.2017 |
| 4 (a) | Percentage of mapped area covered with infrastructure for re-charging groundwater to the total mapped area as on 31.3.2016? | The meaning for area to be covered with the infrastructure of recharging groundwater is to develop recharging structures such as check dams, ponds, tanks, and also injection wells for recharging the groundwater. |
| 4 (b) | Percentage of mapped area covered with infrastructure for re-charging groundwater to the total mapped area as on 31.3.2017? |  |
| 5 | Has the State notified any Act or a regulatory framework for regulation of Groundwater use/ management? | Data source: Notification of the State Government |
| C. Major and Medium Irrigation - Supply Side Management | | |
| 6 (a) | % of Irrigation Potential Utilized (IPU) to Irrigation Potential Created (IPC) as on 31.03.2016 | Data source - Reports of the Ministry of Agriculture and Farmers Welfare; the Ministry of Water Resources, River Development and Ganga Rejuvenation and the concerned State Government. |
| 6 (b) | % of Irrigation Potential Utilized (IPU) to Irrigation Potential Created (IPC) as on 31.03.2017 |
| 7 (a) | Total number of major and medium irrigation projects in the State | A total of 143 projects completed under AIBP and other non-AIBP projects across the country need to be examined for the IPC-IPU gap. The gap of 12.40 million ha in the sector of MMI and 3.29 million ha in the sector of Minor Irrigation (Surface) has been reported in the country. There may be certain other projects implemented by the State Government, which may also be included in the information. |
| 7 (b) | Number of projects assessed and identified for the IPC-IPU gap in the State? |
| 8 | Expenditure incurred on works (excluding establishment expenditure) for maintenance of irrigation assets per hectare of command area during the Financial Year 2016-17? | 1. Establishment expenditure such as salary, office expenses, travelling expenses etc. should be excluded. 2. Command area as per irrigation potential created. 3. Deviation from the maintenance norm indicated by the 13th Finance Commission (adjusted for inflation) would be the criteria for awarding the score. |
| 9 (a) | The length of the canal and distribution network lined as on 31.03.2016 vis-à-vis the total length of canal and distribution network needed (selected) for lining for improving conveyance efficiency. | 1. Conveyance efficiency is enhanced substantially by converting the unlined sections of the canal network into lined sections. 2. The data on lined canal network may be obtained from the Reports of the concerned State Government. |
| 9 (b) | The length of the canal and distribution network lined as on 31.03.2017 vis-à-vis the total length of canal and distribution network needed (selected) for lining for improving conveyance efficiency |
| D. Watershed Development - Supply Side Management | | |
| 10 | Area under rain-fed agriculture as a percentage of the net cultivated area as on 31.3.2016 or previous year | 1. The objective is to bring more and more area under assured irrigation. 2. Agriculture Statistics at a Glance and other reports of the Ministry of Agriculture and Farmers Welfare may be referred to for the data. |
| 11 | Number of water harvesting structures constructed or rejuvenated as compared to the target (sanctioned projects under IWMP, RKVY, MGNREGS and other schemes) during the Financial Year 2016-17. | Achievement of target set for construction/rejuvenation of water harvesting structures under IWMP, RKVY, MGNREGS and other schemes for the year needs to be reported by the State. |
| 12 (a) | Assets created under IWMP | Total number of assets created under IWMP is to be reported. |
| 12 (b) | Percentage of assets created under IWMP geo-tagged as on 31.03.2016 | Inventory of assets with their geo-coordinates needs to be put in place. |
| 12 (c) | Percentage of assets created under IWMP geo-tagged as on 31.3.2017. |
| E. Demand Side Management – Participatory Irrigation Practices | | |
| 13 | Has the State notified any law/ legal framework to facilitate Participatory Irrigation Management (PIM) through Water User Associations (WUAs)? | The objective is to promote active participation of the farmers in operation and maintenance of the created irrigation infrastructure and also in achieving the best-possible water-use efficiency. |
| 14 (a) and 14 (c) | Irrigated Command Area in the State | Total irrigated command area is required to be reported |
| 14 (b) | Percentage of irrigated command areas having WUAs involved in the O&M of irrigation facilities (minor distributaries and CAD&WM) as on 31.3.2016 | % of command areas where WUAs, registered under the relevant Act, are engaged in operation and maintenance of irrigation facilities (minor distributaries & CAD&WM) need to be reported. |
| 14 (d) | Percentage of irrigated command areas having WUAs involved in the O&M of irrigation facilities (minor distributaries and CAD&WM) as on 31.3.2017 |
| 15 (a) and (c) | Total irrigation service fee collected during the financial year 2015-16 | WUAs need to be strengthened by allowing them to retain part of the Irrigation Service Fee collected from the farmers, as per the Act/Rule notified by the concerned State Government for promoting Participatory Irrigation Management. |
| 15 (b) | Percentage of Irrigation Service Fee (ISF) retained by WUAs as compared to the fee collected by WUAs during the Financial 2015-16. |
| 15 (d) | Percentage of Irrigation Service Fee (ISF) retained by WUAs as compared to fee collected by WUAs during the Financial 2016-17. |
| F. Demand Side Management – Sustainable on-farm Water Use Practices | | |
| 16 (a) | Area cultivated by adopting standard cropping pattern as per agro-climatic zoning, to total area under cultivation as on 31.03.2016 | Reports of the Ministry of Agriculture and Farmers Welfare; and the Agriculture Department of the State may provide the data on cropping pattern as per agro-climatic zoning. |
| 16 (b) | Area cultivated by adopting standard cropping pattern as per agro-climatic zoning, to total area under cultivation as on 31.03.2017 |
| 17 (a) | Has the State segregated agriculture power feeder? | Separation of agriculture and non-agriculture power feeders facilitates judicious rostering of power supply to agricultural and non-agricultural consumers in the rural areas. |
| 17 (b) | Area in the state covered with segregated agriculture power feeder as compared to the total area under cultivation with power supply during 2015-16. |
| 17 (c) | Area in the state covered with segregated agriculture power feeder as compared to the total area under cultivation with power supply during 2016-17. |  |
| 18 (a) | Is electricity to tube wells/ water pumps charged in the State? | A Score of 1 would be awarded for metered power supply and 0.5 for flat rate charges |
| 18 (b) | If yes, then whether it is charged as per fixed charges? |
| 18 (c) | If yes, then whether it is charged on the basis of metering? |
| 19 (a) | Total Irrigated Area in the State as on 31.03.2016 | The total area irrigated is the sum of the area irrigated by major/medium/minor irrigation, watershed development, MGNREGA schemes.  Use of micro-irrigation systems i.e. drip and sprinkler need to be promoted. |
| 19 (b) | Area covered with micro-irrigation systems as compared to total irrigated area as on 31.03.2016. |
| 19 (c) | Total Irrigated Area in the State as on 31.03.2017 |
| 19 (d) | Area covered with micro-irrigation systems as compared to total irrigated area as on 31.03.2017 |
| G. Rural Drinking Water - Supply | | |
| 20 (a) | Proportion of total rural habitations fully covered with drinking water supply as on 31.03.2016. | A habitation is considered fully covered with drinking water supply when all its inhabitants are provided drinking water of good quality at the rate of minimum 40 litres per capita per day. |
| 20 (b) | Proportion of total rural habitations fully covered with drinking water supply as on 31.03.2017 |
| 21 (a) | % reduction in rural habitations affected by Water Quality problems during the Financial Year 2015-16 | 1. Data sources: Reports of the States and the Ministry of Drinking Water and Sanitation. 2. % reduction in rural habitations affected by Water Quality problems (Arsenic and Fluoride affected habitations) during the Financial Years 2015-16 and 2016-17 need to be reported. |
| 21 (b) | % reduction in rural habitations affected by Water Quality problems during the Financial Year 2016-17 |
| H. Urban Water Supply and Sanitation | | |
| 22 (a) | % of urban population being provided drinking water supply as on 31.03.2016 | Population in urban areas, as defined in the census report, being provided drinking water supply need to be reported. |
| 22 (b) | % of urban population being provided drinking water supply as on 31.03.2017 |
| 23 (a) | Total estimated generation of waste water in the urban areas as on 31.03.2016 | 1. Capacity installed under Namami Gange, NRCP and other Centrally Sponsored Schemes; and also under State Plans/programmes needs to be reported. 2. Discharge of untreated sewage from the urban areas is one of the largest sources of pollution in rivers. It is required to bridge the gap between the sewage generation and the sewage treatment capacity. |
| 23 (b) | Capacity installed in the state to treat the urban waste-water as a proportion of the total estimated waste water generated in the urban areas of the state as on 31.03.2016 |
| 24 (a) | % wastewater treated during 2015-16 | Proportion of wastewater generated from the urban households that undergoes different (primary, secondary and tertiary) levels of treatment before getting discharged to the aquatic environment. |
| 24 (b) | % wastewater treated during 2016-17 |
| I. Policy and Governance | | |
| 25 | Whether the State has enacted any legislation for protection of water bodies and prevention of encroachment into/on water bodies? | - |
| 26 | Whether the State has any regulatory framework for rain water harvesting in public and private buildings? | - |
| 27 (a) | Percentage of households being provided water supply and charged for water in the urban areas as on 31.3.2016? | Households in urban areas, as defined in the census report, being provided water supply and charged for water need to be reported. |
| 27 (b) | Percentage of households being provided water supply and charged for water in the urban areas as on 31.3.2017? |
| 28 (a) | Does the State have a separate integrated Data Centre for water resources? | Updated data-base is needed annually for planning and implementing appropriate interventions to manage water resources scientifically. |
| 28 (b) | Whether the data is being updated on the integrated data centre on a regular basis? |

Ranking Methodology

(Methodology for ranking of the States based upon performance against KPIs)

1. Score against the Key Performance Indicators (KPIs) - Si (i = 1 to 28)

(a) For the unit of measurement ‘Yes/No’, a State having response ‘Yes’ would be awarded a score of ‘1’ and the State having ‘No’ response would be awarded ‘0’.

(b) The scoring assigns importance to improvement on identified KPIs during the year. For improved performance during the 2016-17 over 2015-16, score in terms of percentage increase in improvement would be awarded.

(c) For the unit of measurement in absolute numbers, a State will be awarded the score on a range of 1 to 5 where 1 relates to the lowest performance and 5 to the highest. Others would be awarded proportionately.

2. Weightage to the indicators - Wi (i = 1 to 28)

(a) The weightage to the various sections is under:-

|  |  |
| --- | --- |
| Section | Weightage |
| Source Augmentation (Restoration of Water Bodies) | 5 |
| Source Augmentation (Groundwater) | 15 |
| Major and Medium Irrigation (Supply Side Management) | 15 |
| Watershed Development (Supply Side Management) | 10 |
| Demand Side Management – Participatory Irrigation Practices | 10 |
| Demand Side Management – Sustainable on-farm water-use practices | 10 |
| Rural Drinking Water – Supply and Demand Side Management | 10 |
| Urban Water Supply and Sanitation | 10 |
| Policy and Governance | 15 |
| Total | 100 |

(b) Each Indicator in a section would be assigned equal weightage i.e. total weightage for the section/no. of indicators in the section.

3. Composite Score

Composite score for a State = Σ (Si x Wi)/Max Si

i = 1 to 28

Key Steps for Assessment and Timelines

Key activities involved in the process of preparing Composite Water Management Index for the States/UTs and timelines for completion of those activities are given below:-

|  |  |  |  |
| --- | --- | --- | --- |
| Sl. No. | Activity Description | Implementing Agency | Completion Date |
| 1 | Organization of Workshops to sensitize and support the States in preparing the index. During these workshops, importance of the identified KPIs, data sources for the KPIs and the ranking methodology would be explained. | NITI Aayog, MoWR,RD&GR | 30.04.2017 |
| 2 | Development of an online portal for the States/UTs to provide data, validate data and develop index | NITI Aayog | 30.04.2017 |
| 3 | Uploading of data/value for various KPIs on the web portal | States/UTS | 30.07.2017 |
| 4 | Validation of data by independent agency | NITI Aayog, States/UTs | 30.09.2017 |
| 5 | Finalization of data and preparation of composite water management index for the States/UTs | NITI Aayog, MoWR,RD&GR, State/UTs | 30.11.2017 |
| 6 | Uploading of composite water management index prepared for the States/UTs and other related information on the web portal | NITI Aayog | 31.12.2017 |
| 7 | Overall coordination and management | NITI Aayog | - |