



Government of India

R F D

(Results-Framework Document)
for

India Meteorological Department

(2014-2015)

Section 1: Vision, Mission, Objectives and Functions

Vision

The vision of India Meteorological Department is to nurture the science and technology of meteorology to provide increasingly more efficient Weather and Climate Services for safety of life and property and to contribute to the cause of national development.

Mission

To take meteorological observations and to provide current weather and weather forecasts / meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil explorations, etc. To warn against severe weather phenomena like tropical cyclones, norwesters, dust storms, heavy rains and snow, cold and heat waves, etc., which cause destruction of life and property, agriculture etc. To provide Climatological information required for agriculture, water resource management, industries, oil exploration and other nation-building activities. To conduct and promote research in meteorology and allied disciplines. To detect and locate earthquakes and to evaluate seismicity in different parts of the country for development projects.

Objectives

- 1 Strengthening of Meteorological Observational & Telecommunication Network
- 2 Improvement of weather Forecasting System
- 3 Expansion of Specialized Meteorological Services
- 4 Research & Development, Training & Capacity building
- 5 Strengthening of seismological observational system and Seismic hazard & risk evaluation

Functions

- 1 Issue forecasts of weather events and meteorological parameters viz. temperatures, rainfall, humidity, winds and sky condition within the country for stipulated periods.
- 2 Issue of forecasts and warnings of high impact weather events like Cyclonic Storms, Thunderstorms, Squalls, Tornados, Storm surge etc, and warnings of specific parameters viz. strong winds, heavy rainfall, heavy snowfall, hail storms, waves and tides, etc.
- 3 Disseminate weather information, advisories and warnings to the Public through media, to Government Departments and District authorities.
- 4 To provide agrometeorological advisories to the farmers to decrease the vulnerability of agriculture and to increase the crop production.
- 5 Issue of in-seasonal crop yield forecast through agromet models

Section 1: Vision, Mission, Objectives and Functions

- 6 Analyze and process meteorological data collected from observatories within the country and outside. Scrutinize and process meteorological observations for assimilation into climatological archives.
- 7 Install and maintain Departmental observatories, observational networks and ship based observations of the voluntary observation fleet.
- 8 Record observations of meteorological parameters in India over land and adjoining sea areas on a routine basis.
- 9 Set up infrastructure for Satellite remote sensing of meteorological parameters, Receive and process satellite data from new & upcoming satellites.
- 10 Maintain telecommunication links within the country and the world for collection, dissemination of meteorological observations and applied meteorological products.
- 11 Design, develop, manufacture and maintain meteorological and seismological instruments and procure sophisticated equipment for modernizing observatories.
- 12 Maintain a network of seismological observatories to record earthquakes and to provide a purposive turning point to guide national endeavour in mitigating the disastrous impacts of earthquake and to provide earthquake risk related knowledge products.
- 13 Near real-time dissemination of information on occurrence of Earthquakes.
- 14 Provide training facilities in all branches of meteorology, agrometeorology, Seismology, telecommunication and instruments.
- 15 Conduct research in theoretical and applied meteorology, agrometeorology, Seismology and allied topics.
- 16 International cooperation in Meteorology agrometeorology and Seismology.
- 17 Provide hydro-meteorological information and inputs for water resource management and flood forecasting.
- 18 Maintain liaison with other scientific organizations in the country in the fields of agriculture, hydrology, oceanography, air pollution etc.
- 19 To participate in special expeditions of meteorological interest like Antarctic Expeditions, Study of Himalayan glaciers, total Solar Eclipse, etc.
- 20 To conduct study in Positional Astronomy, bring out related publications.
- 21 Record observations of Radiation parameters across India.
- 22 Record observations of Ozone (Surface & Upper-air) across India and Antarctica
- 23 Install & maintain the Aviation Meteorological Instrument System at all National and International Airports and provide meteorological services to Airline operators.
- 24 Testing, Calibration and certification of Meteorological instruments as per Bureau of Indian Standard (BIS)/WMO standards.

Section 2: Inter se Priorities among Key Objectives, Success indicators and Targets

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent	Very Good	Good	Fair	Poor
						100%	90%	80%	70%	60%
[1] Strengthening of Meteorological Observational & Telecommunication Network	32.00	[1.1] Expansion of Observational Network of Doppler Weather Radars (DWRs)	[1.1.1] Commissioning of DWR stations	Number of stations	5.00	19	18	17	16	15
		[1.2] Expansion of Observational network of GPS Upper Air (RS/RW) stations	[1.2.1] Commissioning of GPS based Upper Air (RS/RW) stations.	Number of stations	5.00	22	20	17	15	13
		[1.3] Commissioning GPS stations for measurement of Integrated Precipitable Water Vapour (IPWV)	[1.3.1] Commissioning of GPS stations	Number of stations	5.00	10	8	6	4	2
		[1.4] Expansion of Observational Network of Automatic Rain Gauges (ARGs)	[1.4.1] Commissioning of ARG stations	Number of stations	5.00	1350	1300	1250	1200	1150
		[1.5] Up-gradation of Radiation Network	[1.5.1] Commissioning of UV-B Radiometers	Number of stations	2.00	40	38	36	34	32
			[1.5.2] Commissioning of Pyranometers	Number of stations	1.50	6	5	4	3	2
			[1.5.3] Commissioning of solar trackers	Number of stations	1.50	5	4	3	2	1
		[1.6] Development & Installation of Hand Held Data Logger (HHL D)	[1.6.1] Commissioning of HHL D for synoptic observatories	Number of stations	3.00	100	80	60	40	20
[1.7] Upgradation of surface observatories	[1.7.1] Provision of high accuracy station barometers at surface observatories	Number of stations	2.00	50	40	30	20	10		

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Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent	Very Good	Good	Fair	Poor
						100%	90%	80%	70%	60%
		[1.8] Upgradation of metadata of Automatic Weather Stations (AWSs)	[1.8.1] Site survey of AWS locations through GNSS	Number of stations	2.00	300	250	200	150	100
[2] Improvement of weather Forecasting System	15.00	[2.1] Increase in the number of city weather forecast	[2.1.1] Number of cities covered for local forecast	Number of cities	6.00	350	340	330	320	310
		[2.2] Thunderstorm /NOWCAST forecast for cities covered by DWR.	[2.2.1] Number of Cities for Thunderstorm/ Nowcast.	Number of cities	6.00	150	148	145	142	140
		[2.3] Weather Forecast for National Highway	[2.3.1] Covering total routes of national highway	Number of highway s.	3.00	16	14	12	10	8
[3] Expansion of Specialized Meteorological Services	15.00	[3.1] Establishment of District Agro Met Field Units (DAMUs)	[3.1.1] Start issuing agromet advisories from the established DAMUs	Number of DAMUs	3.00	45	40	35	30	25
		[3.2] Issue of sub district/Block level Agromet Advisories	[3.2.1] Issue of Agromet advisories to number of blocks.	Number of Blocks	3.00	100	90	80	70	60
		[3.3] Issue of extended range and monthly climate Agromet Bulletin.	[3.3.1] Issue of extended range and monthly climate Agromet bulletin to number of States.	Number of States	3.00	10	9	8	7	6
		[3.4] Dissemination of Agromet Advisories	[3.4.1] SMS/IVRS to Farmers	Number of Farmers (million)	5.00	6.5	6.25	6.0	5.75	5.0

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Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent	Very Good	Good	Fair	Poor
						100%	90%	80%	70%	60%
		[3.5] Establishment of DTH based Disaster Warning Dissemination Systems	[3.5.1] Commissioning of DTH based Disaster Warning Dissemination System.	Number	1.00	100	99	98	97	96
[4] Research & Development, Training & Capacity building	15.00	[4.1] Research Publications on Meteorology, Agrometeorology, Hydrology, Seismology etc.	[4.1.1] Number of papers published	Number	5.00	80	75	70	65	60
		[4.2] Quality of Research Publications	[4.2.1] Impact Factor of publications	Number	5.00	25	22	20	18	15
		[4.3] ANDROID based application for dissemination of weather forecast and warning.	[4.3.1] Numbers of application download.	Number	3.00	40000	36000	32000	28000	24000
		[4.4] Skill enhancement through regular & tailor made training courses.	[4.4.1] Trainings conducted for the number of persons.	Number of persons trained	2.00	200	180	160	140	120
[5] Strengthening of seismological observational system and Seismic hazard & risk evaluation	10.00	[5.1] Upgradation of existing stations and installation of new field stations	[5.1.1] commissioning of new seismograph/ station	Number of station	5.00	77	67	57	47	42
		[5.2] Seismic hazard and risk evaluation of targeted cities	[5.2.1] Approval of RFP, invitation of limited tenders and placement of work order, selection of sites, mobilization and demobilization of equipment for field tests.	% of work done	5.00	10	8	6	4	2

Section 2: Inter se Priorities among Key Objectives, Success indicators and Targets

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent	Very Good	Good	Fair	Poor
						100%	90%	80%	70%	60%
* Efficient Functioning of the RFD System	3.00	Timely submission of Draft RFD for 2014-2015 for Approval	On-time submission	Date	2.0	15/05/2014	16/05/2014	19/05/2014	20/05/2014	21/05/2014
		Timely submission of Results for 2013-2014	On-time submission	Date	1.0	01/05/2014	02/05/2014	05/05/2014	06/05/2014	07/05/2014
* Enhanced Transparency / Improved Service delivery of Ministry/Department	3.00	Rating from Independent Audit of implementation of Citizens' / Clients' Charter (CCC)	Degree of implementation of commitments in CCC	%	2.0	100	95	90	85	80
		Independent Audit of implementation of Grievance Redress Management (GRM) system	Degree of success in implementing GRM	%	1.0	100	95	90	85	80
* Administrative Reforms	7.00	Update organizational strategy to align with revised priorities	Date	Date	2.0	01/11/2014	02/11/2014	03/11/2014	04/11/2014	05/11/2014
		Implementation of agreed milestones of approved Mitigating Strategies for Reduction of potential risk of corruption (MSC).	% of Implementation	%	1.0	100	90	80	70	60
		Implementation of agreed milestones for ISO 9001	% of implementation	%	2.0	100	95	90	85	80
		Implementation of milestones of approved Innovation Action Plans (IAPs).	% of implementation	%	2.0	100	90	80	70	60

* Mandatory Objective(s)

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value for FY 12/13	Actual Value for FY 13/14	Target Value for FY 14/15	Projected Value for FY 15/16	Projected Value for FY 16/17
[1] Strengthening of Meteorological Observational & Telecommunication Network	[1.1] Expansion of Observational Network of Doppler Weather Radars (DWRs)	[1.1.1] Commissioning of DWR stations	Number of stations	15	16	18	21	22
	[1.2] Expansion of Observational network of GPS Upper Air (RS/RW) stations	[1.2.1] Commissioning of GPS based Upper Air (RS/RW) stations.	Number of stations	6	17	20	36	39
	[1.3] Commissioning GPS stations for measurement of Integrated Precipitable Water Vapour (IPWV)	[1.3.1] Commissioning of GPS stations	Number of stations	5	5	8	20	25
	[1.4] Expansion of Observational Network of Automatic Rain Gauges (ARGs)	[1.4.1] Commissioning of ARG stations	Number of stations	1030	1124	1300	1400	1450
	[1.5] Up-gradation of Radiation Network	[1.5.1] Commissioning of UV-B Radiometers	Number of stations	--	31	38	42	45
		[1.5.2] Commissioning of Pyranometers	Number of stations	--	--	5	10	20
		[1.5.3] Commissioning of solar trackers	Number of stations	--	--	4	10	15
	[1.6] Development & Installation of Hand Held Data Logger (HHL D)	[1.6.1] Commissioning of HHL D for synoptic observatories	Number of stations	--	16	80	140	200

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value for FY 12/13	Actual Value for FY 13/14	Target Value for FY 14/15	Projected Value for FY 15/16	Projected Value for FY 16/17
	[1.7] Upgradation of surface observatories	[1.7.1] Provision of high accuracy station barometers at surface observatories	Number of stations	--	--	40	200	300
	[1.8] Upgradation of metadata of Automatic Weather Stations (AWSs)	[1.8.1] Site survey of AWS locations through GNSS	Number of stations	--	--	250	500	675
[2] Improvement of weather Forecasting System	[2.1] Increase in the number of city weather forecast	[2.1.1] Number of cities covered for local forecast	Number of cities	210	300	350	400	450
	[2.2] Thunderstorm /NOWCAST forecast for cities covered by DWR.	[2.2.1] Number of Cities for Thunderstorm/ Nowcast.	Number of cities	117	140	148	160	170
	[2.3] Weather Forecast for National Highway	[2.3.1] Covering total routes of national highway	Number of highways.	--	8	14	24	32
[3] Expansion of Specialized Meteorological Services	[3.1] Establishment of District Agro Met Field Units (DAMUs)	[3.1.1] Start issuing agromet advisories from the established DAMUs	Number of DAMUs	--	--	40	100	200
	[3.2] Issue of sub district/Block level Agromet Advisories	[3.2.1] Issue of Agromet advisories to number of blocks.	Number of Blocks	--	--	90	200	300
	[3.3] Issue of extended range and monthly climate Agromet Bulletin.	[3.3.1] Issue of extended range and monthly climate Agromet bulletin to number of States.	Number of States	--	--	9	20	28

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value for FY 12/13	Actual Value for FY 13/14	Target Value for FY 14/15	Projected Value for FY 15/16	Projected Value for FY 16/17
	[3.4] Dissemination of Agromet Advisories	[3.4.1] SMS/IVRS to Farmers	Number of Farmers (million)	3.4	5.06	6.5	8.0	10.0
	[3.5] Establishment of DTH based Disaster Warning Dissemination Systems	[3.5.1] Commissioning of DTH based Disaster Warning Dissemination System.	Number	--	95	99	100	100
[4] Research & Development, Training & Capacity building	[4.1] Research Publications on Meteorology, Agrometeorology, Hydrology, Seismology etc.	[4.1.1] Number of papers published	Number	77	105	75	80	85
	[4.2] Quality of Research Publications	[4.2.1] Impact Factor of publications	Number	23	52.2	22	28	30
	[4.3] ANDROID based application for dissemination of weather forecast and warning.	[4.3.1] Numbers of application download.	Number	5326	18100	36000	60000	80000
	[4.4] Skill enhancement through regular & tailor made training courses.	[4.4.1] Trainings conducted for the number of persons.	Number of persons trained	130	217	180	200	300
[5] Strengthening of seismological observational system and Seismic hazard & risk evaluation	[5.1] Upgradation of existing stations and installation of new field stations	[5.1.1] commissioning of new seismograph/ station	Number of station	37	37	67	115	115
	[5.2] Seismic hazard and risk evaluation of targeted cities	[5.2.1] Approval of RFP, invitation of limited tenders and placement of work	% of work done	--	--	8	50	100

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value for FY 12/13	Actual Value for FY 13/14	Target Value for FY 14/15	Projected Value for FY 15/16	Projected Value for FY 16/17
		order, selection of sites, mobilization and demobilization of equipment for field tests.						
* Efficient Functioning of the RFD System	Timely submission of Draft RFD for 2014-2015 for Approval	On-time submission	Date	--	13/05/2013	16/05/2014	--	--
	Timely submission of Results for 2013-2014	On-time submission	Date	--	30/04/2014	02/05/2014	--	--
* Enhanced Transparency / Improved Service delivery of Ministry/Department	Rating from Independent Audit of implementation of Citizens' / Clients' Charter (CCC)	Degree of implementation of commitments in CCC	%	--	--	95	--	--
	Independent Audit of implementation of Grievance Redress Management (GRM) system	Degree of success in implementing GRM	%	--	--	95	--	--
* Administrative Reforms	Update organizational strategy to align with revised priorities	Date	Date	--	--	02/11/2014	--	--
	Implementation of agreed milestones of approved Mitigating Strategies for Reduction of potential risk of corruption (MSC).	% of Implementation	%	--	--	90	--	--
	Implementation of agreed milestones for ISO 9001	% of implementation	%	--	--	95	--	--

* Mandatory Objective(s)

Section 3: Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Actual Value for FY 12/13	Actual Value for FY 13/14	Target Value for FY 14/15	Projected Value for FY 15/16	Projected Value for FY 16/17
	Implementation of milestones of approved Innovation Action Plans (IAPs).	% of implementation	%	--	--	90	--	--

* Mandatory Objective(s)

Section 4: Acronym

Sl.No	Acronym	Description
1	Agromet	Agrometeorology
2	ARG	Automatic Rain Gauge
3	AWS	Automatic Weather Station
4	DWDS	Disaster Warning Dissemination System
5	DWR	Doppler Weather Radar
6	GNSS	Global Navigational Satellite System

Section 4: Acronym

Sl.No	Acronym	Description
7	GPS	Global Positioning System
8	HHLD	Hand Held Data Logger
9	RS/RW	Radiosonde/Radiowind
10	UV B	Ultra Violet B

Section 4: Description and Definition of Success Indicators and Proposed Measurement Methodology

Sl.No	Success indicator	Description	Definition	Measurement	General Comments
1	[1.1.1] Commissioning of DWR stations	Commissioning of Doppler Weather Radar Stations to expand the observational network.	Doppler Weather Radars (DWRs) observations are used for Now-casting of severe weather systems events like thunderstorms, gale winds, hail, etc.	Total number of commissioned Doppler Weather Radars in the observational network.	
2	[1.2.1] Commissioning of GPS based Upper Air (RS/RW) stations.	Commissioning of GPS based Upper air (RS/RW) stations to upgrade the observational network of upper air data collection.	Upper air data collected is representative of certain area around the point where measurement is made.	Total number of upgraded GPS based upper air stations in the observational network.	
3	[1.3.1] Commissioning of GPS stations	To set up a countrywide network of GPS stations for measurement of Integrated Precipitable Water Vapor (IPWV).	Measurement of Integrated Precipitable Water Vapor (IPWV) used for now casting and assimilation of these data in NWP models for improving the weather forecasting.	Total number of GPS stations under the network.	
4	[1.4.1] Commissioning of ARG stations	Commissioning of Automatic Rain Gauges Stations to expand the observational network for Rainfall data collection.	Rainfall data collected by the Rain gauge is representative of a certain area around the point where the measurement is made.	Total number of commissioned ARG stations in the observational network.	

Section 4: Description and Definition of Success Indicators and Proposed Measurement Methodology

Sl.No	Success indicator	Description	Definition	Measurement	General Comments
5	[1.5.1] Commissioning of UV-B Radiometers	Commissioning of UV-B radiometers in the network.	UV-B observations are used for monitoring UV in a wavelength 400-600 nm, which are harmful to human lives.	Total number of commissioned UV-B radiometers in the observational network.	
6	[1.5.2] Commissioning of Pyranometers	Installation and Commissioning of pyranometers.	Pyranometers are used for measurement of Global and diffused solar radiation.	Commissioned pyranometers are in observational network for measurement of Global and diffused solar radiation.	
7	[1.5.3] Commissioning of solar trackers	Installation and Commissioning of solar trackers	Solar trackers are used for mounting pyrhemometers for measurement of Direct Normal Incidence solar radiation.	Commissioned solar trackers are in observational network for measurement of Direct Normal Incidence solar radiation.	
8	[1.6.1] Commissioning of HHLD for synoptic observatories	Commissioning of HHLD for synoptic observatories	The systems take manual observations observatory data, convert it in to digital synoptic messages in real time and then transmit it to the forecasting offices.	Total number of commissioned HHLD systems in the observational network	
9	[1.7.1] Provision of high accuracy station barometers at surface observatories	Provision of high accuracy station barometers to surface observatories	The system provides surface ambient pressure values for the observatory.	Very accurate surface pressure data in the digital format provided through surface observatory.	

Section 4: Description and Definition of Success Indicators and Proposed Measurement Methodology

Sl.No	Success indicator	Description	Definition	Measurement	General Comments
10	[1.8.1] Site survey of AWS locations through GNSS	The systems are required to obtain very accurate station level pressure reducing to the mean sea level pressure value. The metadata of the station is also obtained and store digitally .	GNSS are high accuracy GPS system for obtaining station altitude and co-ordinates measurement.	Number of site survey of AWS location completed through GNSS	
11	[2.1.1] Number of cities covered for local forecast	In addition to weather forecast, detailed information on weather parameters of major cities are issued	City Forecast provides the additional information on Maximum & Minimum Temperature, Departures from Normal, Rainfall during 24 Hours, sunset, Moonset, Sunrise & Moonrise etc for the particular city.	Number of Cities provided the city forecast	
12	[2.2.1] Number of Cities for Thunderstorm/ Nowcast.	Number of cities covered for Thunderstorm/ NOWCAST forecast using Doppler Weather Radars for severe weather events like thunderstorms, gale winds, hail, etc.	Thunderstorm /NOWCAST forecast for cities covered by DWR predicting the weather for a very short upcoming period, usually of a few hours.	Number of Cities provided the Thunderstorm/ Nowcast.	
13	[2.3.1] Covering total routes of national highway	To avoid dangerous weather conditions on the road, specific Weather Forecast for National Highway routes to be issued .	Highway forecast will provides the information on Temperature, Rainfall,visibility, Fog etc on the	Number of Highway routes covered for the forecast.	

Section 4: Description and Definition of Success Indicators and Proposed Measurement Methodology

Sl.No	Success indicator	Description	Definition	Measurement	General Comments
14	[3.1.1] Start issuing agromet advisories from the established DAMUs	Under the existing IAAS in the country AMFUs have already been established in different agroclimatic zones of the country in collaboration with State Agricultural Universities (SAUs), Indian Council of Agricultural Research (ICAR) and Indian Institute of Technologies (IITs). As it will not be possible for these centres alone to address the objectives of the project at block level, District Agromet Units (DAMUs) will be established to issue the block level advisories.	District Agromet Units (DAMUs) collocated with Krishi Vigyan Kendra (KVK) of ICAR to issue the block level advisories.	Number of District Agromet Units (DAMUs) established.	
15	[3.2.1] Issue of Agromet advisories to number of blocks.	Issuance of sub district /block level weather forecast & advisories to farmers in India on pilot mode	Agromet advisories are issued in advance can be helpful to farmer to organize and activate their own resources in order to reap benefit both in quality and quantity	Agromet advisories issued for number of blocks.	
16	[3.3.1] Issue of extended range and monthly climate Agromet bulletin to number of States.	Issuance of extended range and monthly climate agromet bulletin to the planners and farmers.	Extended range Weather forecasts and bulletins provide insights into future meteorological conditions for a specified locality or region and over a specified period of time which will give lead	Extended range weather forecast based agromet bulletins for number of states.	

Section 4: Description and Definition of Success Indicators and Proposed Measurement Methodology

Sl.No	Success indicator	Description	Definition	Measurement	General Comments
16	[3.3.1] Issue of extended range and monthly climate Agromet bulletin to number of States.	Issuance of extended range and monthly climate agromet bulletin to the planners and farmers.	time to farmers and planners to plan adaptation strategy measures.	Extended range weather forecast based agromet bulletins for number of states.	
17	[3.4.1] SMS/IVRS to Farmers	Weather forecast and agromet advisories to the farmers through SMS and IVRS	Agromet advisories along with weather forecast are disseminated to the farmers so that action could be taken by the farmers to reduce the vulnerability of weather on agriculture.	Agromet advisories disseminated directly to number of farmers in the country.	
18	[3.5.1] Commissioning of DTH based Disaster Warning Dissemination System.	DTH based DWDS system will be installed for dissemination of cyclone warnings	DTH based DWDS system will help in dissemination of cyclone warnings to the affected coastal areas during cyclone.	Commissioning of DTH based Disaster Warning Dissemination System at the sites.	
19	[4.1.1] Number of papers published	Number of Research Publications on Meteorology, Agrometeorology, Hydrology, Seismology etc.	Number of Research Paper published in National/ International journals.	Number of Research Paper published.	
20	[4.2.1] Impact Factor of publications	Quality of Research Publications.	The impact factor is a measure reflecting the average number of citations to recent articles published.	Average impact factor of research publications.	

Section 4: Description and Definition of Success Indicators and Proposed Measurement Methodology

Sl.No	Success indicator	Description	Definition	Measurement	General Comments
21	[4.3.1] Numbers of application download.	Download of ANAROID based application by the public	ANAROID based application can be used on smart phone and tab for weather forecast and warning.	Number of download of application	
22	[4.4.1] Trainings conducted for the number of persons.	Comprehensive and continuous evolving training program keep the trainees abreast with appropriate knowledge and skills at all stages of their service.	Skill enhancement through regular & tailor made training courses.	Total number of successful trainees.	
23	[5.1.1] commissioning of new seismograph/ station	Commissioning of new seismographs to augment and strengthen the seismic monitoring network	Number of new seismographs commissioned or new stations set up.	Number of seismic stations upgraded and /or newly commissioned.	
24	[5.2.1] Approval of RFP, invitation of limited tenders and placement of work order, selection of sites, mobilization and demobilization of equipment for field tests.	Placement of work order to carry out geophysical/geotechnical field studies at selected sites and analysis of data, preparation of seismic Microzonation products etc	Selection of service provider for geophysical/geotechnical field studies, mobilization/demobilization of equipment at/from sites, selection of sites using geological maps, analysis of data resulting in generation of seismic Microzonation products.	Signing of MOU with GSI for geological maps 2% Selection of sites 4% Placement of order 6% Mobilization of equipment at selected sites 8% Field investigation at selected sites 10%	

Section 4:
Description and Definition of Success Indicators and Proposed Measurement Methodology

SI.No	Success indicator	Description	Definition	Measurement	General Comments
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Section 5 : Specific Performance Requirements from other Departments

Location Type	State	Organisation Type	Organisation Name	Relevant Success Indicator	What is your requirement from this organisation	Justification for this requirement	Please quantify your requirement from this Organisation	What happens if your requirement is not met.
Central Government		Ministry	Ministry of Urban Development	[1.1.1] Commissioning of DWR stations	Construction of DWR Building	To commission the Doppler Weather Radar	Building construction/Terrace modification before first quarter of FY 2014-15 for installation of DWRs.	Radar may not be commissioned.
			Ministry of Defence - Navy & Coastal Guard	[1.1.1] Commissioning of DWR stations	Security audit of DWR: Site Acceptance Test		Security Audit from all Nation Security angle to clear DWR installation and commissioning; Site Acceptance Test.	Radar may not be commissioned.

Section 6: Outcome/Impact of Department/Ministry

Outcome/Impact of Department/Ministry	Jointly responsible for influencing this outcome / impact with the following department (s) / ministry(ies)	Success Indicator	Unit	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
1 Improved Observation network of Automatic Rain Gauges, Doppler Weather Radars, GPS based upper air observations, upgrded surface observatories to take meteorological observations and to provide current weather and improved weather forecasts / meteorological information for optimum operation of weather-sensitive activities like agriculture, irrigation, shipping, aviation, offshore oil explorations etc. along with warnings against severe weather phenomena like tropical cyclones, norwesters, dust storms, heavy rains and snow, cold and heat waves, etc.	Ministry of Defence, Indian Space Research Organization, M/s Bharat Electronics Ltd, CPWD (Ministry of Urban Development).	Commissioning of DWR stations	Number	15	16	19	21	22
		Commissioning of GPS based Upper Air (RS/RW) stations.	Number of	6	17	20	36	39

Section 6: Outcome/Impact of Department/Ministry

Outcome/Impact of Department/Ministry	Jointly responsible for influencing this outcome / impact with the following department (s) / ministry(ies)	Success Indicator	Unit	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	
		Commissioning of GPS stations	Number of	5	5	8	20	25	
		Commissioning of ARG stations	Number of	1030	1124	1300	1400	1450	
		Commissioning of UV-B Radiometers	Number of		31	38	42	45	
		Commissioning of Pyranometers	Number of			5	10	20	
		Commissioning of solar trackers	Number of			4	10	15	
		Commissioning of HHL D for synoptic observatories	Number of		16	80	140	200	
		Provision of high accuracy station barometers at surface observatories	Number of			40	200	300	
		Site survey of AWS locations through GNSS	Number of			250	500	675	
2	Improvement of weather forecasting system by increasing the city forecast, Thunderstorm/Nowcast information for more number of cities to provide detailed weather information and warnings of severe weather events like thunderstorms, gale winds, hail, etc. Highway forecast to	Ministry of Road Transport & Highways, National Highway Authority of India.	Number of cities covered for local forecast	Number of cities	210	300	350	400	450

Section 6: Outcome/Impact of Department/Ministry

Outcome/Impact of Department/Ministry	Jointly responsible for influencing this outcome / impact with the following department (s) / ministry(ies)	Success Indicator	Unit	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
provides the information on Temperature, Rainfall, visibility, Fog etc. to avoid dangerous weather conditions on the National Highways.								
		Number of Cities for Thunderstorm/ Nowcast.	Number of cities	117	140	150	160	170
		Covering total routes of national highway	Number of	-	8	16	24	32
3 Expansion of Specialized meteorological Services by increasing the number of districts of agromet advisories to decrease the vulnerability of agriculture & increase the crop production and to increase the outreach of information to the farmers by increasing the SMS/IVRS to farmers. DTH based Disaster Warning System to the affected coastal areas during the cyclone.	State and Central Agricultural Universities, IITs and other institutions of ICAR/DIT/NIC, SAC hmedabad, NRSA Hyderabad & IITM Pune.	Start issuing agromet advisories from the established DAMUs	Number of			40	100	200
		Issue of Agromet advisories to number of blocks.	Number of Blocks			90	200	300

Section 6: Outcome/Impact of Department/Ministry

Outcome/Impact of Department/Ministry	Jointly responsible for influencing this outcome / impact with the following department (s) / ministry(ies)	Success Indicator	Unit	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
		Issue of extended range and monthly climate Agromet bulletin to number of States.	Number of States			9	20	28
		SMS/IVRS to Farmers	Number of Farmers	3.4	5.06	6.5	8.0	10.0
		Commissioning of DTH based Disaster Warning Dissemination System.	Number		95	99	100	100
4	Bring out the quality Research Publications on Meteorology, Agrometeorology, Hydrology, Seismology etc. Further development of ANDROID based application to view the weather forecast and warnings on smart phone and tabs. Comprehensive and continuous evolving training program keep the trainees abreast with appropriate knowledge and skills at all stages of their service.	Number of papers published	Number	77	105	75	80	85

Section 6: Outcome/Impact of Department/Ministry

Outcome/Impact of Department/Ministry	Jointly responsible for influencing this outcome / impact with the following department (s) / ministry(ies)	Success Indicator	Unit	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
		Impact Factor of publications	Number	23	52.2	22	28	30
		Numbers of application download.	Number	5326	18100	36000	60000	80000
		Trainings conducted for the number of persons.	Number of persons	130	217	180	200	300
5 Improved monitoring of seismic activity in and around the country and Seismic hazard & risk evaluation	Geological Survey of India	Commissioning of new seismographs/stations	Number of	37	37	77	115	115
		Approval of RFP, invitation of limited tenders and placement of work order, selection of sites, mobilization and demobilization of equipment at sites for field tests.	% of work			10	50	100