Monitoring Mechanism for IIGMF: A Review of MIS Systems

Background

Monitoring and Evaluation is a powerful tool for public management with and aim to improve the design and functioning of policy/programme/scheme/plan/project while in action. Monitoring usually takes place when a policy/programme/scheme/plan/project is implemented and generate information critical to maintain their efficiency. The information can empower the citizens to hold the implementing agencies responsible.

Monitoring and evaluations systems can be an effective way to
- Provide constant feedback
- Identify potential problems
- Access the efficiency
- Provide guidance for the planning of future works
- Influence sector assistance strategy
- Incorporate views of stakeholders
- Show need for mid-course corrections [1]

One of the challenges associated with M&E is access to good data and indicators. Management Information System (MIS) is one of the M&E systems that can be adopted to overcome such challenges.

The project 'An Intersectionality- Informed Gender Mainstreaming Framework for WSH in India', also seeks to develop a monitoring framework that outlines set of measurable indicators that will ensure sanitation service are accessible to all at all times.

Overview of MIS

MIS is the use of information technology, people, and business processes to record, store and process data to produce information that decision makers can use to make day to day decisions. The MIS helps decision makers to take effective decisions, facilitates communications within and outside an organisation etc.

The objective of MIS
- To provide information for decision making on planning, initiating, organizing, and controlling the operations of and to provide a synergistic process
- To facilitates the decisions-making process by furnishing information in the proper time frame. This helps the decision-maker to select the best course of action.
- To provide requisite information at each level of operation to carry out their functions.
- To provide a system of people, computers, procedures, and interactive query facilities, documents for collecting, and storing, retrieving and transmitting information to the users.

The major components of a typical MIS are;
- People – people who use the information system
- Data – the data that the information system records
- Processes and procedures – procedures put in place on how to record, store and analyse the data
- Hardware – these include servers, workstations, networking equipment, printers, etc.

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[1] http://web.mit.edu/urbanupgrading/upgrading/issues-tools/tools/monitoring-eval.html

- Software – these are programs used to handle the data. These include programs such as spreadsheet programs, database software, etc. [2]

An effective MIS, is simple and easy to comprehend by different stakeholders of the programme at national, sub-national and community levels, and provide reliable information. The information provided is specific, accurate and verifiable; facilitates timely management decision in terms of frequency and flow of information. A well designed MIS facilitates the flow of information among various levels and enables setting up of a feedback mechanism for planning and management of a programme, project or a policy.

MIS in local/municipal governments (State governments, ULBS)

Local governments and municipalities are users of large amounts of information and in turn produce volumes of statistical data. The need for information by different levels of municipal governments has created the need for a MIS. To process data, municipalities have employed a variety of methods or systems. MIS being one of them is a means to monitor progress and assess and revise targets, i.e., a tool for evidence-based programme management for the local/ municipal governments. The MIS compares information gathered about current performance with information on previously-set plans, benchmarks, targets, etc. The MIS is used for regular updating of both the progress and output indicators in order to comprehend the relation between outputs and objectives. A tool for evidence-based programme management.

Advantages of implementing MIS in local/municipal governments:
- Helps in integrating different components or sub systems
- Helps the management to know deviations of actual performance from pre-set targets and control things
- Improves the efficiency of current systems
- Facilitates better communications between governments and businesses.
- Facilitates timely management of decision
- Enables a wider dissemination
- Enables storage and analytics of increased volumes of data produced
- Offers an increased portfolio of public services to citizens in an efficient and cost effective manner.
- Transparency – Use of MIS makes governing process transparent and helps make the information available online eliminating all the possibilities of concealing of information. it allows the public to be informed about what the government is working on as well as the policies they are trying to implement
- Accountability – Once the governing process is made transparent the government is automatically made accountable. Accountability is answerability of the government to the people.

Two major barriers to implementation of MIS are as follows:
- The implementation of MIS initiatives face some technological difficulties such as lack of shared standards and compatible infrastructure among departments
- Security of an information system - protection of information and systems against accidental or intentional disclosure to unauthorized access, or unauthorized modifications or destruction

Building an effective MIS for each flagship programme has become necessary, as the size of public expenditure has grown immensely. The sponsoring ministries/departments and the implementing agency or organizations are under constant pressure to show better results and achievements of the scheme. Active participation of the community,

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[2] https://www.guru99.com/mis-definition.html

especially of the elected representatives, increasing role of the Non-Governmental Organisations (NGOs), media and civil society groups are compelling the implementing agency or organizations to perform better in order to improve the achievements of the scheme. The Government has realised the need for output and outcome monitoring of the plan schemes is essential[3]. However, literature on MIS in India in the context of planning and decision-making process is scarce. MIS is still in its infancy in most policies/programmes/shames/plans, yet to become a full-fledged evidence-based tool for management. The computerised MIS for various Ministries/departments is developed by the National Informatics Centre (NIC) in order to support decision making. It also provides information services to the state governments and district administration throughout the country through NICNET.

Examination of MIS at state level

In order to understand the functioning of the MIS in urban India, few States were considered to assess the implementation of the system.

MIS for Andhra Pradesh

MIS	Responsible agency/ where is it housed	What is being measured	Is it easily accessible	Indicators
Atal Mission for Rejuvenation and Urban Transformation (AMRUT)	Andhra Pradesh State government Urban Local Bodies	Reporting through Service Level Benchmarks The focus of AMRUT is to achieve service level benchmarks, such as universal coverage in water supply, sewer connections, and so on. In the approved SAAPs, the States/ULBs have targeted the benchmark of universal coverage. The SAAP has to review the progress towards targets set by the States/ULBs to move towards achievement of universal coverage, etc.		• Household level coverage of direct water supply connections • Per capita quantum of water supplied • Quality of water supplied • *Coverage of latrines (individual or community) • Coverage of sewerage network services • Efficiency of Collection of Sewerage • Adequacy in STP capacity • Coverage of storm water drainage network
Swachh Bharat Mission Urban Dashboard	Ministry of Housing and Urban Affairs Swach Andhra Corporation	Provides status of sanitation and SWM in at state, district and city level Regular and timely progress of the scheme across the country	Open access	• Household toilets constructed • Community and public toilets constructed • Open defecation free cities • SWM – door to door collection • Waste to energy • Waste to compost
National Urban Livelihood Mission - MEPMA	Andhra Pradesh State government	MEPMA is the state-level implementing agency for NULM,	Requires user login to access	

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[3] http://www.iamrindia.gov.in/writereaddata/UploadFile/MISPaper.pdf

(Mission for Elimination of Poverty in Municipal Areas)		NULM developed an online web based Management Information System (MIS) for the purpose of monitoring real time and regular progress of the scheme MEPMA has a detailed MIS information about old defunct and existing, new SHGs, enterprises and loans available, bank linkages, financial subsidies etc. are recorded This MIS captures online data from all the stakeholders.		
National Health Mission [4]	Health department and Urban Local Bodies	The MIS mainly helps in monitoring	MIS reports are accessible for the states	• Life Expectancy at Birth • Neo Natal Mortality Rate • Under 5 Mortality Rate • Contraceptive Prevalence Rate • Number of meetings of State Health Mission • Number of meetings of District Health Missions • Number of ASHAs in position (Urban) • Number of ASHAs trained • Total number of Monthly Urban Health & Nutrition Days (UHNDs) held in the State • Number of Mahila Arogya Samitis (MAS) formed • Number of MAS monthly review meeting held • Number of MAS trained • Number of Special outreach camps held (Urban) • Number of PHCs • Total number of PHCs functioning as 24x7 basis
AP online	Andhra Pradesh State government Urban Local Bodies	This portal is meant primarily for the citizens/businesses of the state of Andhra Pradesh. Through AP Online, the citizen has comprehensive access to information	Requires citizen and government login to access	

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[4] http://www.nhm.gov.in/New_Updates_2018/Quarterly_MIS/March-2018/Non_High_Focus_States_Large.pdf

		content and web services through a single window. Through AP Portal the citizens can avail a wide variety of services like registrations, issue of certificates, utility services, and payments services. In addition, regularly updated information about matters of general concern to the citizens is available for access through the portal home page. Government's information, GO s, acts, addresses of legislatures, contact list of ministers, secretaries, and similar other information.		
AP State Portal	Andhra Pradesh State government	Similar to AP Online provides government information about it policies, investment opportunities, health, education bank, relief funds etc. too the citizens Information pertaining to industries, tenders etc.		
AP State Dashboard	Andhra Pradesh State government Urban Local Bodies	The dashboard measures Municipal KPIs, shows PT dashboard, grievance redressal dashboard, public works and service requests	Open access	• Solid waste management – overall, door to door, garbage lifting • Property tax – overall, collection efficiency, increased demand • Public Grievance redressals • Pending Accounts and audits • Water supply – overall, connection coverage, cost recovery • Street lights – additional features to be set up to achieve 100% saturation • Town planning activities – no. pf application disposed • Community development – overall, SHG bank linkages, livelihood (persons trained and placed), skill training programmes • Community toilets coverage

				• IHHL coverage • Tree plantation • Affordable housing in partnerships • Satisfactory levels of pensioners
CORE (CM Office Real-time Executive) Dashboard	Andhra Pradesh State government and state departments	Is a visual display of the department's information which need to achieve one or more objectives; consolidated and arranged in a single frame so that the information can be monitored effectively by Hon'ble Chief Minister at a glance. 33 State Government Departments are integrated in the CORE Dashboard. Various key statistics of concerned departments are published in the CORE Dashboard, which may provide key insights of Department activities. The information is available at district and city level and mission level	Open access	• No. of ULBs having a functional Solid Waste Management system • Solid Waste Treated in MT's • No. of Gram Panchayat Declared Open Defecation Free (ODF) • Completion of IHHL sanctioned during previous years • No. of ULBs that have been re-certified for ODF in the last 6 months • No. of districts Open Defecation Free (ODF) • No. of ULBs that are ODF plus as per GOI norm • Current Year IHHLs Status – Sanctioned • Current Year IHHLs Status – Completed • Solid Waste Collected in MT • % of Solid Waste Collected to Generated- • % of Solid Waste Treated to Generated • Total no. of Composting Plants • % of Waste to Compost as a % of Waste Generated • No. of ULBs With 70 - 135 Lpcd Drinking Water Supply • No. of ULBs With <70 Lpcd Drinking Water Supply • No. of ULBs having a functional Solid Waste Management system • Solid Waste Treated in MT's • No. of Gram Panchayat Declared Open Defecation Free (ODF) • Completion of IHHL sanctioned during previous years

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Urban Water Supply Information System (UWSIS)	The Public Health Engineering department	UWSIS is a monitoring tool to track the Water Supply positions across the municipalities in the State It is an MIS application that monitors daily water supply in all the 110 Municipalities and 12 Municipal Corporations of	Requires user login to access	• Status of Drinking Water Supply • Status of Daily Water Supply(Surface) • Status of Daily Water Supply(Bore wells) • Status of Pipelines • Frequency of Supply • Status of Quality Testing

		the state of Andhra Pradesh		• Status of Water Borne Diseases

MIS for Karnataka

MIS	Responsible agency/ where is it housed	What is being measured	Is it easily accessible	Indicators
Karnataka Municipal Data Society – Municipal Reform Cell – State Dashboard	Directorate of Municipal Administration Urban Development Department	Objectives towards strengthening Urban Local Bodies through e-governance. A state level Municipal Data Centre is established within the Municipal Reforms Cell and a centralized database of all the ULBs are being maintained from it. The data is available at city and ward level	Open access	• Complaints redressal • Building licences • Property tax collected • Trade licences • Water connections • UGD connections • Birth and death registrations • Schemes – status
KGIS	Karnataka State Remote Sensing Applications Centre (KSRSAC)	Government of Karnataka has launched the (K-GIS) as a flag ship program of the state which is a common platform that will consolidate and provide a future path that ensures availability of updated "GIS ready data" of specified standard, integration, enabling the departments towards governance	Open access	Spatial Data • Sewage treatment plants • Overhead tanks • Ground level reservoirs • Kiosk centres • Water lines • Sewer lines • Basins • Catchments • Watersheds • Anganwadi

Learnings from MIS for adoption in IIGMF

The urban local bodies report to the state government for different programmes/schemes periodically through different reporting mechanisms, usually through their own MIS or retrieve data from state MIS. From the above consolidation of different MIS available in the state of Andhra Pradesh, it can be arrived that majority of WSH related indicators are measured. However there is an absence of disaggregated indicators that can capture inclusiveness of the sector. In some cases the social indicators are captured separately exclusive of the WSH sector, but are relevant for the sector. Thus for the IIGMF, a minimal addition of inclusive indicators or disaggregation of existing indicators or integration of social indicators with sector indicators into already existing programme specific MIS/ state specific MIS can be suggests.