

## **E-GOVERNANCE SERVICES FOR SUSTAINABLE LIVELIHOODS: MDGS BASED ASSESSMENT**

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### **—Abstract—**

Millennium Development Goals (MDG) initiative with set of eight goals contribute to sustainable livelihoods. Persistence of digital divides in the form of affordability, access to technology, usage and usability of the services rendered and deficits in good E-governance have impeded the achievement of goals. E-Governance services in India aim to address these issues and are in process of scaling to reach rural households. Converged e-governance services in India strive to capture local knowledge for wider dissemination, and enables rural households to augment their livelihoods. The paper assesses availability of e-governance services in supporting sustainable livelihoods of rural households in Mahabubnagar district in the state of Andhra Pradesh.

**Key Words:** *Millennium Development Goals, e-Governance Services, Sustainable Livelihoods*

**JEL Classification:** O33

## **1. INTRODUCTION**

MDG is considered as an important agenda for the United Nations (UN) with the aim to address poverty reduction globally. MDG having a set of eight goals aims to achieve targeted objectives by the year 2015 and recognizes intertwined

relationships among all these goals in order to foster sustainable development. As per UN's assessment, results of the planned activities are discouraging and all the member countries are showing mixed results across all the eight goals. Increasingly, role of E-Governance for development with specific reference to MDG is being considered as important (United Nations 2010; United Nations 2012; United Nations 2013).

MDG related assessment reveals that impact of ICT has been in the form of access to telephony, television and other modes of communication with ICT support (part of digital divides). All these dimensions of ICT interventions have varied influences in augmenting e-governance services in developing countries. In order to map the effects of e-governance services in attaining MDGs, sustainable livelihoods framework can be used as an effective tool. Relating e-governance services to support sustainable livelihood systems is not new phenomenon. It is argued that ICT infrastructure, ICT enabled services and development oriented national ICT policy are pre-conditions for successful e-governance services (Chambers and Conway, 1992). Similarly MDGs having focus on various dimensions of sustainable development depend on enabling infrastructure, market and other support structure as part of national policies (Misra 2012).

In Indian context, citizens' collaboration is also considered as an important dimension for successful e-governance. National e-Governance Plan (NeGP) is a definite step to augment citizen centered services. Evolution of e-governance services however, are yet to converge to meet the citizen centered demands. Citizen demands in India are extremely diverse due to various digital, social and economic divides. Citizen demands spanning across a huge spectrum need holistic calibrations, creation of standards for infrastructures, processes and systems. This approach may entail bureaucratic process re-engineering. Despite these difficult tasks, e-governance services and models in India are showcasing best practices delivering citizen centered services and they are in the phase of consolidation.

## **2. MDGs AND E-GOVERNANCE**

MDG report 2012 of UN indicates that despite best efforts many intervening areas need attention across all the eight goals i.e., poverty, universal primary education, gender equality, child mortality, maternal health, combating HIV/AIDS, ensuring environmental sustainability and development of global partnership. The report also emphasizes on accelerated deployment and use of ICT. Such issues are

understood to be influencers in e-governance initiatives in order to implement the MDG directives of UN. E-governance is considered as important contributors to achieving MDG due to its capabilities which include building citizen centered service choices, making government and its services more accessible through m-government, social and financial inclusion, mitigating information asymmetry, and creating an environment for effective governance system. E-Governance also argues in favour of providing services which are affordable in terms of cost, time and spatial considerations.

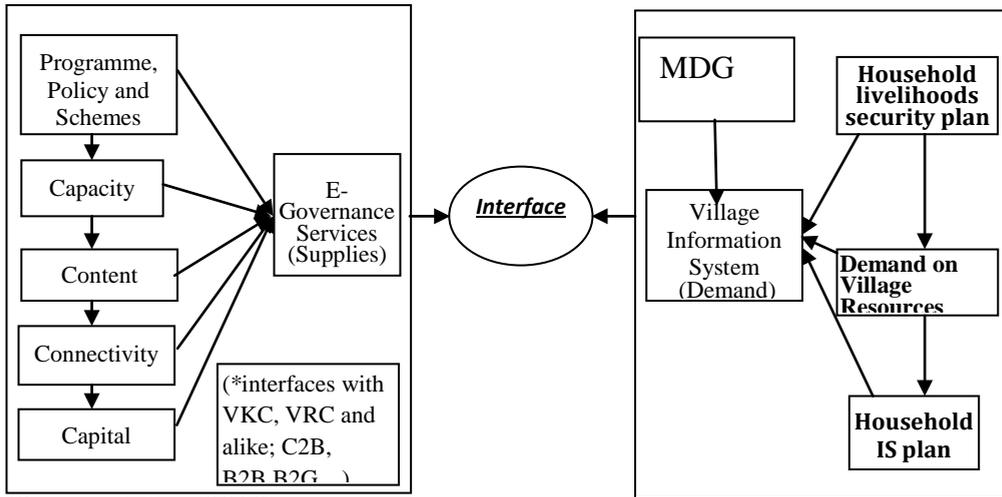
MDG driven initiatives are best understood with the rationale that all of these initiatives are measurable. Today most e-governance initiatives are aimed at increasing ICT use in meeting MDG goals. Various attempts are being made in countries to embrace ICT enabled government services, to provide citizen interfaces with transparency in transactions, to build trust in government systems, and to deploy citizen-centric - services. In the paradigm of global e-governance, similar experiences as discussed in the MDG-oriented study are observed. Notwithstanding many successful efforts for implementation of e-governance projects globally, there have been challenges before the implementers to provide right services. However, successful efforts in e-governance projects worldwide have so far been characterized by many considerations which include a sound policy framework and strong ICT infrastructure at national level. The thrust has been on “inclusive information society” in order to provide “right infrastructure”, enhance “e-skills”, and create an “accessible e-Government” for any good e-governance system with an expectation to improve upon the results and outcomes. It is also recognized that “e” part of “e-governance” is quite less critical in terms of assessing its success than the governance systems which need to adopt the right approach for process re-engineering, better interface with citizens, and productive use of the process through innovation (Gilhooly, 2004;Heeks, 2009).

### **3. RESEARCH FRAMEWORK**

A framework is presented through which the interface for citizen services (here rural citizens in particular) between services offered through NeGP networks and services demanded through village information systems (VIS) is explained. The framework suggests that supplies of information through NeGP may converge through adequate backend networking with all possible stakeholders in development and business processes (B2B, B2G, B2C etc.). It may also take care

of supplying policy-driven government services and establishing the right ambience for capacity building of citizens, providing adequate connectivity, provisioning required capital and content through service outlets which have been set up in every cluster of six villages. However, the framework suggests it to be equally important to establish an adequate framework to interface with citizen demand in villages.

Figure 10: Proposed Framework



(Source: Misra,2010)

It is argued that each household in a typical Indian village has specific latent demand on information, which is based on its “livelihood security” opportunities and challenges. This latency becomes critical when the related infrastructure is not available in the proximity of a village. Meeting this demand would attract an interface with NeGP services at the household level and a sustainable synergy among related infrastructure and services. It is important that a VIS plan is articulated and documented to capture the dynamic needs of villagers and this needs to be interfaced with NeGP and other networked service providers. Therefore, VIS needs to capture this latent demand and interface with NeGP services on a sustainable manner. A mere aggregation of household information at the village level would not perhaps raise the latent demand. The premise on which the framework is organized is discussed below:

- MDG needs to assess the local needs and capture them for intervention,

- There are multiple agencies as service providers and sets of services to meet each MDG,
- The household needs in rural areas are divergent,
- Designs for E-Governance services should adapt to the realities at the points of demand. This reality check is dynamic.

### 3.1 Sustainable Livelihood Security Based VIS Framework

The village information system assumes a critical role in contributing to the national information services plan. Diversity in social, cultural, demographic, economic and infrastructural assets in a village influences the household livelihood security options and thus generates a unique scenario. Information economics principles has a far-reaching effect on VIS which argues that information is increasingly recognised as a capital and can add to the livelihood pentagon framework which has five faces of capital to assess the livelihood of a household: financial, human, natural, physical, and social. This information capital can be used for the advantages of citizens in developing countries to support livelihood options (Heeks et al. 2009).

Table 1: Sustainable Livelihood Security Mapping

LS Dimensions	Assessment Metrics	Relevant MDG	E-Governance Dimensions
Food Security	Availability of food in Household, Proper Sale Value Realization of house hold produce in the Village, Distance Travelled for Sale, Work Opportunity in Village	1	Information absence Information quality Information uncertainty Information asymmetry Information cost Information Access and Proximity • • • • • •
Health Security	Accessible to Health Infrastructure	1	
	Availability of Health Services in the Village, Immunization /Health Training, Livestock Support Services in the Village	4,5,6	
Education Security	Formal Education Facility (Primary and Secondary)	2	
Financial Security	Ability to meet Household Expenses, Availability of Credit/ Insurance Services, Access to Credit/ Insurance Services	1,3	
Social Security	Activities in Groups (Social, Religious, Community)	1	

Availability of information capital at the household level in developing countries can immensely influence local livelihood opportunities through information management at right time, at appropriate locations, and with right language interfaces. Therefore, it is important that information availability is measured

through its proximity to the source and recipient, latency in extending information and its related services, decrease in the uncertainty in provisioning of information through integration, and ability of citizens to gain access to the information at affordable cost. The proposed framework aims to establish a synergy between the information provisioning agencies and citizens in the villages and map the services through these metrics. It is posited that VIS would assume this role in establishing the required synergy. In Table 1 below, the framework suggests that sustainable livelihood security, indicative VIS metrics are discussed.

Explanations of the E-Governance Dimensions:

- Information absence: key information that development actors need is not available.
- Information quality: key information that development actors need is available but of poor quality.
- Information uncertainty: key information that development actors need is available but its quality is uncertain.
- Information asymmetry: some development actors have access to key information that others lack.
- Information cost: key information can only be obtained at high cost (often a physical journey).
- Information Access and Proximity : key information that development actors need is available in their vicinity and on demand with least latency

In the proposed framework, VIS needs to map the information dimensions of citizen centered services available through e-governance efforts in the area. It is argued that all the dimensions are effectively managed for extending services to the citizens.

#### **4. THE CASE**

Mahabubnagar District is located in the central part of peninsular India and northern part of southern Deccan region. Mahubnagar is spread over an area of 18,400 sq.km and is the second largest district in the state and largest in Telangana. Mahabubnagar (traditional name: Palamur) is the most backward and least developed district in Andhra Pradesh, despite its proximity to Hyderabad, the state capital and one of the ten most backward districts in India.

Figure 2: The District Map of Mhabubnagar

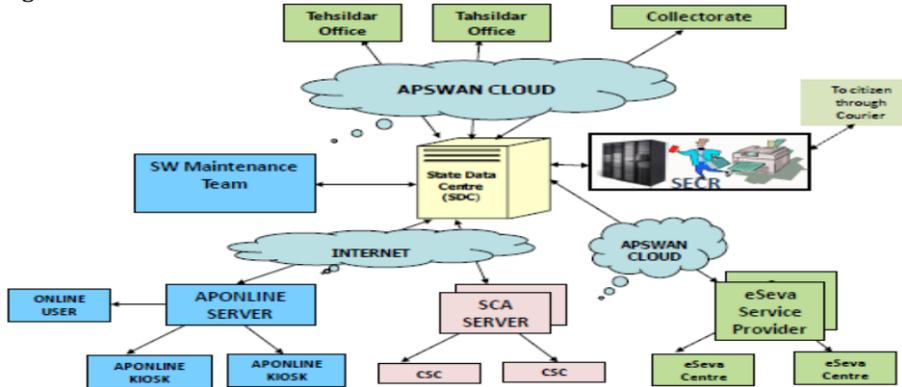


The district forms part of Telangana region of Andhra Pradesh, which is a land-locked area with semi-arid climatic conditions having hot summers, warm winters and sporadic rainfall. According to the 2011 census Mahabubnagar district has a population of 4,042,191, and ranked as 55th most populous district out of 640 in India. The district has a population density of 219 inhabitants per square kilometer with population growth rate of 15.03% over the decade 2001–2011. Mahabubnagar has a sex ratio of 975 females for every 1000 males and a literacy rate of 56.06%. The primary languages spoken in the district are Telugu, Urdu and Hindi. In 2007–2008 the International Institute for Population Sciences interviewed 1186 households in 45 villages across the district and found that 89.9% had access to electricity, 98.8% had access to drinking water, 21.2% had access to toilet facilities and 50.7% lived in a pucca (permanent) homes, 47% of girls wed before the legal age of 18 and 95% of interviewees carried a Below Poverty Line (BPL) card. (Source: [mahabubnagar.nic.in/Resources/DistStat.doc](http://mahabubnagar.nic.in/Resources/DistStat.doc))

#### 4.1 MeeSeva : E-Gouvernance Services

In Figure 2, MeeSeva service architecture is presented. The district of Mahabubnagar has implemented MeeSeva services through NeGP framework to extend interactive engagements with the citizen. Every Mandal operates multiple centres under franchise mode. In this arrangement, franchisee invests in acquisition of infrastructure including connectivity with support from the government. Depending on volume of transactions, the franchisee will earn its revenue which is termed as “transaction fee”. All the government services will be made available through these centres. A centralized state data centre aims to cater to these centers (SDC).

Figure 2: MeeSeva Service Architecture



Each MeeSeva centre is connected to the data centre through wireless broadband connection managed by internet service providers. The SDC is connected to the government departments who are expected to be the real service providers for the citizens through cloud networks.

## 5. ANALYSES

The proposed framework discussed in section three is used for analyzing MeeSeva services in one Mandal in Mahabubnagar District. A Mandal is an administrative and revenue boundary used for government administration. A predefined number of villages depending on population density are group for one Manda for the purpose. The Mnadal covered by us for the study is Waddepalle. There are three MeeSevacentres in this Mandal i.e., two in Mandal head quarters and one in Rajoli village. These centres are functional since last one year. These centres are expected to provide services Category A and B services to the citizens (*Category A services are provided across the counter and Category B services are served with some delay and sent to the citizen by post.*).

Analyses of MeeSeva environment in this case indicate that the service provider is mostly providing services to the citizens related to voterID cards, caste certificates, study certificates, land records, payment of electricity and telephone bills, insurance premium payments. The centre caters to the citizens spread over 12.5 km radius. With an average of 50-70 transactions a day, the cntere is not economically viable. The centre faces the problems of prolonged power cuts leading to disruptions in services. The un-interrupted power supply systems are mostly dysfunctional due to power cuts. Wireless broadband connectivity is poor in quality of services leading to high transaction time and cost. Other than

specified government services, information sharing is at its minimum. In Table 2 below the framework based results are indicated.

Table 2: E-Governance Services

LS Dimensions	Relevant MDG Number	E-Governance Dimensions					
		Information					
		Absence	Quality	Uncertainty	Asymmetry	cost	Access and Proximity
Food Security	1	+++	+	+++	++++	++	+++++
Health Security	1, 2, 4, 5, 6	+++++	+	+++++	+++++	++	+++++
Education Security	2	+++	++	+++	++++	++	++++
Financial Security	1,3	++++	+++	++++	++++	+++	++++
Social Security	1,3	+++++	+	+++++	+++++	++	+++++

Note: High: +++++ Low: +

The table indicates that most of the services are inadequately meeting the requirements set in MDGs. All the dimensions of e-governance related to information and connected services are not within desirable limits. Most prominent among them are “access and proximity” as most of the respondents said to have travelled 15 kilometers to avail the service. In many situations repeated visits are made by the citizens for a transaction. They are not sure of receiving services across the counter. However, citizens are reported to be satisfied about the cost of transaction (but not the time) and are willing to pay for the services. Their inclination to get information market (product and services) is quite high and thus there is opportunity for the franchisee to provide the services at a fee.

## 6. CONCLUSION

E-governance services are expected to interface with the objectives of sustainable development and MDGs. ICT being the agent for e-governance services, challenges faced in ICT mobilization in development paradigm is quite predictive. Thus it is necessary that learning from the best practices in embracing ICT enabled services for business and development are mapped to the e-governance environment for better results. This also needs citizen participation and collaboration in assessing their demand on a continuous basis to ensure that their needs are captured proactively before the service provisioning agencies embark of scaling up of such services.

This case based work has two limitations. The first limitation is that it has included only one Mandal of the entire district. The second limitation is related to small sample size of MeeSeva centres and citizens. Thus the analyses and conclusions made are not representative.

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### **BIBLIOGRAPHY**

United Nations, (2010). The Global Partnership for Development at a Critical Juncture. MDG Gap Taskforce Report, United Nations, New York.

<http://www.undp.org/content/undp/en/home/presscenter/speeches/2013/02/27/2013-global-mdg-conference-opening-remarks-helen-clark-undp-administrator/>  
accessed on 12.04.2013

UN Report on MDG- 2012- [http://www.undp.org/content/dam/undp/library/MDG/english/The MDG Report 2012.pdf](http://www.undp.org/content/dam/undp/library/MDG/english/The_MDG_Report_2012.pdf) [accessed on 12.04.2013]

Chambers, R., & Conway, G. (1992). Sustainable Rural Livelihoods: Practical Concepts for the 21st Century. Brighton: IDS.

Misra, H. K., (2012), E-Governance and Millennium Development Goals: Sustainable Development Perspective in Rural India, ICEGOV2012, Albany, New York, 22-25 October. Published in the Proceedings of ACM.

Heeks, Richard and Molla, Alemayehu (2009), "Impact Assessment of ICT-for-Development Projects: A Compendium of Approaches", Working Paper 36, Institute for Development, Policy and Management (IDPM), University of Manchester.

Gilhooly, Denis,(2004), Mainstreaming Information & Communication Technologies for the Achievement of the Millennium Development Goals, Report UN ICT Task Force, Berlin, 18-20 November.

[mahabubnagar.nic.in/Resources/DistStat.doc](http://mahabubnagar.nic.in/Resources/DistStat.doc) [accessed on 12.04.2013]

<http://advantageap.in/2012/advantageAP-Meeseva.pdf> [accessed on 12.04.2013]

Misra, H. K., (2010), Role of Information Systems Architecture in E-Governance: The Case of MGNREGS in India, ICEGOV2010, Beijing, China, 25 - 28 October 2010. Published in the Proceedings of ACM.