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e-Government for Development: A Case Study from Mozambique

Research Article

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ABSTRACT

This paper draws upon Amartya Sen's concept of "development as freedom" as an effective approach to analyze e-government for development initiatives. An interpretive analysis of three projects ongoing in Mozambique report that although some "freedoms" are currently reachable through these initiatives, a lot needs to be done to achieve "development as freedom." The use of this theoretical approach provides a valuable contribution to the research domain of ICTs for development. This article also draws practical recommendations to assist managers of e-government projects in Mozambique, as well as other developing countries.

Keywords

e-Government, ICTs, development, poverty, economic growth, interventionism

INTRODUCTION

E-government has widely been advocated by governments and development agencies as a means to obtain efficiency, accountability, and transparency in governance (Stanforth, 2007), and supporting poverty reduction by sustaining good governance. Such arguments have led many governments, including Mozambique, to undertake multiple e-government initiatives to support development. In this article, three such projects ongoing in Mozambique are analyzed: Integrated Financial Management Information System (e-SISTAFE) for tracking poverty reduction through controlling the finances; the Government Electronic Network (GovNet), aiming to connect electronically public institutions such as Ministry headquarters; and the integrated e-Land Registry and Land Management Information System (LMIS) that aims to support the management of the country's natural resources such as land and forestry.

This article seeks to theoretically understand the relation between e-government and development, and empirically examine this relationship in the context of Mozambique. Drawing from Sen, the key research question addressed is "How does e-government contribute to development by creating capabilities or removing the constraints that people live with?" This study thus contributes to the field of ICTs for developing by theoretically exploring the meaning of development (Walsham and Sahay 2006).

Development by itself is a very complex concept usually driven by political agendas, especially the promise of economic development. In contrast, Amartya Sen defines "development as freedom," implying the need for the removal of various constraints that people suffer from or the creation of people's capabilities to exercise choices they value in life. Viewing development through such a broad perspective of human capabilities opens up possibilities to take the e-government agenda closer to achieve the ideals of development.

The rest of the article is organized as follows. The next section develops the theoretical perspective around development and e-government. The research methodology is then described followed by a summary overview of the three cases studied. Following, the case analysis and discussion is presented, and then the conclusions and recommendations.

THEORETICAL FRAMEWORK

Theoretically understanding development approaches is key to explicate the role of e-government in development (Zheng, 2007). Thomas (2000) argues that in whichever sense the term development is used, it embodies competing political

aims and social values, and contrasting theories of social change. Two key paradigms of development are discussed.

Economic Growth View of Development

Development has always been highly influenced by the economic thought and interventionist approach (Escobar, 1995), varying with political perspectives and measured by increases in Gross Domestic Product (GDP). The interventionist approach concerns taking action to make development occur. This typically involves the increase of GDP through development projects fostered or administered by various national and international agencies such as the World Bank. Such an approach is intentional and imposed by global policies concerning providing aid to the 'poor' (Thomas, 2000).

The historically rooted and politically driven interventionist focus on development has been widely criticized for not meeting basic human needs (Hettne, 1990; Escobar, 1995; Sen, 1999) and not contributing to development (Spoor, 2004). Further, this approach has been criticized for increasing the dependency of developing countries (Chakravarti 2005) and also the size of their poverty (Escobar 1995; Thomas, 2000; Kothari and Minogue 2002). Also development has excluded the real beneficiaries (Kothari and Minogue, 2002; Escobar, 1995), with its Europeanized focus (Hettne, 1990) and working more as a business (Rahnema 1986).

Critics have argued that development should be seen from an entire social system perspective, including the various deprivations that individuals experience in realizing their inherent potential and capabilities. Such thinking has contributed to a redefinition of the concept of development and its practice, leading to an approach that is more people-centered and concerned about gender inequities and participatory and sustainable development (Spoor, 2004; Chakravarti, 2005; Todaro, 2001; Max-Neef, Elizalde, and Hoepenhayn, 1998). This redefinition is reflected, for instance, in the United Nations Development Programme (UNDP)'s publications on Human Development, which emphasize non-economic dimensions of development such as welfare, social equity, gender balance, democracy, and empowerment. A key figure in this redefinition debate is Sen (1999), who is now discussed.

Sen's View of Development

Sen treats the freedom of individuals as the basic building block of development, emphasizing the expansion of the "capabilities" of persons to lead the kind of lives

they value – and have reason to value. Capability is ‘a person’s ability to do valuable acts or reach voluble states of being’ and ‘represents the alternative combination of things a person is able to do or be’ (Sen, 1999 p. 30). Development is seen as building the capability to remove the major sources of constraints that people suffer from, “unfreedoms” (Sen, 1999), such as famines, under nutrition, limited access to health care, education, and sanitary arrangements.

Sen describes poverty as capability deprivation rather than merely low incomes. Low income is clearly one of the major causes of poverty, and often a principal reason for a person’s capability deprivation. Sen recognizes that GDP can be very important as a means to expanding individual “freedoms,” such as access to facilities for education and health care, as well as political rights. Similarly, industrialization or technological progress can substantially contribute to expanding human freedoms. Therefore, Sen argues that the usefulness of wealth lies in the things that it allows us to do, a form of substantive “freedom.”

Most importantly, the freedoms enable and are enabled by capabilities that citizens enjoy. Sen argues that the most important instrumental freedoms, required for development, are political freedoms, economic facilities, social opportunities, transparency guarantees, and protective securities. *Political freedoms* allow citizens to choose their representatives and participate in setting the agenda for political discussions and express the individual will by participating in public debates and decisions. *Economic facilities* consist of the use of available economic resources for the purpose of consumption, or production, or change. This depends on the resources owned or available for use as well as on conditions of exchange. *Social opportunities* have to do with the facilities made available to citizens for health, education, and infrastructure that allow them to live healthy and participate in economic and political activities. *Transparency guarantees* concerns openness that people can expect while dealing with one another under guarantees of disclosure and lucidity. These serve to prevent corruption, financial irresponsibility, and underhand dealings. *Protective security* serves as a social safety net for preventing the affected population from being reduced to abject misery and death. Protective security includes fixed institutional arrangements such as unemployment benefits and statutory income supplements, as well as *ad hoc* arrangements such as famine relief or emergency employment to those in need.

Accordingly, e-government can be analytically examined in its capability to do so. The capability approach offers a framework of thinking (Zheng, 2007) rather than a directly applicable toolkit for promoting development through technological

adoption, as means rather than ends. In the next section, the tenuous relation between development and e-government is discussed.

e-Government for Development

Various countries and organizations have embarked on a variety of definitions and applications ranging from the *e* side of it to the *government* aspect (Navarra and Cornford, 2003). Typically, the tendency is to focus on the improvement of government and the provision of services and information through the government (Ndou, 2004). Basic human needs and capabilities are rarely ever explicitly addressed (Madon, 2004), and the assumption often made is that people's well being will be achieved if there is an improvement first in the delivery of government services. For example, the National Information System in Egypt aimed at reducing process costs and another system in Tanzania sought to manage process performance by delivering management control (Heeks, 2001; Backus, 2001).

Some prior studies conceptualized the e-government and development relation based on Sen's view of development (Madon 2004, Zheng 2005, 2007 and De 2006). In a similar vein, in this study the relation is analyzed based on the potential of e-government initiatives to remove the unfreedoms people experience in exercising the choices they value, both in thought and action. Without "freedom" of access to education and health care, the capability of living longer and participation in decision-making process, Sen will argue that development is not taking place, no matter how the country's GDP increases. This view has implications for developing countries like Mozambique where poverty is high and e-government is being promoted as a means to achieve development.

Analytical Framework

Analytically, the implications of e-government on development can be examined by understanding the extent of constraints it can remove and the capabilities it can offer. E-government initiatives need to transcend national programs and extend to individuals if development is to be achieved. Table 1 summarizes the instrumental freedoms that are used as a theoretical lens to analyze the 3 case studies.

Concept Definition	Definition
Political Freedoms	Capability of participating in political and public discussions.
Economic Facilities	Freedoms that citizens enjoy to transact in the market and to use available economic resources and entitlements.
Social Opportunities	Facilities made available for citizens to allow them to live healthy and participate in economic and political activities.
Transparency Guarantees	Openness and basic trust that citizens enjoy in their day-to-day transactions.
Protective Security	Protection from basic deprivations.

Table 1. Summary of the Analytical Framework's Concepts

RESEARCH METHODOLOGY

The Setting

With respect to e-government for development, Mozambique is an interesting case from both the development and IS research perspectives. Although the country's economy has been growing in recent years on an average of 8 percent, roughly 50 percent of the population is still considered poor, and more than 70 percent lives in rural areas with limited access to education and health facilities. On the Human Development Index (HDI), the country is ranked 168th (out of 177). The national development agenda is guided by the Action Plan for Poverty Reduction (PARPA) which aims to reduce poverty to 45 percent by 2009. The role of ICTs is seen as a key component of the PARPA (CPIInfo, 2002).

Research Design

The present study took place from April 2005 to July 2007 and examined three cases: e-SISTAFE, LMIS, and GovNet from the finance, land management, and infrastructure sectors, respectively. All the projects were ongoing as a part of the national ICT implementation strategy.

Taking the perspective of e-government as a social system, various social and technical elements are seen intertwined and shaped within a historical context (Walsham, 1993). Data gathering used qualitative research methods consisting of 130 interviews, including system operators, project managers, system users, and potential project beneficiaries.

Observations were carried out in three provinces - Maputo, Sofala, and Cabo Delgado – which were visited during the course of the field work (see Figure 1). In

addition, secondary data, for example data related to country development policies, ICT strategies, and project descriptions were examined.



Figure 1. Map of Mozambique and Provincial Administrative Division

Analysis of the empirical data was done through a ‘manual’ process (Glaser and Strauss, 1967) of (re) reading the field notes, linking theoretical concepts with the observations, and constructing coherent themes.

E-GOVERNMENT FOR DEVELOPMENT IN MOZAMBIQUE

According to CPInfo (2005), the Mozambican e-government strategy plays an important role in the country’s development strategy. The three projects empirically studied are now described.

GovNet

The GovNet vision is to create a unique government platform of communication that links the government institutions with the citizens, with a view to enhance the efficiency and efficacy of the public institutions and their service delivery

(Chemane, 2006). GovNet is designed to offer a secure and trusted network connection, a cost-effective shared access to the Internet, a governmental web-portal, unified e-mail system, and mechanisms for document exchange and management. According to the Minister of Science and Technology (2005):

“GovNet increases our capacity to coordinate national efforts to foster growth and reduce poverty in Mozambique. It is a first step but already we are seeing more efficient inter-departmental communication, as well as reduced administrative costs from avoiding a duplication of efforts.”

GovNet is also seen to contribute to the international development agenda, as Alan Rossi, the chief executive officer of Development Gateway Foundation has argued:

“... GovNet is a key component of the Development Gateway's mission to put the Internet to work for developing countries. It enables partner countries to better address their national development issues.”

GovNet implementation started in March 2004, aiming to connect approximately 10,000 government workers, within 115 institutions and 7,500 workstations. The responsibility for the implementation was with the ICT Policy Implementation Technical Unit (UTICT) and financed by the government of Italy and the Development Gateway Foundation. In 2006, 45 public institutions (headquarters ministries and some branches in the Capital Maputo and other provinces), were covered.

e-SISTAFE

Several studies (USAID, 2005; Gastrow and Mosse, 2002; Hanlon, 2002) have highlighted relatively poor management of public finances in Mozambique, and its adverse implications on national development. Financial reforms are thus a key component of the national agenda, including the implementation of e-SISTAFE starting in 2002. Sponsors include Sweden, Norway, Denmark, the United Kingdom, the European Commission, the World Bank and, since 2003, Belgium.

e-SISTAFE seeks to replace a manual, weak, and outdated system with public accounting laws dating back to 1881. The manual system cannot effectively support decisions to ensure that resources are allocated to defined priorities of public spending. The first modules of the system were deployed in 2004 in the Ministry of Finance and Education.

LMIS

The government realized that the existing land registry system had become defunct after the country's independence in 1975, resulting in various conflicts over land with adverse implications on promoting investments in agriculture and donor confidence. To address some of these urgent problems, the government saw the need for an efficient land registration and management web-based system. The architecture of LMIS is shown in Figure 2. This system would support the collection, archiving, processing, and administration of land records.

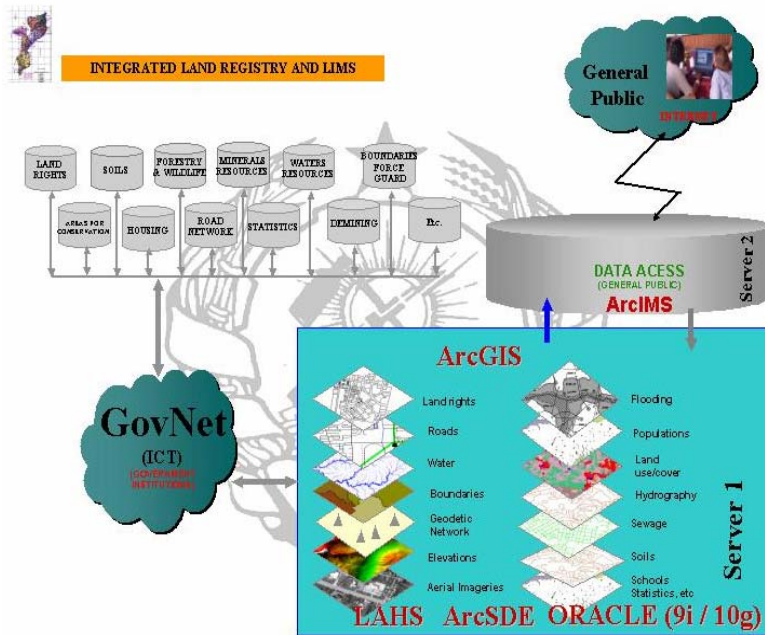


Figure 2. Integrated e-Land and LMIS (Mucombo, 2004)

The LMIS has been implemented since 2004 by the National Directorate of Land and Forestry (DINATEFE¹). This project is sponsored mainly by the government of Italy and Agricultural Sector Public Expenditure Programme (PROAGRI).

Table 2 summarizes the three empirical projects studied.

¹ Direcção Nacional de Terras e Florestas

Project	Rationale	Challenges	Opportunities	Achievements	What is not offering now?
<p><i>Govnet:</i> Initiated in 2004 as a pilot project and sponsored by the Government of Italy and Development Gateway foundation.</p>	<p>The creation of an Internet infrastructure avoids duplication of efforts among public institutions; reduces cost transaction of service delivery and information exchange, therefore contributes to development.</p>	<ul style="list-style-type: none"> - start the new infrastructure from scratch; - gain political will and public awareness; - guarantee interoperability; - “eliminate” the usage of previous networks for the delivering of public services; - guarantee sustainability of the project; - human resources for building and maintaining the network. 	<ul style="list-style-type: none"> - unified e-mail and Internet services among public institutions; - provision of online services; - cost-effective through shared access among public institutions; - secure network; - more literate ICT public servants and citizens. 	<ul style="list-style-type: none"> - running a web portal; - installed at national and province level; - being used by 500 public servants distributed among 70 public institutions and linked through nearly 400 workstations; - provision of some downloadable forms; - provision of some online legislation and information service; - running 3 applications. 	<ul style="list-style-type: none"> - online service transactions; - network connection at the district level; - train the rest of public servants;
<p><i>e-SISTAFE:</i> Initiated in 2002 and sponsored by Sweden, Norway, Denmark, the United Kingdom, the European Commission, the World Bank and, Belgium.</p>	<p>Create a modern financial management system that will allow an effective control of the public funds, contributing to good governance (increase transparency, accountability, rule of law, reduce corruption) which is a condition for development.</p>	<ul style="list-style-type: none"> - change the financial and accounting system in use; - policy challenges; - guarantee sustainability of the project; - human resources for building and maintaining the network. 	<ul style="list-style-type: none"> - transparency on management of public funds; - modernize the financial system; 	<ul style="list-style-type: none"> - created a single treasury account and merged more than 1,200 public accounts; - installed at national and province level; - increased effectiveness in the payment of public servants salaries; - identified some irregularities in the financial management in some public institutions; - trained more than 2,000 public servants; - 22 ministries and 5 public institutions using e-SISTAFE - running a master course on ICTs in a partnership with UEM; - executing all stages of expenditure and direct budget execution (commitment, liquidation, verifications, payment, accounting, and reporting disbursement of funds). 	<ul style="list-style-type: none"> - network connection at the district level; - integrate all the other financial systems still running in public institutions; - train the rest of public servants; - complete other modules of the system such as: pensions functionality; payroll functionality, etc.
<p><i>LMIS:</i> Initiated in 2004 and sponsored by the Government of Italy, Development Gateway foundation and PROAGRI.</p>	<p>Create a modern and effective land management system that will allow effective control over the natural resources, which in turn open doors for good investment, therefore contribute for development.</p>	<ul style="list-style-type: none"> - modernize a legacy system that functions under adverse customary and cultural tradition; - lack of skilled human resources; - costs and sustainability for acquiring proper infrastructure (GIS systems; networks for circulating geographic data such as maps); - solve the barrier of culture in use of GIS systems; - illiteracy (users perspective). 	<ul style="list-style-type: none"> - provide information to decision makers about land use in the country; - solve land conflicts based on reliable information provided by digital means; - provide and negotiate land investment based on reliable information provided by digital means. 	<ul style="list-style-type: none"> - registration of land tenures in a “batch mode” and searching records functionality; 	<ul style="list-style-type: none"> - make the system primarily online based; - build functionalities for the interaction with users (such as online land registration); - link the digitations of graphic data and text data at the provincial level; - produce reports at all level of system usage; - create the functionality for the payment of land usage taxes.

Table 2. Summary of the Projects

INTERPRETING E-GOVERNMENT FOR DEVELOPMENT

Drawing on Sen's approach to development, the three e-government projects are analyzed based on the evaluation criteria described in the analytical framework.

Political Freedom

Political freedom can be evaluated in many ways. However, it always relates to peoples' participation at all levels of governance. For that, e-government systems have to provide the citizens with proper information and mechanisms that allow them to voice their feelings on issues of public concern.

e-SISTAFE has achieved part of its objectives initially drawn regarding public finances management and administration. However, its design provides fewer opportunities for ordinary citizens to voice their feelings about the information produced by the system. In order to incorporate the conceived political freedom in e-SISTAFE, it is suggested that the program provide in the design of the system outcomes, such as documentation and information (including access mechanisms) about the national finances aimed at citizens. This documentation and information would include national budgets; demand for grants; and allocation of plan and non-plan funds by function, department, agency, corporation, and scheme or program. Access mechanisms would also include, for example, citizen tracking mechanisms of the budget execution. The citizens' say on the budget would include input on whether the budget was well applied and opinions on how the allocation of the budget should be according to the citizens' priorities and needs.

Similarly, the LMIS currently allows partial electronic land registration, but its design does not allow citizen participation in land management. Land systems for development in Sen's view would incorporate functionalities that allow citizens to voice their position with regard to land distribution and titling. For example, the land investment would not be decided only by the investor, but by people living in that specific region and surrounding: people who know their needs in terms of land investment.

GovNet, although it is designed to serve the public in general, does not provide functionalities for citizens to sound off on public services. Creation of these functionalities would greatly enhance the people's capability to voice their views regarding public services.

Another way of enhancing political freedom is through participation in the development of the systems and definition of contents for web pages and portals. For example, potential users of the system at the lower levels have to participate in the discussions and decisions about the “future systems.” This opens possibilities for the users to indicate their main constraints with the current systems and suggest improvements.

Economic Facilities

Sen refers to economic facilities as the opportunities that individuals enjoy to utilize economic resources for the purposes of consumption, production, or exchange. The economic entitlements that a person has will depend on the resources owned or available for use as well as on conditions for exchange.

E-SISTAFE solves the problem of liquidity at the institutional level. Given that financial transactions are performed electronically, public services do not require cash to solve their needs. However, this facility needs to be extended to ordinary citizens as they are the main subjects of development initiatives.

Although not yet deployed, the land system has the potential to offer economic facilities for citizens. It has the potential to provide a title or a document for land holders in a reasonable amount of time that could be used in the negotiation of credit. The process of getting a land title takes long time, often 90 days in the best case scenario. But usually it takes years, a fact that prevents individuals from applying for credit for investment on land either for agriculture or for other activities, and it prevents people from making other transactions, such as building a house or office.

GovNet offers business information to public servants through the web portal. For example, public contests and business regulations are available, and people can access the information on the web portal. This information can also be used in the business market.

Transparency Guarantees

According to Sen, transparency guarantees deal with the need for openness that people expect. While economic growth has been strong in Mozambique, comprehensiveness and transparency of the budget is poor and corruption is high (Transparency International 2006; USAID, 2005; Gastrow and Mosse, 2002; Hanlon, 2002). E-SISTAFE is an important tool in addressing this issue; however, its functionalities are still limited to top financial managers of the public sector and

the directorates of financial departments (DAF) at province levels. Information about budget execution is not provided to citizens.

All citizens are interested in knowing how the public budget is being used. One way to suppress the secrecy surrounding the budget process at the central and state level and bring transparency to the citizens is to create functionalities on e-SISTAFE that are not currently available. These would enhance accountability of both financial managers and citizens in the usage of the public resources. This transparency is critical for open and informed debate about the proper functions of government and how best to carry them out, and it contributes to political freedom.

In LMIS, there is limited information on how people can identify available land (unoccupied land) in order to apply for it. The institutions which reinforce the rule of law regarding unoccupied plots, based on the land office's database are weak. It is the responsibility of the citizens to identify unoccupied land (which can open doors for bribery, among other issues).

Similar to e-SISTAFE, to reinforce transparency, LMIS would provide all the documents and information related to the distribution of land to the citizens. For example, it can provide a database of unoccupied land for available for different purposes; documents about who owns what land; information about land grant criteria; and information about land investments, such as who is exploring forestry, the distribution of incomes of those exploring forestry; and/or what the local communities and the state are earning from such investments.

GovNet can also contribute to transparency. Currently, the webportal shows only the public contest announcement, its aim and the winner. It doesn't talk about the process of the contest, why the winner was chosen, and what criteria of evaluation were used. Individuals are also interested in the process of the context so that they may learn further and express their own opinions. Such information would increase transparency and political participation. In political participation, citizens would, for example, publicly contradict or congratulate the winner.

Social Opportunities

Social opportunities are important not only for the conduct of private lives, but also for more effective participation in economic and political activities. The informants detailed some social opportunities created by the described projects. For example, e-SISTAFE gives the opportunity for civil servants to receive their salaries on time to satisfy their basic needs, and consequently have effective participation in economic activities. Delays on salaries provoke dissatisfaction, which can cause

poor productivity, and in some cases, corruption in the public sector. Receiving salary on time, no matter the quantity, can serve as an incentive because it shows that the institution values individuals' work and their contribution to society.

GovNet, by providing the capability for people to download forms from the web portal, removes the constraint of travel. To some extent it provides an opportunity for people to save their resources (money, petrol, etc.). According to Sen, information is instrumental for freedom, in the sense that it can be used by people to remove other constraints. The majority of the informants said that the web portal gives them easy access to laws, regulations, and decrees that help protect them against injustices. Although this information is still limited to public servants, ordinary citizens and some literate Mozambicans, the freedom of information act is widely used to increase transparency among the attendant departments and agencies.

The ability to search land data in LMIS gives public servants the opportunity to receive quick answers and also respond quickly to requests from the administrative and management. Yet, ordinary citizens have no facility to conduct online land registration or follow up of land processes online. This ability would be a valuable contribution for citizens and it would prevent them from spending more time and other resources taking care of land processes.

Another social opportunity that GovNet, e-SISTAFE, and LMIS give the people is the capability to become ICT literate through these systems.

Protective Security

Protective security, according to Sen, is aimed at providing a social safety net in order to preventing the affected population from being reduced to abject misery. The domain of protective security includes fixed institutional arrangements to the indigent as well as *ad hoc* arrangements.

Mismanagement of public finances can result in deprivation. For example, it can lead to scarce social services, such as economic protection for the destitute. Strong management of the scarce state resources can open opportunities for more protective security for the destitute. E-SISTAFE also contributes to that security.

Despite LMIS facilities that allows land registers to cadastre land use and properties, regular land surveyors are often called to solve land conflicts, for example, between small land holders and new land applicants (often national and international investors). To solve this problem and contribute to protective security

on land conflicts, LMIS must be carefully designed to protect small land users and communities from “giants.” It can be in this sense a very useful conflict management tool that can be used by ordinary people in their daily lives.

Insecurity of land tenure is often seen as a significant constraint to development, and titling is intended to reduce this constraint through several avenues. LMIS would also be useful to communities if it were possible to do online titling and tracking land registration processes. The manual titling that has been taking place is slow in response to the dynamics of land conflicts.

GovNet at this stage is being used at the national level and only those who have access to the Internet and have knowledge in ICTs may access the web portal. The majority of the population does not enjoy the facilities provided by GovNet, creating a digital divide within the country. To prevent that, strategies that are more inclusive must be drawn within the GovNet project. For example, it must include mechanisms and functionalities that can help disabled people get access to the same information, and link the web portal to media facilities, given that the latter have more extensive coverage compared to web resources. In this way, GovNet can contribute to protective security and to development, according to Sen.

CONCLUSIONS AND RECOMMENDATIONS

The described e-government initiatives are undeniably important where poverty is extensive, capital is scarce and requires good management, and transparent mechanisms are necessary to deal with the foremost means for survival. In regards to land, there are weak physical infrastructures and institutions. However, as argued in this article, a development perspective which focuses on individuals’ needs and capabilities, such as the one championed by Sen, appears to be an appropriate approach in order to contribute to socio-development.

This study was limited by the research design, which is based on the author’s construction of the world through interpretations. This may have created some bias in the analysis of the findings. The second limitation is derived from the fact that the analyzed projects were not totally deployed, thus not allowing an evaluation of the full potentials on enhancing individuals’ capabilities. Therefore, further research should develop mechanisms for better evaluating individual capabilities in e-government initiatives at any point of the deployment of the project. In addition, assessment of e-government initiatives based on the achievement of instrumental

freedoms should be conducted so that appropriate and generalized indicators can be developed.

REFERENCES

1. Backus, M. (2001) E-governance and developing countries: introduction and examples, The International Institute for Communication and Development, The Hague.
2. Chakravarti, A. (2005), Aid, institutions and development: new approaches to growth, governance and poverty, Edward Elgar, Cheltenham.
3. CPInfo (Comissão para a Política de Informática) (2002) Information and communication technology policy implementation strategy: towards the global information society. UTICT, Maputo.
4. CPInfo (2005) Estratégia de governo electrónico de Moçambique: colocar os serviços públicos junto do cidadão, UTICT, Maputo.
5. De, R. (2006) Evaluation of e-government systems: project assessment vs. development assessment, in Maria Wimmer, Hans Scholl, Ake Grönlund and Kim Andersen (Eds.) *Proceedings of the Electronic Government 5th International Conference, EGOV 2006*, September 4-8, Springer-Verlag Berlin Heidelberg, pp. 317-328.
6. Escobar, A. (1995) Encountering development: the making and unmaking of the third world, Princeton University Press, Princeton, NJ, USA.
7. Gastrow, P. and Mosse, M. (2002) Mozambique: threats posed by the penetration of criminal networks. Organized crime, corruption and governance in the SADC Region, Pretoria.
8. Glaser, B. and Strauss, A. (1967) *The Discovery of Grounded Theory*, Aldine, Chicago.
9. Hanlon, J. (2002) Are donors to Mozambique promoting corruption? Towards a new political economy of development, Sheffield.
10. Heeks, R. (2001) Understanding e-governance for development, *i-Government Working Paper Series* (Paper Nr. 11).
11. Hettne, B. (1990), *Development theory and Third World*, Longman Scientific and Technical Publications, Essex.
12. Kothari, U. and Minogue, M. (2002) Critical perspective on development: an introduction, in Uma Kothari and Martin Minogue (Eds.) *Development Theory and Practice. Critical Perspectives*, Palgrave Macmillan, Houndmills, Basingstoke, 1-15.
13. Madon, S. (2004) Evaluating the developmental impact of e-governance initiatives: an exploratory framework, *Electronic Journal of Information Systems in Developing Countries*, 20, 5, 1-13.
14. Max-Neef, M., Elizalde, A. and Hopenhayn, M. (1991) Human scale development: conception, application and further reflections, The Apex Press, New York, NY USA.
15. Mucombo, J. E. (2004) Building an integrated land information management system infrastructure for the government, in *Proceedings of the 18th International Conference on Informatics for Environmental Protection - the EnviroInfo*, October 21-23, Geneva, Switzerland.

16. Navarra, D. and Cornford, T. (2003) A policy making view of e-government innovations in public governance, *AMCIS2003*, DeGross JI, Tampa, FL, USA.
17. Ndou, V. (2004) E-government for developing countries: opportunities and challenges, *Electronic Journal of Information Systems in Developing Countries (EJISDC)*, 18, 1, 1-24.
18. Rahnema, M. (1986) Under the banner of development, *Development: Seeds of Change*, 1, 2, 37-46.
19. Sen, A. (1999) *Development as freedom*, Knopft, New York, NY, USA.
20. Spoor, M. (Ed.) (2004), *Globalisation, poverty and conflict: A critical 'development' reader*. Netherlands, Kluwer Academic Publishers.
21. Stanforth, C. (2007) Using actor-network to analyze e-government implementation in developing countries, *Information Technologies and International Development*, 3, 3, 35-60.
22. Thomas, A. (2000) Meanings and views of development, in Tim. Allen and Alan Thomas (Eds.) *Poverty and Development into the 21st century*, Oxford University Press, Oxford, UK, 23-48.
23. Todaro, M. (1991) *Economic development in the third world*, Longman, New York, NY USA.
24. Transparency International (2007) *The 2007 Transparency International Corruption Perceptions Index*, available at http://www.transparency.org/policy_research/surveys_indices/cpi/2007.
25. USAID (2005) *Corruption assessment: Mozambique final report*, International Governmental Integrity and Corruption Technical Assistance Services, Washington DC, USA.
26. Walsham, G. (1993) *Interpreting information systems in organizations*, John Wiley and Sons, Chichester, UK.
27. Walsham, G. and Sahay, S. (2006) Research on information systems in developing countries: current landscape and future prospects, *Information Technology for Development* 12, 1, 7-24.
28. Zheng, Y. (2005) *Information culture and development* (Phd Thesis), Judge Institute of Management, University of Cambridge, Cambridge, UK.
29. Zheng, Y. (2007) Exploring the value of the capability approach for e-development, in *Proceedings of the 9th International Conference of International Federation for Information Processing (IFIP 9.4) on Social Implications of Computers in Developing Countries*, May 28-30, São Paulo, Brazil.