The Role of Local e-Government in Bureaucratic Reform in Terong, Bantul District, Yogyakarta Province, Indonesia

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Abstract—This article aims to describe the application of local e-Government by the Government of Terong, Bantul District, Yogyakarta Province, Indonesia. The method used in the research is case study. This research shows that the government of Terong has succeed to develop community based e-government model, namely *Sistem Informasi Desa* (SID/Village Information System). This model is a result of media convergence which already exist, such as community radio, community news letter and citizens forum. Besides media convergence, involvement of all elements in Terong played important role in the development of SID. Strong leadership and good will from local government also contributed to the process of SID. The result of this effort is better public service by local government. These findings conclude that bureaucratic reform can occur with the help of ICT.

Index Terms—Local e-government, bureaucratic reform, good governance.

I. INTRODUCTION

THE poor performance of government bureaucracy in Indonesia is of public knowledge. The Political and Economic Risk Consultancy (PERC) report 2009-2010 [1] cites Indonesia and Thailand among the most corrupt countries in Asia, with much higher corruption scores than other Asian countries such as Malaysia and Singapore. The survey put Indonesia on a score of 9.27, with 10 indicating the highest level of corruption. Responding to public demands, the government of Indonesia launched a bureaucratic reform program as an effort to achieve good governance. Good governance was created to improve accountability, responsiveness and transparency in governance and state (Prasojo, 2003). The use of ICT to support government activities has become one of the achieving goals of this strategy.

However, the Indonesian government is still apprehensive about the implementation of e-government. Ratings of the e-Government in Indonesia (PeGI) conducted by the Directorate of e-Government Directorate General of Applications and Telematics Ministry of Communication and Information of the Republic of Indonesia in 2007 [2] shows that the implementation of e-Government in Indonesia is still relatively low. This is indicated by the value of the overall provincial which is in average low of 2.32. The rating was conducted at 11 sites of e-government owned provincial-level governments across Indonesia. The low implementation of e-government in Indonesia is an accumulation of various constraints, such as lack of human resources, lack of support from leaders, cultural issues and so forth (Furuholt & Wahid, 2008; Sujarwoto & Nugroho, 2011).

Despite the availability of data on a macro level there is little research conducted that shows the relationship between the e-government and bureaucratic reform. In light of the lack of such research, the author conducted an in-depth case study of the village of Terong in Bantul District of Yogyakarta Province. The village of Terong has developed and applied a systematic information resource management which is in line with the notion of e-government aiming to achieve good governance. Using the story of Terong as a case study to understand the dynamics at the micro level, this article argues that the implementation of local e-government has affected the performance of the bureaucracy at the village level. The use of ICT has changed the way local government services local residents and improved these services significantly. The author, thus, is convinced that local e-government has played an important role in achieving good governance.

This article will be presented as follows: The first part contains the background information, followed by a literature review on e-government, bureaucratic reform. This is followed by the description of the case study on development of e-

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[1] http://www.heraldsun.com.au/news/breaking-news/indonesia-most-corrupt-in-asia-survey/story-e6frf7jx-1225697436222,
http://news.smh.com.au/breaking-news-world/corruption-worsens-in-indonesia-survey-20100309-pvmq.html

[2] *Pemeringkatan e-Government di Indonesia (PeGI) (E-Government rank in Indonesia)*, Direktorat e-Government, Direktorat Jenderal Aplikasi dan Telematika, Departemen Komunikasi dan Informatika Republik Indonesia tahun 2007, retrieved from:
http://www.aptel.depkominfo.go.id/content/view/103/27//

government in Terong village and closed by the conclusion section.

II. LITERATURE REVIEW

A. Bureaucratic Reform

The result of the PERC survey reflected the condition of Indonesian bureaucracy since the New Order era. The bureaucratic system of the New Order Indonesia can be perceived as the worst system ever implemented in the country. This centralized and patrimonial bureaucracy of the New Order is characterized as slow, rigid, closed, and corrupt.

After the fall of Suharto in 1998, came a demand to make significant changes in all elements of the bureaucracy, among others, institutional, human resources, management, personnel accountability, oversight, and public service. These changes are referred to *bureaucratic reform*. According the MENPAN (*Menteri Negara Pendayagunaan Aparatur Negara* or The State Minister of the Utilization of State Apparatus) regulation number PER 15/M.PAN/7/2008, bureaucratic reform is defined as:

> *"...effort to reform and fundamental changes to the system of government administration in order to realize good governance."*

The important element in bureaucratic reform is the change in mind-set and culture-sets and the development of work culture (Effendi, 2006). Therefore, political will and strong commitment is needed to achieve this goal at all levels, from top leaders to heads of the lowest governmental unit. In addition, community support and participation is very important aspect in realizing the agenda.

The idea of bureaucratic reform is, by and large, a reaction to the government's poor performance. This is marked by the emergence of new paradigm, namely new public management by David Osborne and Ted Gaebler in *Reinventing Government* (1992)[3]. According to Osborne and Gaebler, government bureaucracy should be turned into a bureaucracy that takes into account of public participation, teamwork and co-worker control and no longer dominated by superior control. The central problem of governments today according to Osborne and Gaebler

> *"...is not what they do, but how they operate."*

Osborne and Gaebler (1992: 360-362) treat government organization as private organization, including its nature, such as competition. The book shows examples of governmental innovations in United State of America. It suggests 9 elements that a government organization should have to support the entrepreneurial revolution, namely: crisis, leadership, continuity of leadership, infrastructure, vision and common purpose, trust, resources and models to follow.

Osborne and Gaebler's proposition to change the nature of government organization, is in-line with the goal of bureaucratic reform. The main goal of bureaucratic reform is the implementation of good governance. According to the World Bank [4], good governance entails

> *sound public sector management (efficiency, effectiveness and economy), accountability, exchange and free flow of information (transparency), and a legal framework for development (justice, respect for human rights and liberties).*

The UNDP[5] recommends some governance characteristics, namely: political legitimacy, cooperation with civil society institutions, freedom of association and participation, accountability, bureaucratic and financial, an efficient public sector management, freedom of information and expression, a fair and trusted judicial system.

Governmental innovations cited in Osborne and Gaebler's book generate criticisms from scholars of public administration. Louis Winnick[6] in *Is Reinventing Government Enough?* (1993) states that although the book contains examples of public management's innovation, *Reinventing Government* is only a blueprint since its innovations cannot be replicated. Because of this other governments at the state or local level cannot imitate the innovations. Therefore, local governments are unable measure success or failure.

Bearing in mind the local values in Asia, in order to reinvent a government, it is necessary to take into consideration the local culture in order to achieve its aim (Leung, 2004). Nevertheless, Leung offers an interesting suggestion, namely to harness governmental reinvention using information and telecommunication technology (ICT).

In the context of this article, governmental reinvention or bureaucratic reform can be aided with the use of ICT in local government. Despite of the difficulty of replicating innovations, the local e-government implemented in Terong is easy to imitate and come from the real needs of local staffs. As a consequence, its development continues to grow with the adoption of technological inventions.

B. Bureaucratic Reform in the Information Age: E-government

Transparency and the right to obtain information as two of the characteristics of good governance are the focus of the study in this article. The study is based on the premise that both of these will encourage the birth of good governance. The author believes that transparency and the right to obtain

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[3]   Osborne, David, and Ted Gaebler. 1992. *Reinventing Government: How the Entrepreneurial Spirit Is Transforming the Public Sector*. Reading, MA: Addison-Wesley.

[4]   Committee of Experts on Public Administration, *Definition of basic concepts and terminologies in governance and public administration,* retrieved from http://unpan1.un.org/intradoc/groups/public/documents/un/unpan022332.pdf , December 2011.

[5]   http://mirror.undp.org/magnet/policy/chapter1.htm

[6]   http://www.city-journal.org/article01.php?aid=140

information are the pathway to be free from corruption, authoritarianism and inefficiency. Generally speaking, freedom to obtain information can support the formation of a clean government/governance as it is capable of preventing corruption, as well as improving the quality of public participation in the formulation of public policy, and improving the quality of public oversight.

The spirit of transparency and accountability can be realized through the utilization of ICT. ICT in government usually appears in the form of e-Government development. In accordance with the objectives of good governance, all e-government activities are intended to support the creation of clean, transparent and credible government. The World Bank Group defines E-Government as follows:

> *"E-Government refers to the use by government agencies of information technologies (Such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government."*

To seize the goal of good governance, Heeks[7] (2008) identifies several potentials of e-government, e.g. cost saving, time savings, boundary-breaking, better decisions, changed behavior of public servants, changed behavior of public sector clients, empowerment. Even though Heeks believes in the potential of the use of ICT, he is careful to state that ICT is only a tool, since transparency and accountability require more than just employing technology.

The definition above shows that e-government can more widely used by governments. The scope of e-government can be categorized into three, namely: government to government (G2G), government to business (G2B) and government to citizen (G2C) (Indrajit, 2002). Research shows that the interaction level is the most widely implemented by governments in developing countries (Kunstle and Vintar, 2004). Building a website that contains information, application forms and e-mail addresses online involves no great effort or any change in existing operations.

The enthusiasm of governments around the world in implementing e-government apparently did not match the expected results. According to Heeks (2003), the majority of e-government projects – particularly in developing countries – fail with varying levels of failure. 35% are total failures, 50% are partial failures, and 15% are successes. The failures were caused by a variety of factors, such as the lack of human resources, lack of support from leaders, cultural issues and so forth (Furuholt & Wahid, 2008; Sujarwoto & Nugroho, 2011).

In Indonesia the development of telecommunication and information technology as an early stage in applying e-government started in early 2005 with the merger of the former Directorate General of Post and Telecommunication (*Direktorat Jendral Pos dan Telekomunikasi* or Dirjen PosTel) under the Ministry of Transportation with the Department of Communication and Information (*Departemen*

Komunikasi dan Informasi or *Depkominfo*). In Indonesia the definition of e-government according to the Ministry of Information and Communication covers efforts to develop a governance-based electronic implementation (use) in order to improve the quality of public services effectively and efficiently. As a basic reference for the implementation of e-government at central and regional levels, the Indonesian Government issued regulations through *Presidential Instruction No. 6/2001 on Telecommunications* (Telecommunications, Media and Information) and *Presidential Instruction No. 3 of 2003 on National Policy and Strategic Development of E-government*.

Implementation of regulations and laws is taken seriously by government agencies and local governments. Since 2002, 69 central government agencies and 403 local governments have launched official websites as an early stage of development of e-government (Sujarwoto and Nugroho, 2011). Over time, the stage of development of e-government in various state and local governments has become more diverse. Although most of the developments are still at the level of information delivery, some provincial governments have managed to step on the transactional stage so as to increase local revenue.

Despite the support by a legal umbrella from the central government, the implementation of e-government in Indonesia is still apprehensive (Donny BU, 2004). According to Donny (2004) there are 468 local government level of provinces, districts/cities in Indonesia, but only 214 local governments have created a website as a first phase development of e-government. Out of the 214 sites, 186 websites are in operation and can be accessed, while the remaining 28 cannot be accessed (under construction/not found). Meanwhile, the Indonesian e-government readiness was ranked 85th in 2004. This position fell by 6 points in 2005 to 96th position, and even lower in year 2008 to the 106th position (Rokhman, 2008).

Without denying data above, this article attempts to showcase that at the local level, e-government projects can be developed within reasonable cost and beneficial for the community.

III. CONSTRUCTING THE CASE: E-GOVERNMENT IN TERONG

A. Methodology

Data in this article were collected qualitatively by employing in-depth interviews, participant observation and literature study. In-depth interviews were conducted to analyze the question 'why' and 'how', using both structured and unstructured interviews. In this way a comprehensive understanding can be obtained. In order to achieve this aim, the author interviewed the Chief of Government of Terong and his staffs, local residents and community leaders. Additionally documents and existing local e-government systems were analyzed in order to evaluate their effectiveness. The author interviewed the developers of local e-government systems and

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[7]   http://www.egov4dev.org/transparency/evaluation/benefits.shtml

was involved in their evaluation process.

The collected data was then edited, categorized and analyzed using the steps of data analysis as suggested by Miles and Huberman (2001), namely: data reduction, data display and conclusion.

B. Case Study

This research is located in the village of Terong, in the sub-district of Dlingo, Bantul, within the Yogyakarta Special Region. The village located in the hills with an altitude between 325-350 meters above sea level and is located approximately 30 km from the city center. The village has an area of 775.8615 hectares and is inhabited by 6484 people. The village is divided into 40 RT (neighborhoods).

http://maps.google.co.id/mapshl=id&xhr=t&q=terong+bant ul&cp=13&biw=1366&bih=679&um=1&ie=UTF-8&sa=N&tab=wl

Figure 1: map of Terong.
Source: http://terong-bantul.web.id/map/peta_google/?lang=id

Although located in the remote hills, Terong has developed a local information system for resource management, namely the *Sistem Informasi Desa* (the *Village Information System*) or SID. The SID is a system of village potential resources maps (population, village resources, such as financial transparency villages), packaged in a software application. More precisely, the SID [8] is:

"... segala sesuatu yang berkaitan dengan desa, tidak hanya data kependudukan, tanah, pendidikan, dan lainya. Namun SID ini merupakan data dari seluruh yang ada di Desa, mulai dari kegiatan, laporan-laporan dan masih banyak lagi..."

("... All things relating to the village, not only demographic data, land, education, and others. But the SID is about all existing data in the Village, ranging from the activities, reports and much more ....")

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8 Focus Group Discussion with SID developers in Combine Resource Institution (CRI-www.combine.or.id) office. CRI is non governmental organization who support the development of SID, especially in technical aspect. FGD was conducted in CRI's office in July 2010.

The SID is a series of advanced electronic information from a variety of information and telecommunication technology devices and software applications which are operated by the government. The system was developed in 2009 and was used to support the acceleration of work-quality improvements of public services by the government to the local village community. The villagers can access data and public information through a variety of information technology devices, both inside and outside the local village area. The main aim of this system is to strengthen the basics of planning and decision-making in the village development processes. By doing so, the village will improve its trajectory to become developed, open and accountable.

The SID was initiated because of problems faced by the village government relating to their duties. As part of the governmental organization, the government of the village of Terong often receives requests for demographic data from other government agencies, such as district/county/province or other technical departments. The problem is that sometimes a request comes in suddenly and must be completed immediately. This problem is made complicated because it is difficult to calculate the number of residents manually and then to group them by age, due to the fact that the demographic data is stored in a thick village-population data book. Moreover, the addition of new data and the request to classify based on new categories introduces further problems. As Sugiyanto described, in order to fulfill a request, the village government of Terong often times will have to:

"ngitung lanange piro, wedhoke piro [....] Kadang rentang umur yang diminta itu tidak sesuai dengan data tertulis. Jadi kita harus ngolak-alik (mengutak-utik).. kira-kira umur sekian berapa, umur sekian berapa, sesuai permintaan tadi [...] Karena masing-masing instansi itu nek golek data itu berbeda-beda. (data yang diminta berbeda) Rentang umurnya, ada yang (meminta) rentang 3 tahun ada yang rentang 5 tahun..." [9]

("…count how many female and male residents in Terong village [....]. Sometimes the requested age range is not in accordance with the written data we have. So we must be creative and find our own way... how many people in the group of age as requested earlier [...]. Because each government agency asks for a different set of data. [For example] they ask for a different group of age range, some agencies ask for the range of 3 years, while the other ask for 5 years range …")

This kind of problem would potentially disappear if the village government of Terong had digitalized their demographic data. However, their lack of capabilities and knowledge was the main obstacle prompting the government

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9 Interviewed with Sugiyanto, Head of Economy and Development in the village government of Terong, Terong Government office, July 2010.

to conduct a joint collaboration with another institution.

Technically, the SID was developed using a free-open operating system platform. The technical aspects of SID were developed by an NGO based in Yogyakarta who provided technical support to implement the idea of the village government of Terong. The SID is a web-based system and has been developed since 2005. The SID began to be deployed to assist the management of the village in 2009.

The use of SID is supported by various forms of media that are converged to achieve the purpose of e-government. A media convergence strategy is implemented to facilitate citizens to access data and information, in accordance with the media that Terong resident possess. These consist of websites, community radio, community newsletters, and posters and touch screen devices.

The official website of the village government of Terong is *http://terong-bantul.web.id*. Established since March 2010, the website contains data and information about Terong. This website is a window to the various media used to support e-government in the Terong village. Various information such as news,both text and audio, photos, videos, and reports are stored in the dynamic section of this website. Profiles of the village and of the village institutions are stored in the static sections of this website.
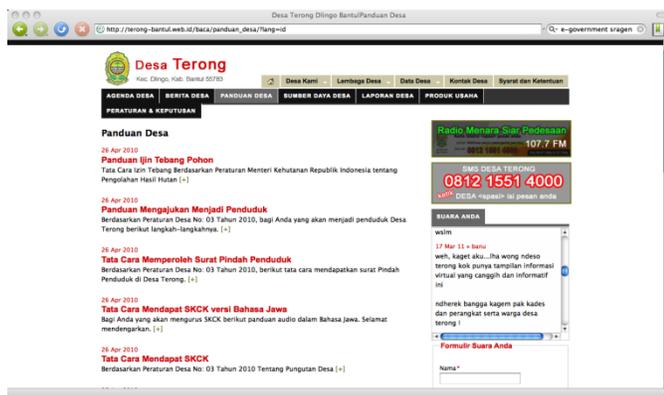

Figure 2: page of www.terong-bantul.web.id
Source: http://terong-bantul.web.id village guide

In addition to information exchange, Terong villagers can interact directly via the SMS Gateway (Short Message Exchange Gateway) feature in a specific format. Messages would be shown on the website, without being edited by webmaster, and be delivered automatically to mobile phone devices.

Another element that supports the SID in the village of Terong is the existence of community radio *Menara Siar Pedesaan* (MSP), broadcasted in the frequency of 87.1 MHz and 107.7 MHz. The MSP plays an important role in the development of the SID. Before the SID was developed, the MSP radio has been widely adopted by the village of Terong and used by village government to deliver information about the village, as well as entertaining the public. Every year

through the MSP radio delivers the Chief of Terong accountability report, by broadcasting it live. This program allows people to monitor the performance of the village government in the previous year.

In the context of e-government development, the MSP radio holds a strategic position in providing information for local residents. The village government of Terong uses it as a tool to inform local residents about the Terong government's agenda related to SID. In this way local residents can keep up and participate in the process. As described by Nuryanto,

"Peran radio komunitas di sini secara aktif menyampaikan bahwa akan ada pendataan, promosi SID, Dan menyampaikan informasi yang sekarang ini ada dalam SID.."[10]

("The role of community radio is to actively convey that there will be data collection, socialization of SID, and convey the information that now exist in the SID.")

The internet infrastructure in remote locations in Indonesia is known to be poor, including in Terong. Additionally computer ownership in this village is still miniscule. As a result, local residents have difficulty in accessing information provided by the village government. Fortunately, most of the villagers Terong possess a radio. This vehicle of communication was used by the government to increase local residents'' participation in governance.

In addition to the community radio, the SID is supported by a local news bulletin called *Buletin Warta Terong* (BWT). The BWT was initiated in a training session at the Village Community Media Management Terong in March 2010. This bulletin is published every two weeks and is circulated to the entire Terong community to serve those who do not have access to the Internet or to radio. The content of BWT is similar to the content of the website, for example the latest information about Terong or the latest regulations related to local resident's right and obligations. With this bulletin, the government has expanded the dissemination of information as well as broadened public participation.

IV. DISCUSSION

"... anda boleh tinggal di desa, tapi kemajuan (teknologi) bukan hanya milik orang kota ..."

("… you may live in a village or remote area, but technology innovation doesn't only belong to urban people…")

The use of ICT in Indonesia has increased rapidly. Based on data from *www.internetworldstats.com*, at the end of 2009 internet users in Indonesia reached 30 million people, or 12.3% of the population[11]. This number has doubled from

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10 Interview with Nuryanto, MSP community radio activist, July 2010
11   http://www.internetworldstats.com/asia.htm#id

2005, namely 15 million users. According to the Telematics Community of Indonesia (*Masyarakat Telematika Indonesia* or MASTEL)[12], the percentage of fixed telephone subscribers (fixed line) in Indonesia in 2008 reached 12.69% (of a total population in 2008 of 228,523,300 inhabitants). A total of 24,51% of subscribers live in urban areas, while the rest are in rural areas.

The quotation above came from Sudirman, the village chief of Terong who spoke about the relationship between technology in the village and a degree of self-esteem and pride. He said that although new technology inventions are popular among people who lived in big cities, one cannot forget that villagers also deserve their benefit. Sudirman's expression can be regarded as a form of resistance and protest about the unequal penetration of the ICT infrastructure and services in Indonesia. The SID in the Terong village is the evidence that innovation does not only occur in big cities. The Bantul District Government recognized this advancement, and awarded Terong second prize in a *Lomba Desa* (Village Competition) in 2009.

The award is the result of hard work involving all elements of Terong community. According to the UNDP definition of good governance, involvement of community can be regarded as a form of participation. Whilst according to IDA (International Development Agency)[13], participation is

> *"...the opportunity to participate during the formulation of development strategies and that directly affected communities and groups should be able to participate in the design and implementation of programs and projects."*

Participation as one of the characteristics of good governance may be seen in the process of the development of SID. The success in developing the SID is the result of hard work and smart work of all elements of society in the village. The *Badan Permusyawaratan Desa* (*Village Representative Body* or BPD) as the house of representatives of this village, supported the effort by issuing village regulations (*peraturan desa* or *perdes*) as an umbrella for the government to continue its idea. The BPD also extended its 'blessing' by allocating the *Alokasi Dana Desa* (Village Allocation Fund or ADD) to financially support the system.

Recognizing the lack of human resources capabilities, the government has involved youth and community radio activists in this project. The government recognized that young people's natural flexibility to better absorb and apply new knowledge and skills compared to the older generation. With the help from the youths, data collection and entry regarding Terong residents was completed earlier than the target date. As such, not only did the young generation of the village contribute to this project but all levels of the village government, too, were involved in collecting data.

The principle of participation did not only happen when the SID was developed, but continued when the SID is used. The use of ICT, through a variety of media convergence, enables people to participate in every process of development and governance. This is in-line with the concept of transparency and accountability which is the goal of good governance. The concept and spirit of good governance marked by the spirit of transparency and accountability of government could not have been realized without the support of various parties in the community. ICT enables communities to supervise and monitor the performance of the government's staff members. With the help of appropriate software and ICT, the village of Terong is able to serve its citizens effectively; some administrative documents can now be prepared in minutes. In addition, every transaction occurring in the village is recorded and well documented, so that if these data are needed for a report it can be obtained directly from the SID.

The existence of community radio in the Terong village has played an important role in disseminating information for and by society. For the village government, the existence of this radio is useful. It functions as a media to deliver the village government's report of its performance during the year. In the past, the annual reporting event delivered by the village headman was attended only by a handful of parties or persons in the village. With the use of the MSP community radio, the entire village now have an opportunity to hear the report.

Research on e-government shows that strong leadership is key to a successful of implementation and development e-government (Furuholt & Wahid, 2008). The nature of bureaucracy, which is the hierarchy of authority, leads a subordinate employee to simply obey their superior. As such, a strong leader who has vision is needed to direct changes in the organization.

In the context of developing e-government, leaders who understand the goals and objectives of e-government will be able to fight for these ideals. In Terong, the role of the village chief in influencing the BPD village body to approve the SID development plans was very clear. As result, the BPD, the village chief and local residents were able to issue regulations to allocate funding to support the development of the SID.

As mentioned in section II, good governance requires a good public management sector, based on effective and efficient service performance. In line with this concept, the public service should facilitate the business of their clients, not the other way around. In the context of Terong, local residents as clients, deserve good and friendly services from local government staffs. This is well recognized by the village chief, Sudirman[14], as inscribed in his statement:

> *"Kuncinya bagaimana kita memberikan hak pada mereka. Kalo kita sudah melayani mereka dengan baik, kalo kebutuhan mereka sudah terpenuhi, kalo kita sudah transparan, maka menjalankan pemerintahan yang bersih, gak sulit.".*

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[12]   http://www.mastel.or.id/index.php?q=statistik
[13]   International Fund for Agricultural Development (IFAD), *Good Governance: An Overview*, Rome, 1999, http://www.ifad.org/gbdocs/eb/67/e/EB-99-67-INF-4.pdf

[14]   Interview with Sudirman Alfian, July 2010.

(”…The key is how we give them rights. If we have served them well, if their needs are met, if we are transparent, then running a clean government is not hard...”)

The people's right to receive good service was effectively accommodated by the use of ICT so that:

"...dalam pembuatan Surat Keterangan Catatan Kepolisian (SKCK) dapat di layani hanya dalam waktu satu setengah menit... semua (teknologi) sangat membantu bagi kami, dan pelayanan (kami) terhadap masyarakat pun sangat cepat."[15.]

(" …when requesting the issuance of a police record certificate, residents can now be served within one and a half minutes ... all (technology) is very helpful for us, and our service to the community is also very fast.")

The development and implementation of the SID still needs improvement. As reflected in other e-government projects in various countries, the SID is also facing some challenges. One of them is regeneration of leadership. The Terong village chief will reach the end of his period of leadership in 2012, whilst his replacement is not yet available. In addition, the transfer of knowledge from the NGO who developed the SID to the Terong government is not fully completed. Given the lack of technical knowledge of the local government staffs, currently any technical problems with the SID system are resolved only by calling in a SID technician. This dependence is quite risky as the SID system is now used to fully support the daily administration of the village.

V. CONCLUSION

A transparent and accountable government is part of the ideals of the Indonesian government in realizing good governance. Various efforts and initiatives have been undertaken to achieve these objectives, including the use of ICT in the form of e-government. The use of ICT in the governance process is believed to improve the efficiency, effectiveness, transparency and accountability of government.

Although located in the corner of Bantul district of Yogyakarta, the implementation of SID in the village of Terong is a clear evidence of how ICT can effectively used and positively exploited. Limited resources, located in remote area and lack of technical knowledge, are the obstacles faced by Terong. However, these shortcomings did not undermine the Terong government's spirit. With the help from various parties, the information system has improves the provision of services by the village government for its citizens. Nevertheless, the implementation of SID in Terong still needs improvement since its development is only in the stages of information delivery and interaction.

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[15] Interview with Sugiyanto, July 2010. Words in bracket added by author.

The success factors explained in the earlier section of this article have left a number of questions. The focus of this study has been solely on the government service, and, as such, further exploration is needed to examine the responses from the users of SID. Further question to be explored is about whether the SID system helps the local people in obtaining government services. Furthermore, this article has not addressed the effects of ICT in remote areas. The lack of knowledge regarding ICT and the low level of education of people in remote areas, have resulted in the concentration or centralization of ICT knowledge to a select group of actors. This is somewhat contrary to the spirit of good governance, which involves decentralization, accountability and transparency.

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