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Vested Interests Obstructing Information Systems Use: Land Administration in a Least Developed Country

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ABSTRACT

While there are identified factors that inhibit information communication technology (ICT) adoption in the public sector of LDCs such as lack of knowledge, attitude and mindset, leadership, socio-economic condition, infrastructure and so on, another implicit and relatively unexplored factor, the 'vested interest' of some stakeholder groups, often becomes the overriding factor for ICT and information system adoption and use in organizations. This problem was evident in a case study of land administration organization in Bangladesh. This paper attempts to elucidate the nature and interactions of the vested interest factor through an in-depth revelatory case study, and explains this phenomenon in relation to prior literature with possible implications for future IS research. While the 'vested interest' issue has not been prominent in western society or in the relevant literature, it has been found to be crucial in some developing country environments. The findings warrant further investigations and explanations in order to suggest appropriate strategies to overcome this critical obstruction to information system use in some public sector organizations in least developed countries.

Keywords: Public sector, land administration, ICT for development, vested interest, developing country

INTRODUCTION

The public sector in developing and least developed countries plays a vital role in the acceptance and diffusion of information and communications technologies (ICT) within the country. The public sector is often the largest organization in the country and the biggest potential user of ICT. It is in a position to influence other sectors' use of ICT by example as well as through policies, mandates and standards. Further, use of ICT in the pubic sector, or e-government (Heeks, 2004), has been widely recognized as a powerful tool in improving public sector governance, efficiency and transparency, with flow-on economic and societal effects (Bhatnagar, 2004; Curtin, Sommer, & Vis-Sommer, 2003; World Bank, 2005).

However, progress towards e-government in developing countries (DCs) and least developed countries (LDCs) is uneven, with some countries and some organizations within a specific country progressing at different rates from their counterparts (UN, 2010; World Bank, 2005). In this paper we investigate a case in a least developed country in which the implementation and use of information systems (IS) has been thwarted in a particularly striking manner by powerful stakeholders. This obstruction of use goes beyond other previously studied hindrances to adoption and use, such as localized user resistance (e.g., Markus, 1983), and is here seen as a result of powerful and semi-organized 'vested interests'. While the term 'vested interest' may have a positive connotation, here it is used in a negative sense to imply a self interest beyond organizational, ethical and public good. The Oxford Dictionary[1] (2010) defines the term as "a personal stake or involvement in an undertaking or state of affairs, especially one with an expectation of financial gain".

Our aim in this paper is to provide an in-depth examination of the obstruction to IS implementation in a public sector organization in a least developed country by powerful vested interests where there are high financial stakes. This critical examination is performed by means of a case study of a land administration department in Bangladesh. We contribute to theory by showing how the concept of powerful vested interests adds to knowledge and theory of ICT adoption and use in developing countries.

[1] Oxford Dictionaries. April 2010. Oxford University Press. http://oxforddictionaries.com/definition/vested+interest?region=us

Our attention was directed towards the land administration department as a revelatory case study by prior work that indicated that the land department was making considerably less progress towards use of ICT than other government departments in Bangladesh (Imran & Gregor, 2010). Yet, with developments such as Geographical Information Systems (GIS), land administration is one of the most suitable candidates for ICT-based business processes and significant value can be achieved in terms of efficiency and citizen benefits. The neighboring country of India, which has the same underlying land management system inherited from the British colonial period as Bangladesh, has made substantially more progress in automation of its systems (Prakash & De', 2007; Puri, 2007).

The case study revealed a strong resistance to change within the land department, persisting over a period of time. A number of attempts by individuals and agencies to introduce new systems were thwarted by semi-institutionalized and powerful forces linked in part to corrupt or irregular practices. This phenomenon of 'obstruction by vested interests' goes beyond prior work on user resistance, power and politics (Jasperson et al., 2002; Lapointe & Rivard, 2005; Markus, 1983) and localized corruption (Shah, 2006), and appears to have been little studied in the literature on information systems in developing countries. The phenomenon is in accord with some work on economic theory. For example, Olson (1982) in a seminal work on vested interests and economic growth argued that small groups can promote policies that benefit themselves at the expense of the general public because they are more capable of organizing themselves. Economic historians have also reported numerous examples of the blockage by vested interests of the adoption of superior technologies (Mokyr, 1990, 1992). Our work adds to theory by interpreting the phenomenon of blockages to information systems usage by vested interests in developing countries against this prior work.

The paper is structured as follows. The next section provides the background to the study with a review and discussion of prior work, as well as the context of the study. The third section discusses the methodology and the fourth section gives a detailed case description. The fifth section analyses the case based on existing literature and findings, and the last section concludes the paper.

BACKGROUND

In this section, prior work that has relevance to the current study is highlighted. This prior work includes the general literature on resistance to change with ICT, the nature of public sector institutions, prior work in the ICT development literature and the special context of Bangladesh.

Resistance to Change with ICT

The phenomenon of interest can be seen as an extreme case of resistance to change accompanying the introduction of ICT, with the additional complexity of the resistance to change being linked to the continuance of corrupt practices and protection of substantial financial interests.

Notable prior work on resistance to change includes that of Markus (1983), who showed how the power and politics of user groups led to sub-optimal implementation and use. Many other studies have shown similar findings. For example: Canton et al. (2002) showed that many technologies with good potential for improving efficiency are not adopted because of the resistance by workers. Bellettini and Ottaviano (2005) introduced a lobbying model where older skilled workers lobby to ban the adoption of new technology with an apprehension that new technologies would lower their productivity and therefore offer advantage to the young generation. Even the standardization of technologies which are important to create markets and wider applications, not only suffer from rapid changes in IT, but also suffer from the vested interests of different stakeholders in different magnitudes (Basant & Ramadesikan, 2002).

On the other hand, theory that helps explain higher levels and more extreme forms of resistance to change comes from work in economics. In terms of vested interests, the conflict lies between those who receive the benefits and those who bear the costs. It is often a small group who reap the benefits from such policies, without publicizing the costs to the larger part of the society (Olson, 1982). Hovenga (2008), in her study on relationships between the government policy-makers in health, health care providers and the adoption of health care information systems, also noted the existence of a variety of vested interests by key decision-makers. Outside academia, the term ‘vested interest’ has also been used in related fields. For example, an ADB report (2003, p.6) says:

> *Vested interest means that policy makers must also ensure that ICT policies do not unduly favor certain entities at the expense of others, or benefit industry at the expense of civil society or the broader public goods of social and environmental well-being.*

Interestingly, one prior study in a developing country has previously observed a lack of progress in a land administration department. However, this study interpreted the cause of the problems differently from the current study. Silva (2007), in his study of Guatemala, found institutional cooperation is key for land administration to operate successfully, where the stakeholders were found to be reluctant to share information. Uncertainty and a fear of losing power led to non-cooperation and institutional jealousy, deeply ingrained over a long period. Silva insisted that institutionalization cannot be achieved without attention to local interpretations and particular interests.

In the context of DCs and LDCs, some prior work has examined the link between corruption and uptake of ICT, as well as the resistance to uptake. Examples of such studies include Bhatnagar (2004), Gasco (2008) and De (2005).

Public Sector Organizations and Institutionalization

Scott's (2001) Institutional Theory is useful in explaining the changes bought about by innovation in apparently rigid organizations, such as those in LDC public sectors. This theoretical approach is also popular within public administration (Frederickson & Smith, 2003), which addresses some deeper issues of social structure and their critical interplay. The theory can be helpful in explaining how employees make choices and how a particular technology is adopted over time.

Some argue that, often, the main force driving institutionalization is power (e.g., Clegg, 1989; Stinchombe, 1968), where power operates by actors pursuing their particular interests in reflecting or interpreting their own situations (Callon, 1991; Giddens, 1984). In other words, organizations adapt their internal characteristics in order to conform with the attitudes of the key stakeholders in their environment (Ashworth, Boyne, & Delbridge, 2005). Silva and Backhouse (2003) also argue that an institutionalized system is both the result, and a source, of power. In contrast, there are researchers who contend that power is a consequence or an effect, but never a cause, of collective action (Stanforth, 2006). Following the old institutionalism, while cultural

factors are still the main focus rather than interest and power, some institutional theorists are increasingly shifting the focus on interest and power, not just culture (Brint & Karabel, 1991; DiMaggio, 1988).

On the other hand, public sector organizations across the world have some distinct and unique characteristics that separate them as institutions from private organizations. One of the major differences is bureaucracy. Rogers (2003, p. 405) describes the typical nature of a bureaucratic organization:

> *The great German sociologist Max Weber (1958) described bureaucratic organizations like factories, armies and government agencies as characterized by a form of authoritarian control that he called the "iron cage". Rules are made and orders are issued by individuals of authority, and carried out by organizational members who accept the system of authority. At first, this control system operates in a rational and efficient manner, but the organizational effectiveness of the bureaucracy usually gets lost over time. Rules are enforced overzealously, and applied to all cases in an impersonal and inappropriate way. Bureaucratic leaders become impersonal, and the rationality of the system disappears. Nevertheless, organization members, trapped in an iron cage of control, continue to support the bureaucratic authority system.*

The differences between public and private organizations become more acute when innovations like ICT are involved (Caudle, Gorr, & Newcomer, 1991; Dawes et al., 2004; Kankanhalli & Kohli, 2009). For example, first, the motivation for private sectors to invest in ICT is to compete in the market place, whereas competition in the public sector with other offices or with private operators is very limited, if not totally absent. Secondly, in public administrations, the duties and goals are specified within a boundary and there is no pressure to search for new business ideas. Customers of public sector organizations have no alternative or choice to switch suppliers (Suomi & Kastu-Häikiö, 1998). In such circumstances, the very presence of issues like 'vested interest' are likely to be quite different in terms of their nature and characteristics between these two types of organizations.

Furthermore, variation in local practice and regulations in a given socio-cultural environment also influence the ability of the organization to adopt an innovation (Attewell, 1992; Brown, 1981). As such, the institutional inertia formed by the traditions and culture of a public sector

organization can be deeply ingrained and thus become a major challenge for any change to occur through innovation.

Context of the Bangladesh Public Sector

Bangladesh is a typical LDC with a typical hierarchical administrative culture inherited from the British colonial system, which is clearly reflected in interactions with common citizens, superior–subordinate relationships and the method of delivery of government services (Jamil, 2007; Siddiqui, 1996). The administration is highly influenced by political stability (Jamil, 2007), which often hinders the continuity of any institutional process. Overall, the environment is very bureaucratic, and little reform has been made since the colonial period.

Prior relevant work includes a study by Imran & Gregor (2010). This study showed a lack of knowledge and understanding of the strategic value, and entrenched attitudes and mindsets of decision makers concerning ICT, as the underlying root causes of the slow adoption of ICT in the Bangladesh public sector (Imran & Gregor, 2010). Other barriers included the lack of political will and leadership, lack of planning and strategy, infrastructure, bureaucratic business processes, lack of expertise and professionals, socioeconomic conditions, lack of laws and rules, lack of citizen demand and lack of championship. This study, however, did not include a detailed examination of organizations where there appeared to be very high level and ongoing interference with change.

Summary

In summary, much prior literature has dealt with resistance to the change enabled by ICT. There has been less work in the IS literature, however, concerning extreme forms of resistance that can occur when change is also a threat to vested interests with high financial stakes and possible links to corrupt practices. Some relevant work can be found amongst that of economic historians. Institutional theory and theory of bureaucracy may give some hints as to how the problems of vested interests lead to inertia with change. Although studies of corruption exist, as yet there has been little examination of the vested interest phenomenon in the context of DCs and LDCs.

METHOD

A revelatory case study approach has been followed in this study (Yin, 1994) to investigate the phenomena in a natural environment, seeking out emergent insights from the processes involved in a complex environment (Creswell, 1998; Eisenhardt, 1989; Yin, 1994). Such qualitative work demands spending sufficient time in the field to document research participants' interpretations of personally-experienced events. The approach also facilitates grounding the data within the personal experiences and the culture of the participants. This approach was helpful to identify in a more structured way which particular factor was critical for this organization, and which factor needed more attention than others.

Data gathering

The research was conducted on site in Bangladesh between 30 May 2007 and 21 July 2007. Three visits were made to the organization during the period and often the whole day was spent at the case study site. Interviews followed a semi-structured format facilitating researcher-participant interplay and free conversations (Rhodes, 2000). A meta-story (story about a story) based approach was also used where the open questions promoted free flowing discussions and narratives. This conversational and interpretive approach facilitated commentary on the contextual and underlying issues, as well as the department's business procedures, ICT infrastructure and planning. To seek answers to the broad themes, supplementary questions were asked as deemed appropriate. All the interviews were face-to-face.

In addition to the interviews conducted, the prolonged stay involved spending time in the organizations including several visits to different branches, informal talks with staff, taking photographs and general observation, which provided rich insight into each organization. Follow-up visits were made to complete the interviews as well as to explore other sources of data, for example, reports and other documents. Further follow up communication was undertaken at a much later period in 2008, and the document analysis continued into 2009.

Access to data

Use of references or recommendations has become the cultural norm in Bangladesh, without which any business or accomplishment of any task is extremely difficult. As such, conducting

research in government departments appeared to be almost impossible without very strong references. After several failed attempts through normal procedures like sending letters, faxes and making telephone calls, the support of a very high level stakeholder was sought. Finally, a simple telephone call from a higher office facilitated access to an extent where important officials put aside their normal commitments in order to help and support the research. Staff members even opened up their sensitive offices and record rooms, and allowed the researcher to take photos which are otherwise extremely difficult for citizens and others to gain. The lead researcher's prior experience and background of government service, as well as his sincere objectives in undertaking this academic research, gave those officials additional confidence. However, utmost care was taken so that the additional support did not influence the outcome of the research. The support has only been used in gaining access, but the researchers were cautious and were at liberty to choose the interviewees and the mode of research within the organization.

Participants

A mixture of departmental staff were interviewed, including executives from the associated areas. The case interviews were conducted at government offices and lasted 45 minutes to 90 minutes. The interviewee list is given in Table 1. These individuals play important roles in their organization and they were carefully selected from a list based on their knowledge about the organization, affiliation and long working experience in the organization. The major emphasis was on people who were in a position to give maximum useful information.

Table 1 Interviewee Profiles

Interviewee	Date	Position	Job Roles
A1	18/05/2007	Executive level	Administration
A2	19/05/2007	Mid level officer	Operational
A3	18/05/2007	Class 2 staff	Field level worker
A4	05/07/2007	Mid level officer	Administration and operation

It became clear that some interviewees had more knowledge than others; for example, interviewee A2 was very outspoken and had vivid knowledge about the broader issue and had been in the organization for a long time. As such, his quotes are used more than others. Interviewee A4, although not belonging to the organization under examination, dealt with the same land issues within the government and holds an important appointment on land management. For this reason, his perspective was important to complete the picture. All the interviews were digitally recorded and later transcribed. Real names have been disguised to preserve anonymity.

Data analysis

The analysis involved a comprehensive investigation of the use of ICT in the agency. Gathered data was analyzed with an aim to investigate a prior study (Imran & Gregor, 2010) at an organizational level, where the themes emerging from the prior study were used to guide the analysis. Interview data were analyzed using the qualitative data analysis tool NVivo 7.0. Using Miles and Huberman's (1994) descriptive coding conventions, each piece of the interview transcripts and field notes was coded. The discrete codes from field data were grouped together into the categories based on commonalities among codes (Harry, Sturges, & Klingner, 2005), where more categories emerged through an open coding procedure. Subsequent data analysis was carried out based on the emergent themes and elicited comments of the participants. The case study is analyzed and presented as per the following sequence:

- A thorough understanding of the organization including its contextual conditions and historical background;
- Current IT environment and initiatives in the department;
- Major issues and themes emerging from the case study;
- Implications of the findings for past studies, practice and future studies.

The gist from each category was then extracted for further analysis in light of underlying causes of obstruction. This evolutionary approach has also been supported by Strauss and Corbin (1998,

p. 144). The presence of the emerging factors was then analyzed qualitatively from the gathered data.

The reliability of the information and data was cross-checked through the triangulation of data at least by one additional means, for example document research, verification by other evidence, observations, or confirmation by another interviewee, before reaching any conclusion.

CASE DESCRIPTION

Case Study Background

Starting from the Mughal era (16-18th century), settlement of land in the Indian subcontinent was an important business of the government. Land tax was the major income source for the kingdom. One-third of the income from harvested crops had to be paid as tax to the kingdom. Zaminders[2] were appointed to collect tax on behalf of the kingdom and at a later stage the zaminders became the owners of land by official decree of the British rulers. Thus, the resident cultivators became slaves of the landlords and were liable to be mortgaged. After the enactment of the State Acquisition and Tenancy Act 1950, the zamindary system was abolished in 1956 and the government formed the revenue department for the proper management of land. The land cultivators were declared as the owners of land, with restrictions on the size of their land to 33.33 acres or less and the government also received a large area of land from traditional lords. Unfortunately, the government haveneither the exact physical possession , nor proper records of those lands due to improper survey and records preservation system.

Current Scenario

The Directorate of Land Records and Survey (DLRS) in Bangladesh is the organization in the Ministry of Lands responsible for survey, preparation and revision of maps as well as recording the rights to land throughout the whole country. The Land Records side is mainly responsible for determining the legally-valid owners of land and recording them accordingly. They also give the

[2] Zaminders are landowners, who were collectors of land revenue; usually, a kind of feudatory recognized as an actual proprietor so long as he pays to the government a certain fixed revenue (Webster's Revised Unabridged Dictionary, 1913)

official land ownership certificate (which is called 'khotian') to citizens and concerned agencies. During the 1970s, operation area maps were changed and the names of owners from the khotian were updated. It was found that the number of owners had increased rapidly, resulting in the need for huge numbers of records to be revised, updated and printed. Most of the existing printed land survey records in land offices are based on the Cadastral Survey (CS) conducted in 1890-1940 and Provisional Settlement (PS) conducted in 1969-83. Many CS maps and records are damaged or worn-out and thus became vulnerable to forgery.

Usually, the records are not published frequently due to the rapid change of ownership, but every new owner wants to have his name in the record. Each year, six to seven hundred thousand records of right are prepared and made ready for printing, which means nearly 8,000 area maps need to be printed. This huge amount of printing cannot be financed by the government. Moreover, the sheet preservation systems to preserve the records are inherited from the British period. A four story building was built to store the land records of the whole country but it was filled within two years. It has become a great ordeal for general citizens to obtain documents related to land and property. Photographs (Figures 1 and 2) illustrate the paper trail environment of the case site.

Figure 1. Century-old land documents kept inside cloth covers (Photo: lead author, date 04/07/2007)

Figure 2. A typical office in the land records room (Photo: lead author, date 04/07/2007)

Observations

Present land documents including their administration and management are found to be obsolete. They have undergone very little change during the last seven to eight decades. Routine surveys have also become impossible due to the rapid changes of land characteristics and the quick fragmentation of land. The maps needed to be updated constantly, but the existing policy did not change to keep up with the system. The major causes of related social conflict and suffering have also been blamed on these complex procedures which were developed during the colonial era (Parven, 2006). Taking advantage of this non-transparent and ambiguous system, a particular group in society with vested interests is exploiting the system, along with the land owners. According to the Local Government and Rural Development (LGRD) Ministry of Bangladesh, 90% of the cases and disputes in the lower court of Bangladesh are land related (The Daily Star, 2005). Throughout their lives people struggle to maintain land inherited from their forefathers. For example, for any piece of land, its registration is handled by one department, it is surveyed by another, and it is maintained and taxed by a third agency (Figure 3).

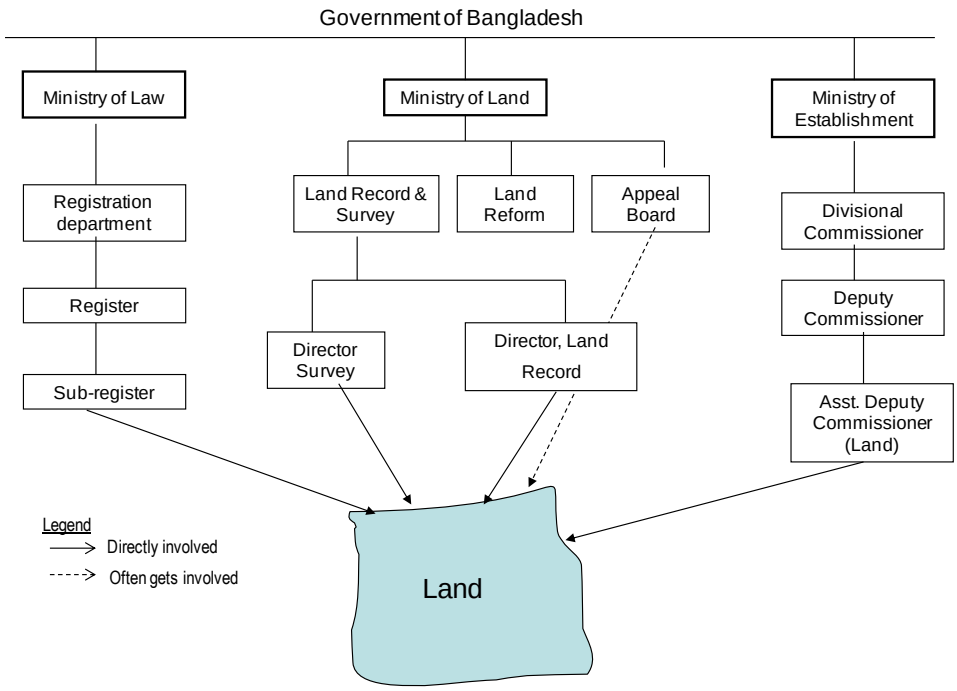

Figure 3. Three separate government ministries dealing with the same piece of land

Inevitably, lack of collaboration between agencies results in different information in different agencies regarding the same piece of land. The fact that the registration process is under a different ministry (Ministry of Law) creates co-ordination as well as ownership problems, leading to more bureaucratic complexity. As a result, blame games and exploitation of the systems became rampant, as the Deputy Minister for land commented:

> *Sub-registrars and settlement officers are the most corrupt officials and they handle all the procedures regarding land registration. But we cannot take action against them as they work under the law ministry (The Daily Star, 2005, 21 July, para.9).*

Ideally, given the scope of the information age, all land data could be housed and managed in a single database allowing collaboration amongst these agencies and the opportunity for a one-stop shop that would allow the retrieval of all the information regarding a piece of land with the click of a mouse button. This was evident from the interviews, as one of the mid-level officers acknowledged:

> *If we had the digital maps then the map would be error-free and it could be delivered easily when asked. Now when a single map is asked for, and the price is Tk. 90 [AUD 1.50], we have to spend Tk. 4200 [AUD 70] [to retrieve it]* (Interviewee A2).

Moreover, much productivity and efficiency were compromised in managing and updating land records, according to one of the interviewees:

> *Take the example of the Dhaka City survey. It was basically done to change the classification of land. For this we have carried out a full-scale survey. I think it was unnecessary. It could be done in a computer by markings on existing maps* (Interviewee A3).

The problem of land grabbing has had a major impact on the smooth functioning of this organization. Some people illegally occupy government land and bribe dishonest officials who help them to file cases in court. After the case is lodged, it may take several years for the court to give any judgment, while the land grabber continues to use and profit from the land (Roy, 2004). According to a study by Barkat et al. (2008), 3.3 million acres of public land, including cropland allotted to the landless, is possessed by land grabbers. These land grabbers are mostly active in the capital Dhaka where a big portion of realty developers are also involved. It was reported that the land grabbers occupy almost 80% of the city's public land, whilst the government has control over only 20 % (Roy, 2004).

In summary, the complex land management system particularly facilitates dishonest officials gaining an advantage and earning income from bribes. The process of changing records is apparently a source of income for the land officials. For low-paid lower-level land officials, the extra income generated through the process has become both a norm as well as a source for their survival. Any threat against this appears to be an intervention against their ongoing privilege. Other vested interested groups such as land grabbers further strengthened the group by joining the lower-level land officials to exploit the system, as well as to fulfil their mutual interests.

Failed Attempts for ICT Implementation in the Past

There was no mentionable ICT initiative available at the time this research was conducted. The organization did not even have a web presence at the time of this study; computers and printers

were used mostly as typewriters. A number of initiatives have occurred in the past but have been unsuccessful.

Some small initiatives collapsed due to the lack of technical know-how, and lack of proper planning. For example, in 1988 a proposal for ICT-based printed khotian was given by some staff members. It was developed with the FoxPro program, but the program had hardly been used or updated. Furthermore, the department waited for a long period before making a decision and further action, by which time the machines were damaged. Finally, staff were told to draw the maps manually. The department had the greatest survey equipment in the country, but the machines were not maintained. Regarding the disposal of those machines, Interviewee A2 said: "The machines got damaged and each year they are repaired, there is business in that". As such, the outdated and time-consuming manual process for updating and preserving maps is still being followed.

Figure 4. Map plotters, computers and printers dumped in an office room with dust on them (Photo: lead author, 04/07/2007)

There have also been large-scale initiatives in the past to computerize the systems. However, the situation regarding such initiatives can be summarized with the following statement, revealed in an outburst of an interviewee: "Some projects are half-way killed, some are deliberately killed, and some are taken away at the root level" (Interviewee A3).

A number of the major initiatives in the past are described below.

An Asian Development Bank (ADB) project was undertaken in 1996 to automate and reform the land administration system in Bangladesh with modern ICT-based management. Australia's Department of Land Administration (DOLA) of Western Australia led the project along with a local counterpart in Bangladesh. The project, Modernization of Land Administration and Reform of Land Administration, had three phases. These projects totalling $3.25 million reviewed the existing practices and procedures in the first phase, and the second phase carried out testing on modern survey, registration and taxation practices using a series of pilot projects. The second phase ran for twelve months, until the end of 1999. In the third phase, a five year project funded by an ADB loan was planned for 2001-2005.

However, the last project eventually did not take place, and the current administration could not provide any information on why. The recommendations from DOLA were kept secret and thus could not be obtained for the purpose of this research. No one had specific information about the location of the report either. Through further investigation, it was discovered that the ADB report had made clear recommendations in regards to specific changes in the law, business processes and the existing system. But they found that authority at all levels was reluctant to address the issues at that time.

Another government initiative was primarily initiated by some individual champions to computerize the land management system in the year 2002, but it also did not proceed for long. Interestingly, this was initiated not by the Ministry of Land but rather the officials from the Ministry of Establishment, who are also a stakeholder in land management within the district's administration.

The story behind this initiative goes back to 2002, when a public servant named Mr Jashim (not his real name) joined as Assistant Commissioner (AC Land) in one of the districts. Settling into his new office he found that the existing system was not giving satisfactory service to the buyers and sellers of land, due to its bureaucratic business process. At that time the Land Minster and the Secretary visited the district office and told him, "Since you are an engineer, find a way to computerize the office and store all the records" and gave him two months time to complete the task. With his little background knowledge of computers, Jashim started thinking and discussing this with a few of his friends from university days, often sacrificing his personal time. He

decided to develop a database for land management with a record for each land owner, with data on how much land a person bought or sold, like the debit/credit of a bank. Through his on-the-ground experience, soon he was able to identify the problems that could be solved by an automated system.

Within a few months, the project took shape and was demonstrated to higher officials. Initially, he received inspiration and support from the immediate higher authorities, who also suggested some modifications. The project was further improved to enable plot-to-plot surveying, so that with a single click one could find the pattern of the land, owner of land, calculation of taxes and so on.

Mr. Jashim selected an area to do a pilot project. He formed a team within his office and worked very hard, often till 10-11pm at night. This was presented in the Land Minister's office and the project was handed over to the Ministry of Land. The software was further improved with the incorporation of a GIS map, and the Ministry of Finance passed the budget for the entire five circles under that district.

The system was planned to be introduced in a district revenue circle, where all data related to any piece of land, including sales, transfers, ownership history and land category were to be stored in an accessible database. Initially, the existing manual systems were planned to run alongside the CLMS (Computerization of Land Management System) to avoid any unforeseen incidents during the transitional period. The manual management was planned to be phased out in stages. For the pilot project funding was allotted from the revenue budget, for which two local firms were engaged as consultants. The first phase of the pilot project was completed in 2003 and was expected to expand across the country gradually following the successful implementation of the pilot. However, the end of the story was not at all good. While Jashim had to do everything as a main initiator of the project, due to the usual rules of the public service, a senior officer was made project director to sign the papers. Surprisingly, before delivering the final output of the project, he received a transfer order. His new boss was not IT minded and did not like to replace the old system; he even termed computer generated reports as "illegal" (Interviewee A4).

It appeared, when the vested interest groups found the project was about to be completed, they felt threatened by the transparency of the system. Thus, the project had to face a similar fate as the ADB project.

ANALYSIS AND DISCUSSION

Organizations can derive much benefit from ICT adoption, where it could considerably reduce current delays, prevent fraud, and increase productivity. The non-utilization of the system concept in existing business processes makes them incompatible with ICT-oriented service. In addition, duplication of the work done by various departments with a lack of standardization made the situation complex and stagnant in some places, resulting in suffering at the citizen's end. Object-oriented and people-centric schemes and plans were felt necessary to improve the service, thus, avoiding bureaucracy as well as curtailing and taking power from the vested interested groups. As one of the staff members articulated:

> *Our reforms and everything should be based on the output or main utility which can produce clear and unambiguous land documents like maps and khotian. Echoing Napoleon who said, 'Give me a good mother and I'll give a good nation' I would like to say, 'Give me a good map and good khotian I'll give better utility and land service'* (Interviewee A3).

The case study showed that barriers to ICT adoption found in other organizations in the public sector in Bangladesh (Imran, 2010) are also present in this case, including lack of knowledge of ICT. However, the overwhelming barrier to successful ICT implementation in this organization appears to be the phenomenon of vested interests. The culture is still biased towards making decisions based on vested interests or political interests with minimal or partial information available. The vested interested groups involved with land-related corruption exploited and abused the complicated, bureaucratic system. These groups largely consist of land officials spanned over lower to top level as well as influential land grabbers, many of whom are politically very powerful. The groups were found to resist any innovation with ICT that appeared as a threat to their interests, where control, power and ownership of the land documents and process became crucial. For example, the control and power balance became an issue in the case of the CLMS project where the new District Commissioner (DC) was not happy with Mr.

Jashim's work. Ownership, as well as conflict of interest, became a serious issue. This justifies the scepticism expressed in one of the previous interviews with a think-tank which hinted at the repressive political environment when championship emerged in Bangladesh:

> *There may sometimes come out champions, who would like to introduce these kinds of things, but whether those champions will survive or not within the context – that is another issue* (19 Nov 2005)

Vested interest as well as corruption is clearly evident in the various other small systems within the organization. For example, according to one of the interviewees (mid-level staff) for the map printing, a DOLA report suggested buying an Offset proof press. But the department ended up buying a different one with huge cost mainly because of the insistence of vendors, despite the fact that it was not a proof press.

Sheer absence of an innovative environment and lack of encouragement for innovation created a culture and attitude where vested interest groups are rewarded instead of people who want to bring change to the system. It appears that those who find innovation opening up their individual opportunities work for it, whereas those who find it a threat to their interests and status-quo try to resist it directly or indirectly. These vested interests, positive or negative, often remain hidden but are crucial in shaping the overall attitude and mindset towards ICT in the organization.

Overall, a lack of serious commitment, knowledge and an integrated approach were highly visible in this study. Lack of concern and voice from the general public was also absent, where they were mostly unaware about the opportunities provided by ICT. This conforms to Olson's (1982) assertion on small influential vested interest groups and the nature of their role.

Again, public sectors in LDCs consist of decision makers and powerful stakeholders with significant authority and power, who are often not interested in new technology. However, their motivation and understanding is crucial in order to embrace change. For example, senior bureaucrats and leaders occasionally visit western countries and witness technological developments first hand, but are not necessarily interested in taking the initiative to apply these same technologies in their own context (Imran & Gregor, 2010). Frequent transfer of officials and uncertainty often creates lack of ownership, which also influences their initiatives.

Overall, this study is congruent with prior theoretical work, but also advances what was previously known.

While ICT adoption has the potential to change the existing status quo with broader institutional reform and redesigning of the processes, the resistance to change or the institutional inertia was found to be quite substantial and long-standing, particularly in such a hierarchical culture as that of the land administration institutions in Bangladesh. Thus change would be a long-term institutional process rather than a quick-fix, which has to be accepted by the different stakeholders (Avgerou, 2000).

The close embeddings of culture and context in this study area suggests that a special treatment for inherent organizational culture is necessary. However, organizational culture is found to be dynamic in nature, constantly evolving and changing, and thus taking a new shape (Lucas & Kline, 2008). Some of these changes are fast, some changes are apparently slow, and some changes never occur. From the analysis of the data, it appears that change in Bangladesh relied on the historic evolution of its public sector culture. It was found that the existing public sector culture was not built in Bangladesh in the first place, but rather it was imported and implanted by the colonial rulers (Jamil, 2007). So, it can be argued that if those rules and procedures could be institutionalized over the years, then so can modern corporate culture and ICT-based procedures from the West, which are essential not only to survive in this modern information age but also for economic and business prosperity. This provides hope for an appropriate institutional mechanism and plan which will be able to bring about the required change.

CONCLUSION

This study advanced our knowledge by providing an important finding through an in-depth case study at the organizational level. The critical underlying issue of ‘vested interest’ adds new insight on ICT adoption in some public sector organizations, such as the land administration organization of a least developed country. There is no question that land registration and property documentation need careful preservation because of their important legal and economic value. The decades-old faulty management system posed a serious stumbling block, which has been institutionalized over a long period of time and thus created a strong institutional inertia. This logjam was further intensified because the vested interest groups were able to exploit and

abuse the status quo to meet their mutual interest. In order to make effective adoption of ICT in such circumstances, a slow institutional process addressing the underlying issues like 'vested interest' is necessary, instead of focusing on a short-term or a purely technology-based solution. The findings in this study call for further research into the issue of vested interest in relation to information system use in different contexts and organizations, in order to provide a clear theoretical explanation.

We conclude by considering the question of why vested interest has not surfaced so prominently in the literature of the western world so far? While vested interests among individuals and groups are not uncommon, perhaps in a typical developed western society operating under established systematic governance mechanisms, vested interests do not have the scope to blow out of proportion to draw significant attention. Whereas in a flawed system with a high power distance environment as is the case in many least developed countries, the vested interests of powerful stakeholders are often able to overrule the ethical and governance issues and easily ignoring its huge public impact, and can thus play a dominant role. As such, information system planning in developing countries must take this important issue into account and formulate strategies to deal with such challenges.

This paper reinvigorates the concept of 'vested interest' which appeared in the 1990s by Mokyr (1990, 1992). This concept and direction was not pursued much in later research, including in information systems. Here we attempted to trace its existence in information systems adoption in the context of a least developing country through a case study. Future studies should explore further how this critical issue could be managed or overcome in order to ensure successful adoption and implementation of ICT in the public sector organizations of less developed economies.

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