Trends in Land Administration and Management with Particular Reference to World Bank Support for Projects in the East Asia Region ¹

Keith Clifford BELL, United States of America



Key words: good governance, land acquisition, land administration, land development, land management, land policy, land reform, Millennium Development Goals, tenure security, transparency

SUMMARY

In any country, reform of land administration and management is a major investment of capital and human resources and requires strong and consistent leadership in order to achieve effective, sustainable outcomes. Such reforms require long-term commitment. Land and property are generally the major assets in any economy, and can often account for between half to three-quarters of national wealth. Land is a fundamental factor for agriculture production and is thus directly linked to food security. Land is one of the main sources of collateral, used to obtain credit from established financial institutions such as banks, as well as from informal providers of credit.

The Millennium Development Goals (MDG) commit the international community to an expanded vision for development, one that vigorously promotes human development as the key to sustaining social and economic progress in all countries, and recognizes the importance of creating a global partnership for development. The goals have been commonly accepted as a framework for measuring development progress. The MDG constructively challenges the entire global community. On the one hand, the MDG challenge poor countries to demonstrate good governance and commitment to poverty reduction. On the other hand, the MDG also challenge the more wealthy countries to maintain their commitment to support economic and social development. With the ever increasing concerns such as poverty alleviation, food security, disasters, international investment in land concessions, climate change, responsible

¹ This paper has been presented at the 7th FIG Regional Conference in Hanoi, Vietnam, 19-22 October 2009 and offers an interesting view to one of the key themes of the conference.

sustainable development, human rights, social justice, good governance and conflict, the relevance of the land sector to achieving the MDG remains highly relevant and extremely challenging.

In the East Asia Region, the World Bank, in collaboration with other development partners, have assisted, or are continuing to fund land administration projects in Thailand, Indonesia, Philippines, China, Cambodia, Laos and Vietnam. The Bank's program of "lending" projects have had varying degrees of emphasis on social equity and stability, economic and fiscal growth, environmental responsibility and sustainable development. In post-conflict countries, tenure security and access to land are major factor in providing long-term stability, whereas development of land markets are seen as generating durable results. Complementing the Bank's program of funded projects, the Bank also undertakes a wide ranging program of analytical studies or economic and sector work (ESW) to support policy development and knowledge-building both within countries, across the region and globally. In particular at this time, significant ESW programs is addressing critical policy issues such as land acquisition and land concessions, good governance, gender mainstreaming.

This paper discusses the World Bank land administration portfolio across the East Asia Region and in particular the range of contemporary issues being addressed including: governance; access to land for development concessions along with the related issues regarding compulsory land acquisition, valuation and compensation; gender mainstreaming; institutional and policy reforms; focused capacity building; and the utilization of information and communications technology (ICT).

1. INTRODUCTION

Land continues to be a cause of social, ethnic, cultural and religious conflict. For many centuries, many wars and revolutions have been fought over rights to land. Throughout history, virtually all civilizations have devoted considerable efforts to defining rights to land and in establishing institutions to administer these rights, i.e. land administration systems. Land and property are generally the major assets in any economy, wherein, land may account for between half to three-quarters of national wealth. Land is a fundamental factor for agricultural production and is thus directly linked to food security. Security of land tenure is an important foundation for economic development, social stability, environmental management, and also for supporting reconstruction following a disaster or conflict.

Therefore, it is not surprising that the importance of supporting the land sector is a consistent key message from the respective World Development Reports (WDR) for 2008, 2009 and 2010, which advocate for stepped up support for land policies and institutions. The growing challenges of food security and climate change have especially given prominence to land. The Bank has advocated in various regions the need to accelerate the scaling up of assistance for land activities, especially improved documentation and protection of the land rights of local communities and landholders as part of a strategy to manage risks associated with the upsurge in direct foreign investment in agriculture and agricultural land.

The World Bank, with the support of development partners and civil society organizations (CSO), are continuing to support the implementation of land projects throughout the world. From the World Bank side, specific support to the land sector has been provided for the past three decades. Some other international development agencies have been providing support to this sector for even longer. These projects have varying degrees of emphasis on social equity and economic development. In post-conflict countries, tenure security and access to land are major factors in providing long-term stability. Reform is often inhibited or even undermined by poor governance. Good land administration is often as much related to land administration issues as it is to the quality of the civil service, especially its transparency and accountability.

There are many complexities, dimensions and themes associated with land administration. Securing land rights is particularly relevant to vulnerable groups such as the poor, women, orphans, displaced persons and ethnic minority groups. Fees and taxes on land are often a significant source of government revenue, particularly at the local level, and often underpin the sustainability of decentralization. In most societies, there are many competing demands on land including development, agriculture, pasture, forestry, industry, infrastructure, urbanization, biodiversity, customary rights, ecological and environmental protection. Most countries have great difficulty in balancing the needs of these competing demands. Reform of land administration in any country is a long-term prospect requiring decades of sustained commitment. It is a major investment of capital and human resources and requires strong, consistent, transparent and accountable leadership, in order to achieve effective, sustainable outcomes. Dealing with each and every one of these can contribute to achieving the challenges of the Millennium Development Goals (MDG).

2. THE MILLENIUM DEVELOPMENT GOALS

The MDG commit the international community to an expanded vision for development, one that vigorously promotes human development as the key to sustaining social and economic progress in all countries, and recognizes the importance of creating a global partnership for development. The goals have been commonly accepted as a framework for measuring development progress. The MDG constructively challenges the entire global community. On the one hand, the MDG challenge poor countries to demonstrate good governance and commitment to poverty reduction. On the other hand the MDG also challenge the more wealthy countries to maintain their commitment to support economic and social development (World Bank 2002).

The eight MDG are:

- Goal 1: Eradicate extreme poverty and hunger
- Goal 2. Achieve universal primary education
- Goal 3 Promote gender equality and empower women
- Goal 4 Reduce child mortality
- Goal 5 Improve maternal health
- Goal 6 Combat HIV/AIDS, malaria, and other diseases
- Goal 7 Ensure environmental sustainability
- Goal 8 Develop a global partnership for development.

To monitor progress with the implementation of the MDG, there are 18 output targets and 48 key performance indicators. World Bank support for land reform projects is directly aligned to the MDGs, and especially with MDGs 1, 3, 7 and 8. Issues such as poverty reduction, tenure security, pro-poor land management, good governance, environmental sustainability, gender equality, the rights of vulnerable groups in society, exploitation of information communication technologies (ICT) are all key issues for land administration and management programs.

3. OVERVIEW OF WORLD BANK SUPPORT FOR LAND ADMINISTRATION AND MANAGEMENT PROJECTS

3.1. Background to Support.

Of all the development sectors supported by the World Bank, land is amongst the most challenging, complex and controversial. However, it is also one of the most fundamental sectors, with land issues underpinning multiple other sectors including agriculture, water, mining, energy, infrastructure, housing, transportation and climate. Land issues are deeply rooted in countries' histories and cultures. At the most extreme, land issues have been identified as cause of civil and international wars, and even genocide. Furthermore, land issues are often highly politically sensitive, implying that attempts to address them need to be solidly grounded in empirical research, often building on carefully evaluated pilots. The risk matrix for all land-related interventions is indeed high, and such risks run far more deeply than reputational risks to donor institutions, as the lives and the livelihoods of individuals is very much affected.

The World Bank has been directly engaged in supporting the land sector for more than thirty years. This work can be broadly divided into four key areas: (a) support for policy development, (b) analytical and advisory (AAA) research or economic and sector work (ESW); (c) investment lending to support development and reconstruction; and (d) technical assistance. The Bank's strong analytical capacity and intellectual leadership have allowed its activities to draw on cutting edge research to show the importance of land issues for overall economic development and to help countries formulate and build consensus around national strategies to deal with land in a prioritized and well-sequenced manner. In some cases demand for the Bank's analytical work has been equal to or greater than that for Bank lending for land projects. Strong links to academic and civil society institutions in client countries and with development partners, continue to allow the Bank to translate analytical inputs into effective solutions to support development and reconstruction.

For many stakeholders, the support for land administration provided by the World Bank, through funding, analytical support and technical advice, is often misconstrued by stakeholders that the World Bank is actually "implementing projects". Nothing could be further from the truth. The World Bank does not implement projects. It provides support for the aid-recipient countries themselves, to implement projects in accordance with the laws and policies of the respective countries. However, the World Bank works with the recipient country to establish an agreed project design and there are conditions set for the provision of support, which are laid down in the contracts for financing of Grants, Credits and Loans.

International Federation of Surveyors Article of the Month – November 2009 4/22

These conditions generally require compliance with the World Bank's policies and guidelines for safeguards, procurement and financial management.

3.2. Focus of Land Administration Projects in East Asia

Table 1 presents a much generalized history of the scope of land administration and management projects over the past three decades of World Bank support. It should be noted that this history has largely been in response to lessons learned in earlier projects, changes in technology and the political, social and economic priorities of government policy setting and donor engagement. Some of the notable impacts, in the East Asia Region, especially economic and socio-political drivers in East Asia, have included: (a) the Asian economic meltdown of 1997; (b) democratization in Indonesia post-Suharto; (c) post-conflict Cambodia; (d) Thailand's economic development progress and political changes; (e) Laos post-socialism; (f) the tsunami impacts on Indonesia's Aceh province; and (g) rapid land market investment growth in Vietnam. The earlier World Bank supported land projects, tended to almost singularly focus on land titling to provide first time registration. Together with these issues, the land sector now is now recognized as having much cross-sectoral impacts. The challenges are now much greater and complex.

Table 1: Evolution of Land Administration Projects supported by World Bank

Generation Period		Land Administration Projects supported by Wor			
1 st		Scope	Some Project Examples Thailand – 1 st & 2 nd Land		
1	1980- 1995	 First registration Capacity building in government 	Titling Projects		
	3. Limited policy & institutional reforms		Indonesia – Land Administration Project		
2 nd	1995- 2000	 First registration Institutional & policy reforms Capacity building in government & private 	Thailand – 3 rd Land Titling Projects Philippines – 1 st Land		
		sector 4. Basic ICT – some computerization of records GIS	Administration & Management Project		
		5. Service Delivery6. Valuation	Laos – 1 st Land Titling Projects		
3 rd	2000- 2006	 First registration Institutional & policy reforms 	Cambodia – Land Management & Administration Project		
	2000	 Capacity building in government & private sector More enhanced ICT, some computerization of 	Indonesia – Land Management		
		records, GIS, electronic data capture, GPS NSDI 5. Service Delivery			
		6. Valuation and tax7. State land management	Laos – 2 nd Land Titling Project		
		8. Land management9. Good governance10. Disaster response	Philippines – 2 nd Land Administration & Management Project		
4 th	2006- present	 First registration Institutional & policy reforms Capacity building in government & private sector 			
		 Enhanced ICT, computerization of records, GIS electronic data capture, web-based applications GPS/CORS, NSDI, integration of ICT 			
		5. Service Delivery6. Valuation & tax7. State land management			
		8. Land management9. Good governance & civil service reforms			
		10. Disaster response			

The initial World Bank supported projects, commencing in the early 1980s were primarily focused on first time registration of property rights. For example, the early Thailand Land Titling Projects have generally been regarded as best practice for achieving first time registration in a developing country. For these early projects, only limited support was provided to legal or institutional reforms, largely due to the adequacy of already established arrangements.

Over the next 25 or more years, the scope of projects has continued to expand, to embrace a broader range of land-related issues and to take advantage of new information and communications technologies. In addition to support for first time registration, these projects

International Federation of Surveyors Article of the Month – November 2009

6/22

gave greater emphasis to supporting the streamlining of laws and regulations. They also supported specific institutional reforms, which were generally premised on the need for a single land administration agency within government. Support for capacity building has extended beyond government to support private sector development. Indeed, although the term governance may not have been specifically applied at that time, these early efforts were indeed paving out early efforts for the improvement of governance. Many of these projects specifically included support for the improvement of land administration service delivery, in order to facilitate greater accountability and transparency.

Perhaps, commencing around 2000, projects have more explicitly dealt with issues of corruption and accountability, with some projects including anti-corruption plans, good governance monitors and internal audit functions. More formal engagement of civil society organizations (CSOs) including non-government organizations (NGOs) in some of these projects has also been facilitated. Of course, NGOs have for even much longer periods continued to raise concerns, especially on governance and human rights issues, and recognition of their long-term commitment is deserved. It is perhaps too early to judge the success of these projects. Many are still under the initial phases of long-term implementation. Success will be best judged over the long-term, and hopefully a good balance has been struck between the commitment of the respective governments to reform, and the requirements of donors. Broader land-related issues, such as state land management, also became more important to include in project designs.

One general principle that has continued to be followed has concerned the need to develop "critical mass" in the land registration system, as soon as possible. Such critical mass includes institutional capacity, the number of titles registered and distributed to land owners, the amount of state land that has been registered and the quality of land records and maps.

The most recently designed projects are now investing in the development of national spatial data infrastructures (NSDI), or at least whole-of-government land information (system) coordination. There is also now more concerted integration of different ICT such as geographic information systems (GIS) and internet applications. On the down-side of the improvements of technologies, there is sometimes an over-engineering of the spatial accuracy requirements where low-value, rural land parcels may be required to be surveyed to the same standards as high-value, densely populated urban areas. In some cases projects have become too techno-centric, becoming overly dependent on sophisticated measurement/positioning technologies such as total stations, Global Position System (GPS) and Continuously Operating Reference Stations (CORS) without accruing significant efficiency gains. This is a particularly important issue when looking at maximizing first registration coverage, where the greater investment in time and human resources is on adjudication rather than surveying and mapping.

Disasters have also led to recognition of the need to focus on computerization of land records and secure data storage. Whilst the December 2004 tsunami caused severe damage to land offices in Asian countries such as Indonesia, greater losses of land records are actually being experienced through fires, both accidental and deliberate. In Aceh land records for less than

International Federation of Surveyors Article of the Month – November 2009 7/22

60,000 registered land parcels were destroyed or severely damaged.² A recent fire in land office in Central Java saw the records for more than 160,000 land parcels destroyed.³

3.3. Funding Support for Land Administration Projects

On the lending side, World Bank supported land administration projects generally seek to alleviate poverty and enhance economic growth by improving the security of land tenure and efficiency of land markets. This necessitates the development of an efficient land administration system that is based on clear and consistent policies and laws, gender-responsiveness and supported by an appropriate institutional structure. Lending projects may typically involve: (a) policy, legal and regulatory reform; (b) institutional reform; (c) systematic land registration (first time titling); (d) support for the development of subsequent land transactions; (e) land valuation; (f) improved service delivery for land agencies; and (g) capacity building for government, private sector and academe (Bell, 2005).

Table 2 displays total World Bank lending for land administration by fiscal year (FY) and region. The total amount of lending for projects under supervision currently stands at around \$1.5 billion. The Bank's European and Central Asian Region accounts for almost half of the global lending portfolio of land administration projects, whilst the Latin American and Caribbean Region accounts for almost one-quarter. Over the past few years, the African Region's land administration lending program has increased significantly, indicative of the priority being given to the sector in that region. The table also shows that lending in the South Asian Region, and also the Middle East North African Region, continues to be modest. Given the importance of land policy for a wide range of situations, plus the Bank's shift from project towards policy-based lending, it is not surprising to find an increasing number of projects with land policy or land administration components.

Table 2: Lending for dedicated land administration projects

Region	Currently Under Supervision US\$ million	Currently Under Preparation US\$ million	FY01- FY06 US\$ million	FY95- FY00 US\$ million	Before FY95 US\$ million
Africa	169.0	30+	48	46	-
East Asia Pacific	182.6	235.0+	129	219	30
Europe & Central Asia	716.0	22.3	426	109	80
Latin America& Caribbean	375.5	21.7	430	386	29
Middle East North Africa	-	10.0	-	-	33
South Asia	48.5	-	5	-	-
Total	1,4981.6	319.0	1,037	760	172

Source: World Bank, Lending Database, 2009

³ World Bank supervision mission Aide Memoire, June 2009.

International Federation of Surveyors Article of the Month – November 2009

² World Bank damage assessment report, Aceh, Indonesia, prepared February 2005, revised April 2005.

In terms of the actual number of Bank-funded projects, **Table 3** illustrates that whilst overall lending has increased by almost one-half billion dollars since 2006, the actual number of projects currently under supervision (i.e. implementation) is 46, down by almost one-third since 2006. Therefore, on average the funding on a per project basis has increased from around US \$14 million in 2006 to around US\$ 32.5 million in 2009.

Table 3: Number of projects with land administration component/s

Region	Currently under	Currently under	FY01-	FY95-	Before
	Supervision	Preparation	FY06	FY00	FY95
Africa	12	3	28	15	16
	6	1			
East Asia Pacific			13	9	9
Europe & Central	20	2			
Asia			16	10	3
Latin America&	6	2			
Caribbean			8	9	13
Middle East North	0	2			
Africa			3	3	5
South Asia	2	0	6	3	5
Total	46	10	74	49	51

Source: World Bank, Lending Database, 2009

On the analytical side of Bank support to the land administration sector, **Table 4**, indicates there is currently around US \$3 million, in funding. The author considers this to be a very conservative estimate. The above table does not include funding for any global studies that are being undertaken, including studies on governance and land concessions. There is also considerable analytical work being undertaken by the Bank that is land-related, but is not being captured as attributable to the land administration sector.

Table 4: Non-lending projects (Analytical Studies and Technical Assistance) currently being undertaken

Region	No. of Projects	Funding US\$ million
Africa	3	0.40
East Asia Pacific	7	0.93
Europe & Central Asia	0	0
Latin America& Caribbean	2	0.1
Middle East North Africa	1	0.06
South Asia	4	1.68
Total	17	3.17

Source: World Bank, Database 2009

3.4. Partnerships with other Institutions

Given the complexity and long-term nature of land-related institutional development, work on land would not be possible without having strong partnerships with a wide range of development partners, civil society organizations and academic institutions (Deininger, 2006).

International Federation of Surveyors Article of the Month – November 2009 9/22

The Bank actively contributes to recent initiatives such as the High Level Commission for Legal Empowerment of the Poor, the Global Land Tools Network and is in regular contact with the private sector through institutions such as the International Federation of Surveyors (FIG) and with non-government organizations such through the International Land Coalition (ILC). The Bank maintains close relationships with United Nations organizations working in the land sector including Habitat, the Food and Agricultural Organization (FAO) and United Nations Development Program (UNDP). Whilst some of these partnerships involve direct funding arrangements, others may be on an in-kind basis. This paper has not attempted to enumerate these arrangements.

4. KEY LAND ADMINISTRATION ISSUES

This section of this paper attempts to present some of the "headline" issues being encountered in many developing countries in the land sector.

4.1. Governance

Good governance is increasingly recognized as critical to effective development and sustainability. Specifically for the land sector governance, a fully functioning land and property system is composed of four building blocks: (a) a system of rules that defines the bundle of rights and obligations between people and assets reflecting the multiplicity and diversity of property systems around the world; (b) a system of governance; (c) a functioning market for the registration, exchange of assets; and (d) an instrument of social policy. Each of these components can be dysfunctional, operating against the poor.

Previously, insufficient attention has been given in land-related development cooperation to the integration of good governance and safeguards in the design, implementation and impact monitoring of land administration and management projects. The emphasis has been on establishing first-time property rights and building capacity, especially within the civil service. Further emphasis has been in the areas of policy reform, institutional development and new technology. However, it is only more recently, as increasing attention to issues of accountability and transparency, and indeed corruption, which have been consistently raised by CSOs including NGOs, that attention has been turned to governance. Good governance is fundamental to achieving the benefits of the protection of property rights and the development of efficient and effective land and property markets. In addition, good governance is essential for the efficient and effective stewardship of the environment and natural resources

Governments with a record of transparency, accountability and responsiveness are far more likely to attract investment, provide high-quality public services and manage resources more cost-effectively than those which activities are opaque and not open to public scrutiny. Corruption may breed where government officials have discretion without accountability, especially in government agencies involved in provision of services to the public including land, health and education. Experience suggests that governments typically do not welcome public scrutiny. While there are many examples of governments opening themselves to the public through mechanisms such as freedom of information laws, and others have adopted

well-publicized anti-corruption programs, sometimes under external pressure from donors, the record of "supply-side" reform has often had mixed results.

Good governance in land administration is not a new issue, and is as important in the developing world as it is in developed countries. Efficient, effective, transparent and accountable land administration services are as much about the administration of land as they are about the civil service that operates within any country. Typically, reform of land administration in any country is a long-term prospect requiring decades of sustained commitment. It is a major investment of capital and human resources and requires strong and consistent leadership in order to achieve effective, sustainable outcomes. The World Bank, with the support of development partners and civil society organizations, are continuing to support a large volume of land administration projects throughout the world, each with varying emphases on social equity and economic development. In post-conflict countries, tenure security and access to land are major factors in providing long-term stability. Whilst much has been achieved over the past few decades of support from the World Bank, it is clear that increasing attention must be given to good governance.

Good governance in land administration is likely to remain on the respective agendas of donors, governments, NGOs and civil society. It is not a subject that will become unfashionable or redundant. Good governance in land administration is fundamental to the achievement of the MDG. The success and sustainability of good governance measures for land administration requires the commitment of governments to genuine reform rather than just responding to donor priorities.

4.2. Access to Land for Development Investment

The international demand for land by foreign investors, which some writers have provocatively described by some authors as a form of "neo-colonialism", continues to expand throughout all regions of the developing world. Developing countries, in many cases with weak governance, are often only too willing to surrender large tracts of their respective states to international investors for a wide range of developments including agribusiness, forestry for timber and paper, mining and extractive industries, tourism, hydro-power, manufacturing and other purposes including residential development. One of the lingering impacts of the food price crisis of 2007-2008 was the proliferation of the acquisition of agricultural land by foreign investors. Of course, not only was this driven by the needs of food production, but also by demand for grain crops to produce biofuels. Many investors have also continued to increase their demands for oil and other minerals to ensure long-term supplies for their own countries.

Development activities, especially those requiring access to land, often present fertile ground for mismanagement and corruption. Typically weak governance, with inappropriate institutional arrangements, and inadequate capacity to deal with land concessions, provides the ingredients for land development abuses, including evictions of legal and informal land occupants. Many countries experiencing the demand for access to land from foreign investors have significant policy and regulatory gaps in land policies to effectively manage investments. Also, it is often noted that these countries experience severe capacity constraints for the processing of applications, enforcing of safeguards and monitoring social and environmental

International Federation of Surveyors Article of the Month – November 2009 11/22

Keith Clifford Bell

Trends in Land Administration and Management with Particular Reference to World Bank Support for Projects in the East Asia Region

impacts. The lack of transparency and accountability encourages rent seeking and undermining of good governance.

In addition, the lack of a complete, reliable documented inventory of state and private land will often allow public officials to give away state assets with no records of the transactions, or grab land from its rightful owners. Hence the need for building and maintaining the cadastre has been given great prominence in World Bank supported projects and is on the agenda for many other donors.

Decentralization may often present local authorities with a pool of resources that can be manipulated for individual gain. Access to information in land offices can be restricted to those willing to pay "facilitation fees". Negotiations with potential investors often entail additional payments to ensure the deal goes through. In all cases once these practices have been put in place there is great reluctance to curtail them as the vested interests see benefits in their perpetuation. At the same time potential investors can be unwilling (or uniformed) participants in these relationships. The development and dissemination of clear procedures for land and resource development activities should lead to consistent and transparent implementation of government policies.

A large part of the institutional problems associated with the demand for land and natural resources for development is directly related to civil service capacity to effectively address these issues. There are a number of specific, key areas where additional capacity development needs must be focused. These may relate to:

- Project Screening, viz. How do governments attract appropriate investment interest? How do governments evaluate these initial expressions of interest and then encourage these investors to pursue the development of more formal proposals? How do governments support investors in focusing their proposals that are in the best interests of the country?
- Evaluation of proposals, viz. How do governments evaluate land concession proposals? Are they financially sound and is the business plan realistic? Does the proposed investment produce economic benefits? Is the proposal environmentally sustainable and socially responsible? .
- Public Disclosure, viz. How does government disclose proposed investments to the public, to industry, and to all relevant agencies within government? How do people have an opportunity to raise objections to investments and how are these addressed?
- Project Monitoring and Supervision, viz. How does government monitor the implementation of the development, including ensuring that the investor is in compliance with laws, regulations, safeguards relates to the investment? How does it ensure that the required reporting takes place and that relevant taxes, concession fees, etc. are paid to the government?
- Project Documentation, viz. How are records of project (proposals as well as awarded projects) kept? How are these records accessed, updated, and used for verification of project performance?

International Federation of Surveyors Article of the Month – November 2009 12/22

Understandably, many investors may look for the easiest, cheapest, least regulated place to invest. Therefore it is often the case that those developing countries, whose major asset is land, and where governance, institutional arrangements and capacity are weakest will be targeted. One example of a worst case scenario was revealed by a World Bank social impact analysis in Columbia, in 2008 where it was reported:"Various studies indicate that in many cases the expansion of palm cultivation has been conducted with serious human rights violations, including forced displacement, massacres, threats, land confiscation and murders". (Byerlee, 2009).

It is also alarming to note that investors are often able to do things in the countries they invest in, that they would not be able to do in their own home countries. Could not the governments from which the investments emanate, and where the investors may have their primary businesses registered, be encouraged to take steps to better regulate the conduct of their citizens abroad, as has been done in other areas such as human trafficking, pedophilia and even copyright? Perhaps the donor and diplomatic representatives for those countries from which investments emanate, could play a greater role in monitoring and encouraging responsible behavior.

4.3. Land Acquisition

Acquisition of use or ownership rights to large areas of land for production of agricultural commodities, forest, or provision of environmental amenities by large investors has recently attracted considerable interest. A combination of higher and more volatile global commodity prices, demand for bio-fuels, population growth and urbanization, as well as globalization and overall economic development are likely to imply that such investments will be of great importance in the future. In many contexts, large-scale acquisitions of land highlights renewed interest in plantation-based agriculture that is fuelled by skepticism regarding the effectiveness of market mechanisms to guarantee access to basic food supplies and the belief that large scale production can help modernize the agricultural sector. A wave of press reports illustrates the magnitude of these trends and recent Bank documents refer to tens of millions of hectares being considered for potential acquisition for agricultural production or other forms of natural-resource based use other than mining.

Recognizing that land acquisition and agro-enterprise issues are interconnected, the World Bank is currently adopting a dual-pronged approach in response to this phenomenon: (a) dialogue with governments to define principles, provide guidance, and assess the magnitude of ongoing trends through empirical research; and (b) a definition of issues, best practices, decision tools, guidelines and codes of practice for governments and investors in land-extensive agriculture. With regards to dialogue, the World Bank has initiated a global study on large-scale land acquisition for agriculture and natural resource-based use. The study will take a phased approach, with the first phase assessing country-level policy frameworks and documenting projects proposed or implemented in the last five years. If merited, a second phase will involve more in-depth economic and social analysis of one or more projects from the country-level project inventory. The initial phase of the work has received funding of almost US\$ 0.5 million, and covers fifteen countries, and from East Asia the countries selected include Indonesia, Cambodia, Laos and Thailand. Progress to date includes:

International Federation of Surveyors Article of the Month – November 2009 13/22

- Country-level inventories & policy framework. Work is being undertaken in these 15 countries to provide descriptions of the policy framework in a comparable format and an inventory of land acquisitions either for the entire country or a region chosen to be representative of broader trends.
- Economic and social analysis. Pilot in-depth analysis of social impacts and economic parameters of specific cases of large-scale land acquisition is ongoing in a joint effort with other units of the Bank. Results (to include draft manuals of good practice in both areas) will provide a basis for expanding to other countries
- Development of key principles.

In addition to the above studies, the Bank is undertaking other work in East Asia, including studies in Vietnam concerning land acquisition and also compensation. In Laos, a study is underway to provide a better basis for dialogue on the difficult challenge of managing land acquisition for development purposes. In Indonesia two separate studies are in progress regarding land acquisition for agribusiness development and a further study regarding infrastructure development.

4.4. Gender Mainstreaming

Gender Mainstreaming is "the process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in any area and at all levels. It is a strategy for making women's and men's concerns and experiences an integral dimension of the design, implementation, monitoring, and evaluation of the policies and programs in all political, economic and societal spheres so that women and men benefit equally, and inequality is not perpetuated. The ultimate goal is to achieve gender equality." (United Nations, ECOSOC, 1997).

Although the importance of gender has been identified as a fundamental issue for land administration, especially in terms of protecting the rights of women in land property, it was not always included with the same rigor as is currently done. However, this was not always the case, and it was only as a result of the inclusion of gender specialists in World Bank task teams, and a better understanding of this important area grew. In the East Asia Region, the land titling program of Laos provides an interesting case study. Initially, like in other projects, it was assumed that land titling by itself would benefit women, without any specific features to address potential gender participation needs. However, this rather neutral approach was found to be inadequate, and one of the early indicators of the likely need for a "proactive" gender program emerged from a large survey in 1998 by the Lao Women's Union (LWU). LWU surveyed a sample of 2000 households in 17 districts, all before land titling. The survey compared the gender balance from two ways of recognizing land rights, under traditional customary tenure without land titling where 82 percent of land was recognized as either the woman's or in conjugal ownership and under formal land titling land registered to women or in joint conjugal names fell to 23 %. The First Land Titling Project (LTP1) was actually then retrofitted to more pro-actively gender issues, including better collection of gender ownership data and better community education programs. Indeed, in 1998, a formal Memorandum of Understanding (MOU) between the implementing agency and the LWU was signed to formalize the LWU's participation in the project. Recent reports indicate that around 75% of

International Federation of Surveyors Article of the Month – November 2009 14/22

titles in the Lao capital Vientiane are registered in the name of women or joint owners and nationally this figure is around 62%.

In the East Asia Region, Laos and Indonesia have been identified as the World Bank's two priority countries for gender. In Indonesia, a study is currently being undertaken into the gender impacts of land titling in Aceh. This is an especially complex province recovering from a thirty year civil war which officially only ended in 2005, and also the catastrophic tsunami disaster of December 2004 which saw up to 200,000 people killed. The report will be delivered in 2010.

4.5. Institutional and Policy Reform

The general experience in World Bank support projects has been that a pre-requisite for effective implementation of land administration reform has been the establishment of a single national (or jurisdictional) land agency which brings together the many public sector functions concerning land administration, including land registration, surveying, valuation and administration of state land. For many countries, the lack of a single agency, with sole responsibility for these functions, has been the major obstacle to reform. Governments require consistent policy advice, and the reform agenda may be thwarted by many government agencies competing for "turf" and providing conflicting advice to the government. Experience shows that good governance is required in order for the single land agency model to work as best practice. Of course, without good governance, the single land agency model can compound the inherent problems that the country faces. Furthermore, unless there is need for strong political will for reform in the land sector, in order for success.

A further institutional issue for effective implementation of land administration reform is land custodianship. Government agencies such as Forestry generally have large tracts of state land under their control. Too often, these agencies act as absolute owners of the state land rather than managing the use of the land on behalf of the state. In many countries, laws, sub-decrees and regulations are not harmonized and there is poor public administration and management of land, which lacks transparency and accountability. The responsibilities of custodian agencies should not conflict with the single national land agency which has overall responsibility for the public administration of land.

The national importance of state land is increasing. It is a finite resource and governments require an accurate and complete inventory of state land to ensure that it is managed as a public asset. Increasingly, governments around the world are approaching state land as an asset which has to be managed appropriately. For many agencies, the pressure on the public purse is driving approaches to generate a financial return from these assets to defray the costs of management, in whole or part. In generating a return on state land assets, it is important that governments do not adopt short-term revenue-generating approaches that are synonymous with a "fire sale". Once the state land is alienated and sold to private land interests, the asset is lost. Pressures to generate revenue may lead to state land of high social, environmental or heritage value being sold and lost. Thus priority must be given to good policy development for land concession management to ensure that all development is sustainable, responsible, accountable and transparent. However, there may often be blurred

International Federation of Surveyors Article of the Month – November 2009 15/22

dividing lines between state land and private land, and also the customary land areas. Collectively, these require a comprehensive approach to the overall public administration of all land.

Land valuation and property taxation are key areas of policy development in the land sector. These areas are of significant importance for collection of revenue that will deliver services to the public. The need for standards development, regulation setting and policy, accompanied by testing and piloting is also a long-term engagement.

The increasing trends towards e-commerce and e-governance are often seemed to be limited by laws and regulations that only recognize hardcopy documents and records. Typically the law lags well behind technology. Therefore, there is an increasing need for the land policy reform agenda to address ICT. One example in the East Asia Region of moving ahead in this area has been in Thailand. In terms of the legal status of digital data, the Electronic Transactions Act 2001 came into effect in 2002. This Act is based on the United Nations Commission on International Trade Law Model Laws. It provides for legal effect and enforceability of electronic data, for requirements for documents to be in writing to be satisfied by electronic data, for electronic data to be regarded as original data and for the admissibility of electronic data as evidence in legal proceedings. In Vietnam, a policy study under the Vietnam Land Administration Project (VLAP) will commence shortly into "Developing a legal framework for land information and solutions to national information infrastructures".

4.6. Capacity Building

There is no doubt that one of the direct benefits from World Bank support land administration projects has been the development of capacity, that has resulted from project implementation. Capacity in key areas of land administration including land surveying, land registration, service delivery and service delivery standards, land records management, policy development, public awareness and education. In many cases, the Bank's support through lending and analytical studies has been complemented by technical assistance provided by donor partners.

The role of education and training in building capacity to support land administration and management reform is well established through World Bank funded land administration projects in East Asia. For more than ten years the Bank, together with its development partners, has been supporting the establishment of new higher education programs and in some cases strengthening established programs. The Thailand Land Titling Project was the first World Bank funded project in the region to include capacity building of higher education, and has been assessed as being remarkably successful. Advances in ICT have played a significant role in the development of teaching and research methods in developed countries. However, this has further increased the gap in standards between rich and poor nations. Land administration higher education in developing countries is hampered by limited financial resources, difficulty in attracting academic staff and poor facilities. There is often a heavy reliance on support from land administration projects. In addition to building the overall capacity in land administration and management, a further objective has been to build the capacity of the education institutions themselves and encourage professional institutions with

International Federation of Surveyors Article of the Month – November 2009 16/22

Keith Clifford Bell

Trends in Land Administration and Management with Particular Reference to World Bank Support for Projects in the East Asia Region

private sector participation. In some countries, in particular Cambodia and the Laos, there were no specific land administration education programs in place until the catalyst of a World Bank supported land administration program. In other countries, including Indonesia and Philippines, the focus has also been on improving strengthening and updating existing institutions which may have focused on surveying agrarian development.

Increasing emphasis is being placed on supporting private sector capacity development. The establishment or strengthening of professional and industry associations has generally demonstrated to be one useful means of developing the private sector. In addition, the Bank has been encouraging the provision of short professional development training courses, which is especially important for knowledge-sharing and maintaining competency. Some projects are now outsourcing some requirements of the project such as surveying and mapping, which can further serve to develop private sector capacity.

In East Asia the World Bank has collaborated with the International Federation of Surveyors (FIG) in supporting professional development by convening regional conferences and Expert Group Meetings (EGM), and participation at the annual FIG Working Weeks. The World Bank has also worked with organizations such as the International Institute for Geo-Information Science and Earth Observation (ITC) and the United Nations University (UNU) to provide short courses in land administration education in the region. ITC has strong expertise in land administration higher education and very large alumni of nationals from countries in the region, which is frequently featured in the quarterly "ITC News".

4.7. Sustainability of Land Administration Systems.

For the investment in a land administration project to be considered successful, it should be expected that the developments by the end of donor engagement are sustainable. Sustainability has many elements including: (a) capacity; (b) budget; (c) good governance, transparency and accountability; (d) security of land records from loss, destruction and fraud; (e) reliable and consistent delivery of services which are accessible, government commitment and public confidence; to name but a few.

As mentioned above, there should be sufficient capacity in the public sector and hopefully also private sector. Land administration agencies should have sufficient recurrent budget to maintain their operations and have access to additional investment budgets to undertake the necessary developments and improvements to maintain their efficiency and effectiveness. Whilst in many developed countries there are examples of land administration agencies which are self-funded, from land registration and other fees they collect, it should never be forgotten that it has taken a very long time to achieve such a status, and much longer than the duration of on one or more phases of land administration project implementation.

The Thailand land titling program is one example of a successful program that has long been sustained after the donor support had finished in 2002. The Thai Department of Lands (DoL) has continued to implement the program, under government funding. A recent technical review undertaken by the World Bank, noted that the land registration in Thailand now generates around ten times its operating costs per annum through fees collected for land transactions and enquiries, although DoL remains an on-budget agency and all revenue is

International Federation of Surveyors Article of the Month – November 2009 17/22

returned to the Treasury. In Thailand, the majority of all land transfers are generally completed in less than three hours. DoL is soon expected to embark on a major computerization program to improve service delivery and records management, and has already tested its new systems at fifty office sites to demonstrate it can achieve completion of transactions in a maximum of forty minutes.

4.8. Utilization of ICT

Rapid advancements in ICT, construction of optic fiber networks, and improved telecommunication infrastructure across East Asia is connecting rural and urban populations. The foundations are being laid for a host of e-government services and the building of NSDI's that will reach beyond cities and into the rural provinces. Improving tenure security and access to land is central to alleviating poverty and advancing rural livelihoods. A suite of innovative technologies and solutions are available to providing East Asia's poorest rural and remote communities access to land and property services. In Thailand, the Cabinet recently approved that National ICT Strategic Master Plan 2009-2012, identifying the NSDI and land information from land registration as being one of the key pillars.

Increasingly, land administration systems are investing on integration of different ICT platforms. For example, survey and legal data are recorded electronically in the field, with plans, maps, records and title certificates also generated digitally. The outputs may be held in a relational database, with a GIS spatial system providing indexing and supporting records management, as well as access for land office transaction processing and management. Computerized workflow systems may be used to better manage and monitor land office business applications with land offices having access through an intranet browser tools. The digital cadastral database (DCDB) supports the government's better collection of land taxes, with a reliable valuation system that is using computer-assisted mass appraisal GIS software. The public of course, may have internet access to core services, with the potential to lead to electronic or online conveyancing (e-conveyancing). But in order to fully realize the benefits of these technologies, the land registration system itself needs to be "in order", containing reliable data, and focused on holding a complete inventory of land parcels, both state and private. The public must also have confidence in the government's land administration system, so they undertake all of their transactions within the formal system. Surveyors are more frequently using total stations and GPS equipment. In some cases, governments see the establishment of CORS as being fundamental to the geodetic system, accessible by both the public and private sectors.

4.9. Development of National Spatial Data Infrastructures

Through the nurturing of LIS pilot programs and innovative ICT applications to land information, the Bank's goals are to promote the development of national inventories of land ownership and land use records to support development of robust systems of land administration. Efforts towards building multipurpose LIS of key national datasets for NSDI are focused on maturing the core building blocks of appropriate institutional frameworks, technical standards, identifying fundamental national datasets, building the enabling technical ICT infrastructure, and enhancing the available skills base through training and education

International Federation of Surveyors Article of the Month – November 2009 18/22

programs. Strengthening land administration systems through building NSDI may support improving tenure, promoting social stability and reducing conflict, stimulating agricultural and rural productivity, encouraging land improvement and more sustainable resource management. A better cadastre, underpinning the NSDI provides a more complete and reliable basis for taxation collection and better managing state assets. Through better access to land information, transparency may be increased and there may be enhanced public disclosure of land-related matters such as land use plans and development proposals. However, the author stresses "may" in all of these benefits, as it all depends on whether good governance prevails with laws being appropriately enforced and civil servants acting ethically and in the public good.

Duplication of data capture is frequently encountered in land administration projects. For example in the management of land concessions, different agencies are all too frequently embarking on maintaining their own individual digital cadastral databases, perhaps due to a lack of protocols for data sharing, unclear institutional mandates or even organizational rivalry. Data should only be captured once, and the maintenance of data should be the responsibility of the designated custodian agency. NSDI, which encompasses not only the data, but the official designation of custodians, and the official protocols for data sharing will improve the overall efficiency of data collection and maintenance and enable government decision-making to be more consistent drawing on the authoritative data sets, with advice from the designated responsible agency.

The "World Development Report 2010" in the chapter "Managing Land and Water to Feed Nine Billion People and Protect Natural Systems" stresses the importance of accurate and timely data, especially from remote sensing and other geographic information, and the application of ICT, advising that: "One reason that policy makers have found it so difficult to curb the overexploitation of land and water and their related ecosystems is that neither the managers nor the users of the resources have accurate and timely information." The Report further advises that: "Research and development will be necessary to take full advantage of these new information technologies" and also "More reliable information can empower communities and change the governance of natural resources". Although the term "NSDI" has not been used specifically in the Report, it most certainly makes a strong case for investment in NSDI.

5. CONCLUSIONS

The World Bank's engagement in the land sector has continued to provide fundamental support to land reform in many developing countries around the globe, for more than three decades. The need for support in future decades is likely to continue as new challenges emerge and more countries seek assistance. The knowledge that the World Bank has accrued in this sector is well recognized, and even countries that don't require financial support, are keen often to draw upon this reservoir of knowledge and experience. The Bank's strong analytical capacity and intellectual leadership have allowed its activities to draw on cutting edge research and experts to show the importance of land issues for overall economic development and to help countries formulate and build consensus around national strategies to deal with land in a prioritized and well-sequenced manner.

International Federation of Surveyors Article of the Month – November 2009 19/22

REFERENCES

Adhil Khan, M., (date unknown), Millennium Development Goals (MDGs), Public Policy and Governance Change, PowerPoint Presentation, UNDESA.

Bell, K.C., 2004, "Developing Asia and the Pacific: World Bank Financed Land Projects", Third Regional FIG Conference for Asia and the Pacific, Jakarta, October 3-7, 2003.

Bell, K.C., 2005,"Land Administration and Management: The Need for Innovative Approaches to Land Policy and Tenure Security", FIG EGM, Bangkok Dec 8-9, 2005.

Bell, K.C., 2006, "World Bank Support for Land Administration and Management: Responding to the Challenges of the Millennium Development Goals", FIG XXIII Congress, October 8-13, 2006, Munich.

Bell, K.C., 2007, "Good Governance in Land Administration", FIG Working Week, Hong Kong, May 13-17, 2007.

Bell, K.C., 2007, "World Bank Financed Land Administration and Management Projects", PowerPoint Presentation, FIG Working Week, Hong Kong, May 13-17, 2007.

Bell, K.C., 2007, "Global Experiences and Lessons – Land Administration and Reform: Opportunities for the Philippines", Presentation to the High Level Forum on Land Policy Reform, Manila, Philippines, Jan. 19, 2007.

Bell, K.C., 2007, "Good Governance in Land Administration – an International Perspective", Geoconference Quebec 2007, October 2-5, 2007.

Bell, K.C., 2007, "Responding to the Challenges of the Millennium Development Goals - World Bank Support for Land Administration", Geoconference Quebec 2007, October 2-5, 2007.

Bell, Keith C. (2008), Land Administration in EAP – Issues and Experiences with Information Communications Technology, ICT and Rural Access Workshop, Sustainable Development Network Week, World Bank, Feb. 26, 2009, Washington D.C.

Bell, K.C., 2008, "How can GAP-sponsored statistics and research influence policy and country programs?, A perspective from land administration, Presentation to the *Advisory Council on Women's Economic Empowerment* Workshop, World Bank, Washington, September 23, 2008.

Bell, K.C., 2009, "Lessons learned from Standards for Data and Software for Spatial Information: Considerations for the Spatial Tenure Domain Model", Presentation to the Workshop on the Social Tenure Domain Model, World Bank-FIG Conference, Land Governance in Support of the MDGs – Responding to New Challenges, Washington D.C., March 12, 2009.

Byerlee, D., 2009,"Large Scale Investments in Land: Deja Vu or New Development Opportunity", Presentation to Land Acquisition Workshop, World Bank, Agricultural and Rural Development Week 2009, Washington DC, March 2, 2009.

Cook, E., V. Stanley, G. Adlington, K. Bell and M. Torhonen, 2008, "Information and Communications Technology in Land Administration Projects, ARD Note, Issue 38, World Bank Washington D.C.

Deininger, K., 2005,"Land Policy and Operations at the Bank: Principles and Operational Implications", World Bank (unpublished).

Food and Agricultural Organization of the United Nations, 2007, "Good Governance in Land Tenure and Land Administration", Rome.

International Federation of Surveyors Article of the Month – November 2009 20/22

Keith Clifford Bell

Trends in Land Administration and Management with Particular Reference to World Bank Support for Projects in the East Asia Region

International Federation of Surveyors, 1998, "Cadastre 2014: A Vision for a Future Cadastral System", FIG, July 1998.

Kadaster International, 2006, "Corruption in Land Administration", article in "Abroad", periodical newsletter, September 2006.

Mitchell, D and K.C. Bell, "Developing Capacity through Higher Education and Professional Development Training to Support Land Administration and Management Reform in East Asia", ARD Note (Draft), World Bank, Washington D.C.

National Archives, 2007, http://www.nationalarchives.gov.uk/documentsonline/domesday.asp

Royal Government of Thailand, 2001, "Electronic Transactions Act 2001", Bangkok.

Royal Government of Thailand, 2009, "National Information Communications Technology Master Plan 2009-2012", Ministry of Information and Communications Technology, Bangkok.

Songe, V. and K. Deininger, 2009, "Foreign Investment in Agricultural Production: Opportunity and Challenges, ARD Note, Issue 45, World Bank Washington D.C.

United Nations, 1997, "Gender Mainstreaming", Extract from the Report of the Economic and Social Council for 1997, (A/52/3, 18 September 1997).

Von Braun, J. and R. Meinzeim-Dick, 2009, "Land Grabbing" by Foreign Investors in Developing Countries - Risks and Opportunities", International Food Policy Research Institute, Policy Brief No. 13, April 2009.

Warnest, M. and K.C. Bell, 2009, "Information and Communications Technology (ICT) Utilization in Land Administration in the East Asia Region", ARD Note (Draft), World Bank, Washington D.C.

Warnest, M. and K.C. Bell, 2009, "Information and Communications Technology (ICT) Utilization in Land Administration: Country Focus - Indonesia", ARD Note (Draft), World Bank, Washington D.C.

Warnest, M. and K.C. Bell, 2009, "Information and Communications Technology (ICT) Utilization in Land Administration: Country Focus - Lao People's Democratic Republic", ARD Note (Draft), World Bank, Washington D.C.

Warnest, M. and K.C. Bell, 2009, "Information and Communications Technology (ICT) Utilization in Land Administration: Country Focus - Philippines", ARD Note (Draft), World Bank, Washington D.C.

Warnest, M. and K.C. Bell, 2009, "Information and Communications Technology (ICT) Utilization in Land Administration: Country Focus - Vietnam", ARD Note (Draft), World Bank, Washington D.C.

Warnest, M. and K.C. Bell, 2009, "Building SDI in Developing Nations in East Asia: Convergence of Information and Communications Technologies (ICT) and Land Information Systems (LIS) in Land Administration", GSDI 11 World Conference, Spatial Data Infrastructure Convergence – Building SDI Bridges to Address Global Challenges, June 11-15, 2009, Rotterdam.

World Bank, 1975, "Land Policy Reform Paper" World Bank, Washington D.C.

World Bank, 2002, "The MDGs as a Benchmark for Development Effectiveness", World Bank, Washington D.C.

World Bank, 2002, "Achieving Development Outcomes: The Millennium Challenge", World Bank, Washington D.C.

International Federation of Surveyors

21/22

International Federation of Surveyors Article of the Month – November 2009

Keith Clifford Bell

Trends in Land Administration and Management with Particular Reference to World Bank Support for Projects in the East Asia Region

World Bank, 2003, "Land Policies for Growth and Poverty Reduction", Policy Research Report (PRR), World Bank, Washington D.C.

World Bank, 2003, "Comparative Study of Land Administrative Systems Global Synthesis of Critical Issues and Future Challenges". (unpublished).

World Bank, 2006, "Global Monitoring Report, 2006", World Bank, Washington D.C.

World Bank, 2007, "World Development Report 2008: Agriculture for Development", World Bank, Washington D.C.

World Bank, 2008, "World Development Report 2009: Reshaping Economic Geography", World Bank, Washington D.C.

World Bank, 2009, "Improving Land Acquisition and Voluntary Land Conversion in Vietnam", Policy Note (Draft), Hanoi, June 2009.

World Bank, 2009, "World Development Report 2010: Development and Climate Change, World Bank, Washington D.C.

Zakout, W., 2006, "Good Governance in World Bank-Supported Land Administration Projects", Forum, FAO, Rome, September 2006.

Zakout, W., B. Wehrmann, M. Torhonen, 2007, "Good Governance in Land Administration: Principles and Good Practices", draft publication, World Bank and FAO, February 2007.

BIOGRAPHICAL NOTES

Keith Clifford Bell joined the World Bank in 2003, after a distinguished career in the public sector and military in Australia, culminating as the Surveyor-General of Victoria, 1999-2003. Prior to this he held senior executive positions in the Planning and Land Management Authority of the Australian Capital Territory Government, was the Chief Executive Officer of the Australian New Zealand Land Information Council and the Director of the National Land Data Center in the Australian Government. Within the World Bank, he has responsibility for leading the World Bank's land administration and management program throughout the East Asia Region. Based in Washington D.C., he also advises other World Bank regions including the Middle East and North Africa, which means he spends most of the travelling. Keith is a licensed surveyor and professional engineer.

CONTACTS

Keith Clifford Bell The World Bank, East Asia Pacific Region 1818 H Street, NW Washington D.C. USA

Tel. + 1 202 458 1889 Fax + 1 202 477 2733

Email: kbell@worldbank.org
Website: www.worldbank.org

International Federation of Surveyors Article of the Month – November 2009 22/22