International Federation of Surveyors
Fédération Internationale des Géomètres
Internationale Vereinigung der Vermessungsingenieure

FIG COMMISSION 7
Cadastre & Land Management

RECONSTRUCTION OF LAND ADMINISTRATION IN POST CONFLICT CONDITIONS

By

J. David Stanfield
(with M.Y. Safar, Edmond Leka, and Elton Manoku)
Terra Institute, USA
www.terrainstitute.org
Email: jdstanfi@wisc.edu

THE UNIVERSITY of WISCONSIN MADISON

Symposium on Innovative Technology for Land Administration

Land Tenure Center

TERRA INSTITUTE LTD.

URISA

University of Wisconsin
State Historical Society
Wisconsin, USA
24 - 25 June 2005

WISCONSIN HISTORICAL SOCIETY

The views expressed in this paper are those of the authors, and do not necessarily represent those of the U.S. Agency for International Development nor of Emerging Markets Group nor of Terra Institute. Special thanks are due to those three organizations which have supported the Land Titling and Economic Restructuring in Afghanistan Project.

RECONSTRUCTION OF LAND ADMINISTRATION IN POST CONFLICT CONDITIONS

By
J. David Stanfield (USA)
With M.Y. Safar (Afghanistan), Edmond Lekaj (Albania)
and Elton Manoku (Albania/Netherlands)

Key Words: Land administration, cadastre, land/property registration, post-conflict, information and communication technology, preservation of deeds archive integrity, cost of land/property registration.

Summary: The introduction of ICT into land registration organizations in post-conflict conditions can be very useful, but also faces severe constraints. The experiences in Albania and Afghanistan are analyzed to show the potential benefits and costs, and the conditions under which ICT can be profitably adapted to the reconstruction of land administration organizations in post-conflict conditions.

1. Background

During conflicts people are killed or disappear, buildings and physical infrastructure are destroyed, legal frameworks are set aside, public registers of property rights are destroyed, State government institutions get caught in cross-fires and cease to be effective, markets cease to function, properties are taken and lands occupied by people without the permission of their owners.

The healing process following such destructions is always complex. But in one way or another the repair has to be done, including the repair of the natural environment and of wounded people, but also the repair of basic social institutions, one of which is "land administration". Land Administration (defined by the UN/ECE as the process of determining, recording and disseminating information about ownership, value and use of land[1]) includes processes of land registration, cadastre, taxation, and land use development and control. As the organizers of this Symposium have observed, every country in the world pursues these activities in one form or another[2]. Also the organizers of this Symposium have alerted us to the challenges from Information and Communication Technology (ICT) to constantly improve the land administration institutions even in the most stable and peaceful societies.

So, in a sense the "healing" of land administration organizations is a constant challenge in whatever society, and in today's world ICT can play an important role.

[1] UN, Land Administration Guidelines, New York, Geneva 1996
[2] See e.g. HM Land Registry as a contribution to UN, 2001, Inventory of land administration systems in Europe and North America, London.

The main hypothesis of this conference is the following:

> "…in contrast to the past – when the organization's objectives were specified prior to the selection of the requisite technology that would provide for the achievement of those objectives – nowadays developments in technology in part determine the nature of the organization's objectives[3]."

ICT can push land administration agencies into fashioning new procedures, finding new solutions to meeting its objectives with lower cost.

Countries in post conflict situations, however, put special demands on the repair and modernization of land administration institutions and operations, and on the adaptation and use of ICT in their reconstruction work. In post conflict areas:

1) People are uprooted from their homes, work places, businesses and farms. This uprooting especially affects people with training and experience in the use of ICT for land administration —meaning that technically trained people are in very short supply.

Figure 1: An Abandoned Village Near Jalalabad, Afghanistan

[3] Terms of Reference for the Symposium on Innovative Technologies for Land Administration, FIG, 2005, p. 3.

Even if they can be found, public land administration agencies cannot offer salaries attractive enough to agree to use their technical training.

Figure 2: An Engineer Now Selling Kebabs in Kabul

2) Infrastructure damaged—electricity untrustworthy and use of technology dependent on stable electrical energy is constrained.

Figure 3: Infrastructure Conditions in Parts of Kabul

3) The routine of customs and laws and the workings of the institutions of governance are fragmented and weakened by warlords, commanders, and criminals with money and weapons who operate outside of established routines.

4) Conflicts among factions does not cease on a specific date, making the concept of "post conflict" deceptive. Simmering tensions can and do erupt into conflict and violence periodically.

If ICT trained staff cannot be found or kept working, if infrastructure is not functioning to support ICT, and if work processes are not well defined and stable, then the introduction of ICT may actually be counterproductive. ICT may simply not work when plugged in. If it can be made to work with generators, but if staff cannot be held, then investments in ICT will rapidly decay. If work processes are not well established routine, then ICT investments essentially to make routine work more efficient will have to be re-designed often in the short run, software re-written, and equipment modified. Political violence can threaten the viability of long term investment programs needed to bring about the reconstruction of land administration institutions.

Under such conditions, initial investments in ICT may be abandoned, equipment left to deteriorate without being used or maintained, and staff dismissed. Investing in ICT can easily be more costly than even the expected gains in efficiency, and certainly more costly than the gains that are actually achieved.

Despite these serious difficulties, or perhaps as a response to them, ICT can allow creative approaches for rebuilding the institutions of land administration.

The question which we want to explore in this paper, is how should ICT be approached in the rebuilding of land administration agencies in post conflict situations? The question implies that the introduction of ICT can have positive impacts but that expected benefits may be constrained by the special conditions in post-conflict societies.

The institutional factors in post conflict situations are much more complicated than in the relatively ordered world encountered by companies and agencies in the relatively stable US and European countries. Testing the hypothesis about the potential benefits of ICT in land administration agencies which operate in extreme conditions can help identify important contextual factors which may go undetected in "normal" conditions, and can give striking examples of how the re-engineering of land administration agencies can be assisted by ICT, but also how too big or too rapid investments in ICT can be counter-productive.

2. Rescuing Information from the Wreckage

In all countries within a market oriented political/economy, even in those about to be wrecked by conflict, land administration agencies function somehow in gathering and using information about property boundaries and rights, land use, and land values.

Conflict typically results in the disorganization and destruction of records maintained by these agencies. The records held by individual families also may be lost by the destruction of war or through forced migration.

When the conflicts subside and people try to recover a certain sense of normality, the choice people face is whether to invest in a massive re-creation of the documentation needed for land administration, or to search through the rubble and recover what still exists from the past.

In Kosovo, some cadastral and court records were destroyed in the conflict; the retreating Serb Army also crated up other records and took them into Serbia. The UN administration was unable to retrieve these records from Serbia, although lawyers assisting with private land transactions have been able to get access to the absent records and document legally recognized transactions, recording them in the emerging Kosovo archives.

Figure 4: Empty cadastral office in Kosovo

Figure 5: Missing Cadastral Maps in Kosovo

In some Municipalities, older copies of the records were recovered, as were computer files in a few Municipalities. But even after a major effort at recovery of records, only 50% of the parcels had an acceptable correspondence between the actual possessor and the legal documents of possession[4].

Figure 6: Court Archives in Kosovo--1999

3. Document Rescue Experiences in Afghanistan—2004 and 2005

In Afghanistan, the various rebellions and wars during the past three decades resulted in the destruction of many deed archives (eight of the 34 provincial archives were completely destroyed). In other archives, volumes of documents were scattered across floors, and in others there was lack of care resulting in insect and water damaging of documents.

Figure 7: Deeds in Kabul--2003

[4]See David Stanfield, Scott Thomas, Kathrine Kelm, and Jeff Dorsey, "An Assessment of Property Rights in Kosovo", report prepared by ARD, Inc., for USAID/Kosovo, March, 2004.

The temptation in such conditions is to start over, and conduct a massive title adjudication and property survey effort and re-create the archives. However, the after-effects of conflict include substantial instability due to lingering inter-militia violence, and a certain resistance to the "occupation" forces resulting in lack of physical security in many parts of the country.

Also, the resilience of land administration organizations and concepts is substantial. Land surveyors and judges are very often committed professionals. Surveyors and registrars have often performed heroically to save maps and documents from rampaging military units or enraged crowds. Such people and the record archives they administer, at least in Afghanistan, are amazingly resilient. The option of reconstituting the document archives and the administering court or cadastre makes a great deal of sense and is supported by significant parts of the country's Judiciary[5].

What is the role of ICT in this recovery of documents?

1) Task 1: Inventory of bound volumes of deeds

Figure 8: Deeds in New Cabinets in Kabul--2004

The inventorying of bound volumes could have been done manually. But, courts have never maintained even a paper based inventory of bound volumes. Doing the inventory digitally, on a computer, even if printed out periodically for courts to use, allows the checking for

[5] The recovery of property records has been strongly supported in Afghanistan by the Judicial Reform Commission, especially Dr. Zikria and Justice Baha, with the financial and technical support of USAID and teams organized by OTI-RONCO initially and then by Bearing Point and since November, 2004 by the LTERA Project under the direction of Emerging Markets Group in cooperation with Terra Institute.

errors and correcting them, and for the identification of each volume and where physically it should be located (by cabinet number).

Result of the ICT intervention: A new process (inventory of bound volumes) has been established for the courts. Errors in identifying and locating volumes have been corrected. The archives of documents have a greater degree of security with multiple copies of the digital inventory data base, which will facilitate recovery of archives in the future in instances of destruction or damage to the archives.

2) Task 2: Repair and digitally copy deeds

After the bound volumes are re-organized, the creation of digital copies of the documents they contain has started. The scanning of deeds in the bound volumes was planned originally, but the decision now is to use digital camera to photograph each deed. Photographing does not disturb the documents as much as scanning, and can easily handle documents of varying sizes. The quality of the image for printing on a good quality printer is quite satisfactory. Before photographing, however, the team repairs torn documents with tape and glue, which in itself is a valuable part of the document rescuing process. Figure 9 shows a document photographing team at work.

Figure 9: Preparing Deeds for Photographing—Kabul, 2005

Positive impacts of ICT on document archiving:

a) Each document is repaired before photographing.
b) Digital copies of all deeds provides security in case of future disasters that deeds will not be lost.
c) Courts can now access archives from the Court and do not need to send people to the archives, making copies and consultation of documents much easier and quicker.

Constraining factors.

a) There may arise resistance from some court employees to the introduction of deed photographing and indexing, who have gotten substantial facilitation fees for finding deeds in the past. Some employees may also come to fear losing their jobs due to the new technology. No resistance has been detected yet, however, and the staff and Judges have been very supportive of efforts to date.

b) Courts must have employees who can photograph and use computes to identify and store the images. But with wages officially at $50-$75 per month, the Courts will find it difficult to employ and keep people at such salary levels with the needed aptitudes and training.

c) It may occur that some powerful people who may have engaged in fraudulent transactions may oppose modernization of Court processes, with or without ICT, which makes such modernization more difficult. Such opposition has not yet materialized, which is a positive commentary on the Afghan character, but experiences from other countries indicates that the danger exists.

4. ICT and Information Access in Afghanistan

Each court in Afghanistan prepares a summary of all documents produced each day, including the grantor/grantee names, date, type of document, and unique document number. However, the courts have historically not used this log as an index to find deeds based on the names of the grantors or grantees.

ICT is being used to improve access to information contained in the deed archives. Having the deeds in digital form helps. But to find the needed deeds, after photographing, an indexing team enters basic information about each deed into a database. Future searches will use this digital index to find deeds according to names of grantors and grantees (sellers and buyers), date, deed number, and other characteristics of the property and transaction.

Process impacts of ICT used for improving access to deeds:

a) Courts themselves will be able to do a chain of title verification using the digital index. They will not have to rely on ownership information maintained by Municipalities and District Land Offices. The index and digital archives will speed up chain of title searches and will eliminate steps now required to carry out a transaction.

b) Courts can also use the index to produce statistics about the work that they do, the numbers and types of documents that they prepare each year.

c) An important process impact of ICT is the modeling of the processes which ICT requires. The two main models which typically are created are:

- the data model which is the more static model
- the process model which uses the data model but which can evolve more rapidly than the data model

Modeling of organizational procedures and processes is usually more difficult than carrying them out. This is a challenge not only in post conflict countries, but also in more settled countries. ICT introduction, or the plan for its introduction, encourages the use of a more formal, mathematically based language to describe organizational processes. The advantages of having the system described in a more formal language are:

- the holes in the system can be more easily identified, so the system can be improved.
- The formal presentation helps in identifying un-needed or illogical procedures.
- it is easier to see what parts of the system are better to automate, and in what order of priority, and which are better left as manual.
- How the existing structure and procedures work is better documented and very easily transferred to other people who will work with the system in the future.

Constraints on ICT use in making access to documents more efficient:

a) There is a limited number of programmers familiar with database design and maintenance, and skilled in creating and using client oriented software for managing complex data bases.
b) Electricity supply is intermittent.
c) Experience with computers and their ways is limited in the Courts, meaning that there will be a significant learning curve before such technology can be managed effectively.
d) People may not accept the "new" ICT ideas as being as secure and predictable as the present procedures.
e) Experiences in other countries has shown that there may arise opposition of some court staff and powerful people to changing system in ways which will limit their abilities to manipulate the records in their favor. Strong support for the project to date has forestalled such fears in Afghanistan.

5. Spatial Information Innovations in Albania and Afghanistan

The deeds of sale, mortgage, gift, inheritance and any court prepared document referring to real property in Afghanistan normally describe the property ownership on the north, south, east and west boundaries of the property being described. If the property has an address, it is included in the hand written property description, as well as the name of the place where the property is found (neighborhood, village, etc.) In the cases of urban subdivisions, the lot number is used. But the Afghan system of property description does not in general use a reference to a parcel on an index or cadastral map of some sort.

In Albania, the rapid growth of informal settlements and the reluctance of many people to register their transactions in the Registration Offices, is producing a need for updating the official information, including map based parcel descriptions. In Afghanistan, map based descriptions of parcel location and shape are not commonly used, but will likely be much more frequently used in the future.

In order to develop a capacity in the future to use spatial information to define properties in legal documents, or for other purposes, a strategic plan is needed. A first step is the delineation of "blocks" of land on existing topographical maps and the assignment of a unique number to each block. The next step is to identify each parcel within a block, and assign a number unique within each block. A "block" should preferably be a small (containing not over 1000 properties) and known administrative unit. The Cadastral Zone in Albania serves this purpose and is legally approved. In Afghanistan, there is as yet no legal specification of such a unit, but one possibility which respects past conventions in urban areas is to use the "gozar" as such a land administration unit, and in rural areas the "village" is a possibility.

The second step is to locate parcels in space, with the usual options for parcel mapping being aerial photography converted into ortho-photos, satellite imagery, updating of existing topographic maps, or some variant on classical surveying. Another method has been developed

and tested by Edmond Lekaj[6] in Albania, and is being tested now in Afghanistan for use in urban areas, namely the use of digital cameras to photograph relatively small areas from a helicopter. These digital photos are then geo-referenced by overlaying with existing topographical maps (no smaller in scale than 1:10,000), and manipulated in various ways to produce digital, geo-referenced, ortho-photos.

In Afghanistan, these options are being explored and evaluated for use in different situations. Figure 10 shows the helicopter that was used to take digital photographs on 18 April, 2005, using an 8 mega-pixel digital camera.

Figure 10: Helicopter used to photograph-April, 2005

In Figure 11, the photographer is shown with the camera taking photographs through a hatch in the floor of the helicopter.

Figure 11: Afghan photographing team-with advisor

[6] Edmond Lekaj can be reached via his email: edmond lekaj mondilekaj@yahoo.com, or via Terra Institute. Mr. Leka has developed a training program in Tirana for people who want to learn his technique.

An 8 mega-pixel camera, with 50mm focal length, from 1200 meters above the land surface, can capture an area of 800 meters x 600 meters. Based on this sized image, a photographing plan can be easily prepared. The direction and position of flying can be prepared on a 1:10,000 scale topographic map.

A battery of digital cameras also allows taking of photographs every 8-10 seconds. That means that flying at a speed of 150 km/hour, it is possible to get enough overlap on the direction of flying and not have gaps, in a short period of time. In a Kabul test, 1.5 hour was enough time to take photographs covering about 4000 hectares.

This methodology is being tested in places having existing mapping information, even if it is 30 years old, but still shows topographic features (such as streets) which are relatively stable over time. Geo-referencing of these maps is then completed. Also contour lines from topographic maps are digitized and a digital elevation model (DEM) has been produced. Using a DEM, produced from contour lines captured from 1:10,000 topographic maps produces very good results.

In case that there is no existing mapping for the area of interest, then ground control points (5-6) for each photograph are necessary to be measured in the field using GPS or other instruments. In this case serious consideration should be given to using the 16 mega pixel camera, which allows higher flights and more land area to be included in each image. Covering a larger area within one photograph reduces the number of ground control points needed.

A very simple procedure has been used to rectify air photographs using the Orthomapper software[7]. Orthomapper gives the possibility of rectifying the photos from digital cameras without the necessity of fiducial marks being on the photos (See Figure 12 for an example from Afghanistan). With Orthomapper, only ground control points are necessary and a DEM. Both of these requirements can be satisfied using existing mapping. Orthomapper operates in a very easy way, having in one window the existing map and in the other, the non-rectified photo. Five points common to the two images are needed at a minimum, but usually we attempt to get 9-10 common points. The result has been quite satisfactory. See Figure 13 for an ortho-photo produced from digital camera images using Orthomapper and other commercially available software.

[7] "Orthomapper is developed by Frank Scarpace in Madison, Wisconsin, fscarpace@orthomapper.com.

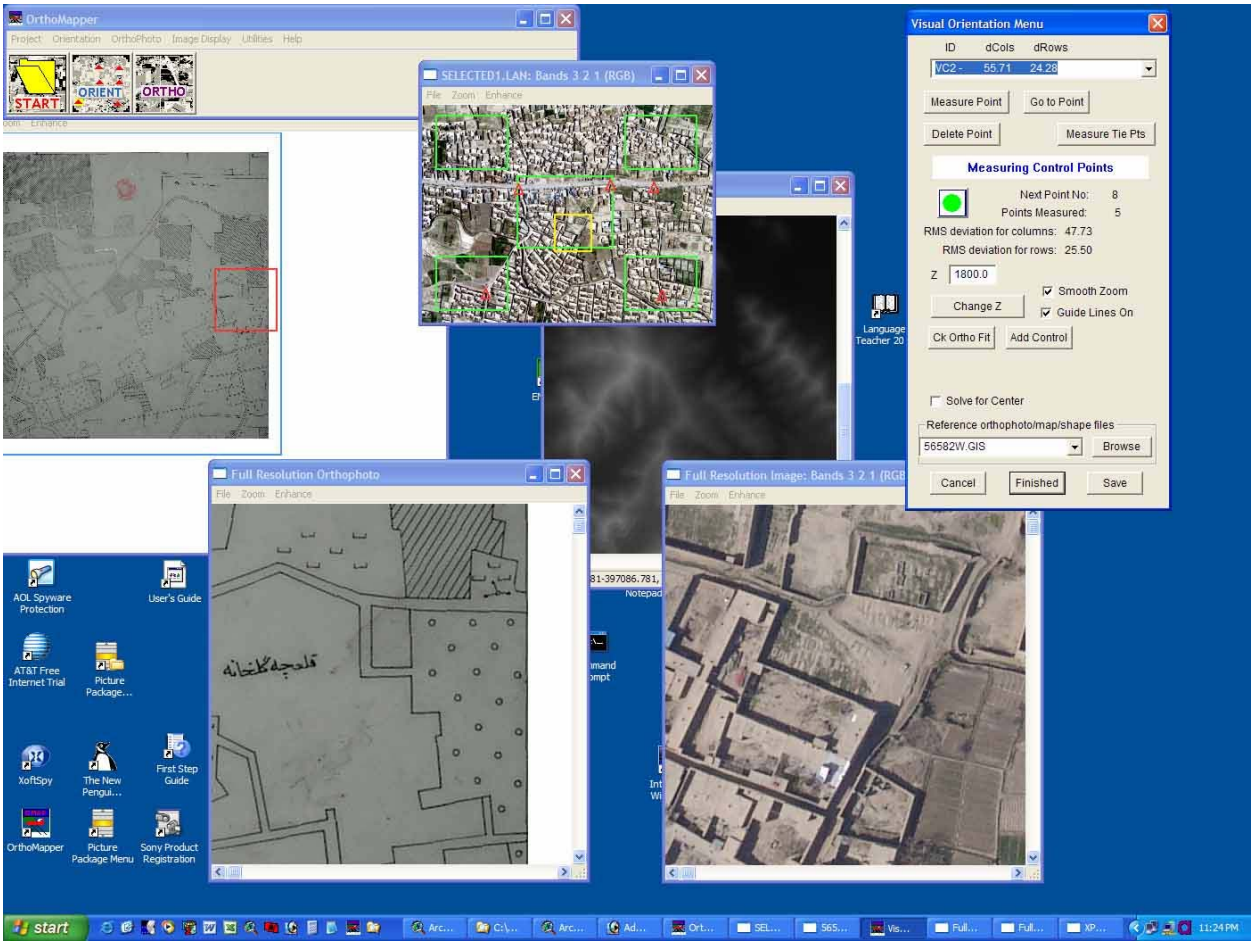

Figure 12: Use of Orthomapper for processing photographs using geo-referenced maps

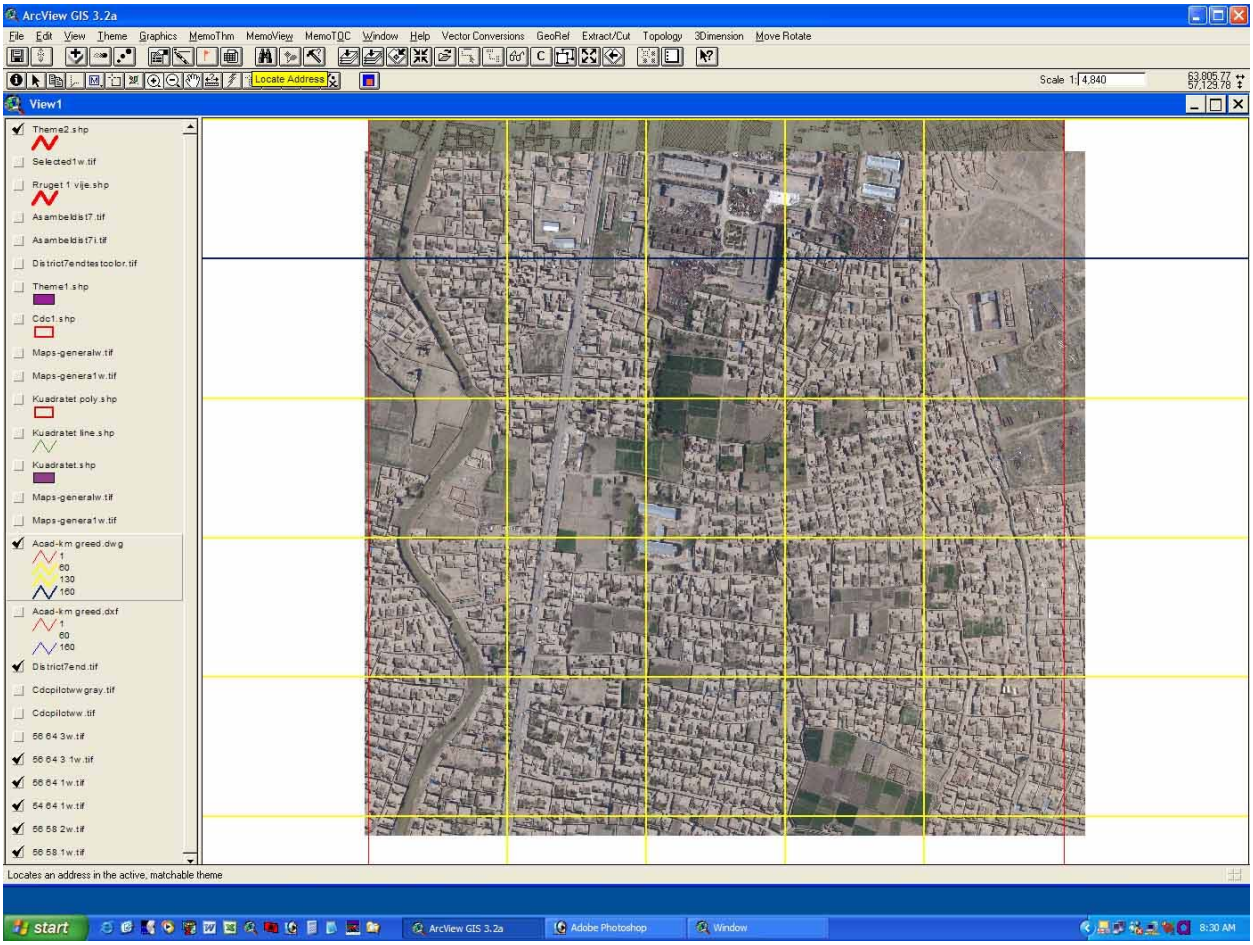

Figure 13: Final Digital Ortho-Photograph

Once these digital ortho-photos are completed, which in Afghanistan was done in less than two weeks after the photographing was done for the pilot area of approximately 2,000 hectares, field teams took the photos and delineated property boundaries on them. The field team organized in one pilot community (Community Development Council-CDC-No. 1) were residents of the informal settlement, with no technical training or experience in cartography, land surveying or photo-interpretation. They were instructed by a geodetic engineer on how to delineate first the roads and paths of the settlement, and then the boundaries of individual house parcels, vacant parcels and parcels used for schools or other uses. The team assigned a unique number to each parcel. These hand delineations were then digitized to produce what is shown in Figure 14.

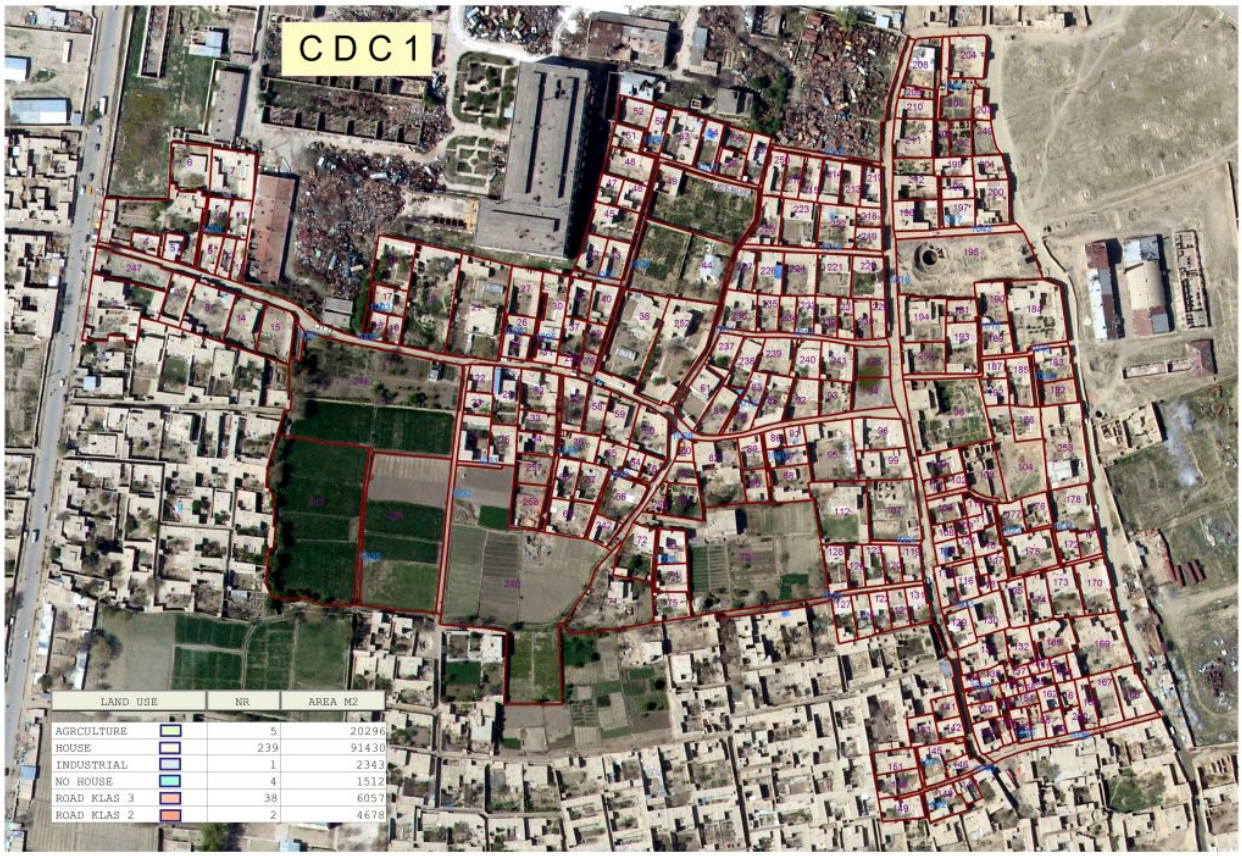

Figure 14: Parcel Boundaries Delineated on Digital Ortho-Photo

Following digitization of the delineated parcel boundaries, a more typical cadastral map showing the main land uses, parcel boundaries and parcel numbers can be produced, as shown in Figure 15.

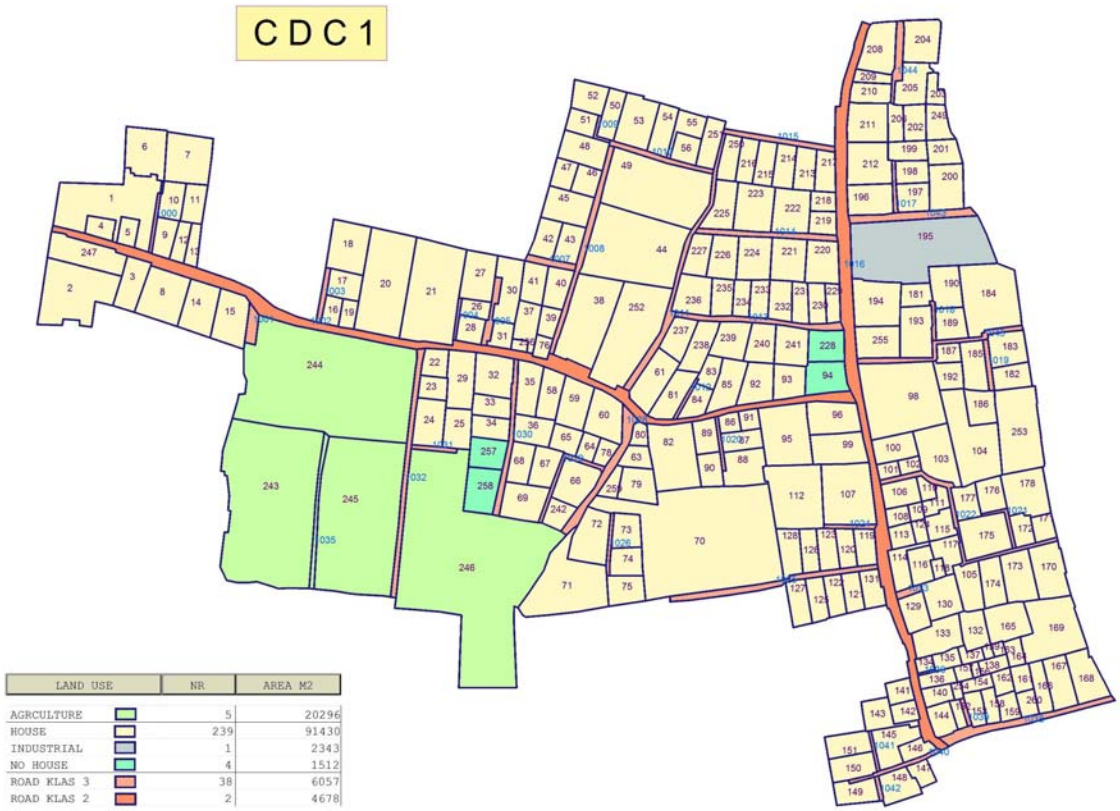

Figure 13: Cadastral and Land Use Map Produced from Field Delineations

There have been positive results from digital ortho-photos production:

- Producing orthophotos from digital camera images is very fast and easy to do.
- Courts will have maps of the land area under their jurisdiction, showing the boundaries of the gozars and villages, and will require each grantor to identify the property also according to the block in which it is located.
- Eventually when parcel maps are completed within blocks, and unique numbers assigned, courts will use those numbers to describe properties.
- This spatial information will also be available for land use planning and development, and for the installation and maintenance of utilities (water, sewage, roads, electric grid, etc) which require land for installation either through purchase of through easements.

Constraints:

a) What organization(s), professions will create and maintain the parcel index maps? In Afghanistan there is a Geodetic and Cartographic Head Office (AGCHO) which by regulation of the Government "is a central organ which is carrying out development of geodesy, cartography and cadastral affairs in country[8]". AGCHO has carried out few

[8] Article 2 of Council of Ministers Decision No. 3495, 25 January, 1983.

cartographic or cadastral projects in the past 30 years, although it has managed under very difficult conditions to maintain archives of aerial photographs and topographic maps produced during the Soviet period and before. There are no private cartographic or land survey companies, although some projects have contracted privately with land surveyors to do parcel sketches and surveys. The question is whether to invest in ICT for AGCHO which is not organized as well as it should be, to provide spatial information easily and quickly in response to the needs of projects, companies, private individuals. A particularly difficult rule which AGCHO enforces is that no map may show coordinates, which severely limits the sharing of information and the use of information in multi-layered GIS. Transforming of AGCHO into a client oriented, efficient agency providing geodesic, cartographic and cadastral surveys is of high priority.

b) Due to the out-migration process, there are few trained photogrammetrists to prepare the spatial information needed for describing land parcels.

c) Legal provisions for clarification of titles in the 1970's were not fully implemented. That framework apparently was repealed by the Taliban government in 2000. There is no legal framework in effect presently which would legitimate a systematic title regularization effort.

5. Conclusions

The hypothesis that ICT can interact positively with land administration organizations in post conflict situations has been at least partially supported by the preliminary evidence coming from the introduction of ICT into the processes of the courts which presently administer property records in Afghanistan. While the efforts are just beginning, there appear to be positive effects:

- The computerized inventorying of bound volumes of deeds as part of the recovery of document archives, has proven beneficial for the identification and correction of errors in the identification and location of the volumes.
- The digital photographing and computerized indexing of deeds will allow the use of digital images to do searches and copying, and thereby will reduce the time needed for such procedures as well as cost—hopefully.
- The use of digital images will reduce the need to handle fragile paper documents, and their further degradation.
- Risk of document loss should be dramatically reduced
- There should be greater difficulty in introducing fraudulent documents into the archives
- Cheaper and simpler techniques for parcel mapping makes map based descriptions feasible for deeds, and maps more available for land use planning and infrastructure improvement.

The special constraints on ICT positively contributing to the reconstruction of land administration organizations in a post conflict situation have become painfully obvious from work being done in Afghanistan:

- Professionally trained people capable of developing, using and maintaining ICT are very scarce. Capacity building is a slow but absolutely vital process. At present the Department of Computer Science in the University of Kabul does not have sufficient teaching staff to produce the needed ICT technicians with adequate IT skills.
- Producing orthophotos from digital camera images is most rapid when there exists topographic, geo-referenced mapping of scales no smaller than 1:10,000. GPS and classical topographic mapping techniques can be used where such mapping is not available, but the cost and time are increased.
- Infrastructure is very slowly being repaired, meaning that electricity supply is limited in time, especially in the winter months or when draughts dry up the reservoirs. Electricity also is variable in quality when it is flowing in the wires. The generator response is expensive and difficult to maintain. Safe and reliable alternatives are needed, such as cheap but reliable solar panels and battery charging technologies for supporting computers and printers.
- The use of "facilitation fees" in land administration organizations has become an established bureaucratic fact, which can produce an opposition to ICT, or at least notable lethargy, in addition to the commonly found resistance from people who fear that they will lose their jobs. To get a higher degree of professionalism from a better paid staff, the process of recording changes in property rights which are now handled by the courts, may be better administered by a separate, self financing, executive agency. Such an arrangement would help professionalize the work done, and should provide salary flexibility to attract and hold competent staff.

- Institutional Issues:
    a) The court defined procedures for carrying out transactions change from time to time, and from court to court. The fluidity of procedures makes the introduction of ICT on a massive scale quite problematic.
    b) People who manage the present system may question the ability of the new ICT procedures to be as secure and predictable as the present manual procedures.
    c) The cost of ICT and its introduction into land administration organizations under unstable conditions makes even the avid promoters of ICT cautious.

- Political Questions.

  The overthrow of the Taliban regime in 2001 resulted in a foreign military and political presence in Afghanistan which faced a *de facto* partition of the territory of Afghanistan into areas under the influence of powerful warlords and militia commanders. The fragile government which was then created was interlaced with foreign advisors and Afghans who returned from abroad to take over the day-to-day administration of key ministries, but paid as foreign advisors. Foreign NGO's including profit and non-profit organizations flooded into the country giving the impression of soaking up the foreign assistance resources provided by the United Nations and European and US governments.

This “foreign-ness” of the governance of Afghanistan was not a problem initially after the invasion of 2001, since the Taliban government had suffered a loss of public confidence in many sectors, although still respected by some religious groups. Plus, the international cooperators of the new government had promised to help rebuild the country after three disastrous decades of destruction, violence and insecurity.

In recent months, however, the situation seems to be changing. Foreign governments have pressured the Afghan government to undertake a poppy eradication campaign, unpopular with some rural communities. There is a government policy supported by the international community of weakening the arbitrary power of the commanders and warlords, some of which are also involved in the heroin business, causing some resentment among these groups of the foreign influence.

Politically, there is a perception among some Afghans that too much of the foreign funds and resources provided for Afghan reconstruction are going to finance expensive foreign consultants and foreign NGO’s. Meanwhile, while it is true that electricity service is somewhat improved, roads are in bad condition; the dusty atmosphere in Kabul is poisonous; schools are in poor shape physically and with very poorly paid teachers; the cost of housing is astronomically high; jobs are in very short supply, with many people waiting on street corners with the often vain hope of picking up a construction job; the generators of the foreign businesses and NGO’s grind away 24 hours a day, while many local residences do not have power or water.

These irritations could escalate into more frequent abductions and robberies aimed at foreigners. Added to this cauldron is the potential for “hiving” of insurgents in Iraq looking for ways to attack the Americans and other foreigners in places like Afghanistan.

It would be a major catastrophe for Afghanistan to sink back into the isolationist morass and high levels of violence which it recently started to leave behind. But the tensions simmering in the country can threaten the viability of any national investment program, an important component of which is the reconstruction of land administration institutions, strongly dependent on foreign financial and technical support.

What to do? A prudent strategy seems to be:

1) improve the facilities and procedures of the courts and archive managers and staff with a plan to introduce ICT in the future,
2) introduce on a limited pilot basis of ICT into the reconstruction of land administration organizations such as the Afghan court managed deed registration activities, under present conditions.
3) disengage the foreigner specialists from detailed institutional development programs, and place the operational responsibilities of such work in the hands of competent and committed Afghans.

The strategy would be for Afghans with the temporary advice of specialists, to "re-engineer" the procedures and staffing of the court managed deed registration system based on known and proven technologies (usually paper and pen) but also introduce ICT into registration procedures in small but visible places, to demonstrate its usefulness and how to handle the constraints. Manual, paper based procedures would continue until gradually supplanted by ICT.

In summary, the multinational team shown in Figure 16 have varying opinions, but agree with the advice of the Afghan appropriately shown as being "in the middle": "In Afghanistan it would be very difficult to predict plans very precisely; we can only say, let's try and hope." [9]

Figure 14: Project Team in Kabul—May, 2005

[9] M.Y. Safar, personal communication, 21 May, 2005.