shrink over time, as well as parcels that are sold and registered to more than one owner at the same time.

Fourth, a deed registry system, such as Guatemala's, depends almost entirely on the honesty and integrity of the people running and using the system. Rosholt notes that properties disappear from the register, are re-registered, and other similar irregularities occur.

Rosholt also noted that there are currently only two property registries in the country—one in Guatemala City and one in Quezaltenango. Further, the title registry building in Guatemala City was destroyed in a 1976 earthquake and the registry is housed in temporary quarters that are totally inadequate for titling purposes.

Finally, due to the unreliable title system and lack of an adequate land survey base, Rosholt described the inspections, special surveys, and other steps that are necessary in titling in order to remove as many flaws as possible. These steps add considerably to the cost and time needed to research and issue a land title.

All of these factors combine to produce a title system that is inaccessible, inefficient, of questionable quality, and subject to substantial amounts of fraud.

Rosholt's major recommendation was that a microfilm system be implemented for the Guatemala City office. He described in some detail the equipment and procedures that should be used to implement and maintain such a system. He acknowledged that microfilm "may not speed up the registry process at the beginning," but argued that once employees become familiar with the system and realize it will not cut their income, the registration process would move much faster.

Rosholt also noted that the question of how to update microfilm records still needs to be addressed. Regardless of whether there is an increase in efficiency, a microfilm system would at least provide the basis for a back-up security copy of all land record documents.

2. Modernization of the Property Registry in Guatemala (by James P. Rowles, August 2, 1991)

In 1991, Rowles completed a report for USAID on modernization of the property registry in Guatemala. The modernization of the property registry had become an increasing concern of several organizations, including the Guatemalan Bar Association (Colegio de Abogados) and the Guatemalan Institute of Notarial Law (Instituto Guatemalteco de Derecho Notarial). In September 1990, USAID and the Bar Association entered into an agreement whereby USAID provided funding of $25,000 for initial planning activities that would support reform of the property registry in Guatemala. The Bar Association, through its Land Registry Reform Commission (Comisión de Reforma Registral), was to produce a report based on its study as well.

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Rowles was retained under a separate agreement to provide technical assistance to the Bar Association Commission. Rowles' report was delivered in August 1991. Unfortunately, the Bar Commission report was not available until after Rowles delivered his report. Rowles indicated that, "This report does not provide authoritative answers to the numerous legal and practical issues that arise in the context [of Guatemalan registry reform]" (Rowles, p. 5). However, he did "seek to identify the most critical issues ... and offer practical suggestions on how to proceed with the process of the Property Registry" (Rowles, ibid).

Among the problems Rowles noted with the current property registry in Guatemala were:

- Over time, entries in the property record books often end up on many separate pages and volumes, instead of on facing pages in one volume.

- Access to books in the registry is a problem when two or more people need the same volume.

- The indexes to aid users of the registry system have not been kept up to date.

- The system of lot numbers, especially necessary when dealing with subdivisions, has not been kept up to date.

- Metes and bounds descriptions are inaccurate, resulting in many farm descriptions not corresponding to area that is being farmed by the owner.

Rowles concluded that "(1) there is a great need to integrate survey plots into the registration process; (2) there is a strong need to begin the development of a national land cadastre; and (3) there is an urgent need to up-date titles to reflect their ownership by those who currently hold and work the land ... and to regularize the legal situation of those who occupy untitled land" (Rowles, p. 14).

Rowles also noted a number of benefits that would accrue if property registry reform were carried out. These included:

- Reduced risk of casualty loss of records (due, for example, to fire or earthquake);

- Easier access to credit;

- Reduction in costs to transfer land;

- Provision of the basis for a regularized land market, which would increase land in the national market and reduce violence in rural areas; and

- A necessary first step in improving the legal and social institutions in the country, which in turn are necessary for many other reforms (Rowles, pp. 14-15).

Rowles reviewed in some detail the operation of the property registry in Guatemala City, and provided citations to the Constitution and Civil Code that are relevant to registry operation.

Rowles concluded that, "Modernization of the property registry in Guatemala is an urgent necessity" (Rowles, p. 30). He recommended that:

- A dynamic database be established (as opposed to microfilming, as proposed by Rosholt);

- Additional assistance be provided by USAID, to facilitate the work of the Guatemalan Bar Association;

- When a system has been chosen, additional outside technical assistance will be needed during implementation;

- Due to the complexity of registry modernization, careful, sustained study will be necessary to ensure success;

- Close collaboration with Costa Rican officials is likely to benefit Guatemala, since Costa Rican efforts to solve a similar problem in the last 10 years have been successful; and

- Reform of property registry is essential as a first step toward rationalizing the operation of the national land market in Guatemala.

3. **Comisión Técnica Asesora de la Comisión de Reforma Registral,** *La Modernización Registral de Guatemala*, **September 1991 (Report prepared by the Technical Advisory Commission of the Registry Reform Commission)**

The Guatemalan Bar Association report was completed in September 1991, after Rowles completed his report. The Bar Association report included an analysis of the present situation and while the proposal portion was not exhaustive, it did provide recommendations as to steps the Commission felt were needed. The report described the current operation of the registry, including the statutory regulations that control the financial operation of the office. The report noted the lack of any manuals or standardized operational procedures.

The procedures for handling title-related records in the registrar were described as follows:

- Two copies are presented and time stamped at reception window;

- Four to five hundred documents are received per day in Guatemala City, 110-120 per day are presented in Quetzaltenango. Typically, 25 percent are in error and are rejected;

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- The secretary general (registrar), distributes records to assistants who do a quick in-office "desk check" to ensure that documents appear correct;

- Documents are verified with earlier entries;

- After fees are paid, the registrar authorizes inscription of document into the official record; and

- A detailed description of how errors are corrected and eventually recorded is also included.

The Commission acknowledged that registry reform will be difficult, particularly given the current social and economic problems that face Guatemala. It noted that a plan that allows for gradual or phased implementation of reform measures is most likely to succeed.

The Commission noted important socioeconomic factors that will impinge on registry reform, such as:

- Lack of sufficient financial resources;

- Lack of suitable building for registry;

- Current building location with poor access for workers, because of distances they must travel with poor public transportation;

- Labor charges for salaries and pensions;

- National instability;

- Instability of currency;

- Inflation;

- Acts of God and terrorists; and

- Lack of computers and parts to repair them.

The Commission suggested that an electronic link is needed between the two current registry offices in Guatemala. This would allow the offices to have access to the data in the other one. However, the Commission noted that availability of clear, quick, telephone lines cannot be assumed.

The Commission indicated that a cadastre (a map of ownership parcels) has been required by statute since the 1940s but has never been implemented. It recommended that a new public cadastral registry be established, to complement the property registry.

The Commission considered the feasibility of registry reform in Guatemala and listed advantages and disadvantages of the current system and procedures. Advantages included:

- Folio Real system has always been used;

- Current system pays for itself through fees; and

- Documents are usually recorded in a timely manner.

Disadvantages included:

- Records are vulnerable to loss, through accident or intentional removal;

- Repair and reconstruction of lost and damaged documents is slow and expensive;

- Maintenance and cleanliness of registry is inadequate;

- Lack of adequate document storage space;

- Lack of adequate room to work in Guatemala City;

- There is no backup for documents, in case of destruction;

- No equipment or material to provide efficient service to public exists;

- Limited shelves in Guatemala City results in poor service to users;

- No procedure manuals are available;

- Lack of qualified staff;

- Inadequate administrative oversight of registry;

- Lack of a property registry law;

- Lack of a lawyer oversight committee for registry;

- Lack of legal personality of registry;

- Registrar is political appointee; and

- Lack of information and support to assist users.

The Commission concluded that a computerized system is needed, run by people with such skills as project design, programming, and computer expertise. Technology to provide back-up copies of currently recorded information should be the first priority. The

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Commission reviewed the experience of Costa Rica with microfilm and recommended that digitalization (document image storage) be used.

Lists of advantages and disadvantages of digitalization were included, along with suggestions for the makeup of a technical team to oversee such an effort. Considerable detail on a number of technical items was also included. (We conclude that many of the suggestions of the Commission in regard to technology are, at best, premature. It appears too much weight has been given to the suggestions of major hardware and software vendors. As we suggest below, a thorough, detailed project design is needed before such decisions are made. This project design should be based on a clearly articulated series of objectives that are agreed to by all major parties with an interest in land registry reform, and if possible, by all those interested in improvement of the Guatemalan land information system in general.)

C. CURRENT STATUS OF THE LAND REGISTRY IN GUATEMALA

During January 21-30, 1992, Steven Hendrix and David Moyer visited several agencies in Guatemala and talked to interested individuals to develop a clearer picture of the status of land registries in Guatemala. (Annex A provides a list of individuals interviewed.)

Major findings and conclusions gleaned from these interviews regarding the current status of the property registry in Guatemala follow.

1. The Property Registry

All title documents are currently recorded in one of two offices in Guatemala. The office in Guatemala City is responsible for Guatemala City and 13 other departments (similar to states in the United States, as to geographic area, number of parcels, and so forth). The office in Quezaltenango is responsible for recording title documents for the remaining eight departments.

As noted earlier, Guatemala uses a deeds registry system, recording evidences of title (documents), not title itself. Officials in the registry office indicated that Guatemala has a "modified Torrens" (title registration) system, because the registrar is personally liable for errors in the system. However, further research revealed that the liability of the registrar is limited to Q10,000 or US$2,000. This guarantee is covered by a bond that the registrar must purchase, resulting in a relatively minor cost to the registrar, certainly much less than Q10,000 in any five-year term.

The liability of the registrar for errors has been cited in earlier reports as one of the reasons for the substantial financial remuneration that the registrar receives. (The registrar receives, by statute, 40 percent of the income of the office. Another 40 percent goes to the assistant and the typists who make the inscription in the Folio Real [see below], and the remaining 20 percent is placed in a common fund to finance other expenses of operating the office [see Rowles, pp. 18, 19, 33].) However, the relatively minimal liability of the registrar seems to place in doubt the veracity of that argument.

Several officials and lawyers interviewed estimated the annual remuneration of the registrar has averaged $400,000 to $500,000 per year over the last 4 or 5 years. Although these estimates could not be verified precisely, they seem likely, given the other data obtained.

2. The Registration Process

The registry system is responsible for three basic functions: record documents, make annotations on documents already recorded, and cancel documents (such as mortgage satisfactions in the U.S. system). The registry system is based on the Folio Real system, found in many Latin American countries. (For example, this same basic system is used in Costa Rica, where it is has been largely automated.) The registry system in Guatemala is entirely manual, using no automation, photocopy, or microphotography technology. The system uses three series of books:

- Receipt book;

- Folio Real book; and

- Copy books (tomes).

a. Receipt Book

Documents are first presented, usually by lawyers or notaries, to one of two windows where the receipt of the document is recorded. The receipt book contains columns for owner name, a document number (assigned serially by month), and the volume and page where copy of document is actually filed (in the tomes). The time and date are also stamped on the back of the last page of the document. Two copies must be presented for recording, with a copy kept for filing and the original returned to the owner.

As part of the registration process, documents go through a qualification step that, although not rigorous, does catch a number of errors and some cases of fraud. We were shown several documents on which the signature of a judge had been forged by a lawyer. These forgeries were an example of several types of error and fraud that we observed and were told about. These disclosures were generally made by employees of the registry who were quite candid about the shortcomings as well as the strengths of their system.

Rowles estimated that 400 to 500 documents are received for recording each day at the Guatemala City Office, with another 100-125 received at Quezaltenango. Based on the recordings in January of 1992 (about 325 documents per day in Guatemala City), and a review of other materials in the registry, we estimated the annual number of documents presented for recording at 80,000 to 90,000.

b. Folio Real

As noted earlier, the Folio Real is the heart of property registry in Guatemala. The second step in the registry process is inscription of information in the Folio Real book, which is a combination index and abstract of title. It is simple in design, but over time has developed a number of operational problems. The Folio Real system, in one form or another, has been used since 1876.

The Folio Real is a large book (about 15 by 18 inches) containing 250 pages per volume. The pages are two-page sets, facing each other. The left page has three major and several minor columns containing information about rights to the property. For example, the inscription (parcel description) is placed in the center column. Only one inscription is written for each parcel. The left column contains any annotations such as judgments. The righthand column contains information on cancellations, such as cancellation of a use right. The righthand page also contains three major columns and several minor columns, all related to encumbrances on the parcel. For example, mortgages and liens are noted in the center column. Columns for annotations and cancellations, similar to the left page, are also available for the encumbrances page. All entries are handwritten.

In theory, all information about a parcel should be on one page, with a new page begun for each parcel. In practice, the information on many parcels is carried over to one or more additional pages. In extreme cases, it is necessary to examine dozens of pages in dozens of books to fully examine all the information about a particular parcel. Therefore, although the Guatemalan registry has the form of a Torrens-type title registry, it is in fact much like the U.S. deed recording system, using parcels instead of owner name as the primary indexing key.

A large room contains all the volumes of the Folio Real. To gain access to these documents, a user must request that a particular volume be brought to the public work area. However, once in the public work area, records are sometimes changed with correction fluid, erasures, and even torn out of the volume. This opportunity for fraud reduces the faith that can be placed in the system.

An additional 4,000 Folio Real volumes contain information on the other 13 geographic departments that register deeds in Guatemala City.

Certified and noncertified copies are made in the central Folio Real room. All copies are prepared with a typewriter, as no photocopies are permitted. Typists are paid a commission that comes out of the second 40 percent of registry income. The registrar signs, based on his faith in the typist, as honor is an important quality for these workers. The registrar indicated that these people were all extremely honest. However, there is always danger of shortcuts and resulting errors when workers are paid on a commission basis.

The more than 6,600 Folio Real volumes weigh in excess of 80 tons. A persistent rumor regarding the building in which the registry is housed is that it is in danger of collapse, due to the weight of all the records and the fact that the building was not designed for use as a

registry. While the rumors may be just that, lack of evidence to the contrary gives some credence to such concerns.

c. Tomes Containing Copies of Real Estate Documents

The third major area in the registry contains the volumes where the copies of all real estate documents are stored. Copies have been kept only since 1933, so no copies exist of documents before that time. Thus complete reliance on the "abstract" information in the Folio Real volumes is necessary for transfer before 1933.

Tomes contain about 300 documents per volume. A cursory review indicated that documents average about four pages and the average volume contains 1,200 pages. In 1933, the first year tomes were used, 16 volumes were required. By 1943, 46 were required, 100 per year in the 1960s, 200 per year by the late 1970s, and about 300 per year since 1982. In total, there are more than 10,000 volumes in the tomes set. Since 1983, the documents have not been bound, but rather are tied up in bundles, with about 300 documents in each bundle. Since these records are open to the public, removal of documents as well as alteration has likely increased since binding stopped. Plans are to resume the binding as soon as time and money are available.

We also observed several hundred tomes stacked in two first-floor hallways to which the public has access. This is the only place available for these volumes, since the registry was moved to this building after the February 2, 1976 earthquake that destroyed the former building. We also observed several hundred additional volumes of both tomes and Folio Real volumes stored in a wet basement room. Mildew and mold were prevalent on the books in this room, many of which where stacked on the floor against concrete walls. Again, lack of resources was given as the reason for no action to correct the situation.

Among the points made by registry employees as well as others interviewed regarding the property registry system were the following:

- The two current registries need to be continued for political reasons.

- Copying errors (for example, as to references to other documents) are a major problem in the registry.

- Fraud, as to signatures, fake seals, and using correction fluid on seals is a problem.

- Because there are only two registry offices, access to records is limited by travel distance required by people in many parts of the country.

- Supplementary titles are used in some cases, to avoid cost and hassle of registering title. The result is that sometimes parcels are titled 2, 3, or 4 times, without ever actually registering a deed.

- The use of Torrens title registration, such as in Australia, has the potential to solve many of Guatemala's land title problems, according to Carrillo Castillo, president of the Guatemalan Bar Association.

- Cadastral mapping is badly needed, and should be linked to title system.

- There is currently (January 1992) a two-month backlog to get a deed registered at the Guatemala City registry office.

- Many people, both within and outside of government, are in favor of changing arrangements for financing the registry office (that is, place employees on civil service salaries and use some of the funds currently paid as commissions to finance modernization of the property registry).

- The land title reform commission, which was authorized in late 1990, has still not been appointed.

- Lack of institutional capacity in registry office means that even if people wanted to register the vast areas that are currently untitled, the system would be unable to handle the load.

- Registry modernization is not the silver bullet that will solve all titling problems.

- Financing, appropriate technology, and education are needed for registry reform.

- Land surveyors have not had any involvement in the title reform discussions in Guatemala.

- The land reform fee, at Q5 per document registered, has accumulated Q1,000,000 in the one and one-half years it has been in place. (Another source indicated the fund was authorized as of January 1, 1991, and currently has a balance of about Q600,000.)

- Modernization of intellectual property registry (such as trademarks and patents) has been funded entirely out of increased revenues generated by the modernization.

- Registry reform has much support, but the question remains whether Guatemala has the political will to carry out such an effort.

- Linking the title system with the property tax system, which in turn must be based on cadastre maps, is the way to "a safe, reliable (title) transfer system."

- The main problems with the current registry system are corruption, the political nature of the registrar (and commission basis of compensation in that office), and lack of cadastral maps.

- The first steps to solve these problems are to: change law, modernize the registry, and change compensation method of registrar.

3. National Institute of Agrarian Transformation (INTA)

Although not part of the property registry in Guatemala, INTA is in a position to be a potentially key player in any long-term efforts to improve titling and access to land provided the organization could be de-politicized. We visited with both the president of INTA, Attorney Carlos Enrique Ortega, and with Engineer Agr. José Guillermo Gonzalez Mencos, second vice president of INTA, regarding INTA's operation and possible relationship to any registry reform activity.

INTA was created in 1962 as a government agency charged with providing land titles to *campesinos*, most of whom do not have title to the land they occupy and farm. INTA currently employs 1,600 people and in 1991 provided 800 titles. After INTA prepares a title, the documents must be taken to the registry and registered. This final step is often not completed. During the entire five-year administration of the previous president (ending in January 1991), only 800 titles were provided by INTA. Therefore, although progress is slow, some improvement has been realized over the past year. Indeed, one of the current INTA administration's top priorities is the provision of title to beneficiaries. INTA hopes to distribute about 1,000 "titles" per month, for a total of 60,000 titles over a five-year period. This process would be expedited by registry reform.

It has been alleged that INTA is the most corrupt government agency in Guatemala and INTA officials' response is that "it is true." Examples ranging from theft of Q500,000 by 14 employees to sale of gasoline to private individuals from INTA pumps were provided by INTA officials.

The INTA system is entirely manual. Initially, applications are indexed on 4 by 6 inch cards placed in a large file. Payments to employees help ensure that an application will receive priority. Lack of such payments usually results in a steady move toward the rear of the line. We observed applications that had been waiting to be processed since February 14, 1973. It currently takes an average of 2 to 2.5 years to get an application processed to completion at the office in Guatemala City.

The titles INTA provides include restrictions. For example, land with family titles cannot be sold—the land must be kept in the title forever. Currently proposed legislation would relax this restriction, allowing sale 10 years after title is granted.

All persons who are granted title must pay for the land. Current terms allow 20 years, without interest, to pay off the cost. Legislative changes have been proposed to decrease the term of payment to 10 years, which is the average period in which land is paid off.

In addition to titling activities, INTA perhaps theoretically provides technical, economic, and agricultural assistance and manages state lands (e.g., natural resource management). This assistance is free for a period of three years following titling, after which fees are charged.

INTA has provided titles in several forms, including family titles and unit titles. As noted above, several legislative changes are currently under consideration, including one that will allow more flexibility for owners to sell land that was initially titled by INTA. Clearly, land registry reform should benefit *campesinos* who are obtaining titles through INTA, but a direct link between INTA and the registry is needed to ensure that INTA titling results in registered deeds for *campesinos*.

4. Instituto Geográfico Nacional (IGN)

A visit to the National Geographic Institute produced some of the more encouraging results of any of our visits. Despite earlier warnings that this agency was likely "off limits" to all except military personnel, we found to the contrary that the agency was quite open. Further, the work IGN is doing, as well as the expertise it has and is developing, is most encouraging, especially if this work can be integrated with other parts of the land information system in Guatemala.

IGN is the mapping agency for the country and for security purposes has been under the control of the military for the past several years. However, the agency has recently been opened to all users. It currently employs 360 people.

IGN responsibilities include mapping, geodetic surveying, aerial photography, and cadastral (parcel) mapping. Among the map products we saw were 1:2,000 scale orthophotos of Guatemala City. These maps are 30 by 30 minute maps (9,000 by 9,000 meters). IGN is encouraging data sharing; for example it will add telephone, electrical, and municipal water lines to the 1:2,000 base map as soon as data are provided by the respective utilities.

a. Cadastral Mapping

In the 1970s IGN began developing cadastre maps. The first efforts were in rural south coast areas. About 22,000 square kilometers were mapped at a scale of 1:10,000. The cadastre maps were completed but not kept up to date. The small-size plots owned by *minifundios* were a problem at this scale. Larger-scale landholdings were not considered since the only reason seen for cadastre at that time was for tax collection. Since *minifundios* do not pay taxes, a cadastre at a larger scale was ruled out.

Thus IGN decided to concentrate on urban areas, and develop products that would have multiple purposes (e.g., taxes, statistical compilations, tenure, and so forth). Example products included 1:2,000 line maps for Guatemala City. These sample maps include roads, parcels, and building outlines. Since there was little use for the sample products, the project in Guatemala City was abandoned. Currently, cadastral projects are under way in 12 urban areas.

A scale of 1:2,000 is used for cadastre maps because of the higher cost of going to a larger scale. The cadastre database being developed for each area by IGN includes both