

KAVERI
(Karnataka Valuation and E-registration)
A Business Process Reengineering and e-Governance Model
For Realizing 100% Automation Registration Process and
Speedy Delivery of Registered Documents to the citizens in Karnataka
By
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Abstract: KAVERI is a model of the BPR to reorient the Department of Registration & Stamps towards 100% automation in the registration process and speedy delivery of registered documents to the citizens of Karnataka. As the phase I reforms 200 subregistries across the state are being computerized on the principle of public-private Participation on a BOT (Build-Operate-Transfer) basis. The whole process is expected to be completed by March, 2003.

Introduction:

The Department of Registration & Stamps in Karnataka made attempts to computerize earlier with partial success and the drawbacks of earlier computerization process are: Time consuming process, the documents are not delivered on the same day, integrated software was not developed, it requires huge investment from the Government, and all the 201 sub-registries cannot be computerized at a time and a reasonable estimate takes a minimum of 10 – 15 years at the present phase depending on the availability of funds.

Consequent to this assessment, it was proposed to follow the Maharastra model of e-governance with the technical help of the CDAC, Pune to automate the whole registration process on the principle of public-private participation on a BOT basis wherein the registered documents will be delivered to the parties within thirty minutes.

The proposed strategy is BOT (Build-Operate-Transfer):

The concept is to bring in a private partner who would install, operate and maintain the hardware across all offices and recover his investments from service fees charged to the client in return of top class world services being provided. The contract period is five years. The roles of both the business partner and the department personnel are clearly spelt out. The roles are explained as below:

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The Department will provide software for the process of registration, Complete the process of registration, Search, Valuation and Issue various copies as per demand. It is perceived that it will be the responsibility of the agency to Provide, install & commission all the Hardware and Peripherals required to meet the desired service standards, Furniture as per standard design and layout, Consumables as per requirement, Keep the set up at all locations functional, and Install all requisite software at various locations necessary. In addition the agency will provide support manpower at the front end who will handle Data entry, Scanning the original Registered Document, Archiving on CDs at regular predetermined intervals, and Other related activities such as capturing thumb prints with thumbprint scanner, digital signature, photographs of parties with digital (Computer-attached) cameras etc.

The Other Innovative features of the Process are:

1. **Introduction of automated KIOSKS** for calculation of the guidance values by the Public:

The registration process in Maharashtra starts with the submission of the Complete Document, which was clearly defined. The public in Maharashtra mainly approach the SR's office with the help of an Advocate and as such they do not face much problem in finding the guidance values. Contrary to this, the public in Karnataka, their first point of contact with the SR's office is enquiry on the Guidance Value and the various duties to be paid. Therefore it is suggested that automated KIOSKS for the calculation of various duties on the basis of the guidance values will be attempted as further development over Maharashtra model.

2. **Computerized token system to be introduced:**

In Maharashtra, the manual token system is in operation. It is proposed that computerized token system will be developed in place of the manual system.

3. **Storage of Data – CD to Microfilming:**

The data is being stored in Maharashtra in 4 CDs. However, it seems to be not a very secure system and therefore, conversion of data into Micro-films in addition to keeping the manual copy until system stabilizes is recommended. It is very difficult at this stage to commit to one mode of storage, as cost effectiveness of the method need to be taken into consideration. As suggested in the Risks, it is felt that options should be kept open efforts are on to bring in the most appropriate and cost-effective method and the basic storage at the SRs level however would be CD storage and the options are basically to ensure long term storage which will be the conversion of the Data from the CDs either at the District level or State level depending on the feasibility and the recommendation of the C-DAC.

4. **Involvement of the Departmental Staff:**

The involvement of the Departmental staff seems to be meager in Maharashtra and therefore it is proposed to ensure their maximum involvement in the process. First step is to train the main staff by the C-DAC simultaneously with the private operators who win the tender so that the in-house capacity building is done. This will also facilitate for a smooth transition from the private operator to the Department once the contract period is over as well as to run the operations under any exigencies like private operator abandoning the system or a premature withdrawal or under any other unforeseen circumstances.

Second Step is to examine the possibility of establishing Help Desk, which is manned by the departmental staff linking to Automated KIOSKS.

third Step is to ensure the validity of the data entered by the private operator being checked by the Sub Registrar and the proper scanning of the documents.

Service Charges:

The service charges to be collected as a result of computerization will be either Rs.20/- or the highest rate quoted by the tenderer whichever is the highest. Out of which some amount will be retained by the Department which will be utilized for the future maintenance.

The process involves the following steps:

1. Appointment of C-DAC as the Technical Solution Provider for the whole process.
2. The tenders will be called to invite the private participation.
3. The district will be taken as a compact unit for the purpose of computerization
4. Constitution of a committee under the chairmanship of the IGR&CS, including the Government representatives namely, Revenue and Finance Departments to avoid delays and regular governmental red-tapism
5. Development of the KAVERI Software by the C-DAC.
6. If possible, a Bank's participation in the process is envisaged to avoid any cash handling by the Sub-Registrar, as ICICI Bank is keen to participate.
7. Training of the Departmental staff in handling the software and to ensure that the system can be transferred /taken over by the department under any exigencies.
8. There will be no change in the remittances of the duties collected by the Department except that the service charges which are collected in addition to the regular duties will be put in a separate account (PD or Bank) to enable timely payments to the Private Parties who win the bid which is a crucial element for the success of the whole project.
9. Establishment of Central Record Room: Earlier the Department had moved a proposal for the establishment of the Central Record Room at the Head Office level and at the District Registrars level Vide its letter No.BUD-23/01-02 dated 16.8.2001. It is essential to create this facility as it eases the space available in the existing offices and it will be leading towards a paperless office which is an ultimate aim of the e-governance.

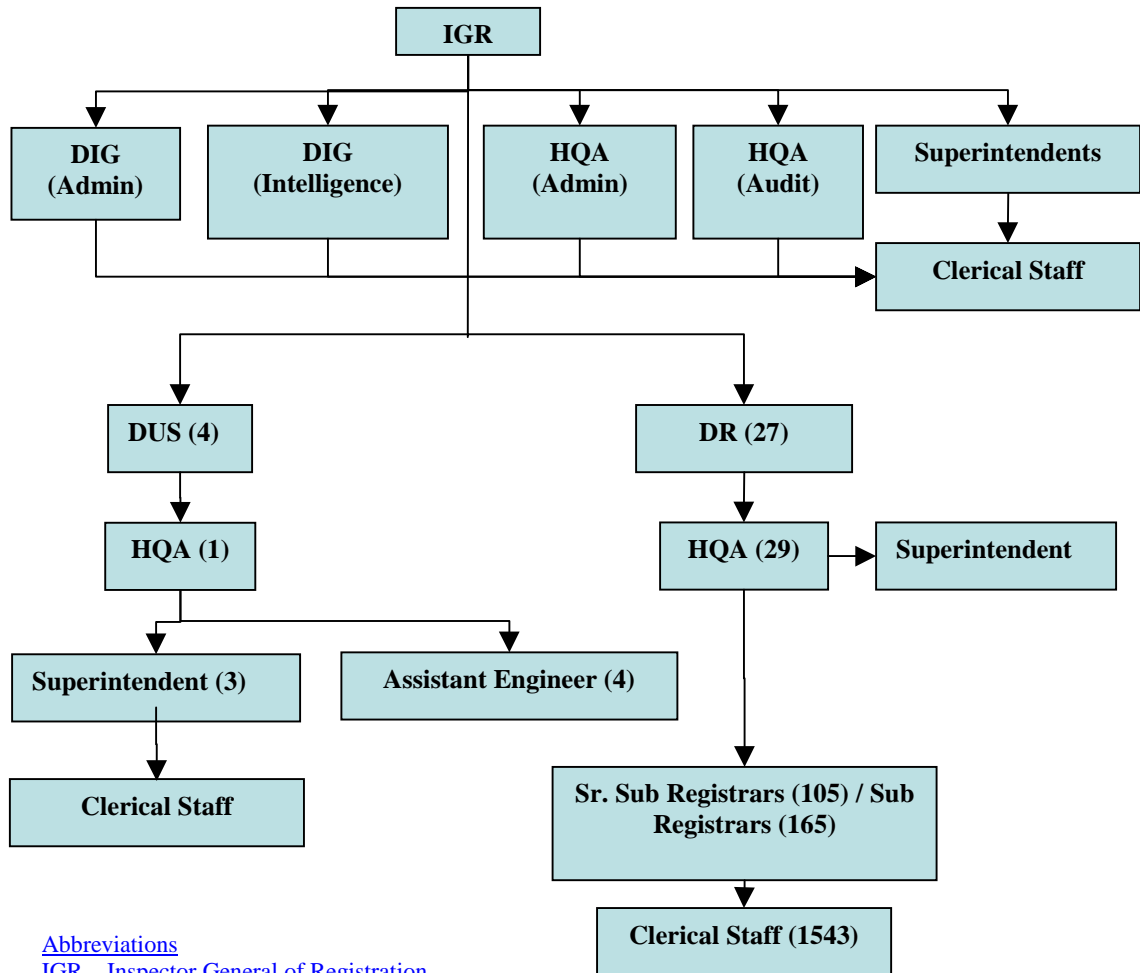
Tentative Action Plan:

It is proposed to take six months to complete the process from the date Cabinet approves the proposal. C-DAC will be asked to customize the software simultaneously while the tender process will be also initiated. The completion of the whole process is based on the speed with which the C-DAC will be able to customize the software which it has already developed. It can be safely presumed that we will be able to computerize the whole process within three months from the date C-DAC will be able to handover the software to us for operationalising it. (Detailed Action Plan is shown at Annexure-1)

Risks:

1. There are hardly any risks as the model is a proven success in Maharashtra.
2. The data security has been one of the issues in the model as the proposed model envisages CD storage. Apprehensions have been raised regarding the feasibility of this option as it is feared that the CD is prone for damage. However, during the process alternatives will be examined like cartridge storage at the Head Office or Content Manager in the form of Digital Library developed by the IBM or Microfilming or the traditional method of manual copy being stored.
3. The present proposal is the first stage proposal to hundred percent automation of the whole process of Registration. The second stage takes care of the Encumbrance Certificate computerization as it involves governmental investment as the 15 years data need to be scanned / data entered and e-docs to be created by outsourcing .

ORGANIZATIONAL CHART:



Abbreviations

- IGR – Inspector General of Registration
- DIG - Deputy Inspector General
- HQA – Head Quarter Assistant
- DR – District Registrar
- DUS – Detection of Under Valuation of Stamps

1.1 Scope

The system will take care of the existing registration procedure, property valuation and all the associated activities as described in sections to come.

Scope of the system includes:

- Detailed system requirement study (SRS) document
- Detailed system design document (SDD)
- Development of **KAVERI** application suite
- Formulating network strategy for periodic data transfer
- Porting of master data to the system structure
- Installation of pilot version of software at Sub-Registrar office
- Fine tuning of applications where ever required
- Deployment of application suite at remaining SR offices
- User training for to private members and department persons. (which includes Operating System, RDBMS, Application, Miscellaneous)

1.2 Project Perspective

The **KAVERI** applications suite is devoted to take care of the entire registration process inclusive of necessary report generation and property valuation. Utmost precaution has been exercised to leave the 80-year-old 5-step procedure of registration undisturbed for the benefit of end users who have adopted it wonderfully for keeping this age old and time proven methodology intact. The software is going to be smart and intelligent with all flexibilities.

The below given figure explains the behavior of the system as a whole and interaction amongst the various modules of the system.

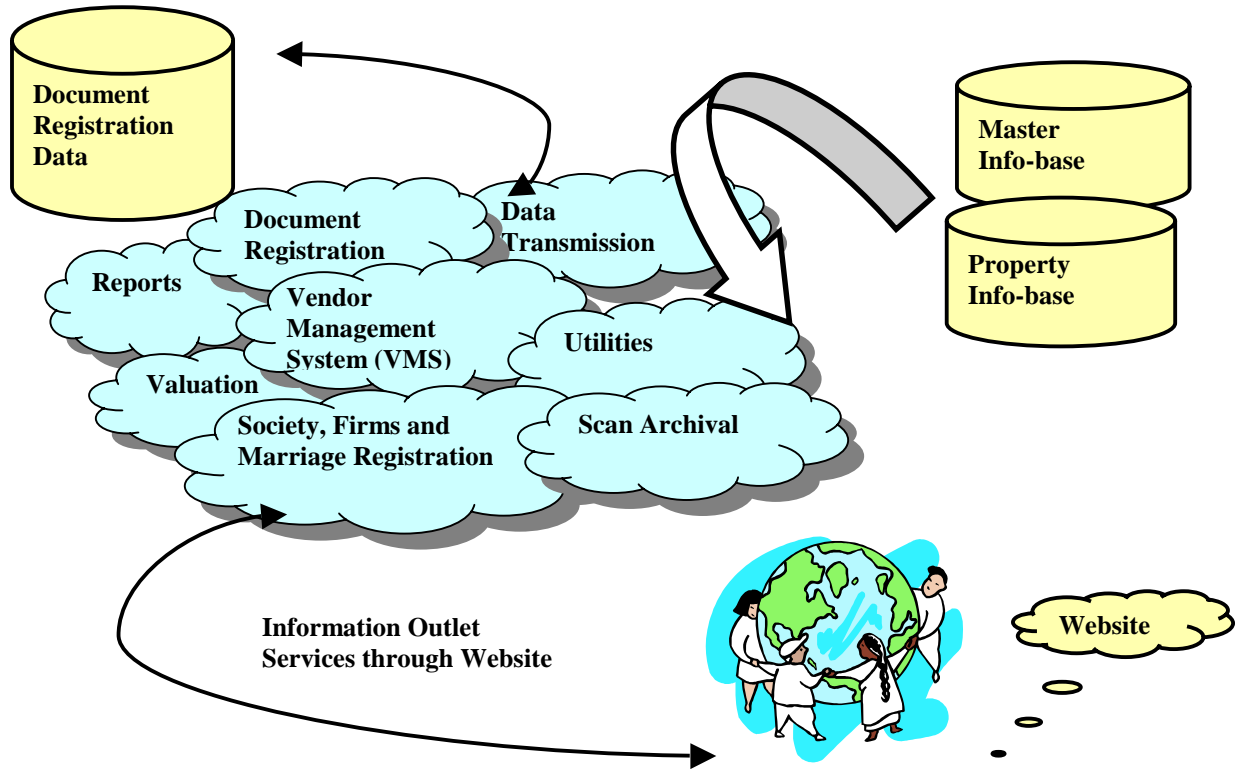


Figure 1: Overview of the **KAVERI** suite

KAVERI application suite can be broadly classified in to following functional modules

1. Registration Module
2. Valuation Module
3. Reports Module
4. Vendor Management System (VMS)
5. Utilities Module
6. Societies, Firms and Marriage Registration Module
7. Scan-Archival Module
8. Data Transmission Module
9. Website

The broad deliverables expected from KAVERI software will be as follows:

- Computerized 5 step document registration process.
- Auto valuation of property
- Auto scrutiny of document.
- Immovable property valuation in urban and rural areas.
- Bar coded report generation (Daily, Monthly, Quarterly and Yearly statements, Comparative statements etc.) at offices across the department hierarchy. Updated over telephone lines or website.
- Daily report generation for Sub Registrar office including Receipt, Indexes, Minute Book, Day Book, A Register, remittance etc.
- Gateway screen with online information display
- Automatic fees and stamp duty calculations
- Single data entry architecture
- Automatic Database backup at local level.
- Advanced scanning system with features like black border, skew removal etc
- Secure CD based Archival system
- Exhaustive document search based on different parameters
- Encumbrance Search certificate generation
- Marriage registration
- Firms and Societies registration.
- Data transmission and reception over dial-up telephone lines
- MIS report generation at all levels in the hierarchy.
- Vendor Management software
- Web enabled info base
- Miscellaneous utilities to manage master info base like list of articles, jurisdiction etc.
- User friendly KAVERI installable software on CD.
- Bilingual interface (English and Kannada)
- Detailed User Manual in English.

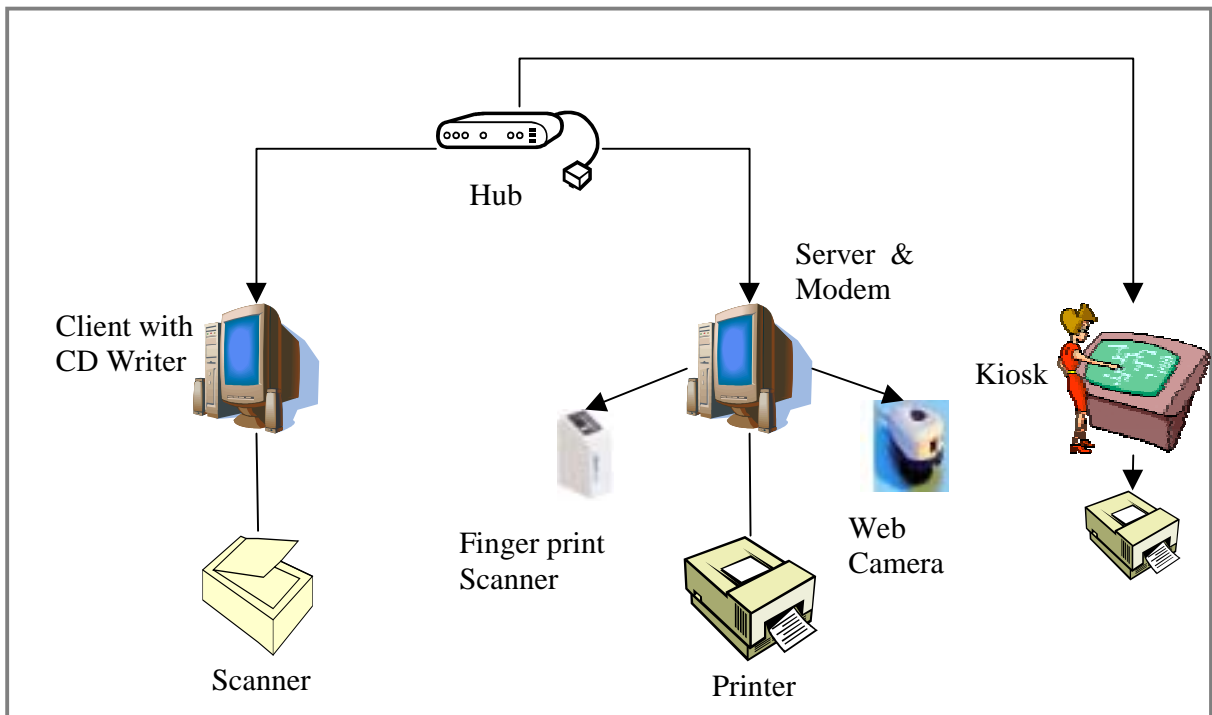


Figure 2: Layout of the Sub Registrar's Office

1.2.0.1 Document Registration Module

1.2.0.1.1 Description and Procedure

The module follows existing '5 step procedure' as defined in The Registration Act, 1908. It also covers procedures like Stamp duty calculation, document scrutiny (Public Information System Part I and II).

Any property transaction between two or more parties needs to be registered for legal proof. By Registration document will become permanent public record. This is a notice to the general public. Those who wish to get transfer of property should verify whether such property has been previously encumbered. According to Transfer of Property Act right, title or interest can be acquired only if the deed is registered.

Process of document registration is performed in registry office. There are 205 offices of Sub Registrar across the Karnataka State. They are monitored by 27 District Registrar offices and Inspector General of Registration situated in Bangalore city.

Existing manual process is described as follows:

A person who wants to register his/her document brings it to Sub Registrar office. Sub Registrar manually scrutinizes the document. He /she checks following details→

Date of stamp: This is the date of Stamp paper purchase or date of Franking or date of certificate or embossing.

Date of execution: This is the date of signing by executants.

Sub Registrar classifies the nature of document based on The Stamp Act and The Registration Act.

Consideration amount: This is the price paid or agreed to be paid for the property mentioned in the document.

Market Value: Market value is that estimated by the Market Value Committee or consideration shown in document, whichever is higher.

If parties do not agree to Government's guidance value, they may appeal to District Registrar. In such cases the Sub Registrar will refer to the District for determination of market value under section 45 A of The Karnataka Stamp Act, 1957.

The stamp duty and registration fee are calculated on consideration or guideline market value, whichever is higher.

Stamp duty: This is the total amount of stamp duty paid by the party.

If calculated stamp duty is more than the amount of duty paid the Sub Registrar will demand party to pay the difference. Party may pay the difference in form of challan/DD/Pay order. If he refuses to pay required amount Sub Registrar will impound the document and send to District Registrar under Section 33 of the Karnataka Stamp Act.

Support documents attached: These are additional enclosures required for document registration e.g. RTC, Form 60 and 61 PAN, Form No. 1, Form No. 9, Form No. 10, Declaration, Affidavit and NOC.

Sub Registrar checks whether appropriate support documents are attached and also checks their validity and correctness.

Presenting person: This is the person who presents the document in front of the Sub Registrar for registration. He must be executing, claiming party or his representatives.

Sub Registrar checks whether a presenting person is the right person to present the document. If presenting person is power of attorney holder then appropriate proof of the same will be verified; if the person has got exemption under Section 88 of The Registration Act, Sub Registrar will not insist for passport-size photograph. Otherwise passport-size photograph will be insisted.

Sub Registrar will verify whether all executants are present or not.

After scrutiny Sub Registrar will decide the document can be registered immediately or not.

Sub Registrar will record presentation procedure by affixing Stamp number 1 (Presentation Stamp) mentioning the date and time of presentation.

Sub Registrar will issue receipt of fees on payment of appropriate fees (Registration fee,

Copying fee etc). On payment of all fees Sub Registrar affixes Stamp number 2 (Fees stamp)

The executing parties sign in front of the Sub Registrar on the document and also put their thumb impressions in front of their signs as a part of admission procedure. Photograph of each executing and claiming parties are required. The photographs, signs and thumb impressions are taken on the backside of the page generally 2nd or 3rd page of the document.

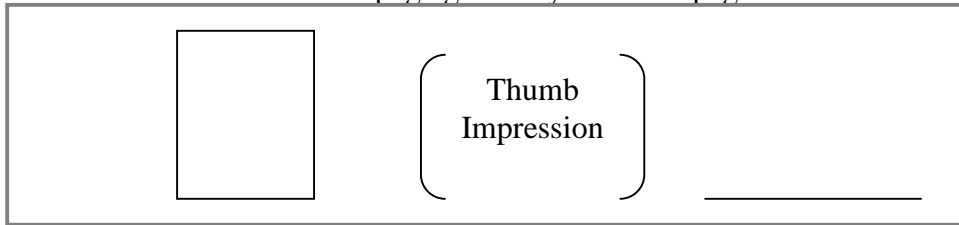


Figure 3: Photo, Signatures and Thumb impressions on Document

When all executants' admission procedure is completed the Sub Registrar affixes the Stamp number 3 (Admission Stamp) on the document.

If the executing party is unable to be present in the Sub Registrar office due to unavoidable reasons such as illness, then Sub Registrar may visit the residence of party for completing admission procedure. Such procedure is called as 'Private attendance'. Appropriate fees are collected from party for such process. The details of such visit will be recorded in Minute Book.

If the document contains payment of consideration amount in front of Sub-Registrar the 'payment of money' procedure is followed in front of Sub Registrar. If the party pays specific amount of money to other party (generally seller) by means of cash or DD, the Sub Registrar will make appropriate endorsement on the document regarding the same.

If admission of execution is not completed, the Sub Registrar will keep the document pending by giving reason as admission is not completed. Sub Registrar then will call the witnesses for completing the procedure of identification. Two witnesses are required for each executant or the same 2 witnesses can be witness for all the executants. Sub Registrar takes details of each witness such as Name, address, profession etc. and takes signature. This procedure is called as Identification. After completion of identification procedure Sub Registrar affixes Stamp number 3 (Identification Stamp).

If sufficient numbers of witnesses are not present, then Sub Registrar keeps the document pending by giving reason as Identification is not completed.

After all the above mentioned procedures are followed, Sub Registrar will register the document by assigning final document number and makes a note of the same in appropriate book. He will order registration and record date, page number, volume number with document number <serial number from book> and puts round seal also called as Stamp number 5.

The registered document is then copied or duplicate copy of the same is kept with office. Appropriate support documents are filed. Maps, plans will be filed in Supplementary Register to Book I - part II kept for copy of maps and plans.

Various index entries are made like Index I (Nominal index) and Index II (Descriptive index).

For wills separate index is prepared as Index III.

The Daily register of fees is maintained which contains the details about fees and stamp duty, mutation fee, etc. Every document, applications presented are entered in this register.

Separate cash book is maintained which contains summary of receipts and payments.

Details of all such books, indexes, registers and other miscellaneous reports are discussed in Reports and letters section (Section 3.1.6.1.3)

If Sub Registrar keeps a document pending, he assigns pending serial number to the document (Format as PXXXXX/<year>) and concerned receipt contains the pending serial number.

If there is any deviation in the document registration procedure then such details are written in 'Minute Book'.

Various fees charged are mentioned in schedule of 'Table of Registration Fees' of the Karnataka Registration Act, Rules 1965.

Business Process Re-Engineering (BPR) and Computerized process:

In view of the computerization and use of modern technologies there is need for re-engineering the existing registration procedure. General public are unaware of requirements to be fulfilled before going to Sub-Registrar.

Therefore it is suggested that each Sub Registrar should have a kiosk (Touch screen interface) also called as Citizen Care Center (C.C.C.), which will enable even a computer illiterate person to know the requirements for document registration like required market value, stamp duty, registration fee, list of support document proofs to be furnished etc.

The CCC will also float a list of frequently asked questions (FAQs), a comprehensive property valuation module which will enable general public to know the cost of their property according to Government rules.

The use of web camera (also known as PC camera) will help the department officials to take photograph of executant's on the spot which will remove impersonation problems. The same camera will be used in marriage application for taking joint photograph of bride and bridegroom. Use of web camera will cut general public's expense on bringing photographs to the Sub Registrar office.

The use of Bio-Metric device which can capture finger print will be a best suitable alternative to manual process of taking thumb impression using ink pad. The bio-metric device doesn't require any ink, which blackens the fingers of executing party, document and in turn office walls and corners portions of office premises.

Use of scanner for scanning originals is best alternative to manually storing photocopied documents in the office and to write down whole documents in volumes. The photocopied documents take large space and in turn disturb neatness of office infrastructure. Every registered document will be scanned using Auto Document Feeder scanner with legal sized bed. Use of scanner will enhance document storage and issuing of certified copy operations very easy just a

click away. Again the scanned image will be stored on CDs in triplicate to reduce storage space and to form the central record room.

It is envisaged that the Department of Registration and Stamps evolves tri-letter formats representing each of its offices. These tri letters will be a part of document number, receipt etc. The integrated applications approach (application suite) will ease the usage of software and will provide seamless data sharing between applications such as property valuation modules, registration modules and Encumbrance search etc.

The Citizen Care Center (CCC) will guide the general public and will try to define a complete document based on inputs given. Accepting complete documents in all sense (Proper valuation, Stamp duty, support documents required etc.) for presentation will greatly reduce the percentage of pendency and reduce the paper work of Department employees. It will also reduce the burden on application software in preserving records on hard disk. The core part for this will be Public Information System (PIS) Part I and II. The PIS-I will reside on CCC and PIS-II will be integrated in Document Registration module. The PIS-I will generate 'Guidance Slip' to guide the general public. The PIS-II will check the document based on the information provided and will generate 'Check Slip'. The Check Slip will mention the end result of the document, whether it will be registered through the system or will be kept pending. The efforts will be made to return the document back to the party if it is not a complete for registration through the system.

Use of electronic token display system will enhance the work flow of the system. The general public will be able to attend at prescribed time instead of waiting for hours long. The system will reduce unnecessary crowd gathering in sub-registrar office and will introduce a systematic manner of document registration process. The token sheet will be generated by computer using computerized token system.

The use of private participation in Government work will enhance the productivity of the department. The private members will take care of all the computer hardware, electricity connections, telephone connections and furniture. The computers will be operated by private companies' data entry operator as per the guidance of the system, Sub Registrar and various rules and regulations laid by the Department. Private operators will scan the document and will verify the correctness of the same with the originals. They will also burn the image data on to the CD and will help in Data transmission to District Registrar office as per the schedule.

Computerized Process:

A person who wants to register his/her document brings it to the Sub Registrar's office, who issues an electronic token sheet generated by computer which also assigns a time for him to present his document. When the party comes with document at the stipulated time the Sub Registrar manually scrutinizes the document. In scrutiny he checks following details

Sub Registrar decides the type of document based on the schedule of the Karnataka Stamp Act. He then subjects the document to PIS-II scrutiny which will also be computerized.

Following information is furnished.

Type of document as decided by the Sub Registrar, date of Stamp, date of execution, consideration.

Based on the date of stamp, date of execution and date of presentation (Current system date and time) delay in presentation will be calculated and appropriate messages will be displayed regarding fine or 'Delayed presentation' procedure.

After this, system will navigate the operator to 'Property Valuation' module automatically, in which property details will be entered including area, Survey number and schedules etc. as

required for calculating the market value. The calculated value and entered schedules will be automatically transferred to Registration module PIS-II part.

Based on the Consideration cost, Market value and selected Stamp Act article appropriate Stamp duty will be calculated. Details of paid stamp duty will then be entered. If any difference is found in stamp duty paid and stamp duty required then appropriate messages will be flashed. The system will also enable user to enter the details of Stamp duty difference paid if any.

Sub Registrar then enters the details of presenting party, number of pages of the document. Based on provided information, PIS-II automatically selects required support documents. If additional support document is required the operator marks that support document as required. For all the support documents furnished details are entered if presented in later stage.

Finally when operator orders the PIS-II to check the document then the system generates 'Check Slip' in which it details about the status of the document and also tells whether the document can be registered through the system or not.

If check slip shows green signal for the document for registration then Sub Registrar accepts the document and proceeds with the next step.

If check-slip objects the registration of the document and still party insists to present the document then the Sub Registrar admits the presentation of the document.

At this stage system sets the Stamp No. 1, 'Presentation stamp' with current system date and time.

The system will assign a unique serial number for a document based on the article type selected and result of check slip. If check slip is objecting the registration of the document, then the system assigns a new pending number for that document otherwise new serial number (based on the article type selected) will be assigned to it.

After presentation, operator enters relevant details for document like property schedules if not already entered, names of parties including name, age and exemption details if any. The calculation of fees and stamp duty is handled automatically by the system.

Details of the property mentioned in the document gets automatically transferred from Valuation module to PIS-II to Registration module. In some cases where valuation is not required then the operator has to enter the details of the property including area, survey number, CTS number, different schedules etc.

The next step is generating the receipt. The receipt generation is simple procedure with the help of computer, as all fees have already been calculated and name of presenter is entered in the system and document number (either pending or normal serial) is assigned to the document, generation of receipt is just another click away. The system will generate new receipt and all details about receipt will be displayed. The operator then enters the details of payment and rechecks the fees calculated with the Sub Registrar before finalizing the receipt. After confirmation he/she proceeds further to generate the receipt.

At this stage the procedure of fees collection is over and operator sets Stamp number 2 also called as 'Fees stamp' in consultation with Sub Registrar.

The admission and Identification part is processed using Web camera and finger print scanning device. In this procedure the executant sits in front of the camera and operator will capture the photographs as required. The party then puts his thumb on fingerprint scanning device and operator captures the thumb impression. The thumb impressions of all presenters and executants are captured so as to assure that center portion of the thumb gets captured. When all the executors' photographs and thumb are captured, the operator will set Stamp number 3 also called as 'Admission stamp' in consultation with Sub Registrar. The thumb impression and

photographs will be printed in the appropriate space on the document where the endorsement of presentation and admission of execution are recorded as prescribed in the Karnataka Registration Rules, 1965.

The tentative format is shown here

			Party Type:
Thumb	Signature	Photograph	Name
			Address

Figure 4: Photographs and thumb images of Executing parties.

In case of 'Private attendance', the Sub Registrar has to manually complete the admission procedure and should bring photograph and thumb impression manually. The document will remain pending in such cases until Sub Registrar completes the private attendance procedure and marks the document to proceed. The appropriate entry will have to be made in to the Minute Book by the Sub Registrar.

The identification part requires data entry of all the witnesses present there. Normally two witnesses are required for the registration of the document but in case of delayed admissions, two witnesses for each admission are required, data entry of all such identifying persons needs to make in the computer. When identification procedure is over operator puts Stamp number 4 also called as 'Identification Stamp' in consultation with Sub Registrar.

In case of undervaluation, impounding, non appearance of executant's or any other reason due to which document will not be registered, the operator will mark the that document as pending by assigning proper reason for pending in consultation with Sub Registrar. Till the pending reason requirements are not fulfilled the document will not get registered.

As the all the requirements of the document are now processed Sub Registrar asks operator to register the document. The operator in consultation with Sub Registrar will proceed with the completion of registration process of the document. The system will recheck all the necessary things before registering the document, it also will assign a new serial number if the document was pending earlier and cancels the existing pending serial number. The system will make all data non editable related with the document, when it gets registered. To avoid typing error to continue in main data, system will ask repetitive confirmations from user before processing final registration. Once the document is registered then only it enables scanning part. The scanning and archival part of the system is discussed in detail in appropriate sections.

If the document is not registered, it will not be scanned, the photographs and thumb images will remain in computer. A periodic backup of all data will ensure the existence of images intact. Various Books and Indexes will get automatically updated. The appropriate information will be generated as and when required by the user.

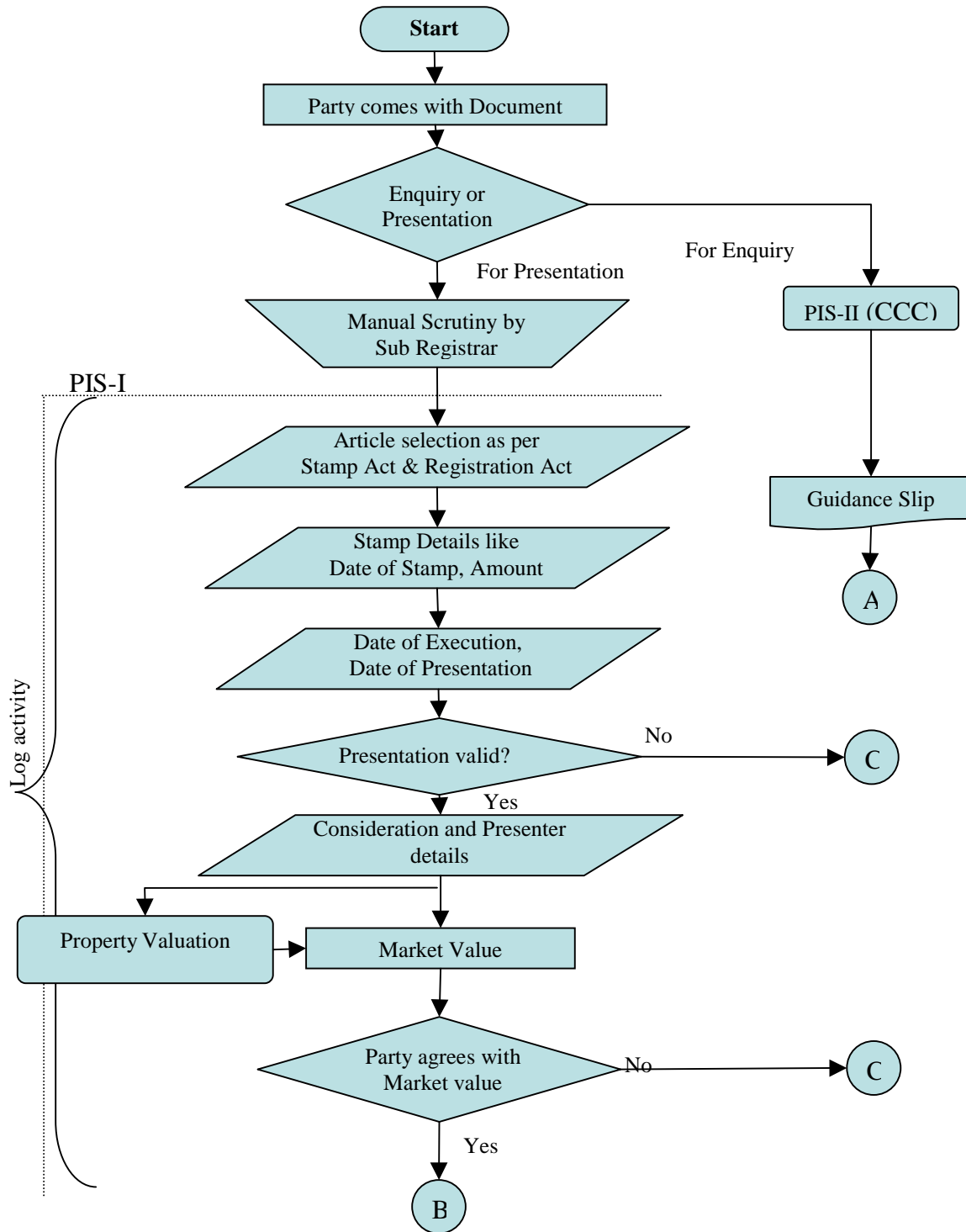
Monthly, quarterly and annual reports will be prepared at the end of month or at specified time as and when required.

The Encumbrance search will enable user to trace back the transactions on particular property during specified period. To get the result user has to specify the search period and property details available.

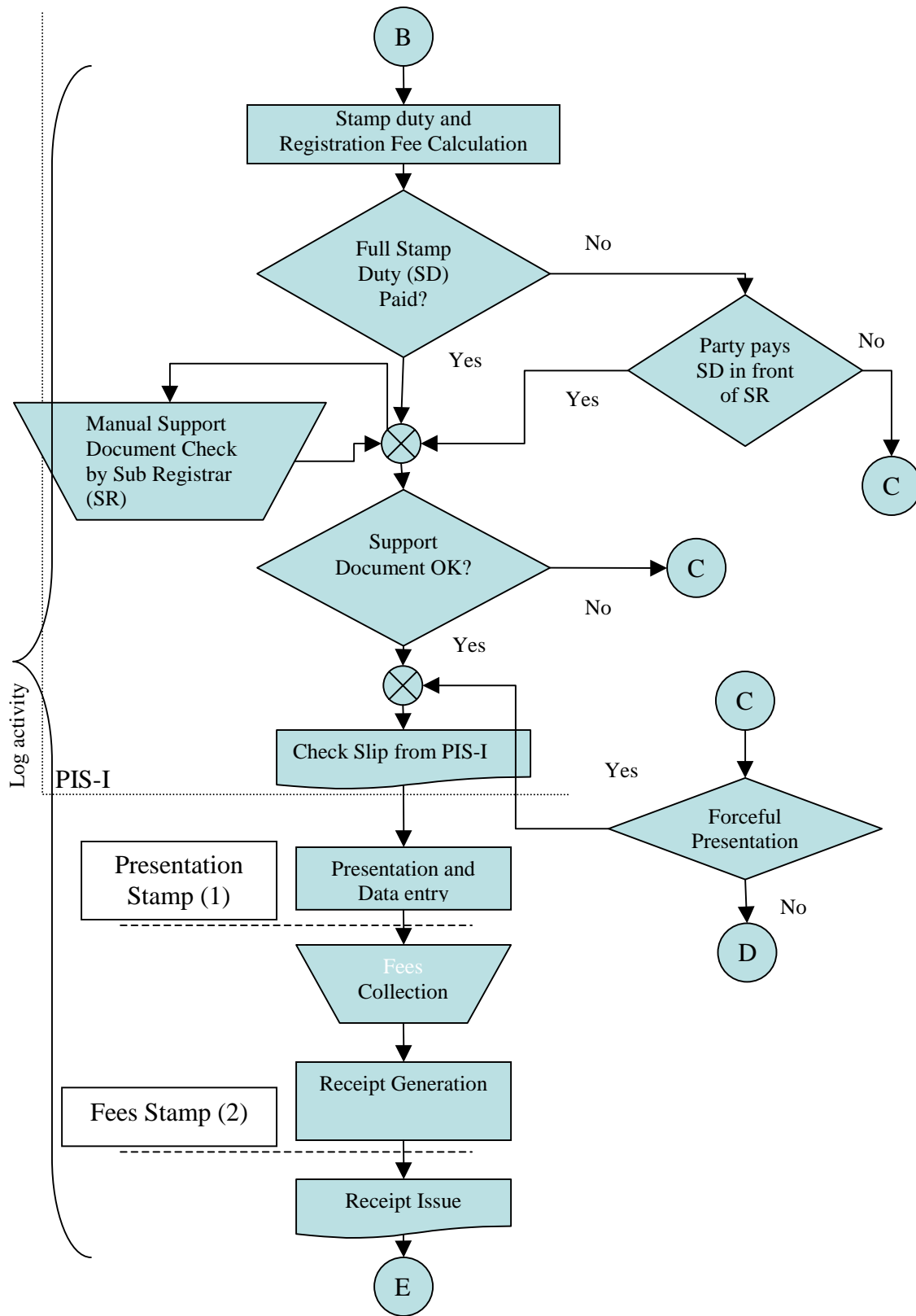
Exhaustive search will be provided by system to enable document search. The search parameters will be like Article type, document number, presentation date, receipt number, name of any executor, property details etc.

1.2.1.1.2 Flowchart

Flowchart of Document Registration module including PIS-I



Continued...



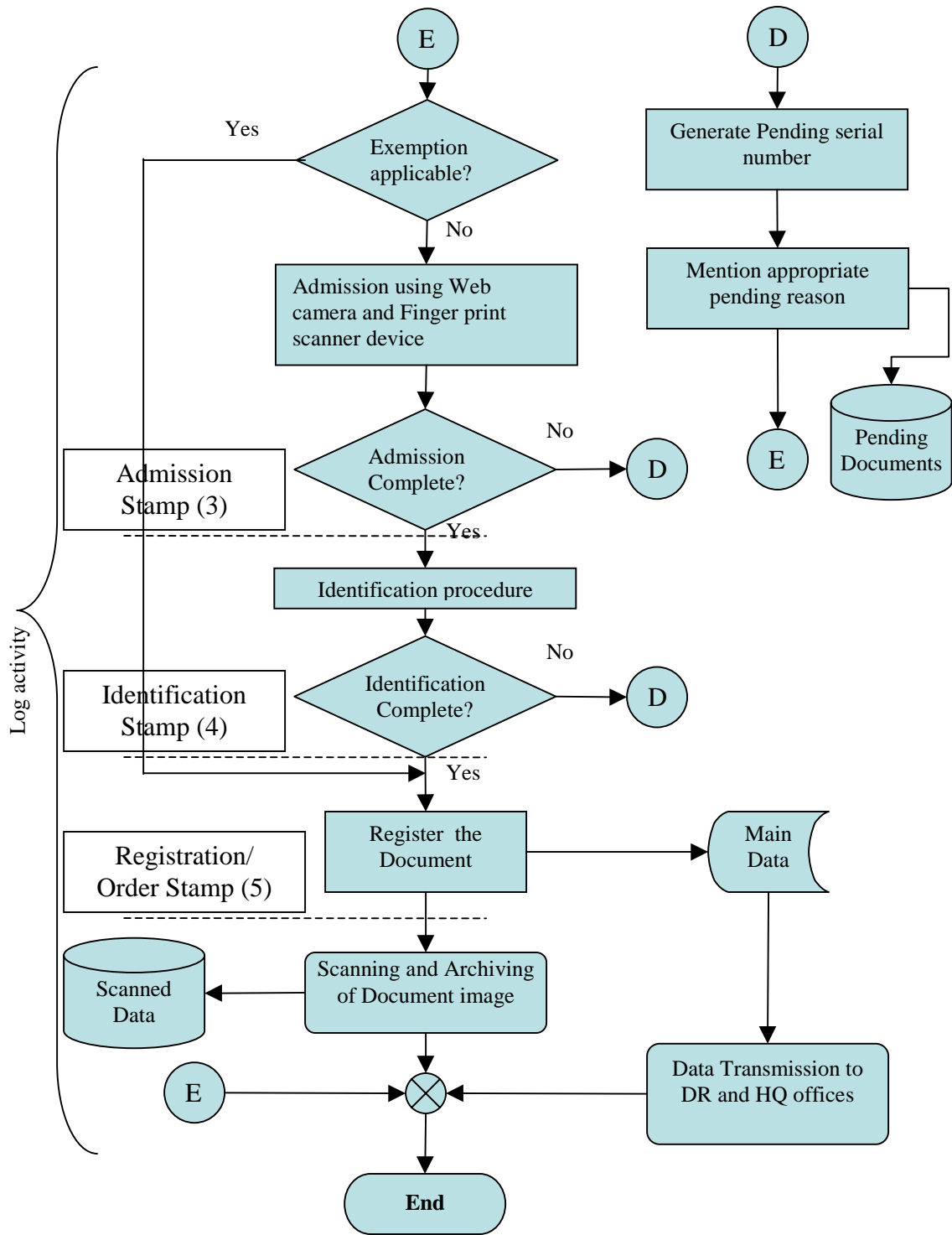


Figure 5: Document Registration Process

1.3 Time-Effort estimate

Sr. No.	Activity	Man Power reqd.	Months												
			1	2	3	4	5	6	7	8	9	10	11	12	
1	System Requirements Specifications document (SRS) preparation	3													
2	System Design Document (SDD) preparation	7													
3	Application Software Development	11													
4	Software testing	7													
5	Deployment at pilot office in Bangalore and fine tuning	7													
6	State wide deployment of full system on BOT basis	14													
7	Software maintenance for 06 months	5													
			Aug 02	Sep 02	Oct 02	Nov 02	Dec 02	Jan 03	Feb 03	Mar 03	Apr 03	May 03	Jun 03	Jul 03	Aug 03

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