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Interoperability and land administration in Nepal

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Abstract

Department of Land Management and Archive (DoLMA) is a central level agency which is responsible for land administration and management activities in Nepal. It provides public service delivery on land administration through its 131 field-level offices. The department has successfully developed and implemented centralized web-based software called Land Records Information Management System (LRIMS) on 54 Land Revenue Offices (LROs) to enhance quality of service delivery in land administration. The implementation of the system has shown positive impact on security of land records, revenue collection and e-governance. DoLMA has planned to implement the system in 108 LROs within current Fiscal Year.

Various government agencies are working in different fields using similar data collected and used by the LROs. Although other agencies have their own computer systems, their communication with the LRIMS is not provisioned yet. As we are in the age of information and communication technology, the interoperability between the LRIMS and the systems of other stakeholders is highly demanded which will reduce the operational cost and time of service delivery and enhance the quality of services. As LRIMS is based on Service Oriented Architecture (SOA), the systems can be made interoperable to replace manual transfer of documents between the LROs and other stakeholders.

Keywords: interoperability, land administration, LRIMS, service delivery, SOA



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1. INTRODUCTION

Department of Land Management and Archive (DoLMA) is the central level agency responsible for overall land administration in Nepal. It provides public service delivery on land administration through its 131 field-level offices. The field level offices under the department called land revenue offices (LROs) perform operational functions with respect to land administration. While the department is more concerned with the policy, planning and management functions. Operationally, the LROs adjudicates land ownership; registers “Deed” directly or indirectly relating to land ownership; protects Land Tenancy Rights; monitors land holding ceiling; and provides other supportive services, such as 'Rokka/Fukuwa', copy services, document ('Misil') referral services, etc.

The land administration in Nepal is based on archives. Archives are not managed scientifically. Due to poor quality of archives, difficulties are being faced to provide quality service in land administration (World Bank’s Doing Business Report 2018, score on quality of land administration 5.5 out of 30)¹. Out of total cases filed in Supreme Court, more than 20% cases are on land matter.²

Land registration in Nepal is based on deed system. The government just plays a role of witness for sellers and buyers of their land transaction that should meet the minimum valuation rate (MVR) determined by a local committee annually. Although the MVR is checked in every land transaction and not allowed to be less than the MVR, there can be seen a remarkable gap between the MVR and the market value³(ADB, 2017) of the land. But identifying accurate market value of the land is a very difficult task for the LROs. However, some charges such as registration fee, Capital Gain Tax and Other service fees are collected on each land transaction based on the self-declared land value by the buyer and the seller themselves. But there is possibility of showing lesser transaction amount to evade the revenue. As a result, it is difficult for the Government of Nepal (GoN) to collect actual tax on land transaction. According to the Annual Report of DoLMA, 2017/18, the LROs collected just \$300 millions as revenue in this regard. The department has started perceptible reform initiatives to ensure efficient & effective administration and sustainable management of available land resources. The department has successfully developed and implemented centralized web-based software system called Land Records Information Management System (LRIMS) and connected with 54 LROs aiming to enhance service delivery quality in land administration. These offices contribute more than 60% by transaction and tax collection. The land related transactions such as ownership transfer, restriction and release on land property, dissemination of

¹World Bank’s report on “Doing Business 2018”

²Yearly Report FY 2073/74 of Supreme Report

³Subedi, Laxmi Prasad, 2017, Land Valuation in Nepal prepared for Asian Development Bank



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land related information etc are carried out through this LRIMS system. The system has various modules for instance tax module, document archive module, reporting module and transaction module to cover all the activities of land administration . The implementation of the system has shown positive impact on security of land records, revenue collections and e-governance. It also has been possible to ensure rule of law by remote monitoring and supervision of activities of LROs in real time. To get optimum benefits from the system, DoLMA has planned to implement it in 108 LROs, out of 131 LROs within current Fiscal Year.

1.1 WORKING PRINCIPAL OF LRIMS

Each LRO is connected with central server of LRIMS through intranet. The primary server of the system is hosted at Government Integrated Data Center (GIDC) located at Singhdarbar and stand by server is hosted at the department. The department has planned to keep Disaster Recovery (DR) site at GIDC, hetauda, out of Kathmandu. The servers are configured with load balancer to fulfill the request from more than 2000 client machines. The architecture of network is shown in Fig 1. For any land related transaction, the property with its owner should be first registered in the system. The department has already registered about 30 millions parcels in the system with their ownership details. However, there is a plenty of rooms to enhance the accuracy and reliability of the data.

The detail information of a seller, a buyer and two witnesses along with property details has to be provided into the system for each land transaction. Similarly, latest photo, signature and finger print of sellers and buyers are to be captured in the system. The application is submitted into the system by Service Desk (SD) user. Print template of application can be printed from the system and submitted to the office manually. Then, the application is verified by Junior Revenue Officer (JRO) and finally approved by Land Reform Officer (LRO). Limited applications are forwarded to Chief Land Revenue Officer (CLRO) and approved by him/her. In any step of work flow, the application can be forwarded to back if any amendment is needed. After approval of the application, the land ownership certificate is printed and provided to owner with hand written signature. The supporting documents with signed copy of deed are scanned into the system for future reference. More than 5000 applications are being approved daily through the system. The work flow for the operation is shown in Fig 2.



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1.2 FEATURES OF LRIMS

1. The system is centralized and web-based. The internal activities are carried via intranet connectivity while the system is accessed by public via internet. The LROs are connected with central server using at least 2 Mbps connectivity. The property/parcels under a particular office are identified by unique office id. The combination of district, village development committee (VDC), ward no, map sheet and parcel number make the land property unique. The real time statistics for number of transactions, collected tax and status of application can also be obtained in the department. It can also be monitored remotely from the department as well as from the ministry which enhances e-governance as well.
2. Work flow Management of each process and sub process
Multiple users are involved in the operation of the system such as SD, JRO, LRO and CLRO. The application is prepared and verified in SD. When SD user submits application, it goes to JRO where the tax and minimum valuation of property are verified. Finally, the application is approved by LRO user. If necessary, the final approval need to be done by CLRO. Similarly, fresh data entry and data modification in the system can be done by the SD user as well as admin user. The involvement of multiple number of staff members for the land transaction make the operation more reliable. Furthermore, the default work flow for each process and sub-process can be customized in the system.
3. Calculation of revenues
LROs collect registration fee and other necessary service charges in land transaction on the basis of transaction amount which is even vary on the basis of location of the land and available facilities. The system automatically calculates fee on the basis of configured parameters. It also provides discounts on registration fee for special conditions specified in fiscal act like registration of deed in the name of woman, martyr's family etc. Similarly, the system identifies the age of property for particular owner and calculates Capital Gain Tax(CGT) amount accordingly. The calculation of revenue amount has made transparent and uniform throughout the country by the system.
4. Attachment of supporting documents (Management of Archives)



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For land related transactions, various documents such as citizenship certificate, tax clearance certificate, referral letter for facilities & utilities available in the property, voucher of tax paid are required for every land transaction. Scanned copy of these supporting documents can be attached in the system that can be searched and viewed easily. It makes management of archive easy.

5. Enhanced security

The authentication of the user is performed through username, password and finger prints. The first level password is used for login and there is a provision of separate password (i.e. secret code) to perform further actions on each application. The finger print of the user can also be captured and used for authentication of the land owner in the system. The finger print, photo and signature of land owner are captured during registration of the property. These security features are used to verify the land owner for minimizing fraud transactions.

6. Notification to service seeker via SMS and email

The mobile number and email of each land owner are also collected during transaction. If we made any modification in records or an application lodged, the notification is sent to owner via SMS and email. These make land owner more confident and ensure security of the land records.

1.3 ADVANTAGES OF IMPLEMENTATION OF LRIMS

The implementation of LRIMS in 54 LROs for land administration has shown following advantages;

1. Enhances efficiency and effectiveness in service delivery,
2. Provides overall land information of a particular owner across the country in a single click,
3. Generates real time statistics for instance number of transactions, collected taxes and fees
4. Enhances security in land records which minimizes disputes in land matters,
5. Ensures transparency and uniformity in tax collection (CGT, Registration Fee, Service Fee etc),
6. Minimizes fraud transactions,
7. Easy to implement land holding ceiling provision and
8. Provides access of online/ remote monitoring and supervision to the higher authorities such as ministry and the department.



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1.4 CHALLENGES OF IMPLEMENTATION OF LRIMS

During implementation of the LRIMS, there can be seen some challenges which are as follows;

1. Lack of legal instruments and immaturity of the system; (both manual as well as computerized system are being carried out),
2. Lack of patience in the service seekers and expectation of quick service delivery(service delivery within two hour)
3. Lack of skilled human human resources (insufficient IT friendly manpower)
4. Lack of online appointment system
5. Lack of reliable network connectivity and
6. Problem of quality data to ensure errorless services
7. Reaching too many units of local governments while making compatible with the federal structures

1.5 INTEROPERABILITY OF LRIMS WITH OTHER STAKEHOLDERS

LRIMS is a computer system designed and developed to perform land administration in Nepal. It uses several personal information as well as property information which are also used for tax collection. As described above, many references and evidences are required in land administration where many other agencies are involved such as local governments, tax offices, district administration offices and others. The scope of the system is wider because other agencies also use the personal and property information. So, there is a possibility of multiple uses of the system by several stakeholders which requires interoperability mechanism and a framework as well. An Interoperability Framework in software system is an open, standards-based specification and set of technologies that describes and promotes interoperability among components of a service-oriented architecture (SOA). Government of Nepal has developed Interoperability Framework called Nepal Interoperability Framework (NeGIF). It includes a set of standards and guidelines which describes the way in which a government organization can share data with others. Institute of Electrical and Electronics Engineers(IEEE) defines interoperability as “*the ability of two or more systems or components or web services (software modules) to exchange information and to use in-formation that has been exchanged*”. LRIMS is based on SOA. Using development of Application Programming Interface (API), it is possible to share LRIMS data with other agencies. It is demonstrated in Fig 3. The development and successful implementation of interoperable systems will reduce time, cost and enhance quality of service. Thus, the LRIMS is an important system for several



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stakeholders using similar information used in the LRIM and needs the advancement and implementation of interoperability mechanism among them

2. OBJECTIVES OF STUDY

The main objective of this study is to explore possibilities of integrating LRIMS with systems of other agencies related to land administration. It tries to highlight the features of LRIMS, its benefits and challenges. It also aims to identify the possible interoperability of the systems and recommends some proposals for effective implementation of the LRIMS. However, the study is not focused on assessing feasibility of the systems of stakeholders whether they are ready for providing services to LRIMS or not.

3. METHODOLOGY

The study followed qualitative approach. It was primarily based on desk review, stakeholder consultation and its analysis. The available literature was reviewed to understand LRIMS with its features, benefits, and challenges. Specially, design documents and user manual of LRIMS were studied. The operation of LRIMS was observed in some LROs to analyze service delivery through the system. Interaction programs were carried out with service seekers in LROs and staff members involved in the LRIMS operation. The stakeholder consultations were carried out to understand their needs and gaps in the existing systems. Such consultations were carried out on Office of the Prime Minister and Council of Ministers (OPMCM), Ministry of Land Management, Cooperatives and Poverty Alleviation (MoLCPA), a private software company involved in automation of local government, and Land Revenue Office, Lalitpur to discuss on LRIMS implementation and the possibility of interoperability with other agencies. The consultation really helped to understand the need of data sharing, its possible benefits and parameters/information to be shared.

4. RESULT AND DISCUSSION

Land administration using LRIMS is found effective in record management, revenue collection and service delivery. Each parcel of land property is identified by unique ID called parcel ID comprising district code, VDC code, ward number, map sheet and parcel number. Similarly, each contact/party (i.e. seller, buyer, witness, representative) is identified by unique ID called Land owner Identification Number (LIN) which is based on citizenship information. It has been possible to generate various types of reports



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regarding to ownership of land property. Land properties all over the country can also be grouped on the basis of ownership so that it is possible to view all the properties owned by a particular land owner and generate single integrated land ownership certificate. The capture and verification of finger print of owner during transaction has made land administration more reliable. The scanning and uploading documents in the system is supporting archive management in land administration. Hence, LRIMS is going to be a tool to solve various problems in the field of land administration. It focuses on record management, archive management, transaction of ownership transfer, revenue collection and service delivery that helped to maintain rule of law and good governance. There can be seen a significant increments in revenue collection in recent years in the LRIMS implemented LROs (shown in Table 1). However, the department is facing several challenges that need to be minimized by using some measures such as appropriate planning of capacity building of human resource, upgrading physical infrastructure including network connectivity and increasing awareness to public.

Various agencies are involved in land administration. Some agencies provide reference for land transaction and some other use services/information of the LROs. For example local government provides recommendation letters of accessibility on particular land and available facilities (i.e. house, roads) for purpose of land transaction. Similarly, local governments collect land revenue using the same property details of the LROs. Now the means of communication for sharing information and documents among the stakeholders is manually only. In this regards, the effective implementation of the LRIMS will provide opportunity among several stakeholders in sharing information and evidences. Thus, interoperability framework between LRIMS and systems of stakeholder agencies will reduce the operational cost and time for service delivery, and enhance the quality of services. As the LRIMS is designed and developed using SOA, its data can be shared with other systems through API. It is also necessary to study systems of other stakeholders in detail to check their feasibility whether they are ready for communication with LRIMS or not. The modification on their systems may be required. Thus, LRIMS can be utilized as single window for land administration where all the stakeholders can communicate and interact with each other through this single system.

It is found that many agencies are using several personal and property information and there is a possibility of data sharing between LRIMS and following agencies using web services;

1) Commission for the Investigation of Abuse of Authority

The Commission for Investigation of Abuse of Authority (CIAA) is a constitutional body for corruption control for the Government of Nepal. It is responsible to investigate and probe cases against



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the persons holding any public position and their associates who are indulged in the abuse of authority by way of corruption. The property detail owned by a person holding public position is required for the investigation of disproportionate asset of the person. Now, CIAA requests to DoLMA to send the list of properties owned by a particular person manually. Instead of manual communication, two agencies can share information via systems. Web service of LRIMS can be provided to CIAA to search property owned by the particular person. Such interconnection will reduce time and cost of operation. The CIAA can also use LRIMS data to investigate the cases filed against the staff involving land transaction in LROs. The flow of data between these two agencies and the systems can be traced out as follows;

LRIMS-→CIAA	CIAA→LRIMS
<ul style="list-style-type: none"> ✓ Property /Ownership related data ✓ Land Transaction history 	<ul style="list-style-type: none"> ✓ Request to keep a property on restriction list to stop ownership transfer

2) Survey Offices

Department of Survey is a National Mapping Organization of Nepal. Land Revenue Offices are responsible only for attribute data related to ownership while Survey Offices are responsible to manage cadastral information. There are survey offices in each district where Land Revenue Office is located. When a parcel is to be split (i.e. sub-divided), the application of land transaction is sent to survey office. After division of a parcel, its information is sent to LRO. Now, documents are shared manually. The system of Survey office and LRIMS can be made inter-operable so that survey office can get information of a parcel from LRO and LRIMS can get cadastral information from of the survey office.

LRIMS-→Survey Office	Survey Office-→LRIMS
<ul style="list-style-type: none"> ✓ Request for Parcel Split ✓ Property /Ownership related data (Attribute data) 	<ul style="list-style-type: none"> ✓ Cadastral Information of a property

3) Banks and financial Institutions

Banks and other Financial Institutions (FIs) issue loan against land property where the borrower gives his/her land property as security or guarantee. Developing the LRIMS and bank's system interoperable, a financial institution can request to LROs to restrict or release land property for ownership transfer. They can also see the list of properties which have been kept on restriction.

LRIMS-→Banks and FIs	Banks and FIs →LRIMS
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<ul style="list-style-type: none"> ✓ Property/Ownership related data for verification purpose ✓ Restriction list of properties 	<ul style="list-style-type: none"> ✓ Request to verify property including ownership detail ✓ Request to restrict a property for ownership transfer ✓ Loan related data
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4) Employees Provident Fund

Employees Provident Fund Nepal is the pension fund/provident fund for employees working in the government and private sector. Like financial institutions, employee provident fund (EPF) also issues loan to its depositors against land property. EPF can request to LRO to restrict or release a property for further ownership transfer. It can also see the list of restricted properties.

LRIMS-→EPF	EPF→LRIMS
<ul style="list-style-type: none"> ✓ Property/Ownership related data for verification purpose ✓ Restriction list 	<ul style="list-style-type: none"> ✓ Request to verify property including ownership detail ✓ Request to restrict a property for further ownership transfer ✓ Loan related data

5) Citizen Investment Trust

Citizen Investment Trust (CIT) Nepal operates and manages various types of retirement schemes / programs as well as various unit schemes and mutual fund program for both domestic and foreign investors to encourage them for saving. CIT also issues loan to its depositors and others against mortgage of land property. When computer system of CIT and LRIMS are integrated, it can verify status of a property online and can request to LRO to keep a particular land property on restriction through API.

LRIMS-→CIT	CIT →LRIMS
<ul style="list-style-type: none"> ✓ Property/Ownership related data for verification purpose ✓ Restriction List 	<ul style="list-style-type: none"> ✓ Request to verify property including ownership detail ✓ Request to restrict a property for further ownership transfer ✓ Loan related data



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6) Courts

In land related cases filed in courts, courts can use LRIMS data to get records related to ownership and also transaction detail. Nowadays, LROs have to answer of many requests of courts via letter. After making systems of both agencies interoperable, the courts can use LRIMS data via API and manual transfer of documents will be minimized.

LRIMS-→Courts	Courts →LRIMS
<ul style="list-style-type: none"> ✓ Property/Ownership related data ✓ Transaction history 	<ul style="list-style-type: none"> ✓ Request to restrict a property for further ownership transfer

7) Local and Provincial Level Government

Actually, registration of property is done in land revenue offices but land revenue is collected at local level government. To collect land revenue, local level governments should have property detail. Thus, land property information of the LRIMS can be used by the local level governments. Similarly, for land transactions in the LROs, there are some pre-requisites such as recommendation letter, verification of relationships, reference letter regarding facilities available in the particular land property and receipt of land revenue which are issued by the local governments. Furthermore, the distribution of the collected land registration fees for instance, 40 % goes to the provincial level government and 60% to the local level governments. Thus, the LRIMS can be used in the tax calculation for development planning by the local governments.

LRIMS-→Local / Provincial Level Government	Local / Provincial Level Government-→LRIMS
<ul style="list-style-type: none"> ✓ Property/Ownership related data ✓ Revenue collection data 	<ul style="list-style-type: none"> ✓ Recommendation regarding to accessibility of land ✓ Relation verification ✓ Recommendation for parcel split (according to land use)

8) Inland Revenue Department

The Capital Gain Tax on land property is collected on Land Revenue Offices but it is administered by Inland Revenue Department (IRD). IRD can access LRIMS to get report on CGT collection. Similarly, Personal Account Number (PAN) is mandatory for transaction of land with worth more than NRs. 10 millions. So, the LRIMS can use system of IRD for the purpose of PAN verification.



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LRIMS-→IRD	IRD→LRIMS
✓ CGT related data	✓ PAN verification

9) Department of Revenue Investigation

Department of Revenue Investigation (DoRI) looks after the revenue leakage investigation and controlling financial crimes. For investigation of revenue leakage on land transaction, it can use revenue related data available in LRIMS as well as supporting documents used for the transaction.

LRIMS-→DoRI	DoRI→LRIMS
✓ Revenue data	✓ Request to keep land property in restriction
✓ Land Transaction data	list

10) Infrastructure Development Projects

Infrastructure development projects require land property with ownership detail for the purpose of land acquisition and compensation. During the process, the development projects or the concerned authorities can request for transfer of the ownership of the acquired land to their ownership (*Lagat Katta*).

LRIMS-→Projects	Projects→LRIMS
✓ Property/Ownership detail of specified area	✓ Request for lagat katta

11) Trust Corporation

Trust Corporation is responsible to manage, conduct, and coordinate the Guthis (trustee land) throughout the country more effectively and efficiently. The LRIMS is also used in this connections.

LRIMS-→TC	TC→LRIMS
✓ Property/Tenancy detail of Trustee land	✓ Recommendation for tenancy transfer
✓ Transaction of Tenant	✓ Tax/kut payment

12) Nepal Rastra Bank (NRB)

NRB, the central bank of Nepal, is the monetary, regulatory and supervisory authority of banks and financial institutions. To prepare reports and publish economic indicators, it uses data from the LRIMS.

LRIMS-→NRB	NRB→LRIMS
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<ul style="list-style-type: none"> ✓ Statistics of land transaction ✓ Price value of land property 	
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13) Department of Money Laundering Investigation

For the investigation of suspicious land transactions, the department can use data from the LRIMS and can request for the restriction of land transactions.

LRIMS-→DoMLI	DoMLI →LRIMS
✓ Transaction detail for transaction amount with more than specified limit	✓ Request to keep land property in restriction list

14) Central Bureau of Statistics

The Central Bureau of Statistics is the central agency for collection, consolidation, processing, analysis, publication and dissemination of statistics in Nepal. It requires land ownership related data for such purposes.

LRIMS-→CBS	CBS →LRIMS
✓ Summarized data of land ownership	

15) District Administration Office and Nepal Police

These agencies are responsible to maintain law and order in the districts. For this purpose, they can use land property details and request for the restrictions of such properties for their transactions.

LRIMS-→DAO	DAO →LRIMS
✓ Property/Ownership Data	✓ Request to keep land property in restriction list

Data sharing between LRIMS and systems of stakeholder agencies is needed for effective and efficient land administration in Nepal. It is an appropriate time to initiate such inter-operation. However, software application of agencies may require modification and up-gradation. Standard Operating Procedures (SOP) is required to exchange data among them. It is also necessary to formulate required legislation to allow for data sharing. Capacity building of staff members involved in LRIMS operation is another area to be considered for effective implementation of the systems.



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5. CONCLUSION AND RECOMMENDATIONS

The study shows that implementation of LRIMS has shown positive impact on security of land records, revenue collection and e-governance. It is expected to face some challenges in the beginning of reform initiatives. The infrastructure development, enhancement of capacity of human resources and establishment of legal provision will minimize currently faced challenges. The proper planning and commitment of high level management is needed for effective and efficient implementation of the system. The involvement of various agencies in land administration can be made effective and efficient by making their systems interoperable with LRIMS so that the data sharing is possible among them. The data sharing mechanism among LROs and stakeholder agencies will accelerate the use of LRIMS which is milestone for reform in land governance. Thus, to ensure effective implementation of the system and its interoperability, the following issues should be considered:

- 1) The systems of stakeholder agencies should be compatible with LRIMS so as ensure interoperability among them.
- 2) The infrastructure such as connectivity, power backups should be strengthened to ensure quality service delivery.
- 3) The enhancement of the capacity of the staff members should be considered to cope the issues of capacity constraints.
- 4) The formulation of appropriate legal instrument to support the interoperability framework and its operation.
- 5) The preparation SOP and guidelines to enhance implementability of the system and develop other supporting modules such as service center module to make more effective.



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References

- 1) ACHARYA Babu Ram, Land Tenure and Land Registration in Nepal retrieved on February 1, 2019, from:
http://www.fig.net/resources/proceedings/fig_proceedings/fig2008/papers/ts07b/ts07b_02_acharya_2747.pdf
- 2) Central Bureau of Statistics, <https://www.cbs.gov.np>, retrieved on 15 January, 2019
- 3) Citizen Investment Trust, <https://nlk.org.np/> retrieved on 10 February, 2019
- 4) Commission for the investigation of Abuse of Authority Nepal, <http://www.ciaa.gov.np/> retrieved on 10 February, 2019.
- 5) Constitution of Nepal (2015)
- 6) Department of Land Management and Archive: Pre-requisites for land transactions, LRIMS User Manual and Design documents
- 7) Department of Survey, <http://www.dos.gov.np> retrieved on 20 February, 2019
- 8) Department of Revenue Investigation, <http://dri.gov.np/index.php> retrieved on 20 February, 2019
- 9) Employee Provident Fund, <http://web.epfnepal.com.np/> retrieved on 15 February, 2019
- 10) Government Interoperability Framework (NeGIF), Nepal GEA Main Report v2.0
- 11) Inland Revenue Department, <http://ird.gov.np> retrieved on 15 February, 2019
- 12) Subedi, Laxmi Prasad, 2017, Land Valuation in Nepal prepared for Asian Development Bank
- 13) World Bank's report on "Doing Business 2018"
- 14) Yearly Report FY 2073/74 of Supreme Report
- 15) Yearly Reports of Department of Land Management and Archive



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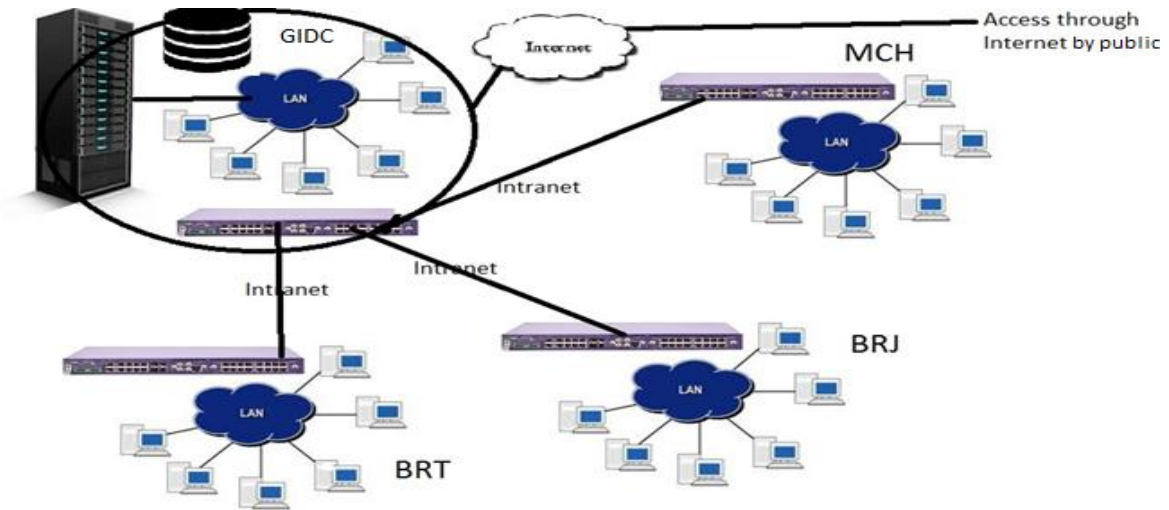


Fig 1: Centralized Implementation of LRIMS

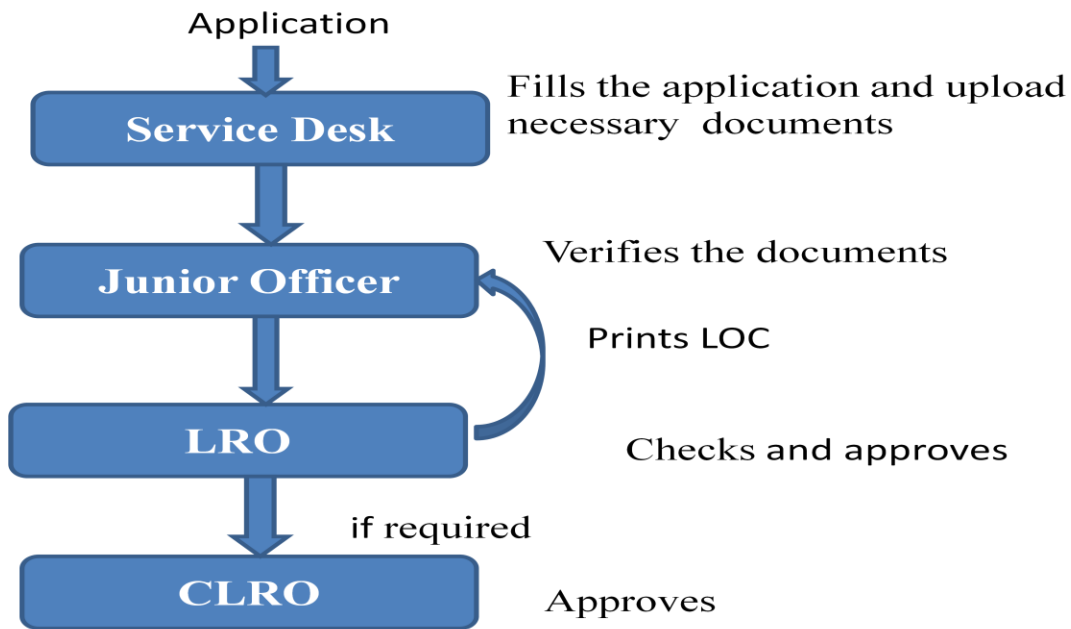


Fig 2: Work Flow in LRIMS



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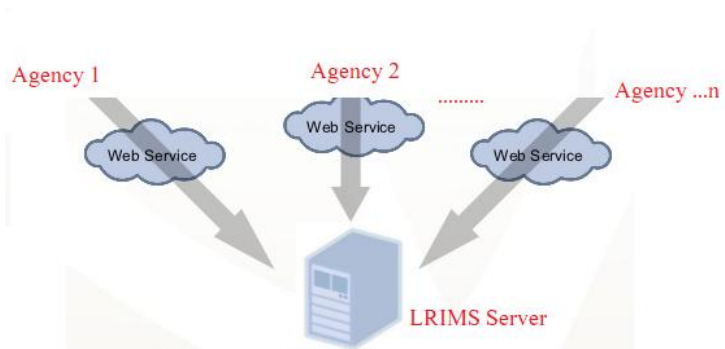


Fig 3: Interoperability with LRIMS

Amount is given in US\$ (Millions)-

1US\$=114 NPR

Revenue Title	Fiscal Year 2014/15	Fiscal Year 2015/16	Fiscal Year 2016/17	Fiscal Year 2017/18
Registration Fee	95.37	126.32	172.59	187.67
Capital Gain Tax	10.87	18.23	40.52	54.79
Other Taxes	11.05	13.32	15.54	17.65
Total	117.28	157.87	228.65	260.11

Table 1: Revenue collection of last four Fiscal Years (Yearly Progress report of DoLMA)