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Ministry of Federal Affairs and Local Development
(MoFALD)

Local Governance and Community Development
Programme-II (LGCDP-II)



A report on

Software Uses And Analysis

Prepared By:

1. Er. Kritika Thapa
ICTV, LGCDP-II
2. Er. Saurav Mishra
ICTV, LGCDP-II

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ABSTRACT

The organizational operational process of Nepal Government, especially that of its local bodies, has been paper based. With the emergence of Information Technology in private sector, the government too is realizing the importance of software. Due to the lack of any guidelines, there is no standardization of the software being used in local bodies. This survey is conducted to assess the scenario of software use in municipalities of eastern region [Annex I], and then assist in further planning of software implementation.

Since the survey was conducted to make software used in LB uniform, it adopted the stratified three stage work; stage-1.Creating a survey excel file using Google sheets; stage-2.Sharing the file and collecting required information through the file from Eastern Region ICT Volunteers; stage-3.Preparing report according to the collected information.

The survey was carried out during January 11-January 18,2015.

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PART 1: SOFTWARE ASSESSMENT

1.1 Scenario Assessment

The history of using Software in the local bodies is not very long. The pioneer among the municipalities of eastern region, where the survey is focused, is Dharan sub-metropolitan which installed Relation Certificate software in the fiscal year 2057/2058. Only 18 software were installed before fiscal year 2068/69. This survey indicates there are total 77 installments of 18 types of software currently installed in the concerned 14 local bodies. This gives an average of 5.5 software for every municipality. Number of software used in different municipalities of Eastern region is shown in the chart below.

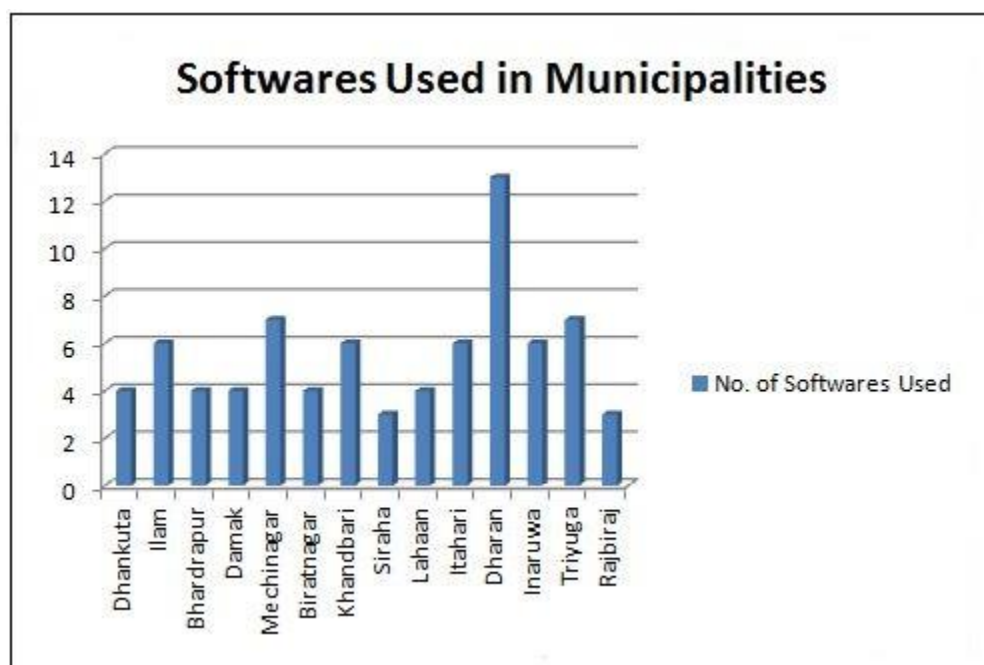


Fig. Number of Software used in different municipalities of Eastern Region

1.2 Acquisition of Software

As discussed in section 1, a software void existed in local bodies before recently. This situation was used to advantage by software vendors. Of the 18 types of software used in municipalities, only two are provided by Government Of Nepal; and barring two others, all the software being

used are product of Shangrila Software. The average amount spent per software for local bodies can be studied by the figure below.

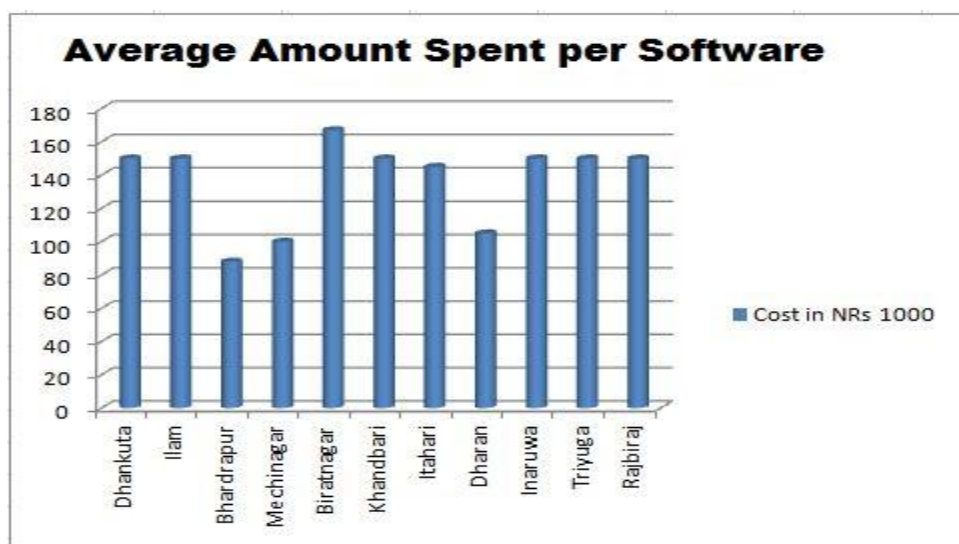


Fig. Average Amount spent per Software in different municipalities of Eastern Region

The Licensing and Renewal of the software vary for different municipalities. No definite licensing agreements are made due to lack of awareness thereof in the municipalities which were traditionally run before. The average renewal cost per software varies from NRs. 22,000 to NRs. 30,000, and the average cost per software is displayed in the chart below.

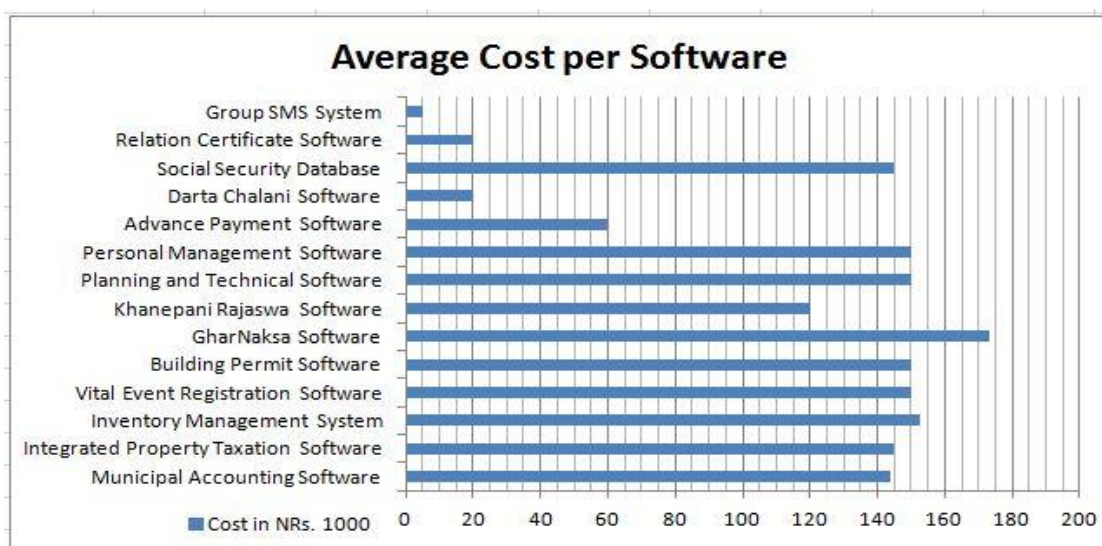


Fig. Average Cost Per Software in different municipalities of Eastern Region

1.3 Software Uses

The Departments that mostly use software are Account and Taxation, while others such as Store, Gharnaksa, and Vital Registration etc. are starting to follow suit. There are instances when the software is purchased and installed but not actually used. Hence, the more appropriate software use scenario is revealed by the comparative chart below.

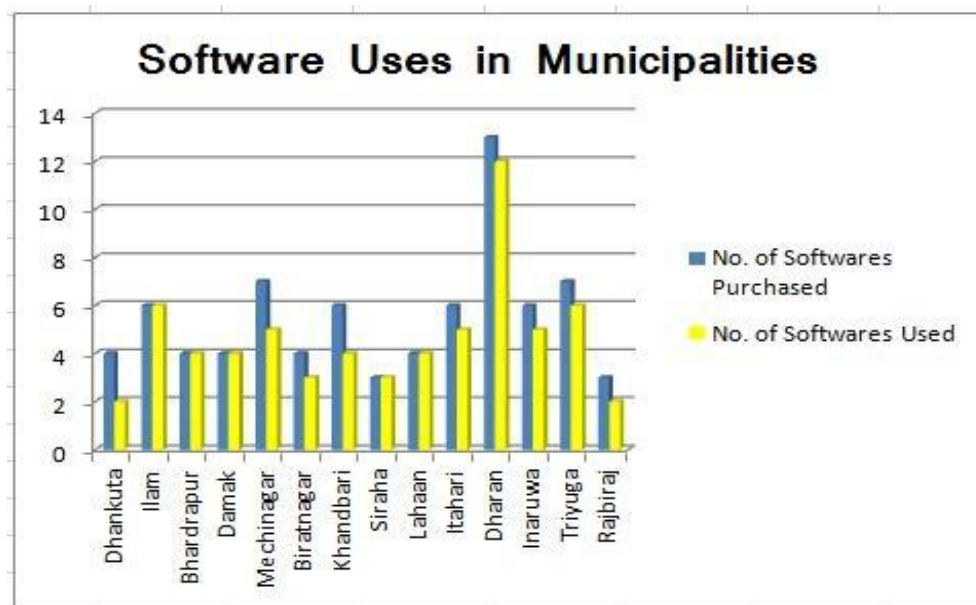


Fig. Software Purchased vs. Software used in different municipalities of Eastern region

Since IT friendly staffs are almost nonexistent in municipalities, a trend can be seen where a few concerned staffs are trained to use the software and are entrusted with the duty thereafter.

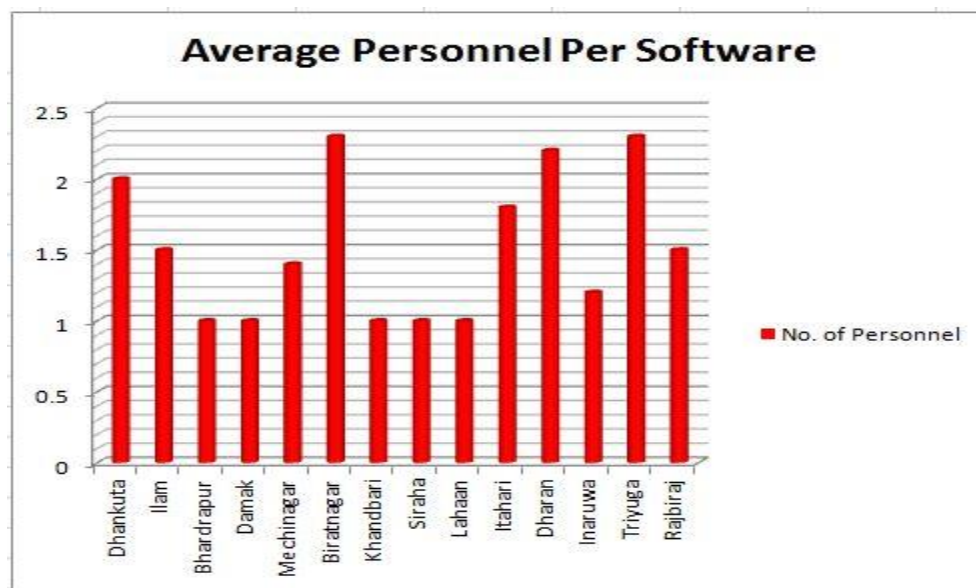
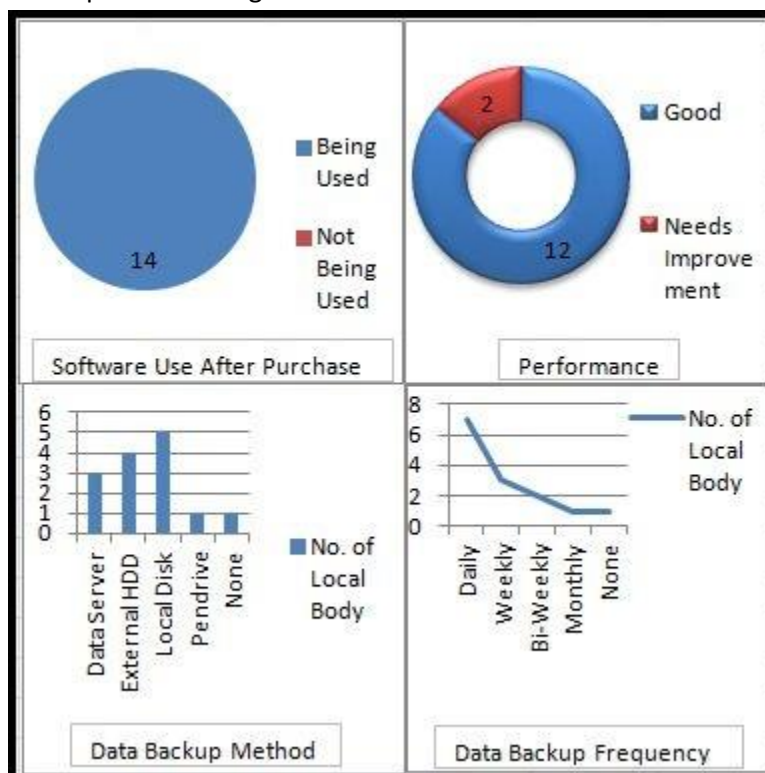


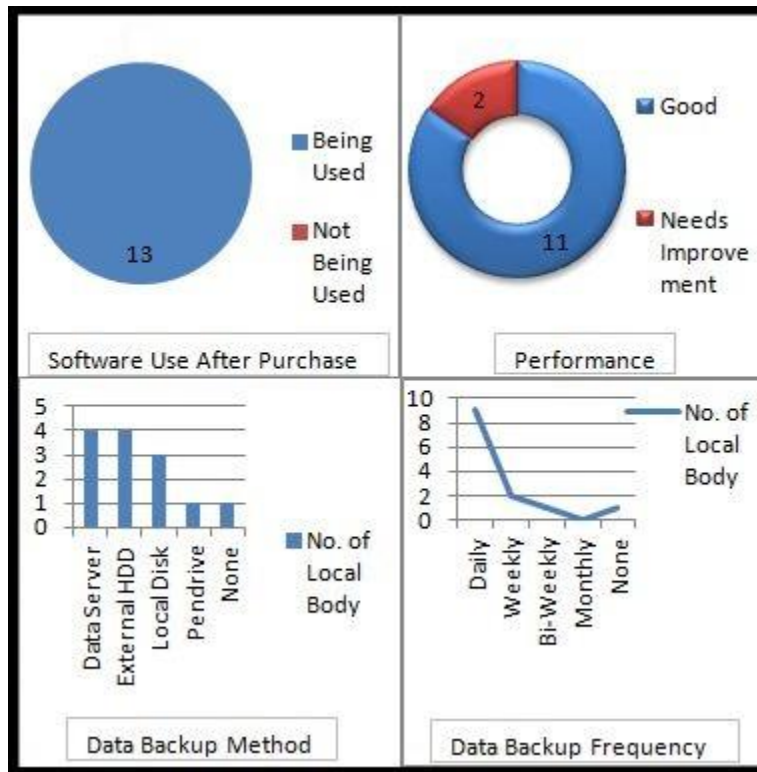
Fig. Average Personnel using single software in different municipalities of Eastern region

1.4 Software Details

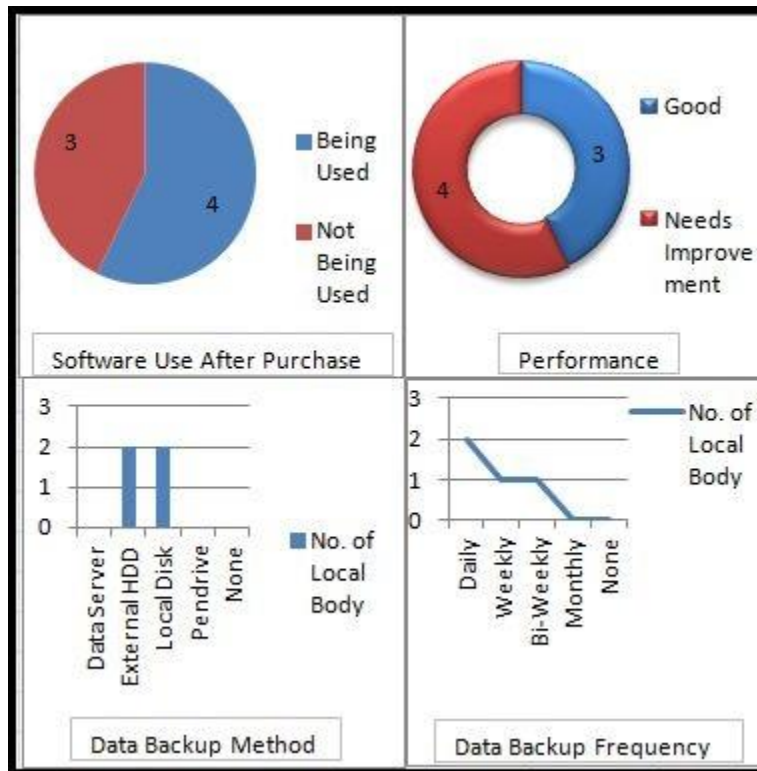
1. Municipal Accounting Software



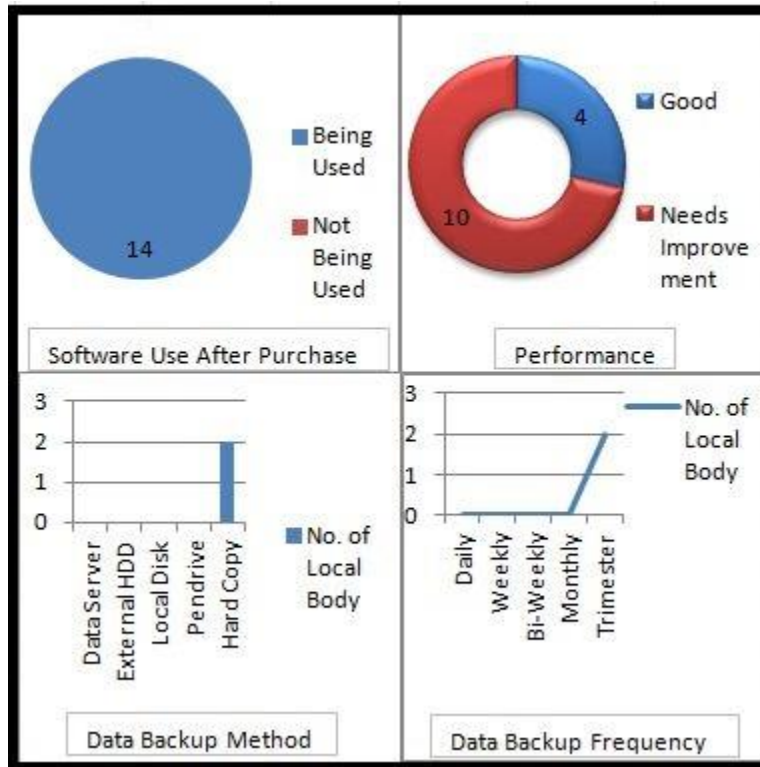
2. Integrated Property Taxation Software



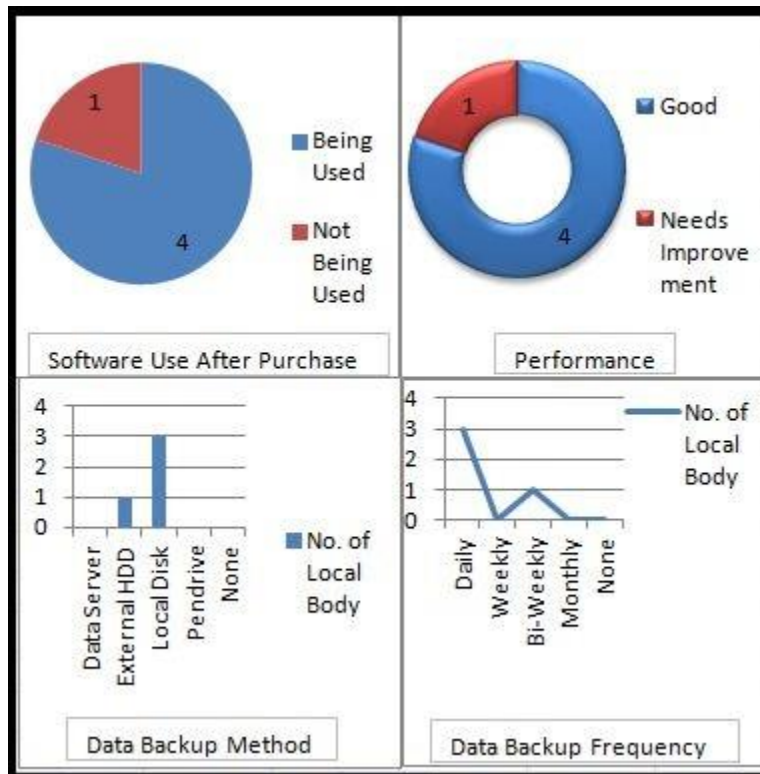
3. Inventory Management System/ Store Management Software



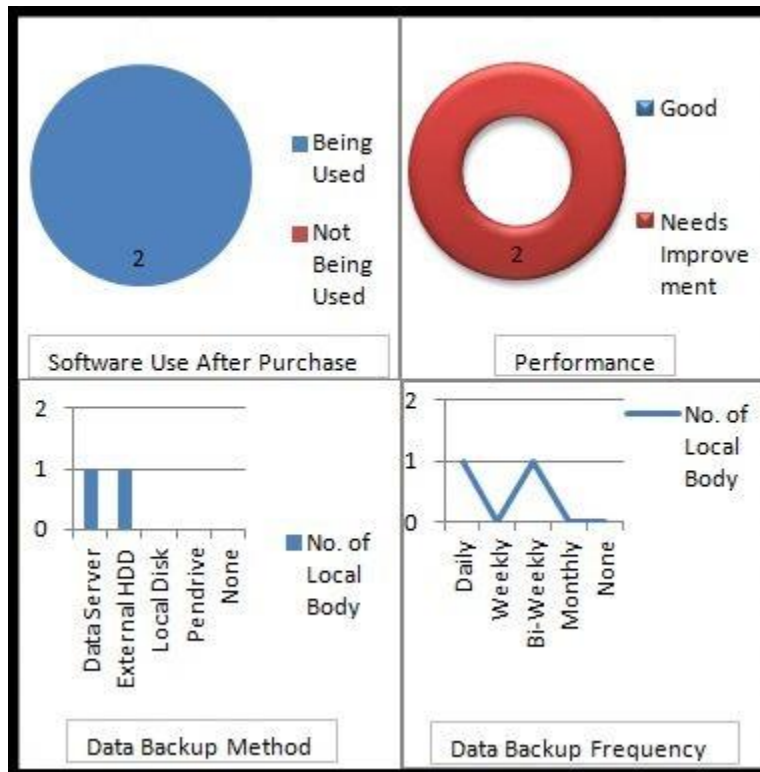
4. Web Based Reporting System



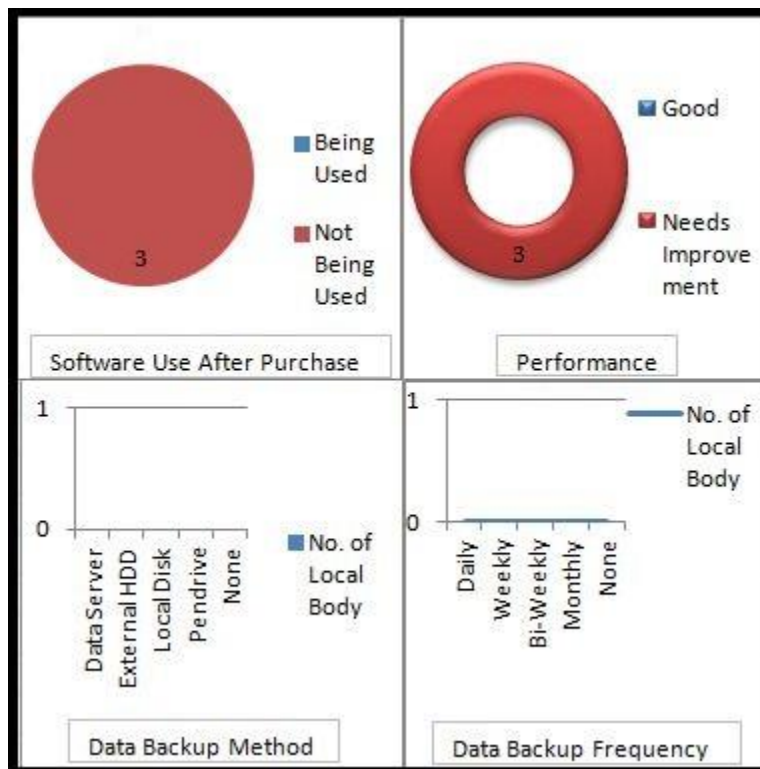
5. Vital Event Registration Software



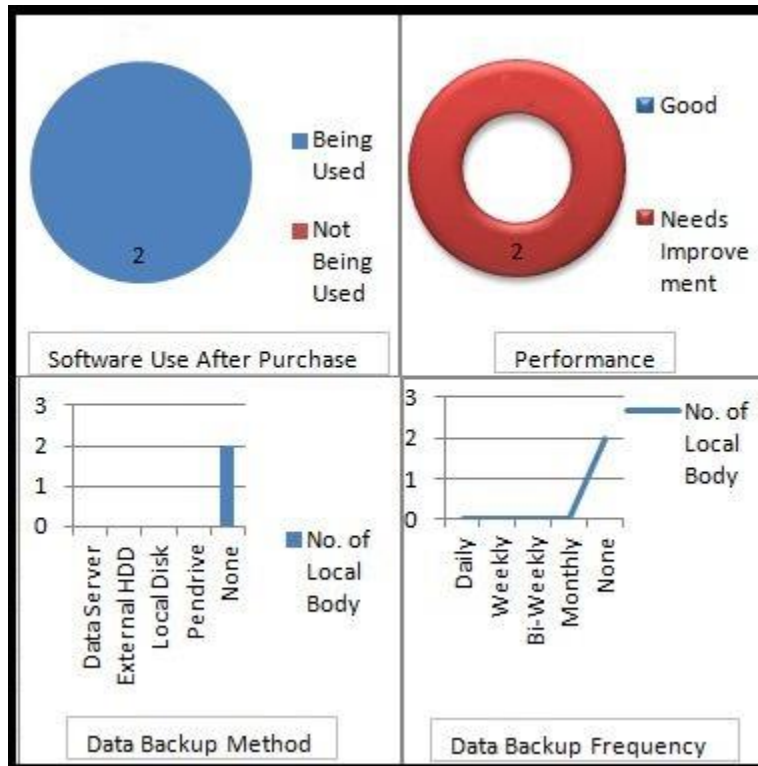
6. Building Permit Software



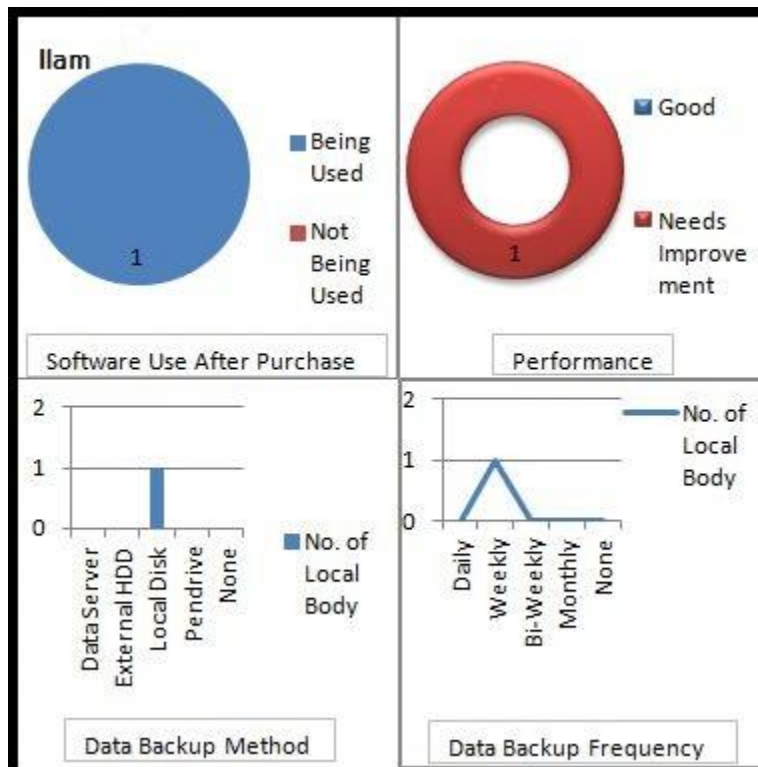
7. GharNaksa Software



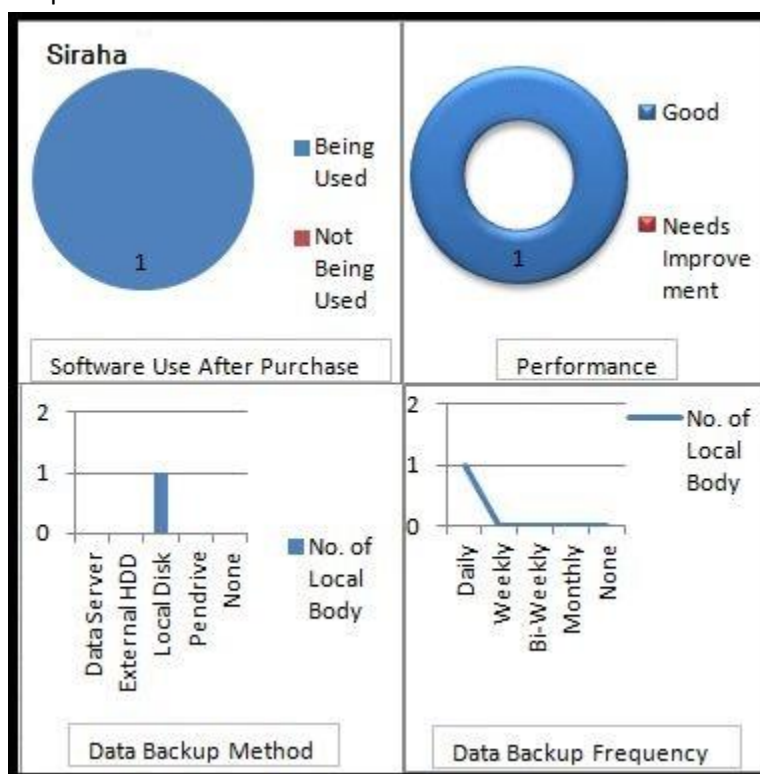
8. Municipal Accrual Accounting Software



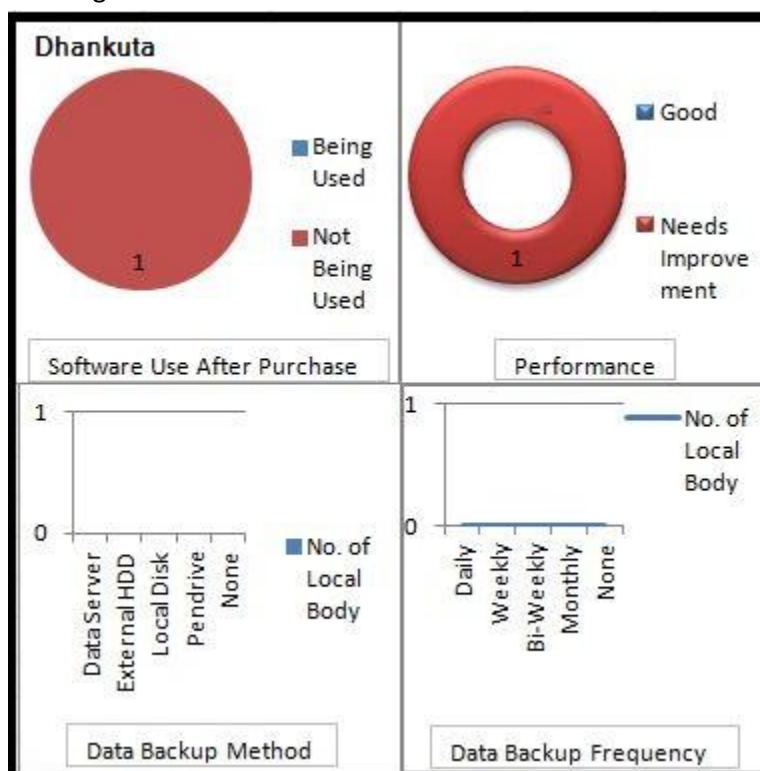
9. Khanepani Rajaswa Software



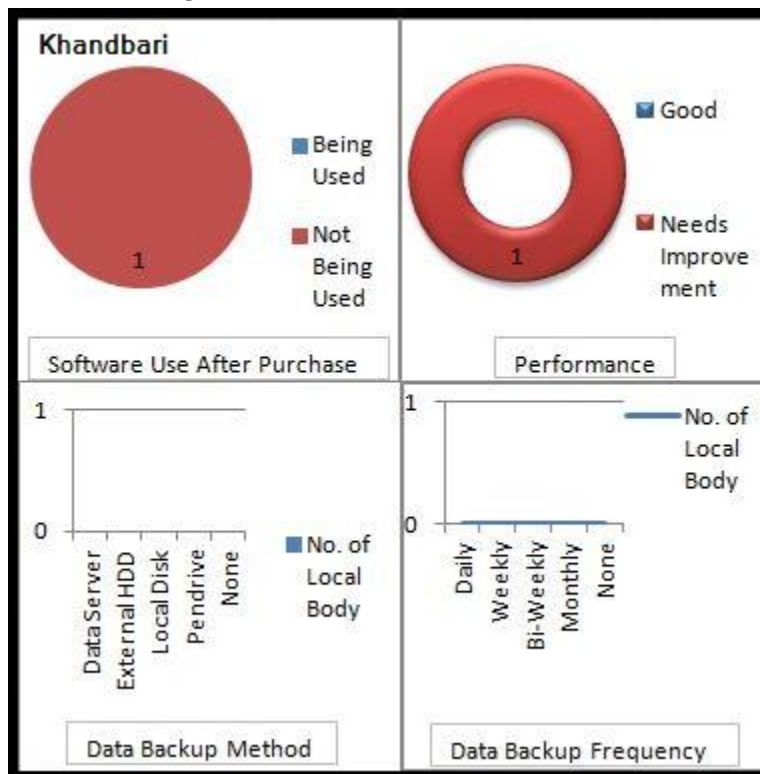
10. Malpot Software



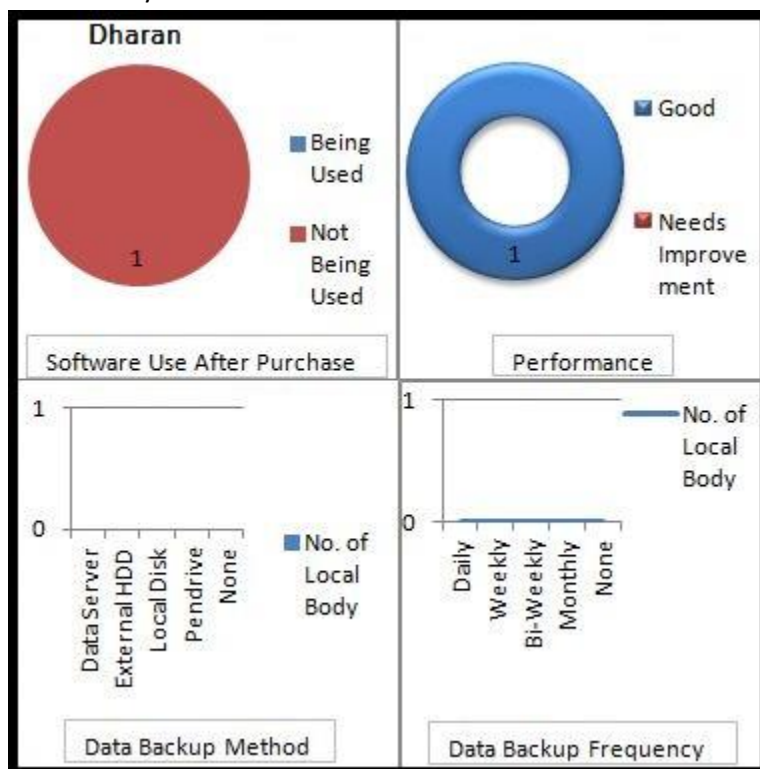
11. Planning and Technical Software



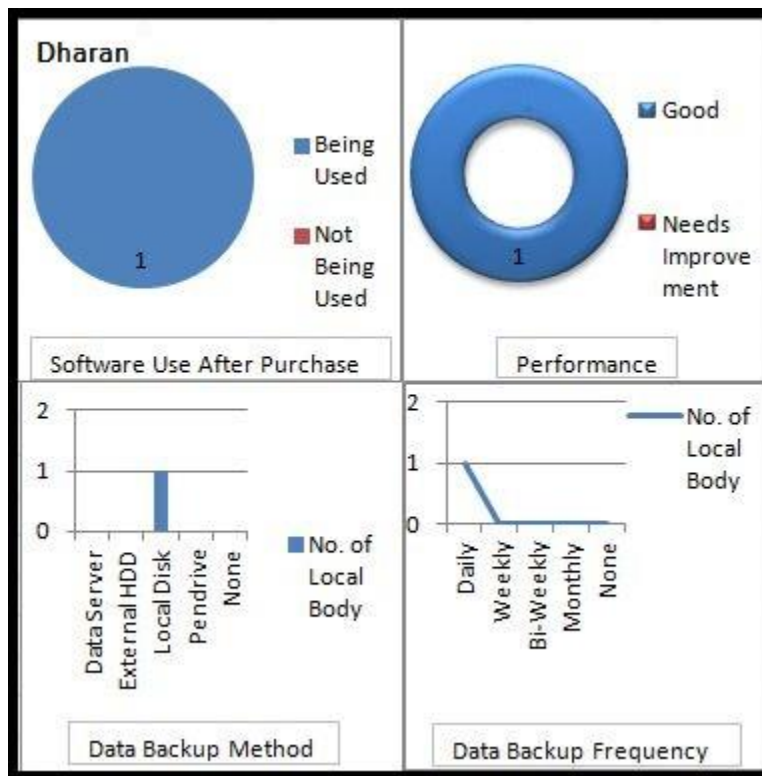
12. Personal Management Software



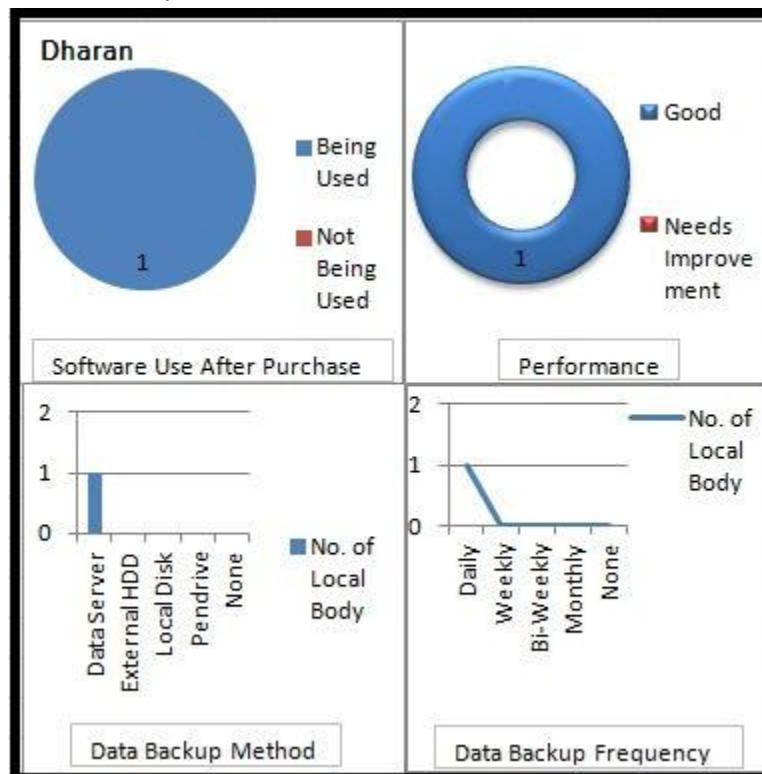
13. Advance Payment Software



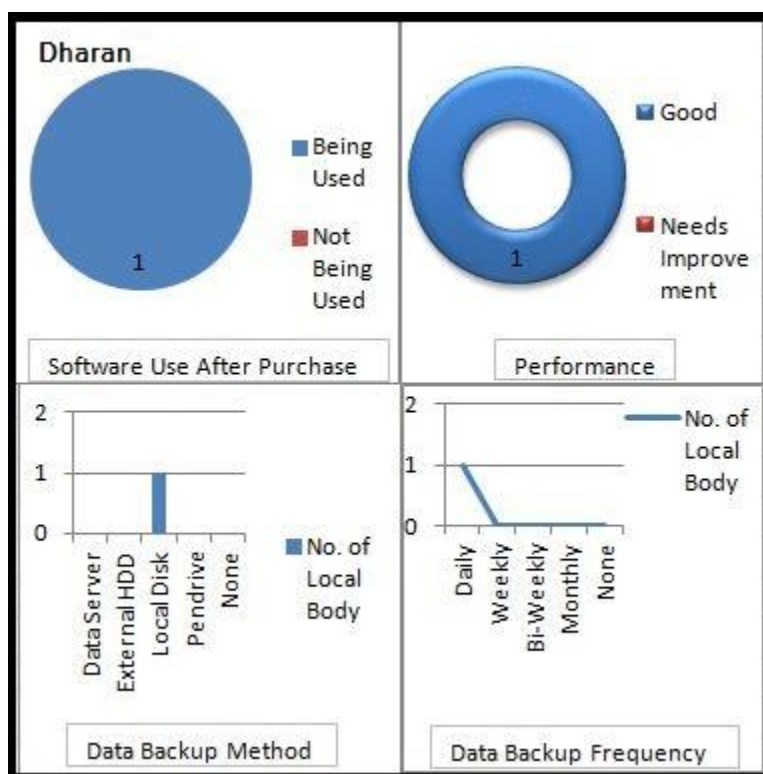
14. Darta Chalani Software



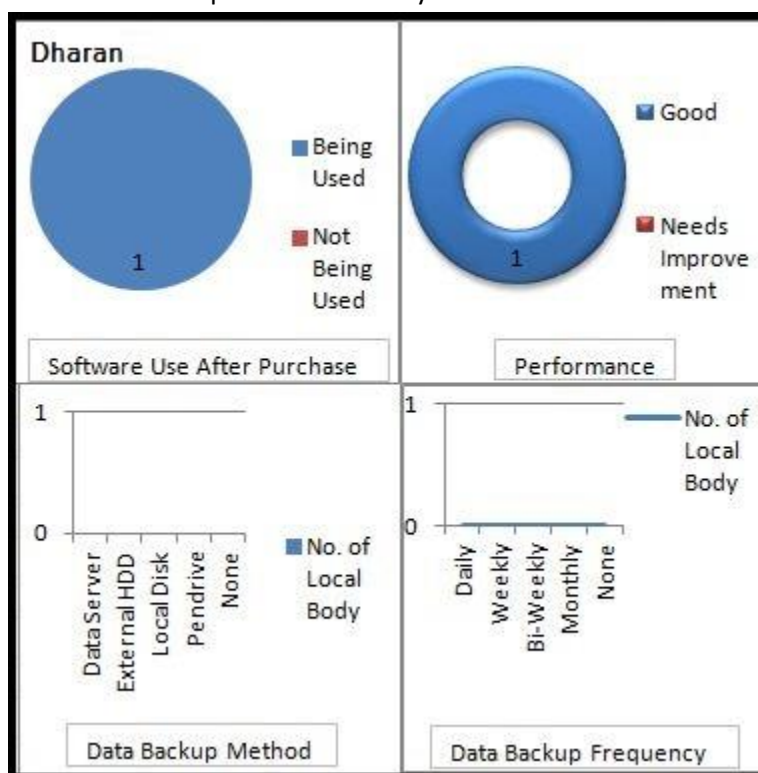
15. Social Security Database



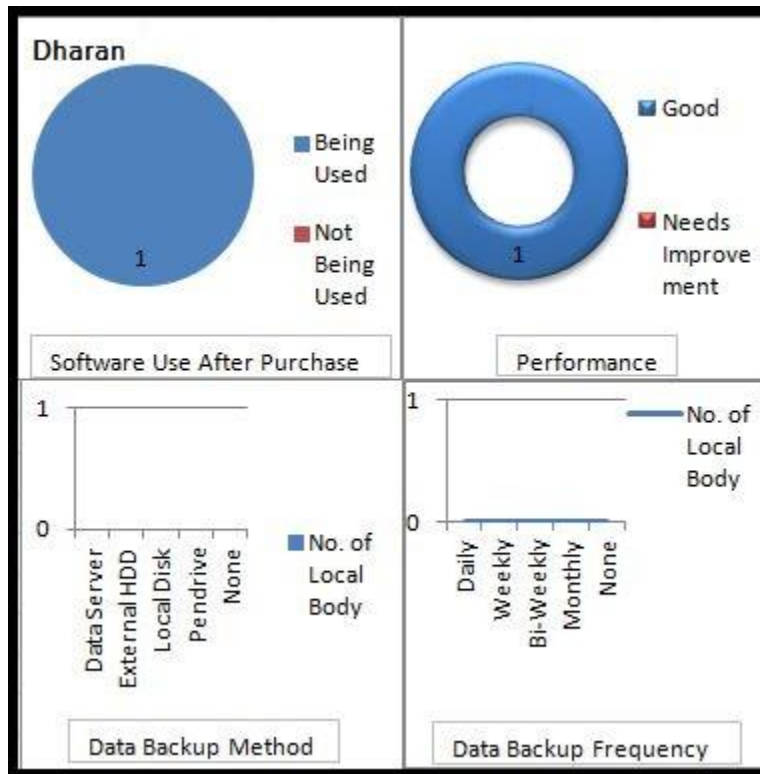
16. Relation Certificate Software



17. GIS Based Municipal Information System



18. Group SMS System



PART 2: SOFTWARE PLANNING

2.1 Maximum Number of Software that is required by all LB

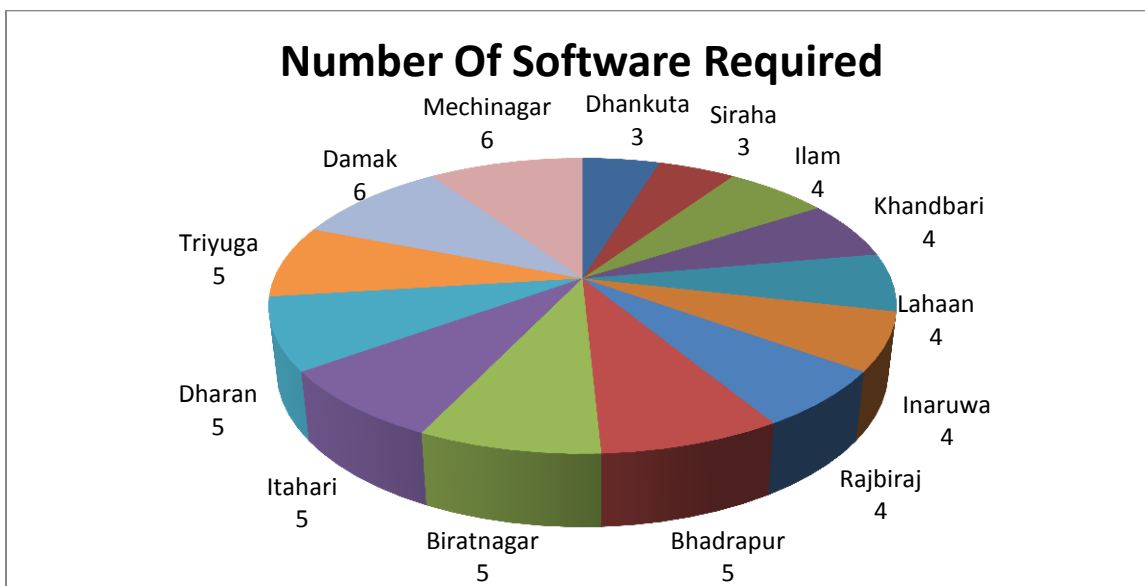


Fig1: Number of Required Software

According to the survey, we got to know that different Municipalities require different numbers of software's. The maximum number of software required were found to be six for Mechinagar and Damak Municipality whereas minimum were three for Dhankuta and Siraha as shown in pie chart above and as well as in the table below.

Name of LB	Number Of Software Required
Dhankuta	3
Siraha	3
Ilam	4
Khandbari	4
Lahaan	4
Inaruwa	4
Rajbiraj	4
Bhadrapur	5
Biratnagar	5
Itahari	5
Dharan	5
Triyuga	5
Damak	6
Mechinagar	6
Total	63

2.2 Most Preferred Type of Software

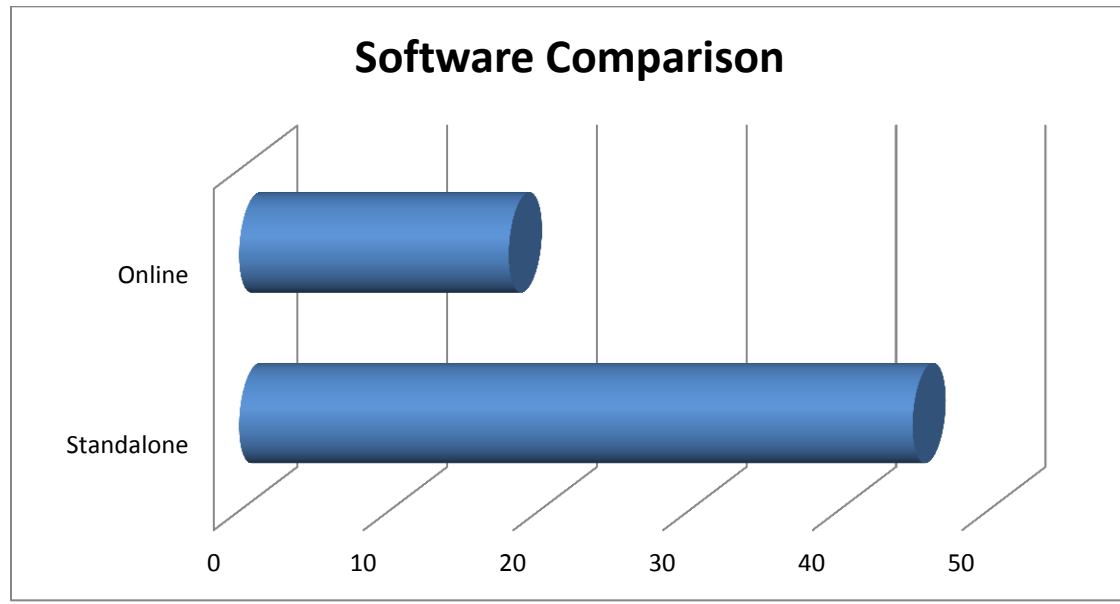


Fig 2: Most Preferred Software

Although Online Software's were recommended by ICT volunteers for certain types of Software's, the preferred software type was found to be Standalone Software. We can also deduce the result from the Bar chart above and the table below.

Number Of Software	
Standalone	Online
45	18

Remark:

- Online software those are proposed will be considered having a local host. (Damak)

2.3 Number of Required, Very Effective and Considerable Software's

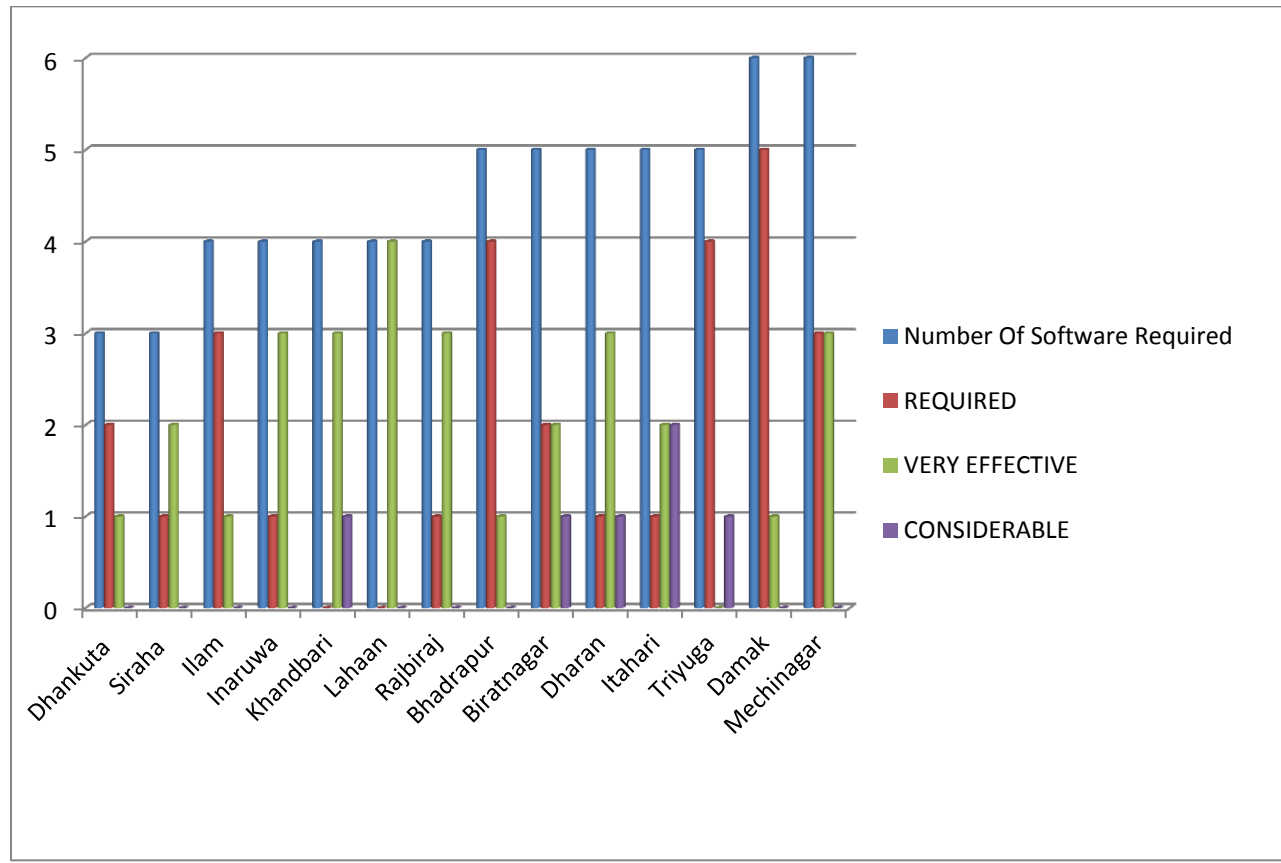


Fig 3: REQUIRED, VERY EFFECTIVE and CONSIDERABLE Software's.

Before conducting the survey, we had decided to include the criteria to separate effectiveness of the software with Required, Very Effective and Considerable as choices for dropdown list in Excel File. According to this, there are all together 28 Required, 29 Very Effective and 6 Considerable Software's. The Column Chart for this is given above and the table Description for the same is given on the next page.

Name of LB	Number Of Software Required	Software		
		REQUIRED	VERY EFFECTIVE	CONSIDERABLE
Dhankuta	3	2	1	0
Siraha	3	1	2	0
Ilam	4	3	1	0
Inaruwa	4	1	3	0
Khandbari	4	0	3	1
Lahaan	4	0	4	0
Rajbiraj	4	1	3	0
Bhadrapur	5	4	1	0
Biratnagar	5	2	2	1
Dharan	5	1	3	1
Itahari	5	1	2	2
Triyuga	5	4	0	1
Damak	6	5	1	0
Mechinagar	6	3	3	0
Total	63	28	29	6

2.4 Software that is REQUIRED only

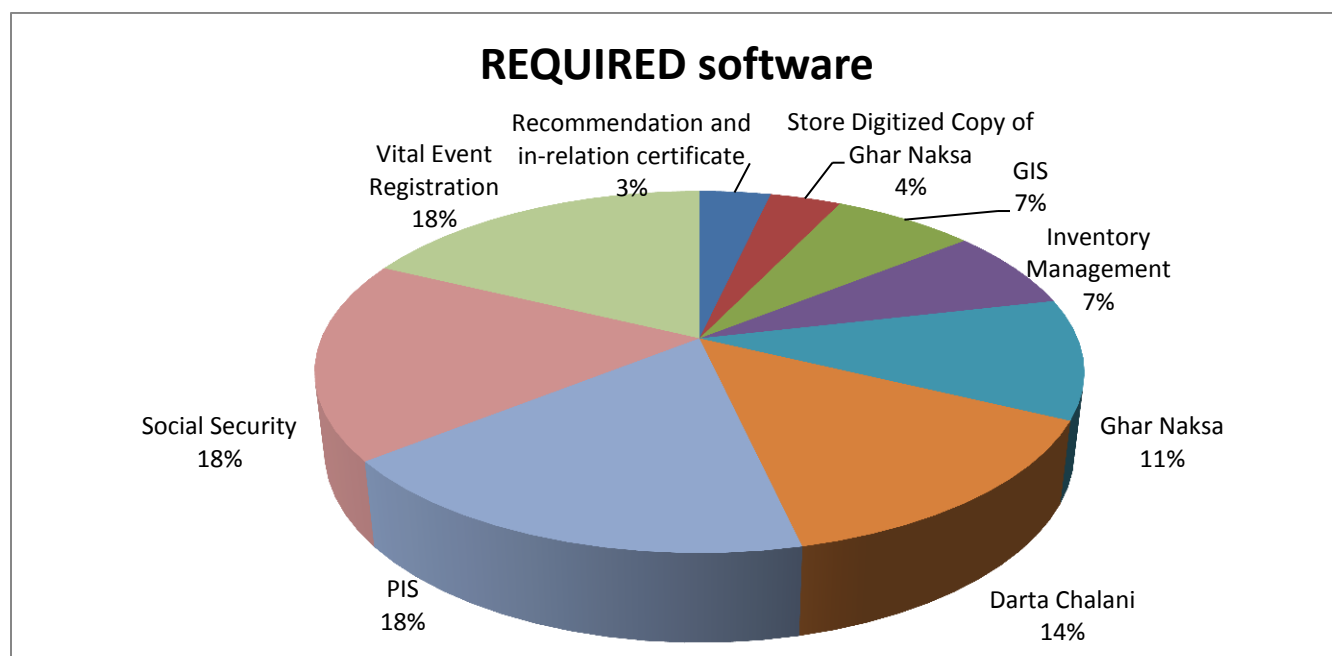


Fig 4: REQUIRED Software Volume

The Software's those are REQUIRED for Municipalities are described under this section. The REQUIRED Software means software's which are urgently needed in the Municipalities to carry on their daily work. The volume description of the REQUIRED Software's is displayed in the Pie chart above in fig 4. Below is the detail table description displaying the Name of the software, Number and the name of the Municipalities.

Required Software	Number of Municipality	Name of Municipality
Recommendation and in-relation certificate	1	Triyuga
Store Digitized Copy of Ghar Naksa	1	Damak
GIS	2	Mechinagar, Triyuga
Inventory Management	2	Bhadrapur, Biratnagar
Ghar Naksa	3	Ilam, Bhadrapur, Damak
Darta Chalani	4	Dhankuta, Itahari, Inaruwa, Damak
PIS	5	Ilam, Mechinagar, Dharan, Triyuga, Siraha
Social Security	5	Dhankuta, Ilam, Bhadrapur, Damak, Triyuga
Vital Event Registration	5	Bhadrapur, Damak, Mechinagar, Biratnagar, Rajbiraj

2.5 Software that is VERY EFFECTIVE only

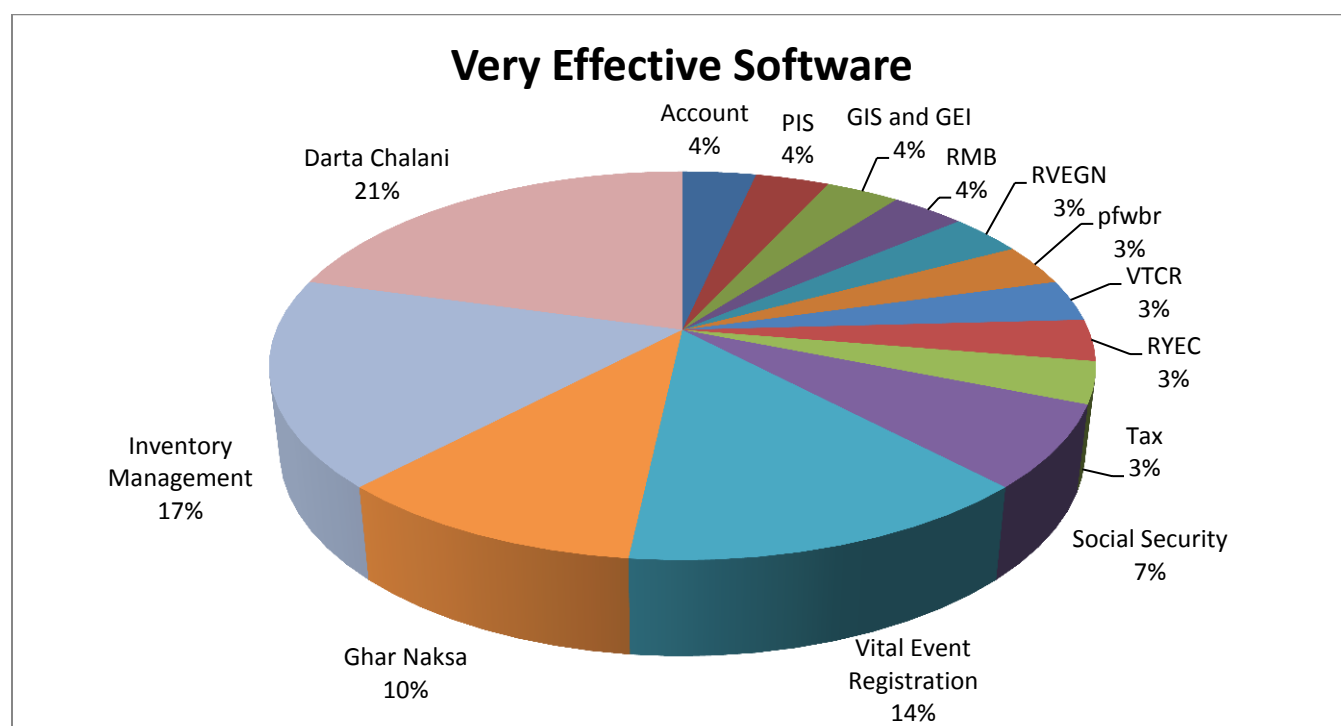


Fig 5: Very Effective Software Volume

The Software's those are VERY EFFECTIVE for Municipalities are described under this section. The VERY EFFECTIVE Software's means software's which are not urgently needed but the presence of which can increase the efficiency of the staffs in their daily work. The volume description of the Very Effective Software's is displayed in the Pie chart above in fig 5 [ANNEX J]. Below is the detail table description displaying the Name of the software, Number and the name of the Municipalities.

Very Effective Software	Number of Municipality	Name of municipality
Account	1	Lahaan
PIS	1	Itahari
GIS and Google Earth Implementation	1	Inaruwa
Record of Malpot Bills	1	Siraha
Records of various events like Ghar Naksa	1	Siraha
Planning Recommendation, four-fort Certification, Water-electricity ownership recommendation, building-land ownership recommendation	1	Dharan
Vehicle Tax, Tax Clearance Record	1	Dharan
Records of different yojana along with its total expenditure, payment given and amount of work completed	1	Itahari
Tax	1	Lahaan
Social Security	2	Biratnagar, Inaruwa
Vital Event Registration	4	Dharan, Lahaan, Dhankuta, Inaruwa
Ghar Naksa	3	Mechinagar, Khandbari, Rajbiraj
Inventory Management	5	Damak, Mechinagar, Khandbari, Lahaan, Rajbiraj
Darta Chalani	6	Rajbiraj, Ilam, Bhadrapur, Mechinagar, Biratnagar, Khandbari

2.6 Software that is CONSIDERABLE only

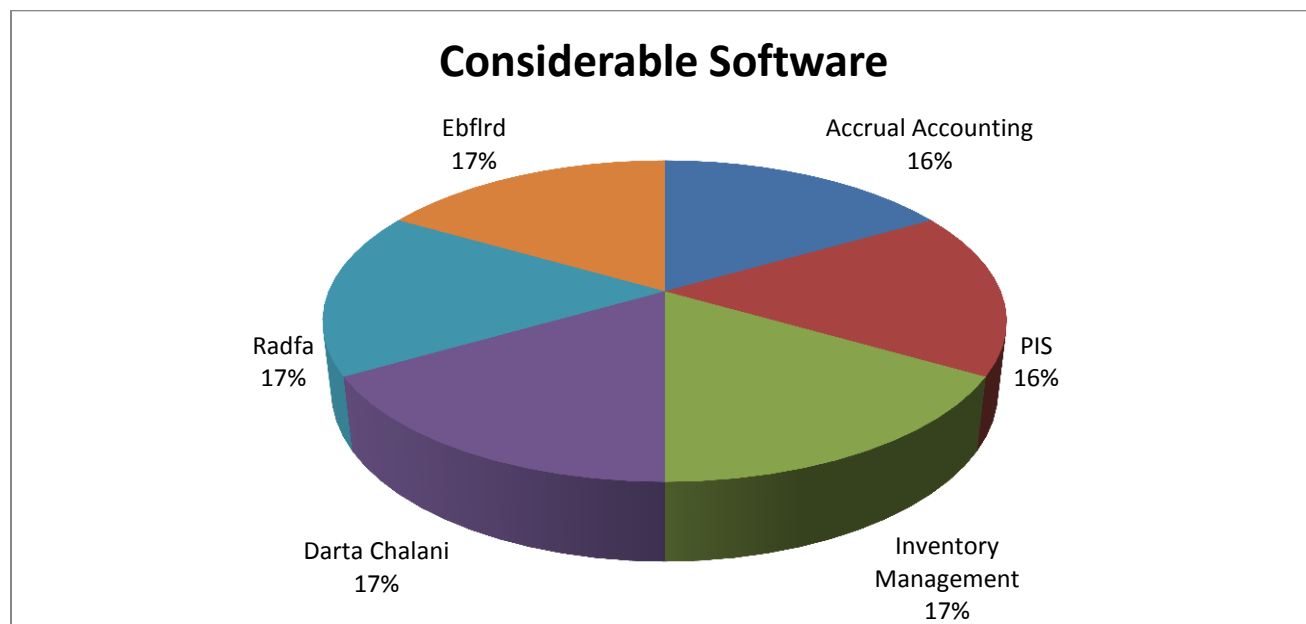


Fig 6: Considerable Software Volume

The Software's those are CONSIDERABLE for Municipalities are described under this section. The CONSIDERABLE Software's means software's which are neither urgently needed nor very effective but presence of which are considerable for Municipalities. The volume description of the Considerable Software's is displayed in the Pie chart above in fig 6[ANNEX J]. Below is the detail table description displaying the Name of the software, Number and the name of the Municipalities.

Considerable Software	Number of Municipality	Name of Municipality
Accrual Accounting	1	Biratnagar
PIS	1	Khandbari
Inventory Management	1	Itahari
Darta Chalani	1	Triyuga
Recommendation, application digitization along with financial amount associated with it	1	Dharan
Electricity related,Buliding-Road Certification, Four-fort Certification, Land ownership transfer Recommendation Digitization	1	Itahari

2.7 Software's with DATA BACKUP

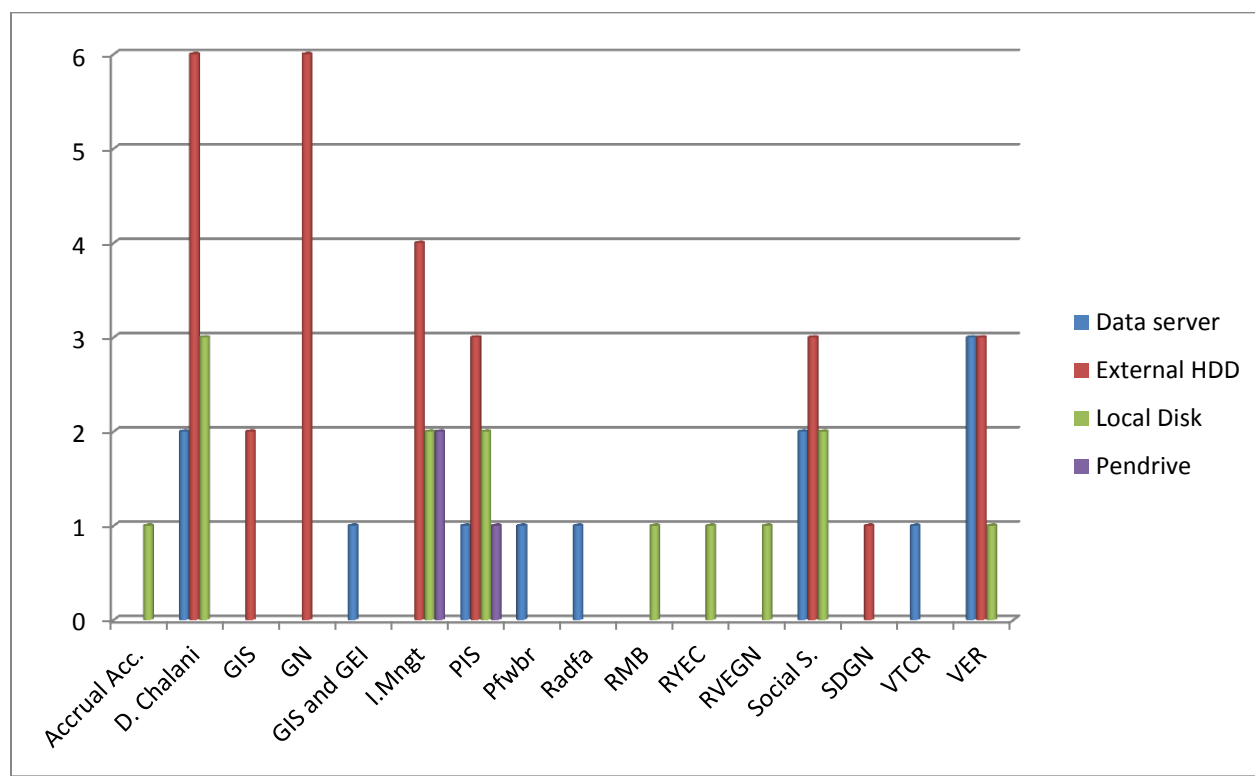


Fig 7: Software having Data Back Up

Backup, or the process of backing up, refers to the copying and archiving of computer data so it may be used to restore the original after a data loss event. Hence, data backup process is very essential in any organization where the entered data's are required at any point of time. Therefore, the ICT Volunteers were requested to let us know if they plan for data backup for any of the Software's they have listed. As a result we have this section with the total description of the data backup in the Fig 7 above (ANNEX J). The table below lists software's, where the data backup will take place and under each software we have name of respective municipalities using the software.

Software's	Data server	External HDD	Local Disk	Pendrive
Accrual Accounting			1	
Biratnagar			1	
Darta Chalani	2	6	3	
Bhadrapur		1		
Biratnagar			1	
Damak		1		
Dhankuta			1	
Ilam		1		
Inaruwa	1			

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Itahari	1			
Khandbari		1		
Mechinagar			1	
Rajbiraj		1		
Triyuga		1		
Geographic Information System		2		
Mechinagar		1		
Triyuga		1		
Ghar Naksa		6		
Bhadrapur		1		
Damak		1		
Ilam		1		
Khandbari		1		
Mechinagar		1		
Rajbiraj		1		
GIS and Google Earth Implementation	1			
Inaruwa	1			
Inventory Management		4	2	2
Bhadrapur		1		
Biratnagar			1	
Damak		1		
Itahari			1	
Khandbari		1		
Mechinagar				2
Rajbiraj		1		
Personnel Information System	1	3	2	1
Dharan				1
Ilam			1	
Itahari		1		
Khandbari			1	
Mechinagar		1		
Siraha		1		
Triyuga	1			
Planning Recommendation, four-fort Certification, Water-electricity ownership recommendation, building-land ownership recommendation	1			
Dharan	1			
Recommendation, application digitization along with financial amount associated with it	1			
Dharan	1			

Record of Malpot bills			1	
Siraha			1	
Records of different yojana along with its total expenditure, payment given and amount of work completed			1	
Itahari			1	
Records of various event like Ghar Naksa			1	
Siraha			1	
Social Security	2	3	2	
Bhadrapur		1		
Biratnagar			1	
Damak		1		
Dhankuta		1		
Ilam			1	
Inaruwa	1			
Triyuga	1			
Store Digitize copy of Ghar Naksa		1		
Damak		1		
Vehicle Tax, Tax Clearance Record	1			
Dharan	1			
Vital Event Registration	3	3	1	
Bhadrapur		1		
Biratnagar			1	
Damak		1		
Dhankuta		1		
Dharan	1			
Inaruwa	1			
Rajbiraj	1			

Remarks:

- GDrive/Cloud/NIDC Backup Could be useful. (Biratnagar)
- Data backup can be practically done in server as far as practicable. (Khandbari)
- Data backup should be in done in data server as well as in NAS (Network Attached Storage) device. (Dharan)
- Backup duration depending upon the severity and load of data. (Mechinagar)
- Backup duration may change depending on the load of data. (Ilam)

2.8 Average Result of Data Back Up

This section of the report includes the result of average data backup that will take place according to the survey. As we can see from the table, the maximum data backup place recommended by the ICT Volunteer's is External HDD . The minimum data backup will take place in a pendrive. The view can deduce the result from the table below.

Software's	Data server	External HDD	Local Disk	Pendrive	Grand Total
Accrual Accounting			1		1
Darta Chalani	2	6	3		11
Geographic Information System		2			2
Ghar Naksa		6			6
GIS and Google Earth Implementation	1				1
Inventory Management		4	2	2	8
Personnel Information System	1	3	2	1	7
Planning Recommendation, four-fort Certification, Water-electricity ownership recommendation, building-land ownership recommendation	1				1
Recommendation, application digitization along with financial amount associated with it	1				1
Record of Malpot bills			1		1
Records of different Yojana along with its total expenditure, payment given and amount of work completed			1		1
Records of various event like Ghar Naksa			1		1
Social Security	2	3	2		7
Store Digitize copy of Ghar Naksa		1			1
Vehicle Tax, Tax Clearance Record	1				1
Vital Event Registration	3	3	1		7
Grand Total	12	28	14	3	57

CONCLUSION

This survey forms groundwork for local bodies for a smooth transition from traditional to paperless processing by determining the actual scenario and setting a path to regulate the disorganized software use. This study outlines some very important points; absence of requirement analysis, quality assurance, need of government-to-public service type software, and a necessity of a standard guideline for software, to name a few. The local bodies are prohibited from purchasing new software for the time being and government is showing an inclination towards preparing software on its own and providing it to the local bodies. Although government of Nepal has recently provided some software, they too are facing criticism e.g. WBRS and MAAS. In essence, we can conclude that it's become really important now to work on standardizing software use in local bodies. We hope this survey report proves to be helpful in the endeavor.

ANNEX I: LIST OF MUNICIPALITIES INCLUDED IN THE SURVEY

S.N.	Municipality	ICT Volunteer
1	Bhardrapur	PRADEEP KAFLE
2	Biratnagar	SAURAV KUMAR MISHRA
3	Damak	SAMEEP CHUDAL
4	Dhankuta	NIRAJ DAHAL
5	Dharan	BIGYAN RAJ SATYAL
6	Ilam	GOKUL GAUTAM
7	Inaruwa	NIRAJ POKHREL
8	Itahari	BIBEK BHATTARAI
9	Khandbari	BIKASH OJHA
10	Lahaan	ROSHAN GHIMIRE
11	Mechinagar	KRITIKA THAPA
12	Rajbiraj	CHANDAN SHAH
13	Siraha	SUMAN THAPA
14	Triyuga	SANTOSH ACHARYA

ANNEX J:List of Abbreviations Used in the Report

1. **Accrual Acc.:** Accrual Accounting
2. **D. Chalani:** Darta Chalani
3. **GIS:** Geographic Information System
4. **GN:** Ghar Naksa
5. **GIS and GEI:** GIS and Google Earth Implementation
6. **I.Mngt:** Inventory Management
7. **PIS:** Personnel Information System
8. **Pfwbr:** Planning Recommendation, four-fort Certification, Water-electricity ownership recommendation, building-land ownership recommendation
9. **Radfa:** Recommendation, application digitization along with financial amount associated with it
10. **RMB:** Record of Malpot bills
11. **RYEC:** Records of different yojana along with its total expenditure, payment given and amount of work completed
12. **RVEGN:** Records of various event like Ghar Naksa
13. **Social S.:** Social Security
14. **SDGN:** Store Digitize copy of Ghar Naksa
15. **VTCTCR:** Vehicle Tax, Tax Clearance Record
16. **VER:** Vital Event Registration
17. **Ebflrd:** Electricity related,Buliding-Road Certification, Four-fort Certification, Land ownership transfer Recommendation Digitization

REFERENCE

1. Google Sheet Web Address: <http://goo.gl/WV0JJ4>