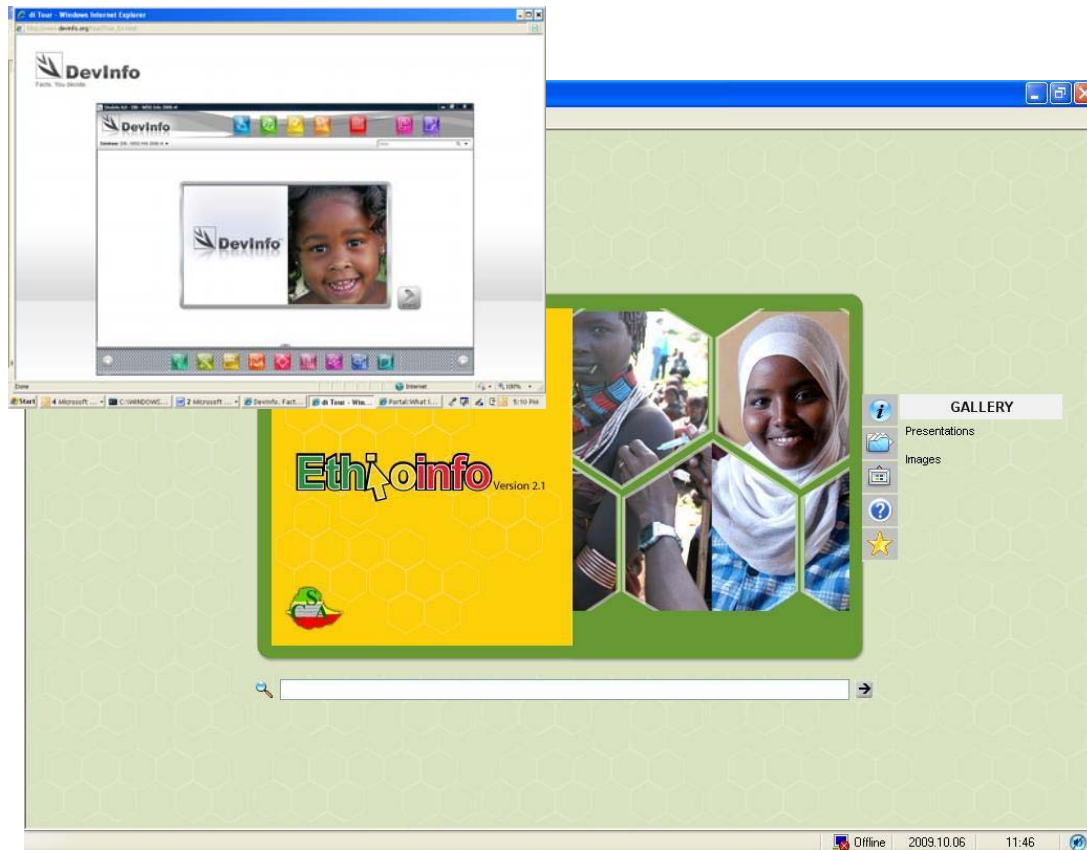


Report of the Evaluation Of EthioInfo Utilization in Ethiopia



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Table of Content

Acknowledgements.....	ii
Table of Content	iii
Acronymms	v
Executive Summary	vi
1: Background To the Study	1
1.1. Introduction.....	1
1.2. Background.....	1
1.3. Purpose.....	2
1.4. Audiences:	3
1.5. Decisions:.....	3
1.6. Evaluation Questions:	3
1.7. Limitations:	4
1.8. Organization of the Report:	4
2: Methodology.....	5
2.1 Multi-method approach.....	5
2.1 Sampling:	5
2.2 Sampling strategy:	6
2.3 Sampling Frame:	6
2.4 Sample Size:.....	6
2.5. Instrumentation:	7
2.7. Data Collection Instruments:	7
2.8 Data Collection:	7
2.9 Data Collection Strategy:.....	7
2.10 Data Analysis:.....	8
3: EthioInfo and Ethiopian Government Statistical System	10
3.1. Ethiopian Central Statistical Agency	10
3.2 Datasets and Surveys Handled by CSA	11
3.3 Tools of the Central Statistical Agency:	11
3.5. Information Sharing and Dissemination Process.....	13
3.6 Challenges Facing the CSA	14
3.7 UN Systems Support for the CSA	16
3.8 CSA and EthioInfo.....	16
3.9 Summary	17
4: Analysis of Results	18
4.1. Desk Study.....	18
4.2. Observation Result:.....	19
4.3. Interview Results:	23
4.4. Questionnaire Result.....	27
4.6. Summary	36
5: Findings and Lessons Learned.....	37

5.1 Systems issues.....	37
5.2 Users Issues.....	37
5.3 CSA Support Issues	38
5.4 UN Support Issues	38
5.5. Implications of CSA Challenges for EthioInfo.....	39
5.6 Lesson Learned in EthioInfo Implementation:	40
6. SWOT Analysis	42
6.1. Perceived Strengths of EthioInfo:.....	42
6.2 Perceived Weaknesses of EthioInfo:	43
6.3. Opportunities	45
6.4. Threats	46
6.5 Summary	47
7: Conclusions and Recommendation.....	49
7.1 Status of EthioInfo Implementation.....	49
7.2.1 Systems related recommendations.....	51
7.2.2 User Related Recommendation.....	53
7.2.3 CSA Related Recommendations.....	53
7.2.4. UN Related Recommendation	54
7.2.5. Strengthening the EthioInfo Implementation	54
7.3 Suggested Immediate Actions.....	55
7.3.1 Necessary Steps:	55
7.3.2 Further Steps	56
8: References.....	57
Appendix 1 : Observation Guide	58
Appendix 2: Interview Guide	61
Appendix 3: Users Questionnaire.....	63
Appendix 4: Detail Analysis of User Rating of EthioInfo.....	64
Appendix 5: Summary of the Survey Results.....	65

Acronymns

BPR	Business Process Re-engineering
CSA	Central Statistical Agency
DHS	Demographic Health survey
HICE	Household Income Consumption Expenditure
IHSN	International Household Survey Network – World Bank Statistical software
MDG	Millennium Development Goals
NGO	Non-Governmental Organization
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
TOR	Terms of Reference
UNCT	United Nations Country Team
UNDAF	United Nations Development Assistance Framework
UNDG	UN Development Group
UNDP	United Nations Development Programme
UNICEF	United Nations International Children Fund
UNRC	United Nations Resident Coordinator
UNV	United Nations Volunteers
WMS	Welfare Monitoring Survey

Executive Summary

EthioInfo is the Ethiopian in-country customization of DevInfo, an advanced database system providing functionalities for the organization, storage and presentation of data in a uniform format for facilitating data sharing at the country level across government ministries and UN agencies. DevInfo was adapted from the UNICEF ChildInfo database technology and has been globally adopted by the UN as the key tool for monitoring and evaluation of MDG indicators. EthioInfo is completely owned and managed by the Ethiopian Central Statistical Agency (CSA).

The United Nations Country Team (UNCT), with the technical leadership of UNICEF, supported the Central Statistical Agency (CSA) to adopt and adapt DevInfo as EthioInfo in 2005 – 2006. EthioInfo was envisaged as a tool for strengthening the capacity of counterparts in generating and disseminating data for situation and outcome monitoring of national priorities within the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) and United Nations Development Assistance Framework (UNDAF). EthioInfo was also planned as a tool for enhancing the dissemination and use of statistical information and contributing to knowledge management in Ethiopia.

The customization involved many efforts including the development and population of the database filling it with data from major national surveys such as Welfare Monitoring Survey (WMS) 2000 & 2004, Demographic Health survey (DHS) 2000, Household Income Consumption Expenditure (HICE) 1996 & 2000. And the first customized desktop version of the database system, called **EthioInfo v1.1**, was launched in February 2006. In order to further increase the accessibility of the database to the end-users, in 2008, an updated and web-based version, called **EthioInfo v2.1**, was deployed on the central statistical web server, and is available online at : www.csa.gov.et/ethioinfo/.

This study aims to evaluate the efficiency, effectiveness, relevance, sustainability and impact of EthioInfo with special emphasis on promotion of the use of Government statistical information in policy development, planning and research in Ethiopia. This study seeks to obtain information in the following areas: (a) EthioInfo database and system (b) users and use of the EthioInfo, (c) the CSA and support for EthioInfo, (d) UN System and its support of the Government of Ethiopia on EthioInfo, and(e) the strengths, weaknesses, opportunities and threats (SWOT) analysis of the EthioInfo. An analysis of these areas indicates that one method of data collection is incapable of satisfying the needs. For this reason, a multi-method approach was designed to handle the data collection for the system.

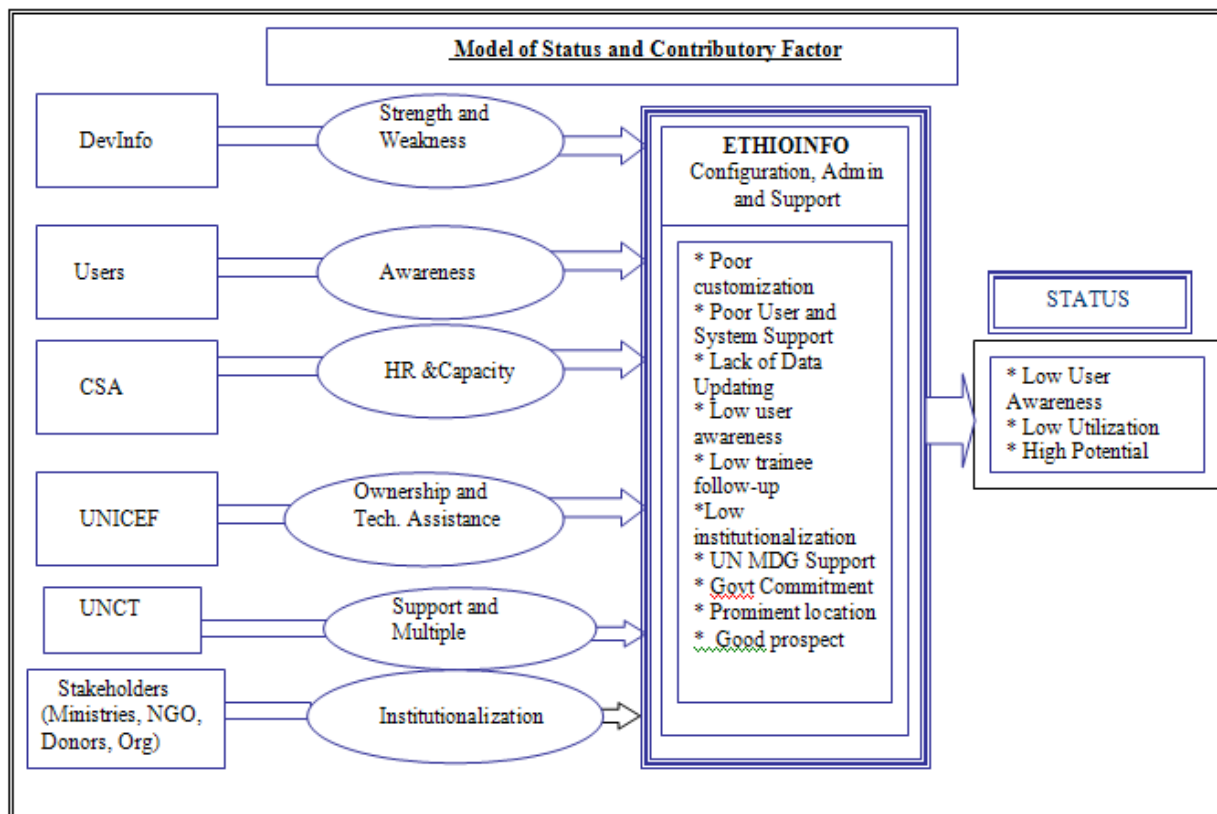
Data was collected through desk review, interview, observation, and questionnaire. The results show that EthioInfo is underperforming and has not really measured up to its billing as a derivative of DevInfo with regards to content (relevance, timeliness, content quality, and adequacy), interface (user-friendliness, accessibility, efficiency) and service (quality of service, speed of service, demand-driven, user focus). Its rating has not been at the level it should be because of the status of its implementation and the various problems that confronted the system.

There is little evidence that EthioInfo has had any significant impact on the dissemination and utilization of government statistical information in Ethiopia. The data on the system still refer

back to surveys of 2005, four years ago, although the updating was completed in 2007; the online system is error-prone, not fully supported, and the system still has various missing web-links. It is difficult to see EthioInfo as it currently is as the central data dissemination system of the government and the United Nations. Its various problems have not made it possible for EthioInfo to be the central tool for dissemination and utilization of statistical information that it could have been. It must have moved to the central stage at a point in time, but now the system is at a stand-still, because of the emergence of competing UN agencies supported products and the perception that the system was not easy to support and use.

There are ample evidences that CSA has played significant roles in the devolution of DevInfo in Ethiopia and the implementation of EthioInfo. The ownership of the EthioInfo system by the CSA has been a strong point of the implementation. However, CSA faces challenges which have affected the management and sustainability of the EthioInfo. Development partners need to work with the CSA to handle these challenges so that the agency can continue to deliver not only on EthioInfo but on other data dissemination platforms.

Evidences from the interview and observations show that the UN has offered qualitative assistance to the government of Ethiopia on the EthioInfo. Supports offered included technical, capacity building, training, financial and infrastructure.



Most of the problems associated with EthioInfo are not native to DevInfo from which it originated. The key problems with EthioInfo are extendable to other application whether owned and promoted by a UN agency or not. So, whatever tools are introduced to be used in the CSA, unless these identified problems are confronted and solved, there is little hope of success. The problems are not new; they have been identified by CSA itself and indicated in a report on database management systems implementation at the agency (Birru (2008)). Instead of introducing other disparate systems derived from DevInfo, the support of the UN will be better articulated, coordinated and channeled if the UNCT focuses on the challenges of the CSA, helping the institution to combat the base problems.

A: System Related Recommendations

As a way forward for the implementation, the following recommendations for system enhancement should be considered:

1. Both CD and Online version of EthioInfo should continue to be made available because of the nature of internet connection available to the users. Providing these two options will ensure that potential users in remote locations could easily access data;
2. It is necessary to ensure complete configuration of EthioInfo so that all databases could work as designed; this includes re-linking all broken links or removing unnecessary links; re-testing the databases and making sure that they could be used without errors;
4. Possible optimization strategies should be explored to speed up system response this may include technology such as caching, AJAX-based interfaces, and so on;
5. The feedback and user support system should be made operational so that users can give feedback and request support. Doing this will ensure that the system could respond to the users' demands;
6. The data should be updated with new surveys and other data including administrative and routine data; and
7. Considering the various advantages due to elimination of the issues with previous version, it may be necessary to upgrade to Version 6 of DevInfo.
8. EthioInfo developers should look into the following issues:
 - (a) Currently, EthioInfo is bandwidth hogging application, because of its media-richness. The possibility of developing portable version that could be used in low-bandwidth areas such as in rural regions and districts with those connecting through dial-up connections;
 - (b) Interface simplification - Simplification of the interface to require minimal training for usage, administration and data integration. The implementation of wizard-based interface which will carry out activities based on minimal user skill. This has been partly implemented in the Version 6 of DevInfo. Wizardification will ensure that people with low system and computer knowledge can easily access and use data;
 - (c) Database issues – partitioned database, means difficulty in searching information in different databases at the same time, there is need for pooled index for easy global searching, again, the appropriateness of MS Access as the database back-end especially for web-based version, should be re-examined;
 - (d) It is necessary to simplify and strengthen the data importing and exporting functionalities to ensure effective interfacing of the EthioInfo with other system for data porting which will increase data quality by eliminating the need for data-entry clerks to manually re-enter data.

8. It is necessary to enhance the capacity of EthioInfo for data analysis including extrapolation, interpolation, data gap filling, and other data analysis functionalities. This will enable users to manipulate data more efficiently and to generate effective output which can strengthen their reports.

B: User Related Recommendation

To enhance user experience, and put the EthioInfo at the position it needs to be, the following user related recommendation are made:

1. Need for public enlightenment – this includes emphasizing the role of statistics in policy making and decision support and drawing attention to dissemination platforms;
2. Awareness creation and more training for users need to be done to enable the potential users to be aware of existence and capacity of EthioInfo; and
3. Creating a strong and effective user support and feedback system which will ensure that where there are problems, the institution will promptly react and solve the problem. EthioInfo should be configured and enabled to listen and react to needs of the users.

C: CSA Related Recommendations

As the core institution for supporting the implementation of EthioInfo, the CSA needs to take some actions to ensure the effective implementation of the database system. Recommended actions include:

1. Dedicated team should be setup for EthioInfo at the CSA. This team will be charged with: (a) updating; (b) extended data and indicator sourcing; (c) support for all users – individual and corporate, (d) training of users, (e) consistent awareness creation for EthioInfo use; and (f) ensuring effectively maintained feedback system – so that the system could be demand driven.
2. Faster internet connection necessary - larger bandwidth- is crucial for effective and efficient service of internet-based application and for higher quality user experience. CSA Internet connection needs to be upgraded.
3. It is necessary to shorten the time required for data updating so that users may have access to up-to-date information. This may possibly be dealt with by the ongoing Business Process Re-engineering (BPR) in the agency.
4. Deal with human resources problem – attracting and retaining quality, skilled and experienced staff – especially, in IT domain. This is a long-term issue that is no doubt being worked upon by the CSA and other government agencies. CSA must deal with turnover of trained support staff.
5. Support for consistent EthioInfo monitoring and evaluation. There is need to ensure that the status and utilization metrics of the EthioInfo are monitored on a regular basis. This could be done through:
 - (a) Web-surveys - This involves the implementation of occasional web-surveys;
 - (b) Feedback Form – For users to respond and to monitor use;
 - (c) 24/7 Online Support – to respond to users’ request and solve users’ problems; and
 - (d) Web counters – taking a tally of visitor for independent evaluation of usage.

6. It is necessary to resolve data compatibility issues, by bringing in data interfacing skill-set into the EthioInfo support team, either by training of the staff, or recruitment of specialists. Resolving data compatibility issues will enable all applications being used in CSA to communicate and exchange information with EthioInfo.

7. Data producers for the EthioInfo should be empowered with capacity building for direct data importation by creating satellite databases which can be updated from source and then authorized centrally at the CSA for dissemination.

D: UN Related Recommendation

1. The UN must take the lead in harmonization of UN-based statistical systems instead of putting the load of harmonization on the national statistical offices. Multiple tools put a huge load on the national statistical office either to refuse to maintain a particular database or to have to hire experts with varying skill-set to support all of the various UN Agencies supported systems.

2. Awareness creation is still necessary for UN system on EthioInfo. Members of the UNCT need to be made increasingly aware of the EthioInfo as a tool that could be used, promoted and supported. This awareness will accentuate the need to move beyond individual agencies to a one UN system.

3. The UNCT should work out the way to bring in other UN agencies to support the UNICEF in the implementation of EthioInfo; once they are actively involved, the other UN agencies will stop seeing the system as the sole baby of UNICEF. This will ensure the effective collaboration of all UN agencies to see the system as UN system instead of UNICEF system. Taking this step will ensure more coordination of resources and a more strengthened statistical system.

4. UN Resident Coordination Office should play increasingly dominant role in the devolution of DevInfo or any other UN tool so that the idea of associating the tool with a particular agency may be reduced.

E: Strengthening the EthioInfo Implementation

For strengthening the implementation it is recommended that:

1. A task force composed of representatives of the UN, the government, and the other stakeholders should be established to oversee the implementation and use of EthioInfo and other harmonized UN tools for government and UN statistics and MDG monitoring and evaluation.

2. Annual Review Meeting should be put in place for EthioInfo implementation and UN support for government statistics. This will enable stakeholders and the UN to be aware of status and problems in the statistical system and to collaborate on ways for solving them.

3. To ensure the buy-in and support of other UN agencies in-country, it is necessary to market the EthioInfo as global UN-supported tool owned by the CSA. For this two happen the

confidence of the CSA needs to be restored and this can be done only when UN agencies all put their weight behind the tool.

4. Sensitization of top decision-makers. It is necessary to carry out a sensitization activity for decision makers at higher level in UN, Government Ministries, International NGOs, etc in Ethiopia. This is because their awareness of the tool and its potentialities can go a long way in enhancing adoption and eventual institutionalization. This can significantly impact adoption and use of EthioInfo as well as positively affect the use of government statistics in decision making at all levels.

Summary of the SWOT Analysis

<p>Strengths</p> <ul style="list-style-type: none"> + Derivation from DevInfo and the strengths of the system + Capacity for multi-format data dissemination – map, chart, table, text, and presentation, etc. + Different flavors – Internet and CD-based + Conceptually, prominent position as MDG tool of the UN + Large number of trainees as potential source for regular users + Prominent position at the CSA and Ethiopian statistical domain + Strong sense of ownership at the CSA 	<p>Weaknesses</p> <ul style="list-style-type: none"> - Reliance on MS Access as core database system - Weak Feedback and User support - Lack of Data Updating - Weak data importing functionality - Weak institutionalization of system - Ineffective web-based version (errors, missing links, configuration issues) - Low trainees follow-up - Slow internet connection – meaning slow system.
<p>Opportunities</p> <ul style="list-style-type: none"> * New DevInfo version 6 and addressing many existing EthioInfo problems * Trainee database for follow-up and building champions * Institutionalization of EthioInfo * Readiness of the CSA to support EthioInfo * Harmonized Support of the UN System: * Consistent Availability of Data at CSA * Hosting Other Data including Administrative and routine data, apart from Survey * United Nations Volunteers (UNV) program * Internet and Social Networking sites 	<p>Threats</p> <ul style="list-style-type: none"> ? Competing UN Systems and the resulting confusion ? Internet bandwidth issues ? Attracting and retaining skilled professionals to support system ? Marketing as UNICEF-supported instead of global UN-supported system

Suggested Immediate Actions

The possible actions that need to be taken to ensure that EthioInfo fulfills its role as an important statistical database system in Ethiopia could be divided into two major steps: (a) Necessary Steps, and (b) Further Steps. The necessary steps must be taken, while the further steps are enhancement activities.

(a) Necessary Steps: The following steps are so necessary that unless they are taken, there is no hope that the EthioInfo will be able to move up to its appropriate location in the Ethiopian statistical information domain.

1. Each stakeholder should examine the issues and recommendations that relate to them as enumerated in the lessons learned and recommendation, and take appropriate actions;
2. Set up the necessary infrastructure to support the system, this infrastructure include:(a) Creating a dedicated team of qualified IT professionals at the CSA who will oversee the implementation and support of EthioInfo; and (b) facilitating effective internet bandwidth to the EthioInfo web-server.
3. Upgrade the system to DevInfo Version 6, to handle many of the current issues and ensure proper customization after the upgrade to make certain that all minor glitches are handled adequately.
4. Develop effective data importing functionalities and system to eliminate manual data entry operations in importing data into EthioInfo from CSPro and other tools used in CSA. Standardizing on a data exchange format such as Extensible Mark-up Language (XML) may go a long way in the move toward this solution.
5. Update the system with more recent data including surveys and routine data so that the possibility of service will be further increased.

(b) Further Steps: Once the five necessary steps are taken, EthioInfo will be available for service and then other steps could be taken to enhance the implementation. These further steps could include: promotion and creation of user awareness, search engine optimization, web-advertising, popularization on social networking sites , extension of coverage, creation of satellite databases, and so on. Carrying out the necessary and further steps as outlined will ensure that EthioInfo makes more significant impact in supporting the dissemination of government statistical information in Ethiopia.

1: Background To the Study

1.1. Introduction

A consultancy titled “Conducting an Evaluation on the Use of EthioInfo in Ethiopia” was commissioned by the United Nations Country Team based on an Expression of Interest Ref. No. SSA 003/2009 advertised on page 10 of *The Reporter* of Saturday, 14 February 2009 and on the Internet. The expression of interest advertisement details out the Terms of Reference (TOR) for the consultancy and forms foundation for this study. The study aims to evaluate the level of utilization of EthioInfo as a way of enhancing the implementation of the project in support of government statistical system in Ethiopia. This document, “Evaluation Report of Use of EthioInfo in Ethiopia” is the key deliverable of the consultancy, and as requested in the TOR describes the evaluation process, the methodology, the findings, conclusions and recommendations of the study.

1.2. Background

EthioInfo is the Ethiopian in-country customization of DevInfo, an advanced database system providing functionalities for the organization, storage and presentation of data in a uniform format for facilitating data sharing at the country level across government ministries and UN agencies. DevInfo was adapted from the UNICEF ChildInfo database technology and has been globally adopted by the UN as the key tool for monitoring and evaluation of MDG indicators. DevInfo is an integrated desktop and web-enabled tool to assist countries in their reporting on the MDGs. The database system has simple and user-friendly features that can be used to produce tables, graphs and maps for inclusion in MDG reports, presentations and advocacy materials. The software supports both standard and user-defined indicators. The standard set of indicators (the 48 MDG indicators) are at the core of the package and cannot be modified. However, at the regional and country levels, database administrators have the option to add their own sets of local indicators to their databases.

EthioInfo is completely owned and managed by the Ethiopian Central Statistical Agency (CSA).

The United Nations Country Team (UNCT), with the technical leadership of UNICEF, supported the Central Statistical Agency (CSA) to adopt and adapt DevInfo as EthioInfo in 2005 – 2006. EthioInfo was envisaged as a tool for strengthening the capacity of counterparts in generating and disseminating data for situation and outcome monitoring of national priorities within the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) and United Nations Development Assistance Framework (UNDAF). EthioInfo was also planned as a tool for enhancing the dissemination and use of statistical information and contributing to knowledge management in Ethiopia.

The customization involved many efforts including the development and population of the database populated with data from major national surveys such as Welfare Monitoring Survey (WMS) 2000 & 2004, Demographic Health survey (DHS) 2000, Household Income Consumption Expenditure (HICE) 1996 & 2000. And the first customized desktop version of the database system, called **EthioInfo v1.1**, was launched in February 2006. In order to further increase the accessibility of the database to the end-users, in 2008, an updated and web-based version, called **EthioInfo v2.1**, was deployed on the central statistical web server, and is available online at : www.csa.gov.et/ethioinfo/.

In addition, various capacity development activities on the user and data administration application was conducted with the close collaboration of the Global DevInfo Support Group, for more than 180 staff members coming from Government organizations, Regional Bureau of Finance and Development , UN agencies, international and local NGOs and so on. In addition to this, many awareness creation workshops were organized in Addis Ababa and in the regions. More over, around 500 different advocacy materials were produced and distributed during the launch and on various occasion and two EthioInfo billboards mounted in parts of Addis Ababa.

Currently, EthioInfo is distributed in two flavours:

- (a) CD-based / Offline Version
- (b) Internet-based/ Online version hosted by the CSA on www.csa.gov.et/ethioinfo/
(Actually at <http://www.csa.gov.et/di5web/>).

As a natural progression of the activities regarding the implementation of the EthioInfo, this evaluation seeks to take the system to a higher level. The evaluation of EthioInfo seeks to measure to what extent the system has contributed to the dissemination of official statistics and promoted utilization of statistical data by relevant stakeholders including, planners, policy/decision makers, programme managers, researchers, and other users.

1.3. Purpose

This study aims to evaluate the efficiency, effectiveness, relevance, sustainability and impact of EthioInfo with special emphasis on promotion of use of Government statistical information in policy development, planning and research in Ethiopia.

The evaluation specifically seeks to:

1. Assess the system in terms of relevance, timeliness, quality, and adequacy of content, user-friendliness, accessibility, including efficiency (speed of service), and whether it is demand-driven and user focused;
2. Assess the extent to which the system has achieved its ultimate impact in promoting the utilization of statistical information by planners, policy and decision makers, programme managers, researchers and various end-users;

3. Assess the extent of participation of the Central Statistical Agency (CSA) in the conception and development of EthioInfo and how the system is maintained and managed by the government to ensure sustainability if external assistance is withdrawn;
4. Identify key major challenges, gaps and recommend specific actions;
5. Assess adequacy, timeliness and relevance of UN assistance to government on DevInfo devolution;
6. Document and share findings and lessons learned to the main stakeholders, including CSA and UNICEF.

1.4. Audiences:

This evaluation should be of great interest to the following stakeholders:

- Government of Ethiopia
- UN agencies
- International and local NGOs
- Multilateral and bilateral donors
- Professional associations
- Universities and
- Research institutions.

1.5. Decisions:

This evaluation should affect decisions of stakeholders on impact and implementation of EthioInfo in Ethiopia. Specifically, this evaluation seeks to influence decision for enhancing EthioInfo impact and implementation and cover areas such as interface, content, support, use, implementation, and future direction. The stakeholders, especially the CSA, UNICEF, and UN Resident Coordination Office should find in this report information that enables them to take appropriate decisions for enhancing the quality and impact of the EthioInfo database system.

1.6. Evaluation Questions:

This study seeks to provide answers to a number of questions relating to the technological, usability, and implementation issues of the EthioInfo system, including the following key questions:

1. What are the measures of the EthioInfo the system with regards to content (relevance, timeliness, content quality, and adequacy), interface (user-friendliness, accessibility, efficiency) and service (quality of service, speed of service, demand-driven, user focused)?
2. To what extent has EthioInfo affected the promotion of dissemination and utilization of Government statistical information?
3. What has been the key role of the CSA in the conception, development, maintenance, management and sustainability of EthioInfo?
4. What are the key implementation issues such as major challenges, gaps and necessary actions for enhancing implementation?

5. What has been the nature and quality of UN assistance to Ethiopian government on DevInfo devolution?
6. What are the strengths; weaknesses, opportunities and threats (SWOT) of the EthioInfo system in Ethiopia?
7. What are the key lessons learnt and recommendations from the implementation of the system?

1.7. Limitations:

Due to limited budget and shortness of study duration, the sample size was reduced and the electronic and online questionnaire method was adopted. This meant that offline users at the districts and other potential users working in policy and development but not using the internet might not have been effectively covered in the survey. To reduce this impact, sample of users from the regional bureaus were included in face-to-face, and telephone interviews.

Secondly, because of the need to get users' experience of the use of the system, it was decided to increase the number of trained users of EthioInfo in the sample to ensure that the questions on experience of use could be effectively covered. This decision has introduced the appearance of popularity of the system, especially in the area of user awareness. This is an unavoidable bias if we are to get response on system use and should be borne in mind in understanding the results.

In spite of these issues, the consultant believes that the data collected using the various methods ensured effective coverage of the study domain and hence the realization of the objectives of the study.

1.8. Organization of the Report:

This first section covers an introduction to the consultancy and the study. The rest of the report is organized in Sections as follows. Next section, Section 2 describes the methodology including description of the sample, data collection instruments, data collection strategy and methods of analysis. Section 3 takes an in-depth view of EthioInfo and Government Statistical System to show the operational environment of EthioInfo. Section 4 presents the analysis of the results. Section 5 deals with the findings and lessons learned, Section 6 presents the SWOT Analysis, while Section 7 ends the report with the conclusions and recommendations. Sample instruments and data outputs are attached as Appendix.

2: Methodology

As explained in the section one, this study seeks to obtain information in the following areas: (a) EthioInfo database and system (b) users and use of the EthioInfo, (c) the CSA and support for EthioInfo, (d) UN System and its support of the Government of Ethiopia on EthioInfo, and (e) strengths, weaknesses, opportunities and threats of the EthioInfo. An analysis of these areas indicates that one method of data collection is incapable of satisfying the needs. For this reason, a multi-method approach was designed to handle the data collection for the system. In this section the multiple data collection methods used, the sampling strategy and the instruments are described.

2.1 Multi-method approach

To achieve the broad and specific objectives of the study, the study used the following methodology, broken down into five major categories of: (a) Desk review, (b) system study, (c) observation, (d) survey, and (e) SWOT analysis.

(a) Desk review of relevant documents and the system, this led to document analysis involving examination of existing EthioInfo documents, especially on the system, government statistical system, millennium development goals, indicators, as well as the place of EthioInfo in the government statistical system in Ethiopia;

(b) System Study – To study the technological basis of the EthioInfo system as a way of understanding the implementation environment and also for possible optimization;

(c) Observation – To observe actual users of system in operation, for in-depth understand of user experiences;

(d) Survey – Questionnaire and Interview – to gather information from users and implementers. (a) Questionnaire survey to elicit relevant information on the evaluation criteria on randomly selected users drawn from the domain specified in the Terms of Reference; (b) Key informant interview with high level government officials and senior planners and decision makers and renowned researchers and evaluators of development programmes for in-depth understanding of the utilization of EthioInfo;

(e) SWOT Analysis – to review the strength, weaknesses, opportunity and threat (SWOT) of the EthioInfo implementation.

2.1 Sampling:

Sampling is necessary because of the infeasibility of collecting data from every member of the study population. However to ensure the validity and reliability of result of the study it is necessary that the sample taken be as representative of the population as possible. The closer the sample size and characteristics is to the study population, the more representative the sample will be. This is the major reason that random sampling is often advocated, because it implies that every member of the population stands equal chances of being selected. This section describes the sampling strategy, the sampling frame, and sample size.

2.2 Sampling strategy:

To get adequate representation of the various users groups, it is necessary to use different sampling strategies. In order to ensure the adequate coverage of the domain area this study used Multi-stage Sampling Technique which involved combining simple sampling methods to address the sampling needs that enabled the study to gather the necessary information.

2.3 Sampling Frame:

A list of individuals and organizations was prepared based information available to UN Country Office, UNICEF, development organizations and educational institution. A set of respondent for each activity was randomly selected from the list prepared in MS Excel format. Effort was then made to ensure reduction of non-response by following up with the selected respondents, including repeated calling and sending of email reminders.

2.4 Sample Size:

Randomly selected respondents are expected as follows:

Users:

A list of users (250) was drawn from the list of those who have participated in the various training and awareness exercises of EthioInfo implementation and from the database of existing participants available to UNICEF, UN Country Office and the CSA.

- Researchers
- Students
- Development Consultants
- Other Users - Targeted through Internet Survey
- Federal Government institutions (Legislative, Executive and Judiciary)
- Regional Government Institutions (Legislative, Executive and Judiciary)
- District Government Institutions
- Non-Governmental Organizations (NGOs)
- Research Institutions
- Universities
- UN Agencies
- Other Organizations

Supporters/Funders: (10)

- UN Country Office

Implementors: (10)

- Central Statistical Agency

By Data Collection Method:

- **Desk review** : Document Analysis
- **System Study**: Review of Disk-based and Web-based EthioInfo.
- **Observation** : (12 Users observed)
- **Survey**
 - Questionnaire (250) – Online – www.surveymonkey.com, by email and paper formats (a total of 105 users responded to the questionnaire, (42% response rate))
 - Interview (31)
- **SWOT Analysis** – (3 Experts)

2.5. Instrumentation:

This section describes all the evaluation instruments and tools used in the evaluation. Actual instruments are included in appendices (Appendix 1 – 4).

2.7. Data Collection Instruments:

For acquiring the quantitative and quantitative data from the respondents, the following data collection instruments were designed:

- Observation Schedule: The Observation schedule details out the information to gather from the observation.
- Interview Guide: List of questions to ask from participants
- Questionnaire: Design of the online questionnaire and the various questions used to elicit response from the respondents.

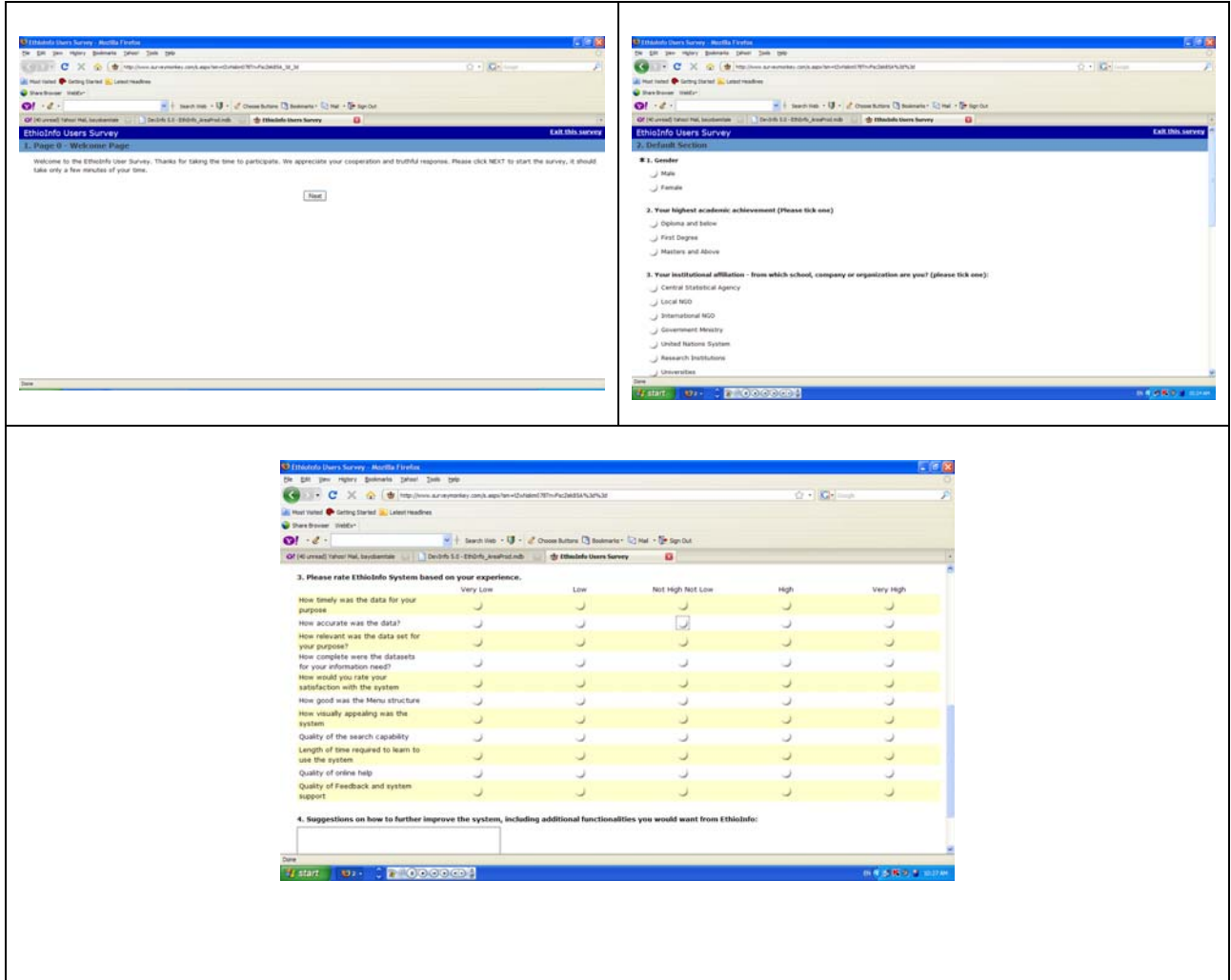
2.8 Data Collection:

As could be seen from the study methodology and sampling strategy, to ensure the collection of data and information that help in understanding the operational status, effectiveness, efficiency and impact of EthioInfo, this study concentrated on both qualitative and quantitative data.

2.9 Data Collection Strategy:

The Consultant conducted document analysis, interview and system evaluation based on the data collection instruments, and questionnaire were administered mainly using Internet Survey system – www.surveymonkey.com. The link to the survey was: <http://www.surveymonkey.com/s.aspx?sm=tZwNskm078TnvFscZek85A%3d%3d> (Available until 20 December 2009), and Fig 2.1 are screen captures of the survey.

Figure 1. Screen Capture of the Survey



An email was written to potential respondents pointing them to the online survey. Due to low response from the UN system possibly due to email blockage by SPAM-blockers on the UN system, the list of those selected with UN-based email was forwarded to the UN-Resident Coordination offices for re-sending to increase response rate.

2.10 Data Analysis:

For analyzing the data collected based on the data collection instrument, the Survey Monkey online analysis, Statistical Packages for Social Science (SPSS), MS Excel, and MS Access were used. Descriptive statistics and inferential statistics are presented with regards to quantitative data, while analysis of the transcribed documentary analysis,

observation, interview and systems investigation are presented integrated into the report. Detailed analysis is also presented as appendix.

3: EthioInfo and Ethiopian Government Statistical System

EthioInfo is owned and maintained by the Central Statistical Agency (CSA) which is the statistical arm of the Government of Ethiopia. The section takes a closer look at the CSA to review the EthioInfo and other system used by the government statistical agency. Reviewing the CSA, its tools and structure is aimed to present an overview of the operational environment of EthioInfo and salient issues relating to the operation of the agency which might also have tangential impacts on the support and utilization of the EthioInfo in Ethiopia. This section reviews the establishment and activities of the CSA, the various datasets and surveys handled by the agency, the tools, and the challenges confronting the agency.

3.1. Ethiopian Central Statistical Agency

The Central Statistical Agency is the statistical arm of the Government of Ethiopia. The agency was established in 1960 and has since been involved in the collection, processing, evaluation and dissemination of socio-economic and demographic data. Because of the importance of information for development planning, the agency has been at the core of provision of input for the country's socio-economic development and planning, monitoring and policy formulation.

This main function of the Agency is performed through running National Integrated Household and Enterprise Survey Program (NIHESP), undertaking ad-hoc surveys, conducting census, and compiling secondary data from administrative records. Through the NIHESP, the CSA has been able to carry out numerous annual national socio-economic and demographic surveys. The socio-economic and demographic surveys implemented under the auspices of the CSA include agriculture, price, household income, consumption and expenditure, welfare monitoring, large and medium scale manufacturing and electricity industries, small scale manufacturing industries, cottage industries, construction, mining and quarrying, transport and communications, informal sector, distributive trade and services, manpower, demography, family and fertility, health and nutrition, child labour, and so on.

To carry out these various surveys and data gathering activities, the CSA requires a huge amount of professional staff such as Statisticians, Economists, Demographers, Mathematicians, Computer programmers, and semi-professionals such as statistical technicians, data editors and coders, data entry operators, field supervisors, enumerators and other supporting personnel. In addition, there are also ad-hoc surveys that rely on specialized personnel such as only female enumerators, supervisors, and field editors, and to carry out such specialized ad-hoc surveys, the CSA hires temporary field staff only for the survey period. It is estimated that the CSA has approximately 3,400 employees.

3.2 Datasets and Surveys Handled by CSA

Datasets and surveys are important inputs to the EthioInfo and forms the source of information presented to the users. There are about 40 datasets which are electronically available under 10 major surveys excluding the national population census and price datasets. The datasets and surveys are as presented in Table 3.1.

Table 3.1: CSA Data

	Survey	Max. records/cases per dataset	Frequency of a survey	Available datasets
1	Agricultural Sample Enumeration	3,592,193	10 Years	1
2	Annual Agricultural Sample Survey	596,326	Yearly	11
3	Child Labour Survey	189,936	Once	1
4	Demographic and Health Survey	120,660	Five years	2
5	Ethiopia Welfare Monitoring Survey	1,052,674	Five years	5
6	Household Income Consumption and Expenditure Survey	3,009,993	four-five Years	3
7	Large and Medium Manufacturing Industries Survey	6,223 (in part 3)	Yearly	12
8	Livestock and Livestock Characteristics Survey	356,595	yearly	5
9	National Labour Force Survey		Five years	2
10	Population and Housing Census	N/A	10 years	2
11	Price Survey		Monthly	132
12	Urban annual Employment Unemployment Survey	60,282	Yearly	4

3.3 Tools of the Central Statistical Agency:

The CSA and its staff and departments use numerous tools at the various stages of its production and distribution of statistical information, and EthioInfo is just one of these tools. This fact is crucial for understanding of the degree of support that could be given to each of the tools because maintaining these tools requires energy and human resources. The infrastructure must be established, capacity for use and maintenance must be built, and use must be championed. An understanding of the relationships of these tools will shed more light on the support required for supporting the EthioInfo and ensuring that the system achieves its purpose. Birru (2008) in analyzing the tools available at the CSA listed the following tools: (a) Data Processing and Analysis tools; (b) Data Storage and Sharing, (c) Data Dissemination and Reporting tools, and (d) Output formats and media.

3.4.1 Data processing and analysis

For data processing and analysis, the following tools are used in CSA:

- CPro
- SPSS (Statistical Package for Social Science)
- MS-Excel
- Integrated Microcomputer Processing System (IMPS)
- STATA

- EUROTRACE - The Industry, Trade and Services Department shares trade data collected from Customs Agency from ASYCUDA.
- SPECTRUM/DM - The Manpower and Social Statistics Department is using software called project for health and population related analysis and sharing data with others.
- SAS software which provides extensive statistical capabilities is also being used in CSA.

3.4.2 Data storage and sharing

To ensure that data is stored and effectively backed up, tools are used within the CSA for storing and backing up data.

- Data Storage System – DBMS - MS SQL
- Backup System

3.4.3 Reporting and dissemination

Tools used for reporting and dissemination statistical information

- MS-Word
- IHSN Microdata Management Toolkit
- MS-Excel
- Ethio-info/DevInfo
- Adobe PDFMaker
- SPSS

3.4.4. Outputting Formats and Media

Data processed and analyzed using the tools are formatted and output through various formats such as charts, tables, with texts, in addition, Maps and GIS data are being included. For information dissemination, three major media are used:

- (a) Paper publications,
- (b) CDs, and
- (c) Website.

3.4.5 Pruning down the tools:

As CSA uses various tools and some of these are presented on its website. An analysis of the website (Lakew 2009), reviews the various dissemination tool, and reports as follows:

"User analysis of the usage of some of these systems is conducted depending on the website log analysis. NADA/IHSN and DevInfo were on the website for some time now, and the analysis shows that the NADA system is used often. As some of the systems are not implemented yet, user opinion and usage analysis could not be compared to determine the accessibility of the systems. I recommend implementing those systems and get the user feedback on the systems. The IT staffs at CSA are currently analyzing DevInfo and CountryStat systems as they present data somehow similarly and using both systems might be a redundancy.

Managing these systems might be difficult for CSA and it might also be frustrating for website users to go through all the systems. The CMS will arrange these different data libraries under one menu and making the environment consistent, which gives the user more comfort. Selecting one

system for each kind of presentation (i.e. surveys, tables, and GIS data) is recommended and this needs thorough analysis on each database systems. Each system has different functionalities, as also contains different types of data. The CMS will handle website contents and will serve as a common environment for these systems.” Lakew (2009)

This section will not embark upon a detailed description of each of these tools. The list is provided only to show the gamut of alternative tools that are available for reporting and disseminating information as currently used by the CSA. As shown in this extract, faced with a plethora of tools, CSA needs to take a decision on the tools to support.

3.5. Information Sharing and Dissemination Process

Information sharing and dissemination by the CSA is based on data access policy as approved by the Ethiopian Council of Ministers. MS-Word is the most used by all staff members for various purposes; IHSN which exclusively used by ICT Development Department; MS-Excel which is also used by most of the staff members for various purposes; EthioInfo; SPSS and Adobe PDFMaker are mostly used by the ICT Department for information publishing on the website and on CD-ROMs.

In addition to the website and CD dissemination, the major statistical reports published by the CSA and the frequency are indicated in Table 3.2.

Table 3.2 Major Statistical Reports Published by the CSA

S/No.	Title	Frequency
1	Statistical Abstract	Annual
2.	Population and Housing Census <ul style="list-style-type: none"> ▪ Analytical Reports ▪ Statistical Reports 	Every 10 years
3.	Agricultural sample enumeration	-
4.	Annual Agricultural Sample Survey <ul style="list-style-type: none"> ▪ Area and production of crops by season ▪ Livestock characteristics ▪ Farm management practices ▪ Land use utilization 	Annual
5.	Annual Manufacturing Industry Survey <ul style="list-style-type: none"> ▪ Large and medium scale manufacturing industry survey ▪ Small scale manufacturing industry survey ▪ Cottage and handcrafts survey (every 3 years) 	Annual
6.	Trade, Communication and transport <ul style="list-style-type: none"> ▪ Distributive trade ▪ Merchandize trade ▪ Transport and communication (through Administrative Records) 	Every 3 years
7.	Price Statistics <ul style="list-style-type: none"> ▪ CPI ▪ PPI 	Monthly
8.	Social Statistics <ul style="list-style-type: none"> ▪ Child labour survey ▪ Labour force survey ▪ Health and Nutrition survey ▪ Employment and Unemployment survey 	Every 5 years Annual Every 5 years Annual
9.	Welfare Monitoring Surveys <ul style="list-style-type: none"> ▪ Household Income Consumption Expenditure (HICE) ▪ Demography and Health Survey (DHS) ▪ Welfare Monitoring Survey (every 3 years) 	Every 5 years
10.	Ethiopian Rural Economy Atlas	2006

3.6 Challenges Facing the CSA

Like every governmental and non-governmental organizations, the CSA confronts its own fair share of challenges. Some of these problems have been explored by Birru (2008) and are briefly reviewed here to show the background within which the CSA works and within which the EthioInfo system is implemented. These challenges are

discussed in this report because many of them impact the implementation, support and demand for service of the EthioInfo.

3.6.1. Social and cultural problems

Social and cultural problems were being encountered at the data collection levels from respondents. Reports shows that, for example, household surveys have faced some problems in urban areas as urban householders were not happy to give real data because they suspected that the data might be used for other purposes, such as taxation, which might hurt them economically. This problem touches the very depth of data quality.

3.6.2. Non-responsiveness Issues

Every effort to collect information relies on the respondents to not only give correct and right information but also to respond. CSA surveys are reported to be facing problems with non-responsiveness of respondents. Many of the respondent did not understand the use to which the information collected from them are put and not being aware of the statutory duty to provide the information many did not feel the pressure to respond.

3.6.3. Human resources issues:

Lack of skilled human resources and high staff turnover is among the key challenges facing the CSA in general and seriously affecting the ICT development and Data Processing Departments in particular. This lack of skilled manpower and turnover means that supporting technological infrastructure of the agency may be difficult. EthioInfo has particularly suffered from this high turnover of staff members.

3.6.4 Standardization gaps:

A report on data preparation indicates that CSA faces a standardization gap in dealing with data elements within various dataset. This has led to situations in which the items in some questionnaires are not completely coded, resulting in loss of some information. This could create a problem in migrating data to database and lead to inconsistencies among different datasets of a category of survey. Developing standard indicators and datasets are important steps in ensuring effective interchange of data.

3.6.5. Data Analysis issues:

Birru(2008) also identified some problems with data analysis at the CSA. His report showed that Getting data over range of time and space was not easily available under the current situations; there was no interactive analysis on the electronically available datasets; the skills of using available software systems was not the maximum, because the staff were not using full features of the available systems; and that the strategy to make easy and full use of the existing data was not available.

3.6.6. Low level of Awareness of Role of Statistics in Decision Making

Assessments have revealed that there is low level of awareness in the general population about the roles of statistical information in policy designing and decision making. This low level of awareness has had a damping impact on the demand for data, hence leading

to not enough pressure on the CSA to deliver high quality, up-to-date data in real-time. Seen in this light, the non-update of the EthioInfo from 2005 could be understood. However with increased training and capacity building exercises this is changing and demand for data use in research and policy planning is increasing.

3.7 UN Systems Support for the CSA

The UN System and the multilateral and bilateral partners are not unaware of the challenges of the CSA, and many efforts have been made to support the agency. Various UN agencies have been supporting the agency in areas including infrastructure, capacity building and technical support. Various assessments made by organizations from within and outside the UN have revealed the necessity for supporting the CSA in order for the agency to adapt to new challenges and to meet the growing demand for qualitative and up-to-date data.

3.8 CSA and EthioInfo

This study is essentially aimed understanding the EthioInfo implementation and realizes that CSA's situation must impact the implementation, successful deployment and effective utilization of EthioInfo. An understanding of the system, structure and operation of the CSA is therefore a necessary pre-requisite for appreciating the background to the deployment and utilization of the EthioInfo in Ethiopia. Keeping the infrastructure and system of the CSA at the background it will be easier to understand the strengths, weaknesses, opportunities and threats of the EthioInfo which will be further elaborated in this report.

As indicated earlier, EthioInfo is a customization of DevInfo, a tool for : (a) presenting and assessing the human development situation at national and sub-national levels (b) determining national development priorities and guiding programming activities, (c) monitoring the United Nations Development Assistance Framework (UNDAF), National Development Plan (NDP) / Poverty Reduction Strategy (PRS), Millennium Development Goals (MDGs), and other national priorities.

DevInfo is a powerful database system customized and used in about 120 countries to compile and disseminate data on human development. The software package has evolved from a decade of innovations in database systems that support informed decision making and promote the use of data to advocate for human development. DevInfo grew from the ChildInfo database that was developed by UNICEF, and is now being promoted and supported in cooperation with the UN System to assist the UN and Member States in tracking progress toward the Millennium Development Goals (MDGs).

EthioInfo is located on: at <http://www.csa.gov.et/di5web/>. Owned by the CSA, EthioInfo is presented as a common platform for indicators related to Human Development in Ethiopia. EthioInfo is aimed at facilitating data sharing and indicator harmonization at global, regional and country level by making statistics available to a wider audience. Data in EthioInfo can be presented through

- Tables,

- Graphs, and
- Maps.

End users are presented with screens through which they could enter some parameters for searching and information presentations. The site is based on Microsoft technology, using MS Access databases at the backend, ASP.NET programming language for the site at the front-end.

EthioInfo V2.1 is the current version and contains the following information among others:

- Demographic and Health Survey 2005
- Welfare Monitoring Survey (WMS), 1996, 1998, 2000 & 2004
- Total Population for 2004 & 2005 (Population size, Area, & Density)
- Area and Production of temporary crops for 2004 & 2005
- Ethiopia Demographic and Health Survey 2000
- Household Income Consumption and Expenditure Survey (HICE), 1996, 2000

This study evaluates the use of EthioInfo to answer the various evaluation questions listed in Section 1, using the strategy itemized in Section 2.

3.9 Summary

This section presents the Ethiopian Government Central Statistical Agency (CSA) as a way of showing the background within which the EthioInfo database system is being implemented. Next section presents the results of the evaluation of EthioInfo implementation in Ethiopia.

4: Analysis of Results

As indicated in Section 1, the evaluation study of use of EthioInfo in Ethiopia concentrates on five major areas: (a) EthioInfo customization of DevInfo, (b) users of the EthioInfo, (c) CSA and support for EthioInfo, (d) UN System and its support of the CSA, (e) SWOT of the EthioInfo. And as indicated in Section 2, one method of data collection is incapable of satisfying all of the delineated areas, hence the use of multiple data collection methods as described in Section 2. This section analyzes the data collected from the various instruments previously described.

4.1. Desk Study

The desk study aspect of the evaluation dealt with two major aspect aspects: (a) Document analysis and (b) System evaluation

4.1.1. Document Analysis

Various documents have been generated at the UN system and CSA on the operation of the EthioInfo, its development, devolution, and implementation, as well as the role of the system at the CSA. These documents are invaluable sources of information on the implementation of the database system.

One strong aspect of the implementation of the EthioInfo is the scrupulous documentation of the process, the report of the various trainings, the effective recording of the particulars of the participants and training evaluation. This commendable action provided an effective starting point for this study. It facilitated the sharper definition of the target respondent for the questionnaire and the interviews.

Reports of the best practices of DevInfo implementation are also effective inputs into the SWOT analysis presented in Section 5 of this report.

Studies on the operation of the CSA, especially Birru (2008), Lakew (2009) and the various publications of the Central Statistical Agency such as (CSA, 2008a,) (CSA, 2008b) provided input into the understanding of the operation, structure and challenges of the agency and hence helped to strengthen the information presented in Section 3.

4.1.2. System Evaluation

EthioInfo V2.1 is a web-based system deployed in three flavours:

- (a) Offline (CD-based version)
- (b) Offline (internet based version)

At the backend is the

- (c) DevInfo Data Administrator interface.

4.2. Observation Result:

Observation of EthioInfo Users:

As a way of gathering detailed information on the use of EthioInfo, a number of users (12) were observed in the process of using the system.

All the observed users of the CD/Offline versions had great experiences and were able to access, use and print data from the system. There was no single problem with the use of the system; the only issue was the data lag.

With the Online, internet version however, there were various problems. None of the twelve users observed was able to complete a single transaction with the system. In spite of using different Internet connection types and speeds, it was virtually impossible to get the system to complete transactions.

4.2.2 Typical Experience of Observed Online EthioInfo Users:

Addis Ababa University Lecturer: “I have tried to access the web site <www.csa.gov.et/ethioinfo> . On my laptop as well as on other computer in Addis Ababa University, the icons in the home page as well as on the info accessing and organizing page **were not active**. It could not be used. I again tried in an Internet cafe after office and every thing was OK. I found the site to have important information that would facilitate sectoral as well as professional planning, monitoring and reporting. Having said that i would like to forward the following opinions: (a) when one try to access information, data etc .. it opens a new window. It allows you to open as many windows and access information simultaneously; (b) updating of information should be considered; (c) training should be arranged... ”

A Researcher: “Every effort to use the system failed. Many of the links were not enabled on all the computers where I tried. I think you need to do something to the database...”

4.2.3 Description of Typical Experience:

A thorough review of the EthioInfo System was carried out on the www.csa.gov.et/ethioinfo

(a) Resources:

The online version of the system currently presents the following databases:

1. Demographic and Health Survey – Final TPL 2000 – 2005 - August 14, 2007
2. Area and Production
3. Home Income Consumption and Expenditure – HICE
4. Livestock
5. Total Population
6. Welfare Monitoring Survey
7. Industry

(b) Search Functions:

The search function did not have the capacity for cross-database searching, meaning that it could only search the particular opened database, an obviously limiting capacity for user assistance in gaining access to data.

(c) Key Issues Needing Attention:

a. Blank Panel With Popup-Blockers:

Computers with popup blockers might not be able to access the resources, until the popup blocker is turned off and there was no information to the user about why this may happen or what should be done. The system simply sat there with blank panels. With novice computer users, it would then be impossible to access the system entirely.

b. Incomplete Customization:

1. “DevInfo 5.1” still appears as part of the headers. All these should now read “EthioInfo”. Although this is cosmetic, it indicates the status of customization of the system.

2. Some online version link still point to localhost, which is the generic name for current computer. Pointing to localhost means the link will work on stand-alone system; it should be rectified to facilitate proper functioning on the Internet. (E.g. User Preference Setting).

c. Currency of Data

Last update – 14th August 2007. – More frequent update is important and necessary.

d. Non-Working Links

The only link that works effectively is Gallery which shows Maps, Charts, and Tables, still just 61% of the links were working.

- Ethiopia - Table = Works
- Total Population - Map = Works
- Number - Table = Broken Link
- 2004 - Table == Broken Link
- table1 - Table == Broken Link
- W. Shewa - Table == Broken Link
- Total land area - Map == Broken Link
- Oromiya - Table == Broken Link
- Number of livestocks by type of animal, asses - Table = Works
- Number of livestocks by type of animal, asses - Graph == Broken Link
- Number of livestocks by type of animal, asses - Map = Works
- Average value of expenditure for beverages - Table = Works
- Ethiopia - Graph == Broken Link
- Percent - Table == Works

- Female household population age six and over who have Completed primary education - Map = Works
- Estimate of area occupied by Maize in hectares - Map == Works
- Estimate of Maize production in quintals – Map == Works

e. Runtime Errors:

Normally working through the website, there was a runtime error (see Figure 4.1). More testing is required to ensure that the databases could be loaded and used without errors.

Figure 4.1: Example of Run Time Errors

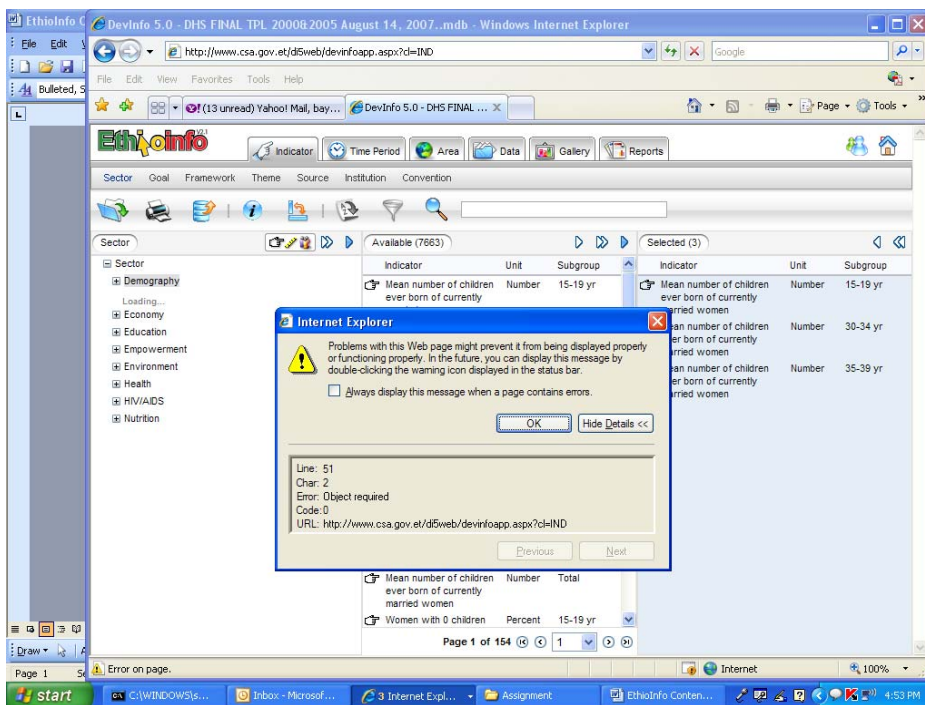
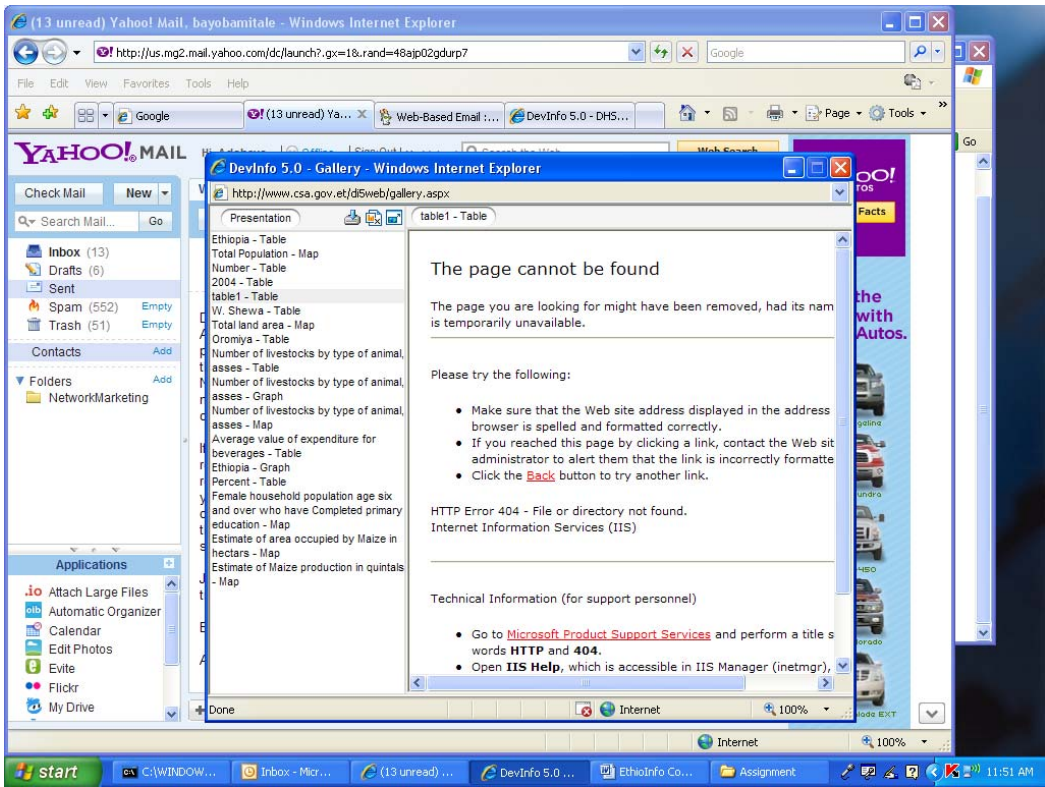


Figure 4.2 : Broken Link Error



f. Status:

In its current status the implementation suffers from ineffective configuration, errors, lack of support and need for data updating.

g. Recommendation from Observation:

With this experience, it seems some steps need to be taken to ensure that the system functions effectively:

1. Ensure complete configuration so that all databases could work as designed;
2. Re-link all broken links or remove the links;
3. Re-test the databases and make sure that they could be used without errors;
5. Explore possible optimization strategies to speed up system response;
6. Activate the feedback and support system so that users can give feedback and request support; and
7. The data should be updated with new surveys.

4.3. Interview Results:

As indicated in section Three, two classes of interview were conducted – for users and for system support and implementers.

User Interview:

As a backup for the questionnaire, 22 people drawn from various ministries and regional bureaus including Addis Ababa, Amhara, and Tigray regions were interviewed on awareness and use of EthioInfo. Only seven of the 22 were aware of EthioInfo, and these seven were trained participants. Of these seven only four used EthioInfo after the training. Similarly only one respondent was aware of anyone else in the office using the system, and this person was a data entry operator for the system. One of the trained participant only vaguely remembered that she was trained in EthioInfo; she did not use the system after the training, which underlines the need for trainee follow-up. All the four interviewee were using only the CD version, none is using the internet version. One explained that he tried to use the online version several times but because it was slow, he stopped trying to use it and another one complained about the lack of data update and explained that since the data was not fresh he was only using the maps in the system.

Program Implementers' Interview:

4.3.1. Implementation:

The interviewees all agree to the importance and usefulness of the EthioInfo as a powerful tool for presentation of socio-economic and development indicator being based on DevInfo an important tool for disseminating survey and providing indicators for planning and decision-making.

They also agreed that implementation, baring delays and minor problems, had been according to plan and that because this was a global movement, the UNICEF and UNCT have shorn up the implementation with finance, training, capacity building, and technical support.

However, interview also confirmed that although implementation had been according to plan, things now appeared to be at a stand-still as the team could not add more survey and other new data because of problems with data migration from other CSA tools to EthioInfo, and because of the emergence of other competing tools.

4.3.2. Resource Availability:

Infrastructure

Interviewees all agreed that infrastructure and resources were available to support the implementation of EthioInfo and to ensure this, the UNCT provided a server to support the work of the CSA in hosting the internet version of EthioInfo.

CSA Connectivity: However, interviewees lamented the state of internet connectivity to the CSA, hinting that the current 256kbps linking the whole organization was grossly inadequate and needed upgrading. Media-rich applications such as EthioInfo typically require large bandwidth to ensure effective and efficient use at the client end. Internet

connection consequently needed to be upgraded not only for the benefit of the EthioInfo but for all other services of the CSA.

Financial Resources:

The support of the UN to the CSA and UNICEF for EthioInfo has been good but UNICEF was not getting as much support as it would have wanted from the UNCT. Currently, there was no financial problem at the moment and ongoing plans for ensuring financial solvency included bringing onboard other donors such as DFID which supports other countries.

Human Resource

Workload: Because of human resource constraints in both the CSA and UNICEF, the workload of the staff members in dealing with other activities mean that no specific person was dedicated to overseeing EthioInfo. This excessive workload also led to occasional delays in various aspect of the implementation.

Staff Attrition: Studies in CSA have shown staff attrition as one of the challenges being confronted by the agency. As an IT infrastructure, EthioInfo requires the existence of category of staff who are able to handle the administrative console effectively. Without this class of staff it would definitely be difficult to render effective service with the system.

Data Migration and Data Interfacing skill: Almost all the interviewees raised the problem of data compatibility between EthioInfo and other statistical packages. However, because of the inherent capacity of these applications for ensuring data sharing, it would seem the actual problem was that the institution or the EthioInfo team might actually be short on skilled manpower for data migration and data interfacing.

Capacity Building

The UN system through the UNICEF and the UNRCO have been giving technical support for the implementation of the EthioInfo in Ethiopia, this effort included training was given; continuing training is necessary because of attrition of trained staff; Technical support from Meklit (UNICEF) and from DevInfo Team from India.

4.3.4 Key Problems with Implementation:

1. High workload of assigned staff – leading to lack of attention to EthioInfo, unnecessary delays, and therefore ineffective support;
2. Attrition of trained IT staff leading to lack of quality support for the database;
3. Low bandwidth connection to CSA;
4. Numerous competing UN-supported tools leading to confusion and state of suspended animation by CSA;
5. Data compatibility issues between CPro, EthioInfo and other statistical systems; and
6. Lack of update of new data and survey;

4.3.5 Suggested Solution:

1. Easier data exchange format between surveys report and CSA tools and the EthioInfo making it easier to input data more automatically;
2. EthioInfo should be configured to accept output of other statistical data processing systems;
3. There should be harmony within the global movement in the UN, to come out with a tool and stop confusing the partners with system dissemination system that does the same things or are even derived from the same products: CensusInfo, CountryStat, IHSN, and GeoNetwork.
4. Manual data entry must be converted to automated data connection. It is necessary to compare competing tools in terms of (a) Users and (b) Administration. Previous version of DevInfo had problem with data migration which has been resolved in version 6.
5. Upgrading is a way forward since many of the issues with EthioInfo were traceable to version 5 of DevInfo and have been handled in Version 6 of DevInfo, therefore upgrading to DevInfo 6 will remove many of the current headaches.
6. Different organizations carry out survey and many surveys outputs are in hard copy, it typically takes more time to import data, so importing mechanism should be developed;
6. CSA needs to develop data interchange policy for its survey data reporters to facilitate easier exchange of information between surveys and databases.

4.3.6. Lesson Learned:

1. Enabling environment in every perspective - CSA, Government, and UNICEF - especially because of the willingness to accept and use new technology.
2. Other dissemination tools promoted by the UN agencies creating confusion in the CSA and leading to a wait-and-see-what-happens-next attitude.
3. Because of the link between UNICEF and DevInfo, the UNICEF is perceived as trying to impose its standards on the UN and to thus dominate other UN agencies; this appears to be the major sentiment of agencies trying to promote other tools in spite of their pledged support to DevInfo.
4. As a result of the experience of CSA with EthioInfo, the agency has realized the possibility of customizing other applications to local situation. The agency is therefore trying to develop and to extend software by customizing existing systems.

5. CSA is investigating all the software provided by UN agencies to know which of the software to stabilize on. The agency is considering: CountryStat, World Bank–IHSN, FAO-GeoNetwork, CensusInfo, etc., and will be evaluating the systems.

6. Data Conversion from CSPro to EthioInfo is Data compatibility has been huge problem with updating data on the EthioInfo, because data entry staff had had to be recruited to manually enter data into the system from hardcopy materials.

7. Engaging the partners and creating ownership of the EthioInfo at the CSA has been an outstanding achievement of the UN system in Ethiopia. The UNCT needs to build upon this achievement by harmonizing its information dissemination strategy and reducing confusion of the CSA.

4.3.7. Interviewees Recommendations:

1. A task force composed of representation of the UN, the government, and the other stakeholder should be established to oversee the implementation and use of EthioInfo as a tool for MDG monitoring and evaluation.

2. Pertinent to the above is the need for an annual review meeting for EthioInfo implementation and UN support. This will enable stakeholders and the UN to be aware of status and problems and to collaborate in solving them.

3. Awareness for UN system on EthioInfo. Members of the UNCT need to be made increasingly aware of the EthioInfo as a tool that could be supported. This awareness will accentuate the need to move beyond individual agencies to a one UN system.

4. Faster internet connection necessary - larger bandwidth- is crucial for effective and efficient user experience. CSA Internet connection needs to be upgraded.

5. Resolve data Compatibility issues, by bringing in data interfacing skill-set into the team, either by training of the staff, or recruitment of specialists.

6. Shorten time required for data updating so that users may have access to up-to-date information

7. More training for users and awareness creation to make people be aware of existence and capacity of the system

9. Deal with human resources problem – attracting and retaining quality, skilled and experienced staff – especially, in IT domain. This is a long-term issue that is no doubt being worked upon by the CSA and other government agencies.

10. The UN needs to harmonize its statistical presentation tool efforts and focus its support in one or two tools instead of the common plethora of applications.

12. DevInfo developers may have to look at the possibility of developing portable version that could be used in low-bandwidth areas such as in regions and districts with those connecting through dial-up connections.

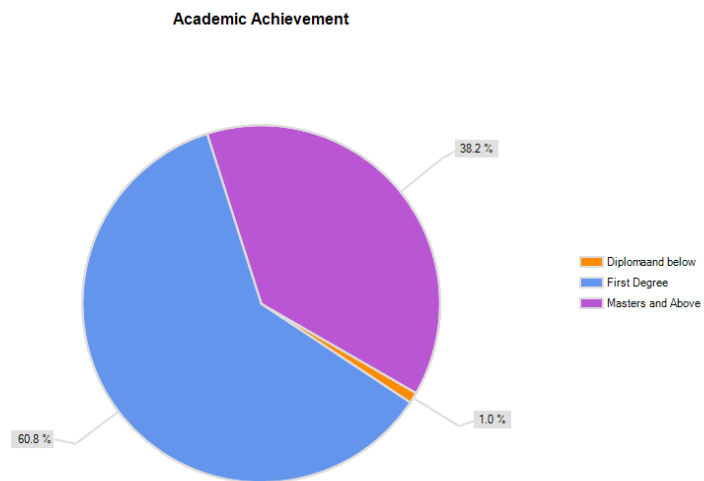
4.4. Questionnaire Result

The questionnaire was administered online as described in section 2. The report of the data collected from the questionnaire analysis is as follows:

4.4.1. Description of the questionnaire respondents:

A total 103 respondents filled the online questionnaire, 69.5% (73) were males while 30.5% (32) were females. In terms of educational attainment, the majority of 60.8% (62) held first degree and 38.2% (39) held masters' degree and above; only one respondent was below first degree (Fig 5.1).

Fig 5.1: Educational Achievement of Respondents



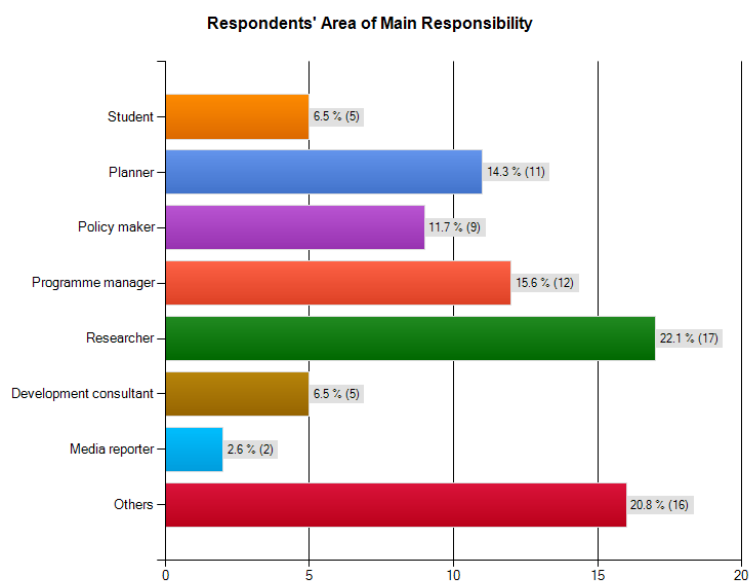
A substantial majority (32.7%) of the respondents were from government ministries, while 14.9% were from the UN system. The distribution of institutional affiliation was as indicated in Table 4.1.

Table 4.1: Respondents' Institutional affiliation:

Institutions	Percentage	Comment
Central Statistical Agency	10.9% (11)	
Local NGO	6.9% (7)	
International NGO	5.9% (6)	
Government Ministry	32.7% (33)	
United Nations System	14.9% (15)	
Research Institutions	6.9% (7)	
Universities	13.9% (14)	
Others	7.9% (8)	Regional Bureaus, Private health service sector, Private Limited Company, Media Station and Private Consultants, etc.

The respondents' area of responsibility included researching (22.1%), planning (14.3%) and other area as detailed out in Figure 4.2.

Figure 4.2: The main areas of respondents' responsibility



4.4.2. Internet and Media use for statistical information:

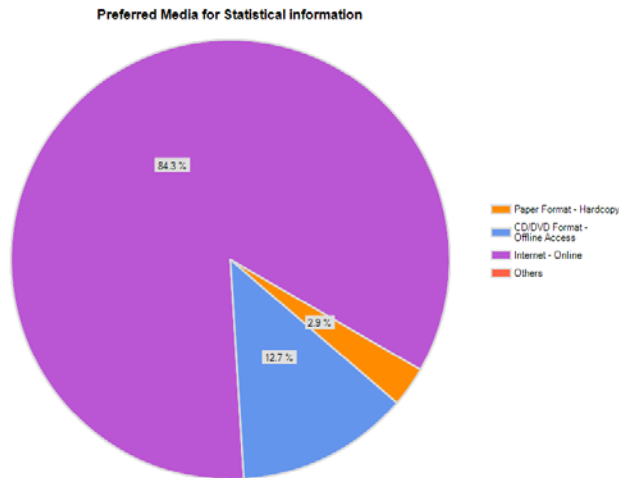
As a way of understanding the preferred method of data access and use, the respondents were presented with option to assess their internet speed. About 35.6% rated their internet access as medium, while 33.7% rated theirs as slow, other results are as indicated in Table 4.2

Table 4.2. Respondents' Rating of Internet Speed

	Internet Speed Rating	Percentage (Count)
1.	Very slow	5.0% (5)
2.	Slow	33.7% (34)
3.	Medium	35.6% (36)
4.	Fast	15.8% (16)
5.	Very Fast	9.9% (10)

Regarding method preferred for getting statistical information, a high majority 84.3% (86) would prefer the internet or online media, 12.7% (13) would like CD/DVD, and a paltry minority of 2.9%(3) would prefer the traditional paper/hardcopy format as their method of accessing statistical information as indicated in Fig 4.4 This information may be important for working out a strategy to target EthioInfo users, and also for ensuring that the internet platform of presentation is becoming a critical success factor in statistical data dissemination.

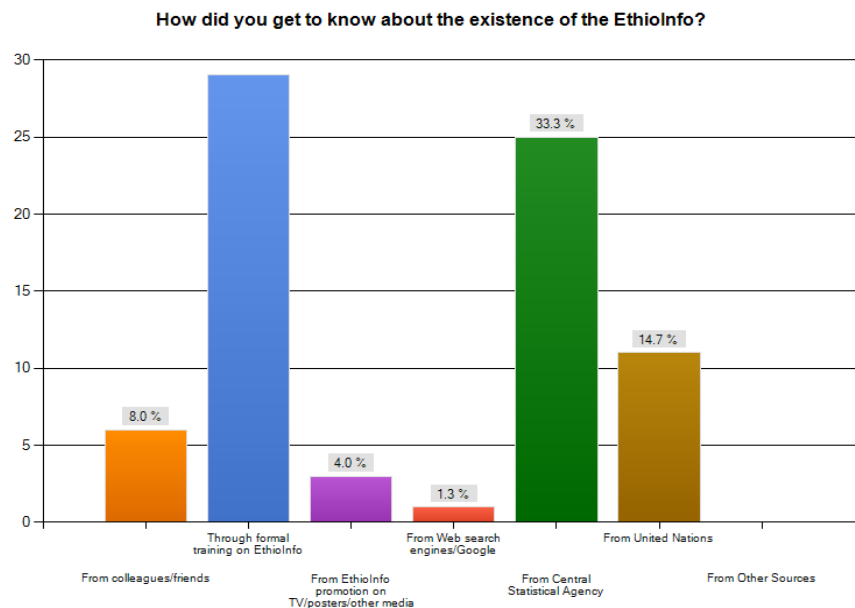
Fig. 4.4: Preferred Media for Accessing Statistical Information



4.4.3. Awareness of EthioInfo

A substantial majority of the respondents 76.5% (78) were aware of the EthioInfo while 23.5% (24) of the respondents were not aware of the system. This has a lot to do with the population as defined in Section 2. A large majority of the population have been touched either by the training and public awareness programmes of EthioInfo implementation as indicated in Fig 4.5. Concerning the source of EthioInfo awareness, some respondent 38.7% (29) came to know of the database system through formal training on EthioInfo; followed by those exposed to it through the activities of the Central Statistical Agency 33.3% (25). Some 14.7% (11) became aware of the EthioInfo through the United Nations while the TV and Posters, and web search engines brought a meager total of 4% (3)of the respondents to awareness of EthioInfo.

Fig 4.6 Sources of EthioInfo Awareness



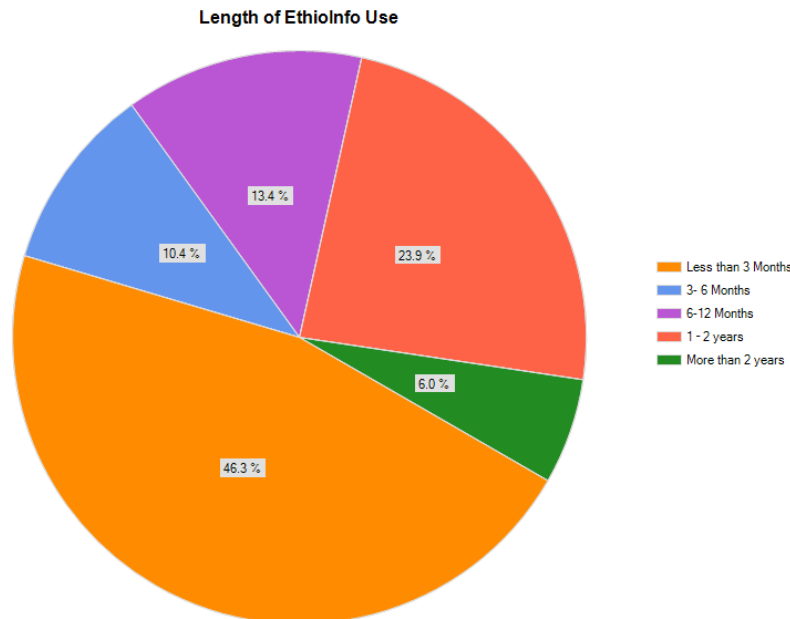
4.4.4. Use of EthioInfo

It should be indicated that the survey was programmed in such a way that immediately a respondent stated that he or she was not aware of EthioInfo, the survey stopped for him or her. Consequently all information about use of EthioInfo was directed only at those who stated they were aware of the system. Usage is almost equal between the Internet/Online Version 48.7% (37) and the CD/Offline Version 38.2% (29); whereas 13.2% (10) reported they had never used any of the versions. When considered from the internet preference of the majority of the respondent, the predominant use of the

CD/Offline version signifies that most people did not find the online version effective, although the number of those who favored this version is still higher; the issue is that given the internet preference of the respondents, it should have been higher than it is.

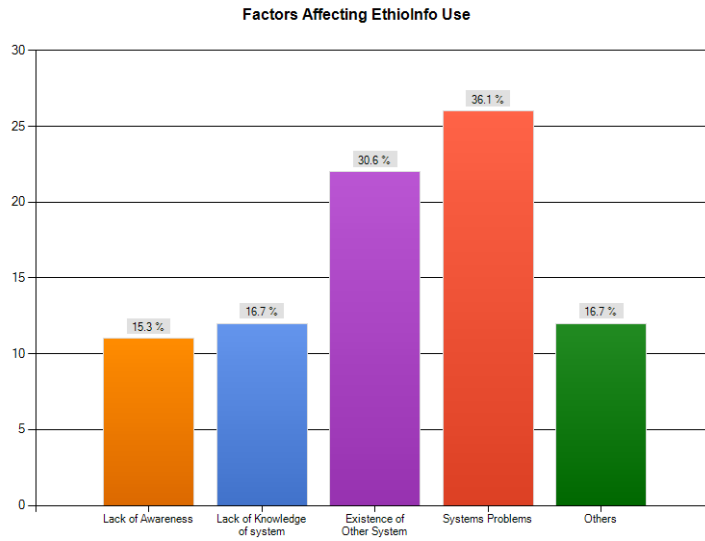
Almost half of the respondents 46.8% (31) had been using the database system only within the last three months, while a total of 29.9% had used the system for more than one year. (Fig 4.7) Regarding frequency of use, 38%(27) reported rarely using the system, 22.5% (16) made weekly use while another quarter 26.5% (13) rarely used the system; similarly 20.4% (10) used and 14.1% (10) reported not using the system at all.

Fig. 4.7 Length of EthioInfo Use



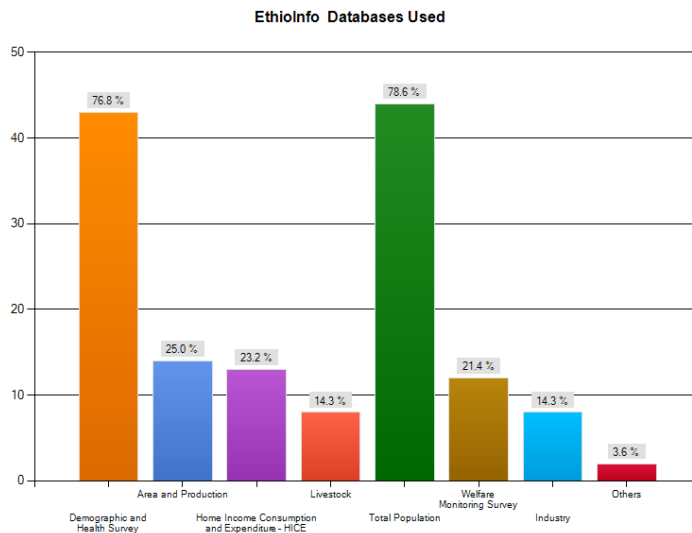
The highest factor identified by the respondents as affecting EthioInfo use was systems problems 36.1% (26), meaning that users had problems with the accessing and using the EthioInfo system, which corroborates the results of the observation. And the next popular reason for non-use of EthioInfo was the existence of other systems as reported by 30.6% of the respondents. Lack of awareness and lack of knowledge both took a total of 15.3%, while other reasons such as data lag, lack of updating, internet speed and blocks, accounted for 16.7% of reason for non-use of the EthioInfo system. Fig 4.8

Fig 4.8. Factors Affecting EthioInfo Use



The most frequently used databases and surveys were the Demographic and Health Survey 83.8% (31) and Population 81.1% (30). Details are as indicated in Table 4.9

Fig. 4.9. EthioInfo Databases Frequently Used



Other official statistical database systems in the public domain reported to be frequently used by the respondents are: CountryStat 59.6% (31), World Bank 42.3% (22), and Redatam 7.7% (4).

4.4.5. Rating of EthioInfo.

Respondents rated the EthioInfo on a scale of 1 to 5 as follows:

- Very Low (1)
- Low (2)
- Not High Not Low (3)
- High (4)
- Very High (5)

This scale was applied to timeliness, accuracy, relevance, completeness, user satisfaction, menu structure, visual appeal, search capability, learning time, online help, and feed/system support.

4.5.1 Data Timeliness

The issue of time in data access, although the average rating for Data Timeliness is 2.75 moving the rating close to the middle, 74.5% (29.4% (15) + 45.1% (23)) of the respondents rated the EthioInfo as low and not high not low, thus in the low region. This implies that a majority of the respondent believed that EthioInfo needs to improve on the time element in data presentation.

4.5.2 Data Accuracy

With an average rating of 3.24, and a majority 79.6% (55.1% (27) + 24.5% (12)) rating of medium to high, the data accuracy level is perceived by the respondent as passable.

4.5.3 Data relevance

An average rating of 3.24 and the most rating 59.4% (31) of high, shows that the respondents agreed that the data disseminated by the EthioInfo is relevant.

4.5.4 Data Completeness

Although the average rating is 2.86 for completeness, 71.5% (29.4%(15) + 43.1% (22)) of the respondents rate the application between low and moderate, with the majority in moderate, which also means that while the respondents did not rate the data completeness as great; it would seem that they want something done on it.

4.5.5. User satisfaction

The average rating for user satisfaction is 3.08 which is in the range of medium to high, a total of 74.5% (39.2% (20) + 35.3% (18)) rated user satisfaction as medium to high meaning that most respondent thinks the EthioInfo is satisfactory to the user.

4.5.6. Menu Structure

The menu structure is averagely rated as 3.84 which is in the range of high, and with about 80.6% (67.7% (21) 12.9% (4)) rated the menu from high to very high, meaning that respondent rated the system as having a good menu structure.

4.5.7. Visual Appeal

Visual appeal has an average rating 3.53 which tends towards high with 57.7% (46.2.0% (24) + 11.5% (5)) of the respondents rating between high and very high. Visual appeal of the Ethioinfo is one of its pluses, however for low bandwidth internet connection a highly graphic web application can hog bandwidth, be slow to access and thus discourage usage.

4.5.8. Search capability

The quality of the search function is an important aspect of any data system because it eases the work of the user, saving them from the task of browsing huge list of data and choices. An average rating of 2.90 means that the respondents did not rate the search capacity of EthioInfo as high, moreover, 65.4% (15.4% + 21.2% (3) +28.8%) of the respondents rated the search from very low to medium. The reason for this is possibly due to the partitioning of databases within EthioInfo with no central master-file linking all survey and enabling global searching.

4.5.9 Learning Time

If it takes too long time to learn to use a system that means that the system is probably not easy to use. With an average rating of 2.96, and a majority of 62.8% (7.8% (4) +25.6% (7) 29.4% (15)) rating the system from very low to medium, indicating that it does not take too long to learn the system.

4.5.10. Online help

Online helps are documentations and resources which enables a user to refresh his or her memory about system usage and to solve important problems. The availability of a good online help means that a user does not have to frequently call for human experts to help them. The respondents rated online help averagely as 2.66, a majority of the respondents 74.4% (19.1% +25.5%+29.8%) rated the system from very low to medium, meaning that user would want some tuning up action taken on the online help system.

4.5.11 Feedback and system support

Supporting the user and listening to their grievances is what the Feedback and System support is all about. A good system needs to listen to its user, learn to know them, and learn to serve them as they want. Feedback system is given an average rating of 2.68, which is low to medium, and a majority of the respondents 72.3% (23.4% + 17.0 +31.9%) rated the system form very low to medium, meaning that the respondents wanted some ameliorative actions taken on the feedback and system support infrastructure of EthioInfo.

Summary Survey Users' Rating of the system: (Detail is attached as Appendix 4)

Users rated the various attributes on a scale of Very Low (1) to Very High (5). The rating was analyzed by converting the scale to 100 percent and classifying each attribute according to this rate:

Rating Classification

- Very Low (1/5) - (0 - 19)

- Low (2/5) - (20 – 39)
- Moderate (3/5) - (40 – 59)
- High (4/5) - (60 -79)
- Very High (5/5) - (80 – 100)

The summary result is as indicated in Table 4.7. To present a clearer picture of the rating, the percentage of users who rate each attribute from low to moderate is separated from the percentage of user rating the system from high to very high. This clearly shows the trend of rating and indicates areas needing more ameliorative effort.

Table 4.7: Summary of Users Rating of EthioInfo Attributes

S/No	Attribute	Average Rating (%) (Av Rating /5) *100)	Rating Classification	% of User Rating from Low - Moderate	% of User Rating from High to Very High
1	Timeliness	55	Moderate	82.30%	17.70%
2	Accuracy	64.8	High	67.40%	32.70%
3	Relevance	69.2	High	36.50%	63.40%
4	Completeness	57.2	Moderate	76.40%	23.50%
5	User Satisfaction	61.6	High	62.70%	37.30%
6	Menu Quality	72.2	High	31.30%	68.60%
7	Visual appeal	70.4	High	42.40%	57.70%
8	Search Capability	58	Moderate	55.40%	34.60%
9	Learning Time	59.2	Moderate	66.60%	33.30%
10	Online Help	53.2	Moderate	74.40%	25.60%
11	Feedback & Support	53.6	Moderate	72.30%	27.70%

This rating is much more optimistic than observed from Observation of Users and is due mostly to use of the CD-based version which presents more adequate user experience than the online web-based version.

4.5.12 Recommendation and Additional Functionality:

As a backup to the rating and multiple choice questions, respondents were given the opportunity to make additional comments and recommendations on what they believe could be done to improve the system. Suggestions and comments revolved around the following key areas:

1. Training users on the various features and functionalities of the EthioInfo;
2. Updating the data and including more surveys;
3. Improving the support system and making it possible for users to contact support team;
4. Embarking on promotional work and providing more user awareness training;
5. Making the data timely and relevant;

6. Enhancing the search function; and
7. Dealing with the administrative part of the EthioInfo to make it easier to use.

4.6. Summary

Documents were analyzed for information on implementation of the EthioInfo. These documents are invaluable sources of information on the implementation of the database system in the CSA. One strong aspect of the implementation of the EthioInfo is the scrupulous documentation of the process, the report of the various trainings, the effective recording of the particulars of the participants and training evaluation. This commendable action provided an effective starting point for this study. It facilitated the sharper definition of the target respondent for the questionnaire and interviews.

From the observation result, all the observed users of the CD/Offline versions had great experiences and were able to access, use and print data from the CD-based system. There was no single problem with the use of the system; the only issue was the data lag. With the online, internet version however, there were various problems. None of the twelve users observed was able to complete a single transaction with the system. In spite of using different Internet connection types and speeds, it was virtually impossible to get the system to complete transactions. In its current status the implementation suffers from ineffective configuration, errors, lack of support and need for data updating.

Users interview showed that outside of those trained or involved in EthioInfo very few people are aware of the system, most trained user work only with the CD-based version.

The implementers interviewed all agreed to the importance and usefulness of the EthioInfo as a powerful tool for presentation of socio-economic and development indicator being based on DevInfo an important tool for disseminating survey and providing indicators for planning and decision-making. They also agreed that implementation, baring delays and minor problems, had been according to plan and that because this was a global movement, the UNICEF and UNCT have shorn up the implementation with finance, training, capacity building, and technical support.

However, interviewees also confirmed that although implementation had been according to plan, things now appear to be at a stand-still as the team could not add more survey and other new data because of problems with data migration from other CSA tools to EthioInfo, and because of the emergence of other competing tools. Some key problems of implementation were highlighted and suggestion offered.

The questionnaire analysis presented information about awareness, usage, media preference, internet access rating, and interface rating. These data analyses are inputs into the discussion in SWOT analysis and the next two sections, lesson learnt, conclusion and recommendation.

5: Findings and Lessons Learned

This section, findings and lessons learned, draws heavily from the results of the observation, interview, questionnaire, and SWOT presented in section 4. The findings and lessons learned are arranged along the five major areas of: (a) Systems issues (b) users of the EthioInfo, (c) CSA issues and support for EthioInfo, (d) UN System and its support of the CSA, and (e) SWOT of the EthioInfo. The first four issues are handled in this section, while SWOT analysis is dealt with in Section Six.

5.1 Systems issues

While the current strategy is to de-emphasize the CD/Offline version and to strengthen the Internet/Online version of the EthioInfo, users have had more positive experiences with the CD/Offline version because of the misbehavior of the internet version due to users' low-bandwidth, customization issues, run-time errors, internet popup-blockers, system-freezes, and other such annoying problems shown by observation of users of the system. The average rating given by the users in the questionnaire survey, have been jerked up by the number of respondents using the CD version, and the rating should not be considered as relating purely to the online version. Most of the users observed using the purely online version will never give such optimistic figure as medium to high to many of the rates, because of the negative experiences encountered in the use of the internet version, which is virtually unusable for most users.

The problem with the CD version is however that it must be installed on a computer to be used, meaning that it could not be accessed anywhere and anytime like the online Internet version. Consequently, while the need to ensure the effective functioning of the Internet version of the EthioInfo cannot be overstressed.

The current version of EthioInfo was derived from the DevInfo 5 which has already been superseded by DevInfo Version 6; secondly many of the problems associated with EthioInfo are not native to DevInfo meaning that they problems are results of mis-configuration, ineffective customization, and other operational support issues. Consequently two system issues concerns the EthioInfo:

- (a) Issues in DevInfo 5 which by now have been handled in DevInfo 6; and
- (b) Issues related to CSA support capacity and infrastructure, including issues such as mis-configuration, and lack of adequate skill for data-migration to the system.

All the problems with the EthioInfo could be summarized under these two headings.

5.2 Users Issues

EthioInfo users expressed a preference for internet presentation of statistical information; however, it seems that because of the systems issues, they are presently constrained to

use obsolete data and offline system on CD. To ensure effective service to the users, because of the nature of existing internet infrastructure, users desire a system with up-to-date data and low-bandwidth system, easy-to-use and properly supported.

Also, those who are aware of the EthioInfo are those who have been trained as part of the EthioInfo implementation, those associated with the CSA and those in the United Nations. The media and the internet did not appear to have had much impact in making users aware of the database system. There is therefore a need for more public enlightenment exercises to draw attention to the system, but even this should not be done until the necessary infrastructure for ensuring effective service delivery, data updating, and support have been put in place, otherwise what will result will be frustrated users, who once bitten will never return to the system ever again.

Once the necessary infrastructure is put in place, programme for training of different categories of users should be implemented. This training should be function-based and should be aimed at ensuring that trained users use the system.

5.3 CSA Support Issues

Since the inception of the EthioInfo initiative, the CSA has owned the EthioInfo and supported the system within the ambience of its capacity. Investigation reveals that the agency is confronting a number of problems, some of which are that:

- (a) Problem of low level of users' awareness on use of statistical data for policy and decision has contributed in low demand for statistical data;
- (b) Problems of human resource in IT implementation which touches on the EthioInfo implementation and support;
- (c) Problem of lack of standard for survey and administrative data interchanges have led to poor quality of data exchange between various data suppliers;
- (d) Data compatibility between CSA tools and EthioInfo has led to manual data entry which made database update a tedious affair;
- (d) High workload for those associated with EthioInfo has led to low attention to support of the system; and
- (e) Poor internet connection to the CSA has affected the quality of service of internet-based system.

The combination of these problems has created an ineffective working environment for the EthioInfo leading to a system that is entirely different from the original intention.

5.4 UN Support Issues

The United Nations and the various agencies have variously promised to support DevInfo as a tool for MDG data dissemination. Many of the agencies have contributed to the development, devolution and updating of the DevInfo. However, many of these UN agencies are beginning to promote different data dissemination tools to the CSA. Some of these tools include:

- FAO - CountryStat , GeoNetwork
- UNFPA – Redatam
- UN Statistical Division – CensusInfo - a customization of DevInfo
- UN Country Office – DevInfo
- WorldBank – IHSN

This action has put the CSA in a situation of suspended animation and has led to suspension of further activities on updating and maintenance of the EthioInfo. Similarly, the problem with utilization of different tools with similar functionalities is that it requires skills and resources to support each of the tools; this is thus a drain on the overstressed resources of the CSA. The task of harmonizing UN tools cannot be further delayed.

Second, although other agencies pledged support to the system, the task of dealing with EthioInfo has dropped back to the lap of the UNICEF. The UNCT needs to start shielding the UNICEF from full ownership and promotion of the DevInfo by actively involving other agencies.

5.5. Implications of CSA Challenges for EthioInfo

Most of the problems associated with EthioInfo are not native to DevInfo from which it originated; therefore using the problems faced by EthioInfo as a reason for introducing other DevInfo derivative application such as CensusInfo is a straw-man argument, heavily flawed. Such an approach makes it difficult to address the main problems and may lead to mushrooming of projects which are inherently designed to fail, not because of the inherent problems of the system themselves, but because of the neglected operational environment.

The key problems with EthioInfo are extendable to other application whether owned and promoted by a UN agency or not. So, whatever tools are introduced to be used in the CSA, unless these identified problems are confronted and solved, there is little hope of success. The problems are not new; they have been identified by CSA itself and indicated in Birru (2008) and were touched upon in Section 3.6. Instead of introducing other disparate systems derived from DevInfo, the support of the UN will be better articulated and coordinated, if the UNCT focuses on the challenges of the CSA, helping the institution to combat the following problems:

1. Human resource issue – attracting and retaining right caliber of people to ensure effective functioning of the system, not just EthioInfo;
2. Internet connection and Internet bandwidth issue – internet access, (This is a national issue and relate to CSA itself);
3. Customization issues – because of ineffective customization there are broken links on EthioInfo online version which are not problematic in the CD version. These are due to incomplete customization and are not associated with core-code.

4. Support issues – related to HR issue in plans for maintaining, and updating which could not be done because of lack of people, heavy workload of existing staff and due to relative un-importance and HR issues,
5. Distraction by UN system and confusion of CSA due to different competing applications being thrown at the CSA by different UN Agencies. This has put the CSA in the state of dilemma, not knowing which application to expend more energy on.
6. Relative importance of EthioInfo– because of the numerous tools being used by the CSA, meaning the CSA categorizes EthioInfo as a tool for information dissemination at the same level with PDFwriter and MS Word. So, what special resources – human and financial - would you allocate to support MS Word or PDFwriter?
7. Delay in release of census information and survey data, which leads to lag in data timeliness. These delays are often due to various systemic and institutional issues and are thus not the specific problems of EthioInfo, but it impacts the currency of the data that could be provided.
8. Data importing from CSPro and other Statistical packages was reported as one of the functionalities available on DevInfo, but in this study, data importing was also reported as one of the problems besetting the updating of survey and census data. It would therefore seem that there were some issues with effective use of DevInfo functionalities, possibly related to data manipulation skills.

5.6 Lesson Learned in EthioInfo Implementation:

1. This study revealed that enabling environment exists in Ethiopia in every perspective. The CSA, Government, UNICEF, and the UNCT have demonstrated the willingness to accept and use new technology, especially with EthioInfo implementation.
2. Other dissemination tools promoted by the UN agencies are creating confusion in the CSA and leading to a wait-and-see-what-happens-next attitude, which is affecting implementation at the current time.
3. Because of the link between UNICEF and DevInfo, the UNICEF is perceived as trying to impose its standard on the UN and to thus dominate other UN agencies; this sentiment appears to have affected the quality and quantity of support of other agencies of the UN to DevInfo.
4. As a result of the experience of CSA with EthioInfo, the agency has realized the possibility of customizing other applications and adapting them to local situations. The agency is therefore trying to develop and to extend software by customizing existing systems.
5. CSA is investigating all the software provided by UN agency to know which of the software to stabilize on. The agency is considering: CountryStat, World Bank – IHSN, FAO-GeoNetwork, CensusInfo, etc., and will be evaluating the systems.

6. Data conversion from CSPro to EthioInfo has not been easy. Data compatibility issues means there has been huge problem with updating data on the EthioInfo, because data entry staff has had to be recruited to manually enter data into the system from hardcopy materials. This is a tedious procedure and has accounted for the reluctance in updating the EthioInfo.

7. Engaging the partners and creating ownership of the EthioInfo at the CSA has been an outstanding achievement of the UN system in Ethiopia. The UNCT needs to build upon this achievement by harmonizing its information dissemination strategy and reducing confusion of the CSA.

8. It would seem that no matter the strength of the core system, the customization and infrastructure available to the disseminating institution is very crucial to effective statistical service delivery. Therefore, devolution strategy, including effective customization, skill for support, and appropriate infrastructure, are core elements for success.

6. SWOT Analysis

The analysis of the strength, weaknesses, opportunities and threat is strategically to understand the position of the EthioInfo statistical database system so that the strengths of the system could be played up, the weaknesses eliminated, the opportunities explored and the threats handled. This section discusses the result of the SWOT analysis and presents a summary table to clearly show the relationship between the components of the analysis.

6.1. Perceived Strengths of EthioInfo:

6.1.1. Derived Strength of DevInfo Technology: Because EthioInfo is a customization of the DevInfo, it also derives from the strengths and weaknesses of the technology – which include access to the code, good interface, pool of resources, consistent technology development and versioning, and experience of other countries. However the degree of this strength is according to effectiveness of installation, appropriate customization, support and administrative environment, and other critical issues.

6.1.2. Availability in CD and On Internet: The EthioInfo has been distributed in CD and on the Internet, enabling those without Internet connection and those who could not use the Internet version to access and use data from the CD. The existence of the offline version means that data could be disseminated to offline users, and that weaknesses of the internet may not affect dissemination. As a short-run strategy for popularization of the EthioInfo, the continuing availability of both versions will be a strong point for the database system. The CD-based version will enable potential users in remote regions and districts gain access to and use the data while the Internet version will grant access to users who have access to the Internet. Since CSA still packages statistical information in CD for distribution to its stakeholder the continuing issuing of CD version should not be a huge problem.

6.1.3. Conceptually Prominent position in UN and Government systems: EthioInfo because it is the tool of choice for MDG indicator data dissemination holds an important position in UNCT and with the Government of Ethiopia. Although this prominent position is more conceptual than actual, this conceptual position is an important strength and the effective utilization of this strength could position the system more effectively in Ethiopia.

6.1.4. Large number of trained user: Investigation reveals that a large number of users have been trained in the implementation of the EthioInfo at national and regional levels. More than other dissemination tools from the UN or other Agencies, EthioInfo has the largest number of trained potential users in Ethiopia. EthioInfo could therefore easily leverage this strength by further stimulating the people, thus increasing its popularity as tool that could be effectively used.

6.1.5. Capacity for multi-format data dissemination: One of the strengths of the EthioInfo is the existence of a strong interface capable of disseminating data in various formats including maps, presentation, chart, graph, document, and spreadsheet. This should make it a tool of choice for researchers, planners, policy makers and other statistical data users in Ethiopia because it makes available the information in way that could easily be used for reporting. This strength needs to be played up by effective training and demonstration of the use to which the system could be put.

6.1.6. Prominent location in the Ethiopian statistical domain. According to a recent study on analysis of the CSA website (Lakew, 2009), the EthioInfo, as at now, only shares the top place with IHSN/NADA, as the statistical data presentation tool, which means that the database has a prominent location in the Ethiopian statistical domain. This fact could be seen from the prominent location of its link on CSA website. This strength should be exploited by ensuring that the system functions properly and that the data is relevant and demand-driven.

6.1.7. Ownership and adoption: A critical factor for the success of any system is the extent of ownership by the support system, and this is an important strength of the EthioInfo because, the system is well adopted and effectively owned by the CSA. This is an important strength which should not be overlooked.

6.2 Perceived Weaknesses of EthioInfo:

6.2.1. Customization issues: Ineffective customization of web version which means that the system does not behave as it should as a true DevInfo derivative. The customization issues have manifested to users as missing link, errors, freezes, and other malfunction. This means that the return-value for users of the system is very low. This problem does not exist on the CD-based version, and investigations further revealed that this problem was a result of the migration of the EthioInfo from a previous server to a new one. But the user is not interested in the reason for ineffectiveness, the user wants service and will take nothing less.

6.2.2. Weakness of MS Access: The database is currently based on MS Access as the backend database. This is an inherently weak approach because MS Access is designed not for heavy weightlifting. Part of the problems experience in using the online system might be traceable to this bottleneck experienced in using the system. MS Access works very well within desktop application but its effective functionality within server-based, high demand platform is dubious.

6.2.3. Low bandwidth and Slow Internet Connection. EthioInfo as a multi-format system is highly graphical which means that it needs large bandwidth at both the server and client end for effective use. The current situation with internet as is less than desirable. This has resulted in a slow responding Internet system which leaves users disappointed, and disappointed user is rarely a return user.

6.2.4. Lack of adequate support for users. EthioInfo has no infrastructure such as helpdesk for supporting the users of the database. This means that there is no facility to help users solve system-related problems or to even to log and resolve such problems.

6.2.5. Weak Feedback system: The creation of an effective demand-driven database system necessitates the existence of feedback sub-system, which enables the system to listen to its users and to thereby adapt to the service rendered. EthioInfo has no effective system for listening to its users, which means losing a huge opportunity for monitoring use of the system and for creating a system that serves the users.

6.2.6. Data not frequently updated: The EthioInfo database is not frequently updated. The last updates in the database are for 2005, and the problem is not due to lack of data. For example at the time of preparing this report, according to the CSA website, the following data are available:

“Surveys Conducted in 2007/2008

1. Natural Resources and Agricultural Statistics

Crop Production Forecast Survey (Completed)

Crop Production Survey (meher season)

- Survey on Area and Production of Crops (Completed)
- Land Utilization Survey (Statistical tables to be produced soon)
- Survey on Farm Management practices (Statistical tables to be produced soon)
- Livestock, poultry and Beehives Survey (Completed)

Crop production Survey (Belg season)

- Survey on Area and production of Crops
- Survey on Farm Management Practices

Survey of State and Private Commercial farms

2. Industry, Trade, Transport and Communication Statistics

- Survey of Medium & Large Scale Manufacturing Industries
- Compilation of Transport & Communication

3. Consumer Price and Producer Price survey

4. Compilation of Statistical Abstracts

5. Preparation of Preliminary Report and Statistical Table for 2007

6. Population and Housing Census (on progress)” (CSA Website, 2009)

Data is available but the infrastructure for effective and efficient updating of EthioInfo data does not exist. This is thus not giving potential users the appropriate opportunity to continue to use the EthioInfo. More than any other weaknesses this lack of frequent updating has resulted in non-use of the system.

6.2.7. Weak capacity for data analysis: EthioInfo does not support extensive data analysis such as trends, interpolation, extrapolation, etc, This means that beyond presentation and storage it must need other tools to support data analysis.

6.2.8. Weak Global Search functions: The database is partitioned into smaller databases and it is difficult to perform global search involving all of the databases to pull out data from all at the same time. This is a weakness which means that a user must first identify a particular database to search.

6.2.9. Reliance on Survey data: The EthioInfo relies on survey data which are not quickly disseminated due to the process involved in data collection, analysis, validation, reporting and other processes. However, with effective updating mechanism the issue of reliance on survey should not be a big problem. Survey could be made available as soon as they are available.

6.2.10. Lack of trainee follow-up: Investigation reveals that the trainees, although exposed to the EthioInfo are not using the system as frequently as they should and this could be traceable to lack of trainee follow-up, leading to trained users losing skill or forgetting the system by not working on the system hence eroding the advantage that the training gives to the user and the system. A mechanism needs to be established for following up the trainees and making them EthioInfo champions in their place of work.

6.2.11. Standard of the Indicators: The indicators as defined within the databases are presented as long strings which are often truncated because of the length. In addition the unit of measures are often percentages without any way of accessing the actual values from which the percentages have been generated. This weakness could be address by ensuring that the indicators conform to globally accepted international standards of indicator definition.

6.3. Opportunities

6.3.1. New version of DevInfo: Current EthioInfo system is based on DevInfo version 5.1, but a higher version of DevInfo, version 6, is now available which addresses many of the problems hitherto identified with the previous version of the system. This means a new version of EthioInfo could be rolled out so that most of the problems could be eliminated.

6.3.2. Trainee Database: EthioInfo needs to revisit and rebuild the database of its trainees as a pool from which champions could be drawn for promoting and ensuring the effective use of the system.

6.3.3. Readiness of the CSA to support EthioInfo: EthioInfo exists as a prominent link on the Website of CSA. This is a good indication of the possible position of the system at the Agency and a good opportunity that the system can play important role in data dissemination in Ethiopia. With little support, the CSA can gear up the EthioInfo and make out of it a system that both the Government of Ethiopia and the UN system could be proud of.

6.3.4. Harmonized Support of the UN System: Support of the other UN Agencies exists and could be strengthened for arriving at a harmonized system at the core of which could be the EthioInfo because of its other strengths relative to other systems. Based on the previous involvement of the agencies, it should not be difficult to bring everyone to the discussion table for mapping out a way forward in determining statistical tools for UN and government reports.

6.3.5. Consistent Availability of Data at CSA: CSA is still replete with Survey and Census data which could be deployed on the EthioInfo and other systems

6.3.6. Hosting Other Data including Administrative and Routine Data: EthioInfo should consider hosting and disseminating other statistical data including administrative and routine data in addition to survey, this will increase the number of its services points. It should not be difficult to configure the system for other data, apart from Survey and since CSA already works which these administrative and routine data and disseminates them, it should not be difficult to extend the EthioInfo services to cover such statistical information.

6.3.7 United Nations Volunteers (UNV) Program: The UNV program has been used as stop-gap method for dealing with human resources problems in projects relating to the UN. EthioInfo and the CSA could be supported in handling IT human resources issues through the use of the UNV program. It must be stated however that should be envisaged as a short-term solution and that ensuring available human resources to support the system is a vital aspect of the sustainability strategy.

6.3.8. Internet and Social Networking: The promotion of EthioInfo could be more easily done through the facilities of the Internet and the social networking sites such as twitters.com, facebook.com, linkedin.com, etc. Use of the system will depend significantly on ensuring the efficiency and effectiveness of the service before promotion is done. There is no point in promoting a system only to frustrate and discourage the users. Pertinent to this is the possibility of embarking on Search Engine Optimization (SEO) strategies to ensure that search engines such as Google.com, Yahoo, Bing, Altavista.com, Northern light, could access and serve the data available on the EthioInfo statistical database system.

6.4. Threats

6.4.1. Other Competing UN Supported systems: A very potent threat to EthioInfo is the emergence of other UN Agency support system such as CountryStat, CensusInfo, etc. This has led to confusion at the CSA. The key issue then becomes: Is EthioInfo competitive enough to be the UN tool of choice for statistical data dissemination or should the CSA look elsewhere? The answer to this question runs deep into the implementation of EthioInfo dealing with technological strength and weakness, functionalities, support, as well as how the core system stands in comparison to other similar systems. The sad reality is however that some of the database systems, eg. CensusInfo, being promoted in by other UN agencies are derivatives of DevInfo the same source as EthioInfo.

6.4.2. Skills to support the system: Configuration and maintenance of the EthioInfo requires the availability of skilled professionals. Not having these corps of system support people is a critical threat to the survival of the system. When the absence of web

developer or administrators becomes the major reason for not updating the data as necessary, the system starts to lose its competitive edge, and the potential for use begins to diminish. For this reason, the ability to attract and retain the necessary support professionals becomes a key issue. To handle this threat, outsourcing agreement may be considered as an option for ensuring consistent support to the system.

6.4.3. Internet Bandwidth: Internet bandwidth is a critical resource for web-based service such as the EthioInfo and because this is the only way to gain access to the system. Internet connection to the system is a fundamental issue which must be addressed as quickly as possible if the system is to meet its need.

6.4.4. Marketing EthioInfo as UNICEF-Supported and not a Global UN tool: The support of the UN Agencies is important even if that support is just to give the EthioInfo a breath of life by enabling it to survive. That support could not be got because of the marketing of EthioInfo as a UNICEF-supported tool instead of a global UN tool which means that many agencies feel they can support financially it but don't have to use or promote EthioInfo. It is important that the agencies align, and this will happen only when EthioInfo is promoted as UN supported tool.

6.5 Summary

The summary of the SWOT analysis as present in Table 6.1

Table 6.1: Summary of the SWOT Analysis

<p>Strengths</p> <ul style="list-style-type: none"> + Derivation from DevInfo and the strengths of the system + Capacity for multi-format data dissemination – map, chart, table, text, and presentation, etc. + Different flavors – Internet and CD-based + Conceptually, prominent position as MDG tool of the UN + Large number of trainees as potential source for regular users + Prominent position at the CSA and Ethiopian statistical domain + Strong sense of ownership at the CSA 	<p>Weaknesses</p> <ul style="list-style-type: none"> - Reliance on MS Access as core database system - Weak Feedback and User support - Lack of Data Updating - Weak data importing functionality - Weak institutionalization of system - Ineffective web-based version (errors, missing links, configuration issues) - Low trainees follow-up - Slow internet connection – meaning slow system.
<p>Opportunities</p> <ul style="list-style-type: none"> * New DevInfo version 6 and addressing many existing EthioInfo problems * Trainee database for follow-up and building champions * Institutionalization of EthioInfo * Readiness of the CSA to support EthioInfo * Harmonized Support of the UN System: * Consistent Availability of Data at CSA * Hosting Other Data including Administrative and routine data, apart from Survey * United Nations Volunteers (UNV) program * Internet and Social Networking sites 	<p>Threats</p> <ul style="list-style-type: none"> ? Competing UN Systems and the resulting confusion ? Internet bandwidth issues ? Attracting and retaining skilled professionals to support system ? Marketing as UNICEF-supported instead of global UN-supported system

7: Conclusions and Recommendation

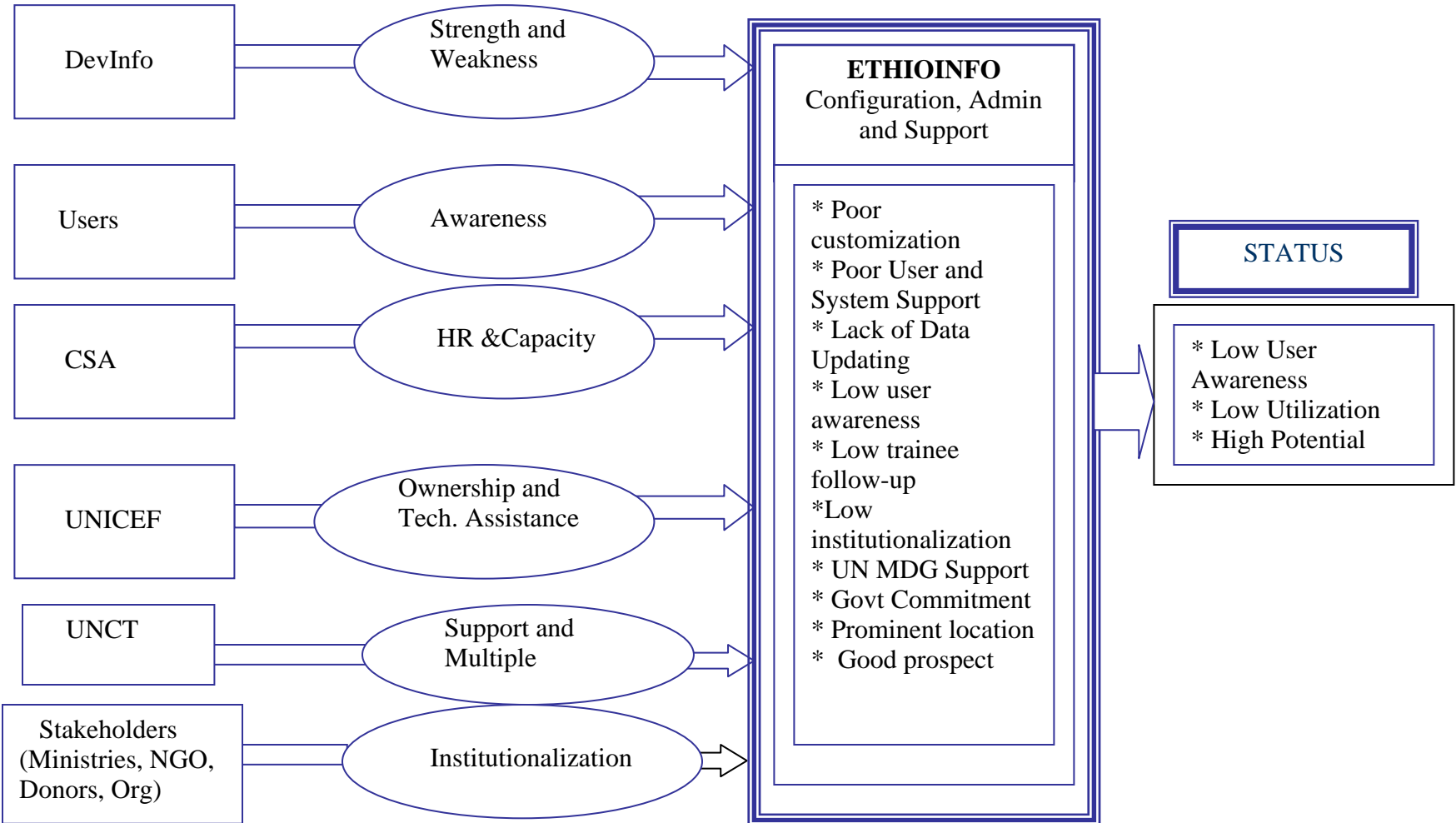
EthioInfo is envisaged as a tool for (a) presenting and assessing the human development situation at national and sub-national levels (b) determining national development priorities and guiding programming activities, (c) monitoring the United Nations Development Assistance Framework (UNDAF), National Development Plan (NDP), Poverty Reduction Strategy (PRS), Millennium Development Goals (MDGs), and other national priorities. The key question is to what extent is the system meeting this vision? What has been the impact of EthioInfo on use of statistical information in Ethiopia? This section concludes the report of evaluation of EthioInfo utilization in Ethiopia covering issues such as the status of the system, and recommendations.

7.1 Status of EthioInfo Implementation

7.1.1. Measures of the EthioInfo system

EthioInfo has not really measured up to its billing as a derivative of DevInfo with regards to content (relevance, timeliness, content quality, and adequacy), interface (user-friendliness, accessibility, efficiency) and service (quality of service, speed of service, demand-driven, user focus). Its rating has not been at the level it should be because of the status of its implementation. Fig. 7.1 shows the model of current status of the EthioInfo and the contributory factors.

Fig 7.1 Model of Status and Contributory Factor



7.1.2. Impact of EthioInfo on dissemination and utilization of Government statistical information:

There is little evidence that EthioInfo has had any significant impact on the dissemination and utilization of government statistical information in Ethiopia. The data on the system, surveys of 2005, was last updated two years ago; the online system is error-prone, not fully supported, system is made up of missing web-links. It is difficult to see EthioInfo as it currently is as the central data dissemination system of the government and the United Nations. Its various problems have not made it possible for EthioInfo to be the central tool for dissemination and utilization of statistical information that it could have been. It must have moved to the central stage at a point in time, but now the system is at a stand-still, because of the emergence of competing products and the perception that the system was not easy to support and use.

7.1.3. Role of the CSA in the conception, development, maintenance, management and sustainability of EthioInfo:

There are ample evidences that CSA has played significant roles in the devolution of DevInfo in Ethiopia and the implementation of EthioInfo. The ownership of the EthioInfo system by the CSA has been a strong strength of the implementation. However, CSA faces challenges which have affected the management and sustainability of the EthioInfo. Development partners need to work with the CSA to handle these challenges so that the agency can continue to deliver not only on EthioInfo but other data dissemination platforms.

7.1.4. Nature and quality of UN assistance to Ethiopian government on DevInfo devolution:

Evidences from the interview and observations show that the UN has offered qualitative assistance to the government of Ethiopia on the EthioInfo. Supports offered included technical, capacity building, training, financial and infrastructure.

7.1.5. Way Forward for EthioInfo Implementation

Most of the problems associated with EthioInfo are not native to DevInfo from which it originated. The key problems with EthioInfo are extendable to other applications whether owned and promoted by a UN agency or not. So, whatever tools are introduced to be used in the CSA, unless these identified problems are confronted and solved, there is little hope of success. The problems are not new; they have been identified by CSA itself and indicated in Birru (2008) and were touched upon in Section 3.6. Instead of introducing other disparate systems derived from DevInfo, the support of the UN will be better articulated and coordinated, if the UNCT focuses on the challenges of the CSA, helping the institution to combat the base problems.

7.2.1 Systems related recommendations

As a way forward for the implementation, it is recommended that the following suggestions for System enhancement be considered:

1. Both CD and Online version of EthioInfo should continue to be made available because of the nature of internet connection available to the users. Providing these two options will ensure that potential users in remote locations could easily access data;
2. It is necessary to ensure complete configuration of EthioInfo so that all databases could work as designed; this includes re-linking all broken links or removing unnecessary links; re-testing the databases and making sure that they could be used without errors;
4. Possible optimization strategies should be explored to speed up system response this may include technology such as caching, AJAX-based interfaces, and so on;
5. The feedback and user support system should be made operational so that users can give feedback and request support. Doing this will ensure that the system could respond to the users' demands;
6. The data should be updated with new surveys and other data including administrative and routine data; and
7. Considering the various advantages due to elimination of the issues with previous version, it may be necessary to upgrade to Version 6 of DevInfo.
8. EthioInfo developers should look into the following issues:
 - (a) Currently, EthioInfo is bandwidth hogging application, because of its media-richness. The possibility of developing portable version that could be used in low-bandwidth areas such as in rural regions and districts with those connecting through dial-up connections;
 - (b) Interface simplification - Simplification of the interface to require minimal training for usage, administration and data integration. The implementation of wizard-based interface which will carry out activities based on minimal user skill. This has been partly implemented in the Version 6 of DevInfo. Wizardification will ensure that people with low system and computer knowledge can easily access and use data;
 - (c) Database issues – partitioned database, means difficulty in searching information in different databases at the same time, there is need for pooled index for easy global searching, again, the appropriateness of MS Access as the database back-end especially for web-based version, should be re-examined;
 - (d) It is necessary to simplify and strengthen the data importing and exporting functionalities to ensure effective interfacing of the EthioInfo with other system for data porting which will increase data quality by eliminating the need for data-entry clerks to manually re-enter data.
8. It is necessary to enhance the capacity of EthioInfo for data analysis including extrapolation, interpolation, data gap filling, and other data analysis functionalities. This will enable users to manipulate data more efficiently and to generate effective output which can strengthen their reports.

7.2.2 User Related Recommendation

To enhance user experience, and put the EthioInfo at the position it needs to be, the following user related recommendation are made:

1. Need for public enlightenment – this includes emphasizing the role of statistics in policy making and decision support and drawing attention to dissemination platforms;
2. Awareness creation and more training for users need to be done to enable the potential users to be aware of existence and capacity of EthioInfo; and
3. Creating a strong and effective user support and feedback system which will ensure that where there are problems, the institution will promptly react and solve the problem. EthioInfo should be configured and enabled to listen and react to needs of the users.

7.2.3 CSA Related Recommendations

As the core institution for supporting the implementation of EthioInfo, the CSA needs to take some actions to ensure the effective implementation of the database system. Recommended actions include:

1. Dedicated team should be setup for EthioInfo at the CSA. This team will be charged with: (a) updating; (b) extended data and indicator sourcing; (c) support for all users – individual and corporate, (d) training of users, (e) consistent awareness creation for EthioInfo use; and (f) ensuring effectively maintained feedback system – so that the system could be demand driven.
2. Faster internet connection necessary - larger bandwidth- is crucial for effective and efficient service of internet-based application and for higher quality user experience. CSA Internet connection needs to be upgraded.
3. It is necessary to shorten the time required for data updating so that users may have access to up-to-date information. This may possibly be dealt with by the ongoing Business Process Re-engineering (BPR) in the agency.
4. Deal with human resources problem – attracting and retaining quality, skilled and experienced staff – especially, in IT domain. This is a long-term issue that is no doubt being worked upon by the CSA and other government agencies. CSA must deal with turnover of trained support staff.
5. Support for consistent EthioInfo monitoring and evaluation. There is need to ensure that the status and utilization metrics of the EthioInfo are monitored on a regular basis. This could be done through:
 - (a) Web-surveys - This involves the implementation of occasional web-surveys;
 - (b) Feedback Form – For users to respond and to monitor use;
 - (c) 24/7 Online Support – to respond to users’ request and solve users’ problems; and
 - (d) Web counters – taking a tally of visitor for independent evaluation of usage.

6. It is necessary to resolve data compatibility issues, by bringing in data interfacing skill-set into the team, either by training of the staff, or recruitment of specialists. Resolving data compatibility issues will enable all applications being used in CSA to communicate and exchange information with EthioInfo.

7. Data producers for the EthioInfo should be empowered with capacity building for direct data importation by creating satellite databases which can be updated from source and then authorized centrally at the CSA for dissemination.

7.2.4. UN Related Recommendation

1. The UN must take the lead in harmonization of UN-based statistical systems instead of putting the load of harmonization on the national statistical offices. Multiple tools put a huge load on the national statistical office either to refuse to maintain a particular database or to have to hire experts with varying skill-set to support all of the various UN Agencies supported systems. There is therefore an urgent need for the UN system to come out with unified statistical system which will reduce the dilemma of national statistical offices and make maintenance much easier and is a necessary step in view of the One UN focus.

2. Awareness for UN system on EthioInfo. Members of the UNCT need to be made increasingly aware of the EthioInfo as a tool that could be used, promoted and supported. This awareness will accentuate the need to move beyond individual agencies to a one UN system.

3. The UNCT should work out the way to bring in other UN agencies to support the UNICEF in the implementation of EthioInfo; once they are actively involved, the other UN agencies will stop seeing the system as the sole baby of UNICEF. This will ensure the effective collaboration of all UN agencies to see the system as UN system instead of UNICEF system. Taking this step will ensure more coordination of resources and a more strengthened statistical system.

4. UN Resident Coordination Office should play increasingly dominant role in the devolution of DevInfo or any other UN tool so that the idea of associating the tool with a particular agency may be reduced.

7.2.5. Strengthening the EthioInfo Implementation

EthioInfo must be enabled to stand up to the demands of the users for quality, up-to-date, easy to access, well supported, data dissemination system. For this to happen, the various stakeholders must work together to strengthen the national statistical system. As a first step along this line, it is recommended that:

1. Task Force: A task force composed of representatives of the UN, the government, and the other stakeholders should be established to oversee the implementation and use of EthioInfo and other harmonized UN tools for government and UN statistics and MDG monitoring and evaluation. Bringing in representatives of other agencies into the taskforce may break the impasse of regarding the system as UNICEF's and start the idea of the system as UN's. Globally, the need to harmonize UN statistical strategy is vital.

2. Annual Review Meeting: Pertinent to the above is the need for an annual review meeting for EthioInfo implementation and UN support for government statistics. This will enable stakeholders and the UN to be aware of status and problems in the statistical system and to collaborate on ways in solving them.

3. Market and promote EthioInfo as Ethiopia-Owned UN-Supported Tool: To ensure the buy-in and support of other UN agencies in-country, it is necessary to market the EthioInfo as global UN-supported tool owned by the CSA. For this two happen the confidence of the CSA needs to be restored and this can be done only when UN agencies all put their weight behind the tool.

4. EthioInfo As a Package of Tools Not Just DevInfo Derivative: A radical view with regard to EthioInfo implementation is the repackaging of the system more as a collection of tools that goes far beyond the DevInfo core. There is however a danger that the system may not be able to draw much strength from further DevInfo development which may be a huge drawback.

5. Sensitization of top decision-makers. It is necessary to carry out a sensitization activity for decision makers at higher level in UN, Government Ministries, International NGOs, etc in Ethiopia. This is because their awareness of the tool and its potentialities can go a long way in enhancing adoption and eventual institutionalization. This can significantly impact adoption and use of EthioInfo as well as positively affect the use of government statistics in decision making at all levels.

7.3 Suggested Immediate Actions

The possible actions that need to be taken to ensure that EthioInfo fulfills its role as an important statistical database system in Ethiopia could be divided into two major steps: (a) Necessary Steps, and (b) Further Steps. The necessary steps must be taken, while the further steps are enhancement activities.

7.3.1 Necessary Steps:

The following steps are so necessary that unless they are taken, there is no hope that the EthioInfo will be able to move up to its appropriate location in the Ethiopian statistical information domain.

1. Each stakeholder should examine the issues and recommendations that relate to them as enumerated in the lessons learned and recommendation, and take appropriate actions.

2. CSA should set up the necessary infrastructure to support the EthioInfo, this infrastructure includes: (a) Creating a dedicated team of qualified IT professionals at the CSA who will oversee the implementation and support of EthioInfo; and (b) facilitating effective internet bandwidth to the EthioInfo web-server.

3. The team should upgrade the system to DevInfo Version 6, to handle many of the current issues and ensure proper customization after the upgrade to make certain that all minor glitches are handled adequately.

4. The team should develop effective data importing functionalities and system to eliminate manual data entry operations in importing data into EthioInfo from CSPro and other tools used in CSA. Standardizing on a data exchange format such as Extensible Mark-up Language (XML) may go a long way in the move toward this solution.

5. The team should update the system with more recent data including surveys and routine data so that the possibility of service will be further increased.

7.3.2 Further Steps

Once these five necessary steps are taken, EthioInfo will be available for service and then other steps could be taken to enhance the implementation. These further steps could include:

- Promotion and creation of user awareness
- Search engine optimization
- Web-advertising
- Popularization on social networking sites
- Extension of coverage
- Creation of satellite databases, and so on.

Unless the five necessary steps for creating functional system are taken, EthioInfo cannot be counted upon to render adequate services, and then the capacity to retain visitors and clients will be limited. Carrying out the necessary and further steps as outlined will ensure that EthioInfo makes more significant impact in supporting the dissemination of government statistical information in Ethiopia.

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Appendix 1 : Observation Guide

EthioInfo Evaluation Project

Observation Guide

The aim of the evaluation is the observation of users of EthioInfo in action as way of gaining in-depth understanding of their use of the system for more comprehensive insight into the interface between the system and the users. This should yield some information on the use of the system.

A. Particular of Observation:

1. Date: _____ Time: _____
2. Venue: _____
3. Observer: _____
4. Length of Observation Time: _____

B. Particular of Participant:

1. Sex: (a) Male: (b) Female:
2. Highest Academic Achievement: _____
3. Profession: _____
4. Institutional Affiliation: _____
5. Length of Use of Computers. _____ Years
6. Knowledge Level with Use of Computers (Please tick one)
(a) None (b) Low (c) Medium (d) High (e) Very High

C. Particular of System:

1. Hardware: _____
2. Operating System: (a) Windows (b) Linux (c) Unix (d) Others
3. Computer Ownership: (a) Self (b) Work (c) CyberCafe (d) Others
4. Approximate Speed of Internet Connection:
(a) Less than 56kbps (b) 56 – 128 kbps (c) 128 – 512 kbps (d) above 512 kbps

D. Particular of EthioInfo Version

1. EthioInfo Version: (a) Internet/Online (b) CD/Offline:
2. Length of Installation Time:
(a) Last 3 Month
(b) 3- 6 Months
(c) 6-12 Months

- (d) 1 – 2 years []
- (e) More than 2 years []

E. Particular of Use:

1. Length of previous use of EthioInfo:

- (a) Less than 3 Months []
- (b) 3- 6 Months []
- (c) 6-12 Months []
- (d) 1 – 2 years []
- (e) More than 2 years []

2. Frequency of Use: (a) Daily [] (b) Weekly [] (c) Monthly [] (d) Yearly []

3. Reasons for Current Use: _____

4. Which version of EthioInfo is most frequently used? :

- (a) Internet/Online []
- (b) CD/Offline: []

5. Was user trained in use of EthioInfo? (a) Yes [] (b) No []

6. Other statistical information systems frequently used:

F. Observation:

The Observer should examine the interaction between the participant and the system and document the following:

1. IT versatility of the user

- (a) None []
- (b) Low []
- (c) Medium []
- (d) High []
- (e) Very High []

2. Rate the speed of access to required information

- (a) None []
- (b) Low []
- (c) Medium []
- (d) High []
- (e) Very High []

3. Is User conversant with the system? (a) No [] (b) Yes []

4. Degree of smoothness of interaction

- (a) None []
- (b) Low []
- (c) Medium []
- (d) High []
- (e) Very High []



5. Describe any software related issues faced by the user

6. Describe other challenges faced in using the System

7. Users opinion of how challenges could be overcome (*Including functionalities that user would want in the system*)

8. Was the user able to get the information required?

(a) No [] (b) Yes []

9. Degree of user satisfaction with system.

(a) Very Low [] (b) Low [] (c) Medium [] (d) High [] (e) Very High []

10. Degree of observer's satisfaction with system.

(a) Very Low [] (b) Low [] (c) Medium [] (d) High [] (e) Very High []

11. Overall impression of the interaction between the user and the system and other noteworthy issues observed.



Appendix 2: Interview Guide

ETHIOINFO EVALUATION PROJECT

INTERVIEW GUIDE FOR SYSTEM SUPPORTERS/IMPLEMENTORS

This Interview Guide is to standardize the information to be required from implementers of the EthioInfo Project in Ethiopia. The information acquired will help to inform decision on how to more effectively support the system in Ethiopia

Particular of Interview:

1. Date: _____ Time: _____
2. Venue: _____
3. Interviewer: _____
4. Length of Interview: _____

Particular of Interviewee

1. Name: _____
2. Position: _____
3. Responsibility in EthioInfo Implementation: _____
4. Institutional Affiliation: _____
5. Length of Time Supporting EthioInfo: _____
6. Type of Support Personally given: _____
7. Type of Support Institutionally given: _____

Interview Questions:

1. Opinion of the EthioInfo Implementation (Has implementation gone according to plans? Would you say it is successful?)

2. Opinion of the resource available for this EthioInfo Implementation
 - a. Human

 - b. Infrastructure

 - c. Finance

 - d. Technical

 - e. Others:

3. Experience, lesson learned, and problems of EthioInfo Implementation:
 - a. Experience (Positive and negative):
 - b. Lesson learned :
 - c. Problems:

4. Suggestion on Solving the Problems Identified:

5. The future plan of EthioInfo Implementation

6. Recommendation for Enhancing EthioInfo Implementation:

Appendix 3: Users Questionnaire

Generated PDF Form from SurveyMonkey Attached.

Appendix 4: Detail Analysis of User Rating of EthioInfo

S/No.	Attribute	Very Low 1 (0 - 19)	Low 2 (20 – 39)	Moderate (40 – 59)	High (60 -79)	Very High (80 – 100)	Average Rating (5)	Average Rating (%) (Av Rating /5 *100)	Rating Classificat ion	% User Rating Low - Modera te	% User Rating High to Very High
1	Timeliness	7.80%	29.40%	45.10%	15.70%	2.00%	2.75	55	Moderate	82.30%	17.70%
2	Accuracy	4.10%	8.20%	55.10%	24.50%	8.20%	3.24	64.8	High	67.40%	32.70%
3	Relevance	3.80%	13.50%	19.20%	59.60%	3.80%	3.46	69.2	High	36.50%	63.40%
4	Completeness	3.90%	29.40%	43.10%	23.50%	0.00%	2.86	57.2	Moderate	76.40%	23.50%
5	User Satisfaction	7.80%	15.70%	39.20%	35.30%	2.00%	3.08	61.6	High	62.70%	37.30%
6	Menu Quality	3.90%	7.80%	19.60%	60.80%	7.80%	3.61	72.2	High	31.30%	68.60%
7	Visual appeal	5.80%	5.80%	30.80%	46.20%	11.50%	3.52	70.4	High	42.40%	57.70%
8	Search Capability	5.40%	21.20%	28.80%	26.90%	7.70%	2.9	58	Moderate	55.40%	34.60%
9	Learning Time	7.80%	25.50%	33.30%	29.40%	3.90%	2.96	59.2	Moderate	66.60%	33.30%
10	Online Help	19.10%	25.50%	29.80%	21.30%	4.30%	2.66	53.2	Moderate	74.40%	25.60%
11	Feedback & Support	23.40%	17.00%	31.90%	23.40%	4.30%	2.68	53.6	Moderate	72.30%	27.70%

Note: Rating Classification

- Very Low 1/5 - (0 - 19)
- Low 2/5 - (20 – 39)
- Moderate 3/5 - (40 – 59)
- High 4/5 - (60 -79)
- Very High 5/5 (80 – 100)

Appendix 5: Summary of the Survey Results