Computerised Database as a Means Towards Management Information System for Agricultural Co-operatives

Some Experience from Database Research Project

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A paper Presented at Co-operative College, 1989 Annual Symposium

1.0 INTRODUCTION

Information is widely acknowledged as sine quannon in any development effort within an organized society. Without information, it will not be easy to plan, forecast and take correct decisions.[1] Information is needed in all sectors of the economy, co-operative sector being no exception.

The co-operative movement in Tanzania is growing bigger and complex, in such as way that coordinating activities within the movement, making timely decisions and disseminating information of the right quality, right time, right place and the right source are basic requirements of co-operatives if they want to be competitive.

However, the foundation of information with the four 'rights" referred above is the central availability of data that is meaningful, timely concise and of required level of detail and formal for ease understanding by the key actors in the co-operative movement.

The co-operative movement in Tanzania has database which is either maintained by the help of pieces of paper or using some simple machines in carrying out processing of huge volume of data. As we are all aware, the manual procedures of processing data and information are inherently slow, inefficient and error prone.

The other big disadvantages of the present state of databases are that most of the data and information maintained by the different users is similar or even the same., and the information is available only to one user and can be available to other users only through some very cumbersome procedures which can be discouraging. One of the possible solutions to these problems is a database that will alleviate these problems and make data and information timely available to all key actors.

Our paper addresses to these problems and it is introducing a solution. We are still engaged in the research process, we ore yet to conclude it' the Computerised database is a viable solution.

Our paper therefore, dwells on the action-research findings from the national fieldwork which covered all the co-operative key actors at the national level and also from regional fieldwork we did in Kilimanjaro

[1] Sheya, M. (1989, June 16). Daily News, p.4

region. We still have to carry out similar research in Singida, Ruvuma and Zanzibar and there after design a prototype database that will be tested in regions of Kilimanjaro. Singida. Ruvuma and Zanzibar west. After that we will be in a position to say whether the Computerised data base is a viable solution to present state or not.

2.0 DEFINITIONS OF DATA, INFORMATION, DATABASE, MANAGEMENT INFORMATION SYSTEM, AND CO-OPERATIVE DATABASE AND COOPERATIVE INFORMATION SYSTEM

2.1 Data

O'Brien, James A. defines data as "A representation of facts, concepts or instructions in a formalized manner suitable for communication, interpretation or processing by human or machines".[1]

2.2 Information

On the other hand, information is defined as "Data that has been transformed into a meaningful and useful form for specific human beings"[2] From the above simple definitions; data can be viewed as raw material that is processed to a finished product-information.

In other words, data and information can be distinguished by usefulness or utility. Data is usually not useful until it has been subjected to some kind of processing, while information assumes existence of usefulness.

However sometimes data may not require processing before being meaningful for human beings: and from the analogy of "raw material" (Data) and "finished product" (information). It implies that an output from one process can be an input to another process i.e. information- an output of data processing can be data or raw material to another process. Because of those relationships the two words: data and information are used interchangeably at least in ordinary life.

2.3 Database defined

"A database has been defined as a super file which consolidates data records formerly 4stored in many data files". For example, in a co-operative union you can have data files for procurement, transport, accounting, distribution etc. When these are integrated and consolidated together, they form a database.

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[1] O' Brien, J.A.
[2] Ibid, p.600

On the other hand, the database has been used to mean the data and information upon which a system is "based". That is all the data and information that could be used to support an organization or function. Management database is used by management in planning, organizing, staffing, directing and controlling the activities of the organisation as a whole, while we can as well have a marketing database to support an information system that can be used by the marketing executive for carrying out his duties.

To clarify further the concept of database it is important to emphasize that a group of data files kept together do not form a database unless the files are integrated and consolidated for use by individual subsystems of an organisation. Integration allows share ability by different users, eliminates duplication of data storage and retrieval, it is cost effective and lays down a good foundation for efficient information system.

Database is sometimes referred to as databank because of its centralized and integrated nature.

2.4 Co-operative Database

From the definition above co-operative database in Tanzania can be explained as a superfile that consolidates data records formerly stored in many different data files and in different localities, by different users of co-operative data resources. Presently there are mainly the following users of co-operative data: The Co-operative Development Department, Co-operative Union of Tanzania, Co-operative College, Co-operative Education Centre, Co-operative Union, Primary Co-operative Societies, Co-operative Audit and Supervision Corporation and Co-operative and rural Development Bank. Each of these users has its own database, maintained by files, folders, cabinets etc. Used for planning and controlling their respective activities. But an integration and consolidation of the individual databases will form a co-operative Database which will be made available to all the main users and therefore allows share ability; elimination of duplication in storage and retrieval and would lay a building block for Management Information System.

2.5 Management Information System (MIS)

This is explained as an information system that supports Management Decision making. MIS like the data from which is based can be formed from several categories of subsystems e.g. we can have information system to support production, marketing, accounting, finance etc. As such MIS can therefore be viewed as a federation of information Systems one for each major functions. It is a common support system for decision making used by the different subsystems or department channeling their effort towards attainment of a common goal. MIS therefore is expected to help managers at all levels by providing them with optimal information to carry out their traditional functions of planning, organizing, staffing, directing and controlling their activities of their organization.

2.0 Co-operative Information System (CIS)

Co-operative Information System as used in this paper refers to the information system that supports the decision making by the main actors in the co-operative movement in 'Tanzania. The CIS like its data base is an integration of Information subsystems maintained by individual actors i.e. Co-operative Development Department. Cooperative Union of Tanzania, and Co-operative Unions, Primary Cooperation. Co-operative and Rural Development bank, Co-operative College and CorativeEducation Centre, A Central databank makes data available for all the key actors and other beneficiaries and therefore attracts the advantages of integration.

3.0 CHARACTERISTICS OF GOOD INFORMATION SYSTEM (IS)

An is which is good is expected to have the following major characteristic or attributes.[1]

3.1Timeliness

This is a character related to time-factor in information up date and retrieval. The user of information is interested in the currency of data presented to him i.e. How fast the response time of information system. The user will always prefer the shortest possible response time i.e. When the input and output are instantaneous in addition to currency the use will also be concerned with the frequency of reporting is it regular and timely or irregular?

3.2 Content

Is the information meaningful to the decision-make or to solve the existing problem, i.e. is it.

3.2. I Accurate

The importance of accuracy varies with the type of decision supported by data. Long-range strategic decision involves data which are normally less accurate that data required for low level prompt decisions.

3.2.2 Relevancy

This reform to usefulness of information is relevant if it pushes one to act or not to act. If it has nothing to do with your problems, it is irrelevant.

3.2.3 Exhaustiveness

This refers to completeness i.e. information delivered must be complete. Sometime information can be relevant out not complete. A better decision is made when you have all the information required for that particular decision.

3.3 Optimal level of detail

The level of detail or aggregation must be optimal for the kind of decision to be made.
Too detailed data might confuse, mislead and prevent the decision maker from acquiring comprehensive knowledge of a problem area.

3.4 Format

This refers to the ways and means in which the information is conveyed or presented, the format used aids quick under-standing and therefore timely decision making.

3.4.1 Medium

The medium by which the information is reported such as printouts visual display graphs.

3.4.2 Ordering

This refers to the way the data are arranged in the report such as the order of the columns, rows, the requesting of details and totals.

3.4.3 Graphic Designs

The graphic setting of' the reports such colours letter sets etc.,

3.5 Conciseness

Conciseness means short and clear therefore the information presented must be short and clear. In other words, the IS should provide information. just needed at whatever level of decision making. It should sununarise only the relevant data that points out areas of exception to normal or variances to planned activity.

These are critical characteristics of IS which any organisation should have if it expects to be competitive and meet its objective goals. The Co-operatives movement in Tanzania gave its complexity in not an exception. It needs an IS that has the characteristics referred above for co-operating its activities, making timely decisions and disseminating information which is timely, meaningful, concise, of the required format and of optimal level or detail to the level of management requiring it or to the problem area being resolved. It is apparent that any information which mises one of these attributes can mislead the user. In an Endeavour to get timely information at all times, proper of data and quick retrieval is of prime and important and in

that respect, reliability is also entranced. The magnitude of data and information in Co-operatives and the rapidity required for its processing and retrieval requires a data-base which is computerised.

4.0 WEAKNESSES OF EXISTING DATABASE AND INFORMATION SYSTEM IN AGRICULTURAL CO-OPERATIVES IN TANZANIA

The existing information systems in our Co-operatives reveal a lot of Weaknesses. The main weaknesses can be highlighted as follows:

l. Manual Procedures

All the efforts of collection, processing, storage of data and retrieval and dissemination of Information in our Co-operatives are mainly based on manually maintained databank. These results into the following negative-impact.

i) Manual handling always fails to deliver accurate timely, concise and reliable information. Hence, they are slow, inaccurate, unreliable and inconsistent. To it is time, Labour and money consuming.

ii) Manual systems in co-operatives will continue to cause delays in information flow at all levels and hence late decisions. The results out of the existing manual system cannot be used in proper planning; control, analysis, forecasting and decision are making functions in our co-operatives. With manual procedure and without an effective information system to process and deliver the correct, and reliable information with the required timeliness, the Co-operative Unions of Tanzania (CUT), fails to improve its planning mechanisms, organisation, management decision making and control functions on co-operatives. It becomes also difficult to do even price monitoring. Without effective information systems, the unions fail to improve its planning mechanisms, decision making forecasting and in rendering services to the affiliated primary societies. For example, without information on the estimated amount of produce to be collected cash and mobilization of transport cannot be properly planned i.e. it becomes difficult to know exactly the amount of cash that will be required for the purchase of produce.

   Without information on the amount to be collected will also affect storage requirements. Thus, inadequate information system is one of the factors that contribute to poor forecasting in agricultural co-operatives.

iii) Ineffective control and use of co-operative data resources for Training, Research and Consultancy. In order to provide better access to co-operative data for training, Research and Consultancy utilization, the co-operative college, being the only higher learning institution in

the co-operative sector, needs to be supported by readily available data which is accurate, reliable and have high integrity which are currently not available.

iv) Does not provide enough security, it does not limit accessibility to only authorized personnel.

v) It is inflexible, it cannot be readily adopted to meet changing information needs.

vi) Information is not made available to other actors. It can only be available to other users only through cumbersome procedures which can be very discouraging.

vii) It is not integrated very big disadvantages -each user has its own database keeping information similar or even the same.

viii) Cumbersome storage facilities available in form of files, folder, cabinets etc. This results in difficulties in retrieval of information timely. In the co-operative, it is not uncommon to find files that contain high volume of data. These files are being up-dated from different sources, they lose their reliability and integrity. They are frequently found to be incorrect. There is no database administrator and the responsibility of file up-dating and maintenance is not well defined.

ix) Poor documentation, co-operative systems poorly documented. This is because staff are pre-occupied with working for urgent and in solving unscheduled problems (lire fighting technique). This is a result of not having good practices for documentation.

2. Unavailability of data

Experiences reveals that data from the primary societies are not available if at all we "cooked" and unrealistic. This has an added disadvantage because in the absence of data and effective management systems serious business decisions proper planning, control, analysis and forecasting could not be intelligently made in our co-operatives. Policy makers of the organs formulate their policies or take their decision without a sufficient information base.

The Research Statistics and planning Unit at the Co-operative Development Department (CDD) which is charged with coordinating all problems needs supporting data from the unions and virtually no data from the primary societies. Therefore, it is not possible to exactly the life and contribution of a Primary Society: its liquidity position, profile of activity, performance, membership, Audit position etc. Consequently, it is difficult to: identify correctly the society problems, needs and requirements executive accountability on co-operative development in the country, give correct decisions on solving co-operative problems and answer ad hoc queries suitably to Government, Party, Unions, Apex organizations, and other Institutions affiliated to co-operative.

Without data and effective information systems co-operatives will continue to be at the mercy of impulse and prejudice lacking in balance and continuity. The question is how best can be collect, Transmit, process and store DATA for FAST, accurate and timely decision making in agricultural Co-operatives.[1]

5.0 THE COMPUTERISED CO-OPERATIVE DATABASE PROJECT IN TANZANIA

In this part we want to give an outline of the experiences gained from the current research exercise in which we are trying to design a computerised database a project whose implementation started a year ago.

The areas we are going to discuss in this section include:

- Background to the computerized database project
- Advantages of a computerised database approach
- Objectives of the database project
- Geographic and sector coverage of the project
- Design methodology and activities
- Phase two of the project (implementation)

We would like to stress that the experiences we are going to analyse here are tentative because the project is still being implemented and final output of even phase I are not yet completed. We however think that, it is important that we share with you the experiences gained so far because they shed some light on the future of computerised information systems in co-operatives.

5.1 Background to the Computerised Database Project

This particular project has its own historical background and it is important that it is registered here before we can look at its internal and external dynamics.

5.1.1 Research and Planning Questions

This project was conceived out of a long term appetite by the Co-operative movement to know the truth about the operations of the co-operative movement.

Immediately after the untimely dissolution of the co-operative unions in 1976, it gave rise to two permanent research questions; first was how would it be possible to locate the operational status of the

[1] National Survey of information requirements, national field Work — March 1989.

co-operative movement at any moment in time. Given certain measurement variables such as business turn-over, membership, surplus distribution and manpower development, can we identify the status of each Cooperative Union or primary society at a glance. Can available data allow us to categorise co-operatives in terms of business growth and democratic practice? It was difficult to get immediate answers to such questions.

Second was a planning question and especially in the period 1980-85 when many researchers at the College and other Co-operative institutions wanted to know the contribution f the co-operative movement to national development especially food security and agro-based industrial development.[1]

t is known that co-operatives and especially agricultural co-operatives have a dual role in developing countries — first they are voluntary organizations to resolve socioeconomic problems of their members at the grass-root village level, but secondly, they are an instrument of national development policy. They occupy a central role in the production, storage and marketing systems of agriculture in countries whose backbone of the economy is agriculture.

This dual role, creates an interface which the Co-operative have to manage and sometimes in a difficulty way. It means a direct relationship with state institutions at the centre and at the sometime they must deliver the goods to their grass root members.

But if this interface is not well managed it creates a serious contradiction whose outcome is a weak co-operative movement but which does not die.

It is common knowledge that the co-operative movement in Tanzania is a theatre of organizational experiments and the output of such experiments has been a good story of past mistakes.

Decision-making as well as policy-making is not always backed by scientific data, hence the end result has been a self-blame of collective responsibility to mistakes.

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[1] York University — Co-operative College North-South Co-operative Collaboration project - 1983 Moshi and Toronto.

We therefore find that in a Co-operative Movement engulfed by internal and external pressure, correct and scientific decisions and policy-making are crucial. But these cannot be attained if there is no data or information about the Co-operative movement itself.

So, both the research and planning issues called for organized systems of data collections, storage processing data transmission and retrieval in a more organized manner.

5.1.2 The Manual Solution

Keeping abreast with the above problems, by 1981, Co-operative College researchers tried to create a manual driven data bank. Data would be collected from all primary societies by research personnel from the college. This data would be stored in special forms in file folders.

This process faced a number of implementation problems which included:

a) It was slow as data from 8,000 primary societies was to be collected by not more than four research staff from the Co-operative College.
b) It was not precise to specific co-operative activities as by then, the villages were multi-purpose co-operatives and hence, data on everything was collected from bananas to goats. This meant, data processing on co-operative action was difficult.
c) The process was expensive. It used the small research fund to collect data only and because it did not create its network in the districts, the responsibility on the whole activity was left to the Co-operative College.

It should however be noted here that though the manual attempt failed, it provided a new vision for technology, it was a lesson in failure, but a success in experience, because by 1 1985, the question of not having a data bank or not but it was reformulated into how best can we develop a co-operative data-base for co-operatives in Tanzania. This time the thinking was directed to a computerised database solution.

5.2 The Computerised database solution

At a theoretical level, a computerised database solution came into the picture to resolve the above problems because the new system had the following potential advantages to co-operatives:

a) A computerised database for co-operatives would generate reports which are timely complete concise and accurate.
b) It would provide information at appropriate level of detail
c) It would permit the selection and combination of information items in the sequence needed for any type of decision

d) It has an inbuilt flexibility to expand in response to changing information needs of organizations.

Armed with the research problems in co-operatives and knowledge of the above potential advantages of a computerised database, a co-operative database project was proposed as early as 1985.

5.3 The Co-operative Database Project and its Objectives

As pointed out earlier, by 1985, technology was giving new possibilities for handling massive data by use of the computer. A project proposal to design a computer database was discussed with the International Development Research Centre of Canada[1] and subsequently accepted in 1988 for funding.

5.3. I Project Objectives

The Co-operative Database project is carried out in two phases and each phase is presented as a separate project. At the moment we are implementing phase I known as the Co-operative database Design project. Phase Il will deal mainly with the implementation of the database design into selected co-operative unions The distinction of the two phases as two separate4 projects is monitoring and administrative purposes otherwise it is a Co-operative Database project.

The objectives of the Co-operative Database Project are as follows:[2]

i) To effectively control and use co-operative data resources in decision-making, training, research, consultancy and policy-making.

ii) Provide reliable Co-operative data and processing facilities.

iii) To provide co-operative data resources on the resources to the users quickly, when and where needed and in a manner required by the users.

iv) Build a basis for designing an information system in co-operatives.

v) Provide to existing co-operative data resources with protection and privacy.

Clearly, the objectives form a departure from the originally attempted manual database. They show specifications and scientific applications and fast availability of co-operative data. It must however be made clear here that a computerised system will not completely depart from manual exercises. Still, the

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[1] The Co-operative College is grateful to the International Development Research Centre of Canada for financing the Do-operative Database Research Project.

[2] Co-operative College, Proposal for Database in Co-operatives: Phase l: Design Moshi, November 1987 16

manual system will always run parallel to automated systems. The main difference is in the power and speed to organise and process data.

5.4Project Coverage

This is a pilot project used for testing the computer solution to organization, processing, storage and retrieval of data.

A computer solution is costly in terms of equipment as well as personnel. It is therefore important that a step-by-step approach is adopted for purposes of a conscious development of the system.

For this pilot project, the agricultural co-operative sub-sector is the only on being researched. There are invariably different types of co-operatives in Tanzania such as consumer, savings and credit, Industrial and Housing. Agricultural co-operatives here are considered because they occupy a central role in the agricultural sector touching the majority of the rural population. But second, for information systems construction purpose, agricultural co-operatives will provide good lessons because they are the only co-operative institutions which are organizationally built from grassroot to national levels.

In terms of geographic coverage, the project takes up four regions with six agricultural co-operative unions. These are KNCU and VUASU in Kilimanjaro region, SIRECU in Singida region, RCU and MBICU in Ruvuma region and Zanzibar West Cooperative Union. The criterion for this regional mix has its own background rooted in patterns of co-operative development. Kilimanjaro and Ruvuma- both have a long history of co-operative development but Ruvuma has more food while Kilimanjaro food production is threatened by cash-crop production. Singida and Zanzibar both have recent co-operative development and weak food situation. Secondly, at the advent of the proposal of the database project already some amount of research had already been done in these regions hence they were not new in data profiles of the research department at the College.

5.5 Design Methodology

As pointed out earlier, the computerised database in co-operatives is a research project which aims at producing a prototype database at the end of phase I. It was also pointed out that the project has two phases is the design phase and the implementation phase.

5.5. I The design phase

Main activities of the design phase are those related to planning and designing. During phase l, there are three major functions being accomplished.

First is the training of personnel. A computer-oriented project cannot be accomplished with the required manpower. Immediately after the project was accepted, part of the programme was to send people for training. The tutors sent for training are now completing their computer studies at the University of Nairobi. After training they will take an active part in the development of the project to its end.

Second are the sensitization seminars:

Sensitization seminars for key co-operative leaders in the co-operative movement are being carried out. So far three seminars have already been contacted — for national leaders and for regional leaders from Kilimanjaro and Singida. Two seminars remain to be done or Ruvuma and Zanzibar.

Our method is that each seminar is followed by its own field research so that the issues raised during the area followed up through extensive discussions.

There are three reasons as to why we use sensitization seminars as one of the research methods:

a) To make the co-operative leaders more informed about the mission of the project, be informed about computers, information systems and information technology in general. To achieve this, all seminar sessions are conducted in computer demonstration room where simulations on the use of computers in the control of data and processing, transmission, data storage and retrieval.
b) The seminars develop awareness and direct communication between college researchers and the co-operative movement in the regions. This creates a network of contacts of senior officers in the co-operative movement so that they facilitate our research as part of the action-research team.
c) It makes the college appreciate and address problems related to information systems so that researchers can suggest solutions even if such solutions may not be based on computerization.

The third major activity during the design phase is the field research on information requirements.

It should be pointed out here that database being created is a user -driven system for all major actors in the co-operative movement. The major actors and who will eventually own the database are: the Co-operative Unions of Tanzania (CUT), the Co-operative Development Department, the Co-operative Audit and Supervision, the Co-operative College, and Co-operative Education Centre and the Co-operative and Rural Development Bank.

This field research tries to evaluate the current situation on information now within system. It also establishes the problems areas where information gets into breaks. 'The survey also tries to prepare the co-operative systems. based on computer technology.

The research process therefore, tries to evaluate and test existing tools and method of data collection. processing. transmission, storage and retrieval. The field-research is always done as a follow-up exercise to sensitization seminars.

At the moment we are still compiling data on information requirements and information systems with the major actors in the co-operative movement. Some highlights on the issues salient during our survey will be given in the next section.

But as a project, phase I is expected to produce the following outputs:

Information master plan in agricultural co-operatives. The scanning of future expansion of agricultural co-operatives by institutions and by economic activity will create a new base of information flow and information requirements. This is important in terms of planning of computer technology and computer use.

i) Prototype database

Phase I is expected to come out with a prototy0pe database which would be very useful for replication in other unions

ii) Personnel and equipment requirement

5.6 Phase Il

This phase will very much depend on output of phase l. It will however try to implement the proto-type data base in the pilot Co-operative Union in Kilimanjaro, Singida, Ruvuma and Zanzibar, as pointed out earlier.

6.0 COMPUTERISED DATABASE AS A BASIS FOR MANAGEMENT INFORMATION SYSTEM FOR CONTROL IN AGRICULTURAL COOPERATIVE IN TANZANIA

A computerised database for co-operatives is very much needed in the co-operative system specifically because it will allow the following:

6.1 Data availability in a systematic or manner

As a result of its high storage capacity, systematic data on agricultural co-operatives will always be available. This will save the co-operative movement from replying to ad hoc queries whenever they are put across to it. In our survey, it was seen that about 20% of the time for Union General managers, Regional

Co-operative Officers and for Commissioner and Secretary General was spent in answering ad hoc queries from government and party organs on critical issues about agricultural co-operatives such as crop transportation, crop storage and processing. When ad hoc queries came in, the response especially at the national level institutions was always difficult because of the massive data being handled at that level. With a computerised database, data collection, processing and storage will be automated and hence readily available on ad hoc basis.

6.2 Share ability of date by different users

Our approach to computerised database for agricultural co-operatives, accepts that the major actors will be able to share data which they need. The nature and conduct of business in agricultural co-operatives are always similar and based on crop finance, procurement procedures, marketing requirements, employment membership, training requirements, farm operations, into-store prices, exportable crops, type and importation of agricultural inputs, purchased produce and transported and Ioans.[1] This is the kind of information always needed by motional and non-national institutions. Instead of each co-operative institution managing its own database, a central database tor them to access any data concerning co-operatives will very much be cost effective and even symmetrical reporting by all co-operative institutions rather than each reporting differently on similar queries.

6.3 Allows up-dating to capture on-going changes

We have seen that the co-operative movement in developing countries is fall of changes. With manual systems now being used, storage of data and up-dating it to accommodate new changes has always been achieved at a cost. Up-dating has sometimes meant destroying or misplacing old files. A movement towards new structure for co-operatives has always meant forgetting about old structures. A computerized database while allowing for up-dating, it will also keep old data and structures.

6.4 Allows security and privacy of co-operative data

Having a computerised database does not mean that data will be available unsystematically. A co-operative data is owned data, it is owned by the major actors in the co-operative movement hence cannot

[1] Survey of Information Requirements, national field work Moshi, March 1989.

just be floating around for anybody. Because it is owned data, then it has to be protected. The computer provides protection of data through its own specialized personnel as well as its specialized languages. From the above qualifications of a computerised database in co-operatives, it should be observed that having a database is one thing and using it to develop a good management system is another. The computer is a friendly machine and an automaton of manual systems. It is not going to solve all management problems rather it is a devise to aid into the building up of a proper management information system.

6.5 Design Issues and problems

The co-operative database being designed is n national system for agricultural cooperatives. There are number of issues we need to take into serious considerations.

6.5.1 Redesigning the existing manual systems

If we want to install computer-based Management information systems for control, we need to reorganize our manual systems so that they are streamlined for computerization. One of the Database research outputs will bring the standardization of information and reporting formats. Computers will not install a new management information system but what will do is to automate the existing manual-based information systems.

6.5.2 Authentic Business and Management Reports

A computer is a friendly machine. It will accept anything fed into it whether it is fault or not. If it is lies, the computer will process such lies. It is important that cooperative management prepares itself to do honest and clean business in agricultural co-operatives. Both primary societies and secondary unions are the main generators of data because that is where the main business is conducted. Our survey has been that lack of proper record keeping at the level of primary societies has sometimes become a source of errors which reflect themselves at the national levels. Sometimes unions have missed their requirements **such as loans or farm inputs because they do not produce basic data needed to support their requirements.**

6.5.3 The Need for Efficient Communication Systems

Data generated at some point, will need to be transmitted to other points requiring it for decision making. Our survey has shown that data moves vertically from primary society levels to apex organization levels but with a lot of communications problems. Sometimes telephones do not work, but the postal system is also very slow. As a result of communications difficulties, information cannot be obtained on regular intervals of time. Late arrival of data makes budgeting poor in co-operative unions and late submission of loan requirements.

A computerised database will use advanced communications technology but this very much depends on technological developments with the Post System. So far with satellite technology only Arusha and Dar es Salaam computers can be linked to each other and communicate. The telephone system also can be used to hook and network computers for data transmission but it will need a special arrangement and timing with the Postal System.

6.5.4 Resource Deployment Imbalance

Our survey has found that not much resources have been or are being deployed at the primary and branch levels. When there are no funds at the primary level in regular terms, no business can take place and hence difficult to control and generate data also transport. Personnel deployment- skills concentrated at the centre at the expense where data is generated

6.5.5 Efficient Transportation and Delivery Systems

Agricultural Co-operative is involved production, storages, processing, transportation and marketing operation. A computer aided information and control will be more feasible if transport infrastructure transport facilities and processing systems are improved. Fast delivery systems will make it possible for a fast data generation which in turn makes automation by computers more practical. Slow delivery system means a slow computer application to the system.

6.5.6 Disjointed Line of Command in the Co-operative Development Department

The Co-operative Development Department is one of the central institutions where Co-operative data is currently processed in greater detail. Our survey however, has shown that there are currently problems associated with reporting system and accountability. The District Co-operative Officer though reports to the Regional Cooperative Officer, he is more accountable to the district Executive Director. Similarly, the Regional Co-operative Officer reports to the Regional Development Director.

This disjointed reporting and accountability disturbs the now of information from primary societies through the District Co-operative Officer, Regional Co-operative officer and eventually to the Commissioner for Co-operatives. A centralized cooperative Development Department may prove a better and efficient channel of information flow than it is now.

7.0 THE FUTURE OF THE CO-OPERATIVE DATABASE AND COMPUTERIZATION IN CO-OPERATIVES IN TANZANIA

The current situation in the business and government systems that computers and computer use is growing at a fast speed in Tanzania. This means that institutions and especially Co-operative will need to prepare themselves for computerization as an inevitable historical consequence.

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6. Sheya M. Prof. In "Daily News" paper of 16th June, 1989p. 4
7. Survey of Information Requirements, national Field Work, Moshi, March 198
8. The Cooperative College is grateful to the International Development research centre for financing the cooperative database research project.
9. York University — Co-operative College North-South Co-operative College North South Co-operative Collaboration project — 1983 Moshi and Toronto.
10. Op. cit