AVAILABILITY OF AGRICULTURAL INFORMATION IN KENYA: THE UAP CONCEPT

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ABSTRACT

Agriculture is the mainstay of Kenya economy. 35 million people need to be fed by year 2,000. "Renewed rapid economic growth" is vital if the target average Gross Domestic Product growth rate of 5.6% per annum is to be achieved. Arable areas are cultivated thus calling for intensification of farming and optimum exploitation of arid/semi-arid areas. Increased food and cash crop production ensures good health, increased income for the rural farming community (who account for 82.8% of Kenya's population (1979 Census). Government supports establishment of information systems in the country. Agricultural Information Centre for example was set in 1966 to meet the information needs of the farmer. Computer technology is being used by Kenya Agricultural Documentation Centre (in-putting centre for FAO's AGRIS information system) and Ministry of Agriculture library. They access AGLICOLA and KIT (abstracts on tropical Agriculture) on CD-ROM. The role of other agricultural related information centres have been noted e.g. ILCA, ICRAF. Extension frontline workers have to be equipped with technical information for dissemination to 2,747,951 farm households. The high illiteracy rate within the farming community calls for re-packaging of information into other medias e.g. Audio-visuals and informal information communication. Bibliographic control and resources sharing among the information units is an essential prerequisite for the UAP concept and programme which is a must for Kenya.
Introduction

A community deprived of information is at the same time deprived of any possibility of reaching the starting point for any form of progress. In Kenya the challenge that we as information disseminators have at stake is that of developing our economy by alleviating the "information poverty". The adoption of the UAP (Universal Availability of publications) concept is essential for Kenya.

Information is being and has been generated over the years and communicated amongst human beings through all sorts of mediums. We are therefore more concerned about easy availability and dissemination of this information and its generation to a lesser extent. How to selectively collect, organise and effectively avail information to our community is our optimal concern.

Kenyan population has a primary task of building the nation into a modern nation. Information in this regard is an integral part of this development. The Government's realisation of this fact has been fully exemplified in its current development plan (1989 - 1993) thus; "information and communication are resources which when organised and utilized appropriately greatly enhance socio-economic cultural scientific and technological development". In the same document, the Government has promised that "a broad policy frame regarding the co-ordination and development of the information infrastructure will be undertaken eventually leading to a clearly articulated national information and informatics policy". Noting that "effective information and communication can only take place in an environment of literate Mwananchi", the Government has vowed to put more emphasis on adult literacy programmes.

This paper will specifically deal with availability of agricultural information. Particular attention will be paid to the farming community who I believe are more hard hit by the "information poverty".
Agricultural Sector

Kenya is essentially dependent in its economy on agriculture. It is the major foreign exchange earner for the country and of course provides food for local consumption and sale. The 1989 economic survey indicates that Kenya continues to rely heavily on agricultural exports although its percentage share has declined from 67.5 per cent in 1986 to 59.5 per cent in 1988.

In general the value of output of small and large farms rose by 15.5 per cent and 15.8 per cent respectively (1988). The nearly equal percentage (see Table 1) changes for both producers indicate that their shares in the total value of marketed production remained about the same in 1987. What interests us here as information disseminators is the equal value of our small scale and large scale farmers. They deserve equal attention in terms of information provision.

As far livestock production, the closure of the Kenya Meat Commission (KMC) and Upland Bacon Factory affected the production and sale of livestock and dairy products. The Government took measures last year to revitalise the two (KMC and Bacon Factory) making them fully operational again. The other licensed abattoirs have continued to increase their production thus positively indicating a higher and steady growth rate.

It is estimated that 35 million people will need to be fed by the year 2,000 (sessional paper no.1 1986) and the population growth rate will have gone up to 4%. The Government has in this sessional paper called for a "renewed rapid economic growth" if the target average Gross Domestic Product growth rate of 5.6% per annum is to be achieved.
Arable areas are already cultivated thus calling for intensification of farming and optimum exploitation of arid/semi-arid areas which constitute two thirds of the total land's surface.

Increased food, cash crop and livestock production ensures good health, increased income especially for the rural farming community (who account for 82.8% of Kenya's population (1979 census).

(ii) **Background to the UAP (Universal Availability of Publications) concept and programme**

UAP;

- Was initiated by IFLA and is fully supported by UNESCO.
- is both an objective and a programme
- concerns itself with availability of relevant published materials to users as an essential element in economic, social educational and personal development.
- aims to improve availability at all levels
- is relevant to all those concerned with production storage, dissemination, conservation and use of publications thus; authors, publishers, distributors, librarians and information scientists and the clientele as the beneficiary.
- seeks to identify the constraints to availability, and encourages and supports action towards their alleviation.
- provides guidelines for national AUP planning policy and development.

1. **Agriculture Information Infrastructure**

It is estimated that one quarter million items are published in the world in the agricultural field annually. To be able to have access to these items, cohesive collections of information resources will be required. The information units (libraries and documentation centres) in
each country will have to organise their materials in such a way that their respective clientele have easy access to them and that other countries can also equally benefit. Brief notes on each of the information units within the Kenya agriculture are appended here below:

1.1 Ministry of Agriculture Information Services Branch

Agricultural Information Services Branch is within the Agricultural Extension Services Division (see organograph fig 1). It has three main information units namely (i) Ministry of Agriculture Library System (ii) Agricultural Information Services (AIC) (iii) Kenya Agricultural Documentation Centre (KADOC).

1.1.1. Ministry of Agriculture Library

The above library was incepted in 1907 to serve the Department of Agriculture staff and farmers who happen to have been the white settlers. Branch libraries were founded in the field research stations in the early sixties to serve the research workers. Later on more library services were established in the Districts and Provincial agricultural offices, Agricultural institutions and Farmers Training Centres, Until recently (1988) when the research stations were moved to KARI (Kenya Agricultural Research Institute) the whole Ministerial library system had a total of 92 Branch Libraries.

(i) Collection and Coverage

The library collects documents on agriculture* and peripheral subjects on science and technology. It has a bias to forestry publications which are intensily covered by KARI and Ministry of environment and natural resources, forestry department. The total collection of book volumes and bound periodicals is over 170,000** volumes of books and bound periodicals with an average of annual addition of 3,000 volumes.

* Agriculture here includes animal production.

** Figure includes the stock in Branch libraries as well.
The total number of national and international scientific and technical journals on subscription ranges from 500 titles in 1978 to 233 in 1990. The paid subscription list has been cut down from 359 in 1982 with multiple copies for the branches to 92 titles single copies only. This cut down was brought about by the high rate of inflation, escalating prices of journals, and the poor almost static budgetary provisions from the Ministry.

(ii) Services Available

- Lending
- reference and information service
- current awareness services i.e. current journal issues circulation and display, Informal Selective Dissemination of Information, and in house publications such as the quarterly accessions list, selective monthly index to the core journals in the collection (temporarily ceased publication), and the monthly agricultural news bulletin from the Kenya dailies.

Intensive literature searches on secondary literature e.g. the Commonwealth Agricultural Bureau International's abstracts and Indexes. Similar searches are now being done by KADOC and Library from the International Agricultural data bases on the CD-ROM (Compact Disk - Read Only Memory). The data bases currently under access are the AGLICOA (produced by the Information Systems Division of the National Agricultural Library (NAL) of the United States Department of Agriculture and the KIT Abstracts (produced by the Royal Tropical Institute in Amsterdam, the Netherlands. The KIT abstracts are available in the library in hard copies and I am pleased to report that the CTA (Technical Centre for Agricultural and Rural Co-operation) has offered to pay for all the copies of journal articles requested by the users.
The same body has installed the computer facilities for use by the Library and KADOC in its spirit to provide the ACP (Africa Caribbean and Pacific) countries with better access to information, research, training and innovations in the spheres of agricultural and rural development and extension.

- Inter-lending services are available to other libraries provided that proper arrangements are done.

- Inservice training of untrained personnel from related libraries which have no professionals to run them. A recent example is the Coffee Research Library which sent out an officer here for one month after which she was to look after their library while awaiting formal training.

(iii) Users

There is a wide range of users who include the research workers, extension workers, planners, administrators, lecturers and students of agriculture, commercial firms, and manufacturing industries and the parastatals within the agricultural sector e.g. the Kenya Sugar Authority etc.

1.1.2 Agricultural Information Centre (AIC)

A.I.C. was incepted in 1966 in Kenya to meet the information needs of the Kenyan farmers. It has expanded over the years and currently has four main units thus (i) information unit which identifies, collects, processes and disseminates agricultural information (ii) publications unit which deals with production and publication of printed materials (iii) Training Unit which organises courses on communication skills for the extension staff. (iv) Visual aids unit which caters for the production of visual aids.

The library which provides the back up literature has a collection of 70 volumes of books and 70 films, 20 tape/slide shows and 150 pamphlets.
A.T.C. distributes publications to farmers at subsidized cost and free to agricultural extension workers; operates mobile cinema vans throughout Kenya especially in the Agricultural Society of Kenya Shows; makes extensive loans of films to local institutions; holds conferences and training programmes; produces films and other audio-visual materials.

1.1.3 Kenya Agricultural Documentation Centre (KADOC)

KADOC was incepted in 1978 to select collect and organise the Kenya Agricultural Literature (mainly non-conventional research reports) for use by the agricultural clientele in Kenya and world at large. It is the Kenya's input Centre for AGRIS (International Information System for the Agricultural Sciences and Technology) of Food and Agricultural Organization (FAO).

It publishes the Kenya Agricultural Abstracts (KAAS) (Current and retrospective series) for distribution to between 500 - 1000 information Centres in the field. Back up literature is freely available to all users on microfiche or paper format. Subject bibliographies are made for use mainly by subject specialists and research workers. Selective Dissemination of Information (SDI) is done for individual and group users e.g. those running specific development projects. Sources used for this service are the AGRENDEX produced by AGKIS system, the KAAS, AGLICOLA and KIT Abstracts on CD-ROM (noted in the previous text).

The CABI* abstracts are available for searches in print format but plans to acquire them on CD-ROM are underway. The Document Delivery Service of the British Library is used for back up literature where articles are nowhere else available in the republic. UNESCO coupons are used to pay the costs of photo copies thereby saving the Ministry the problem of foreign exchange.

* Commonwealth Agricultural Bureau International
KADO covers materials on Agriculture and the peripherals except forestry and fisheries.

1.2 Ministry of Livestock Development Information Units

The Ministry of Livestock development headquarters staff mainly depend on the Ministry of agriculture library collection. This Ministry has for a long time been part of the Ministry of Agriculture and therefore Agriculture Collection covers animal husbandry in its subject scope.

The veterinary Research Laboratories (Central Laboratory) library was set in 1907 to serve the Department of Veterinary. It has about 110 branch libraries in veterinary investigation laboratories, Provincial, District, and Divisional Centres. The three Animal Health and Training Institutes' Libraries i.e. Ndomba, Kabete, and Nyahururu are part of this library system. It has a large collection on Veterinary Medicine and Natural Sciences.

1.3 Forest Department Library (Ministry of Environment and Natural Resources) has 30 current periodicals on Forestry.

1.4 Government Parastatal Libraries do house materials on their subject areas. The officers in these organisations tend also to depend on parent Ministries' libraries for information. KARI (Kenya Agricultural Research Institute) falls under this category with 89,000 items including periodicals, and 520 periodicals. KARI has since 1988 been looking after the Reserves stations libraries earlier run by the Ministry of Agriculture Library. Its Literature Service using National and International Scientific and Technical Journals is useful especially for the researcher. KARI provides this service (photocopy of selected articles from pre-circulated contents pages) free.

1.5 Academic Agricultural Oriented libraries Other than those under Ministry of Agriculture and Ministry of Livestock Development. KUCAT
These include the University of Nairobi College of Agricultural and Veterinary Sciences, Egerton University, Moi University Faculty of Forestry and Jomo Kenyatta College of Agriculture and Technology (JKCAT). Egerton and Nairobi University Kabete Library have the largest collections with 15,000 books, 700 current periodicals and 30,000 books and 600 current periodicals respectively.

1.6 KENSDOC (Kenya National Scientific Information Documentation and Communication Centre)

This information unit has a special service as a referral centre i.e. directs users to relevant information sources on science and technology. It has a collection of 700 items 100 current periodicals which are primarily used for dissemination of scientific and research information to the National Council for Science and Technology staff. Access to reference and information service for the public is easy.

1.7 Agriculture and Veterinary Oriented International Organisations in Kenya (AVIOK)

We are very lucky to host so many agriculture and veterinary oriented international organisations whose well stocked libraries and documentation units are available for reference and information services to the public thus; FAO Library, International Council for Research in Agroforestry (ICRAF) Information and Documentation Centre, International Livestock Centre for Africa (ILCA) Library, United States Agency for International Development (USAID) Regional Office - REDSO Library, International Bank for Reconstruction and Development (World Bank) Library, International Centre of Insect Physiology and Ecology (ICIPE) library and Documentation Centre, International Laboratory in Animal Diseases (ILRAD) and IBAR (International Bureau for Animal Resources) Library.
General proposal for the Programme for Kenya Agriculture

Five areas are going to be discussed thus:
Selection, Acquisition, Organisation of Material, Dissemination of available information and the assessment of its effectiveness;

2.1 Selection

All the possible sources should be scanned taking into account the levels and needs of the varying information user groups to be served by individual information units. Possible selection tools will include the National and International publishers catalogues of monographs and serials, book reviews, subject specialists as pointers to documents that they may have come across, the National International and subject bibliographies and finally subject and accessions lists and indexes such as those published by ILCA. It is necessary to mention here that some of the international bodies e.g. FAO, CTA, do offer some of their very useful publications free to the developing countries and it is wise to be on the lookout. Sources like the bi-monthly FAO Documentation and the Kenya Agricultural Abstracts by KADOC are worth regular scanning for free copies of documents.

2.2 Acquisition

Financial constraints do inhibit information professionals from acquiring some useful documents that they may see cited somewhere. This paper suggests that the agricultural information professionals come together (may be annually) and review their selections lists to see where there is duplication. In this way they will be able to decide who is to buy what for use by all. The academic institutions may find this rather limiting especially for monographs because our universities are not in close quarters where students can walk in and out. As for the serials, co-operative acquisition is necessary especially for primary journals. It is quite easy to call for a copy of journal article from any part of the country.
Use of Overseas Agents have proved to be very expensive because one will be expected to pay some commission. The Crown Agents (U.K.) for instance charges 15% commission. The KIA (Kenya Institute of Administration) bookshop has a legal mandate to purchase publications without charging any commission to the Government libraries. This facility needs to be used as an alternative to any agent.

Gift and Exchange method of acquisition is very handy as no finances are involved. The Ministry of Agriculture for instance receives a total of 111 journal titles in multiple copies through this method.

Actual visits to select and collect documents from research stations, agricultural institutions and subject matter specialist offices is necessary. KADOC mainly engages on this method of acquisition.

2.3 Organisation

Every information unit however small is a valuable component of the whole information infrastructure. Information in any format i.e. print or non-print should be well recorded in accordance with the international standards. Standardization of our records is useful if we are going to have effective "national focal points".

2.4 Dissemination of Information

Scientific and technical information is a valuable resource for development. It is very expensive in terms of material and the personnel needed to effectively organise and disseminate it. No country is going to afford not to have it as not having it means losing development opportunities. At the stage of dissemination the information professional will have two important items at his finger tips thus one hand will have information and the other the user needs. The crucial point is the merging of the two as each has to be compatible with the other.
All forms of current awareness will have to be adopted as need be. These will include the display of current materials, distribution of information Newsletter, directories, accessions lists and abstracts and indexes of current materials. The radio and the press are useful tools especially for the farmers. The Selective Dissemination of Information (SDI) is necessary especially to subject matter specialists or project groups whose information needs are homogeneous. One ought to be sure of adequate back up literature before venturing into this kind of service as it can have a negative effect if one cannot provide the actual documents. This mainly occurs when the service is being run from Secondary sources such as data bases and abstracting ap indexing journals.

2.5 Effectiveness of Services

Frequent assessment of the information services is necessary so as to make sure that we are following the right direction. Availability has to go with user satisfaction.

2.6 The impact of new technology on the availability of Agricultural Information

"Information technology" is universally accepted as application to information processing of current technologies from computing, telecommunications and microelectronics. "The new technology is an area that arouses both interest and speculation: a number of scenarios, sometimes conflicting, have been put forward depicting the brave new world in which library and information services may expect to operate. Much of what has been written has concentrated on technological possibilities rather than realities and probabilities. The gap between what is technically possible and economically or socially probable or desirable is often a wide one". UAP Newsletter No.5 January 1985).
The new technology I believe should not be taken with fear. (Were, 1986) has confirmed to us that computers arrived in the Kenyan market in the mid-fifties and I presume that they have been in use in other areas since. Computers are already indispensable in many branches of research in field of science and technology. In Agriculture for instance almost all the projects that have been taken up by the Ministry are using computers to analyse their data especially at the pilot levels. Information disseminators should therefore not go computers for the sake of mere change. They have to take time to make their decisions in the light of facts about their library and information units. They for instance have to weigh the expenses involved in installation and maintenance versus the end product i.e. whether it is going to facilitate better services to the end user. The information technology one should consider does not make the information workers deviate completely from the orthodox information tool i.e. the print media. It makes him think positively of other possible ways of collecting controlling disseminating and conserving information. It also allows great sharing of information destroying the concept of distance. New technology as noted by (Kinney, 1988) is a "sophisticated technology ....... is not intended for direct use by or for illiterate or semi literate people. But it may have a significant impact on the flow of relevant information into sub-Saharan African countries at a level where it can be used in re-packaged to directly or indirectly benefit rural people".

The formation of the KENISIS group is a step forward in information technology as we are going to have some form of standardization in our information systems thereby facilitating greater sharing of information. In the agricultural sector, the Ministry's library and KADOC are making arrangement for joining the group, while JKCAT and Moi University library are already members.
3. Problems related to ALP in Kenya

- inadequate budgetary provisions for acquisition of documents.
- ineffective legal deposit law and late production of the Kenya National Bibliography (the current issue having 1984 documents).
- no formal co-operation among related libraries to facilitate inter-lending etc.
- lack of intensive use of existing collections by the users depicting lack of effective user education programs.
- Lack of effective bibliographic control in the country especially of non-conventional literature.
- some documents especially the scientific and Technical reports are written in languages that laymen cannot fully understand.
- the communication infrastructure especially in some remote parts of the country are poor.
- no formal information needs studies have been done on the respective user groups.
- theft and mutilation of books is common in academic libraries while in the civil service the officers are notorious with overdues.
- lack of adequate information communication to the information poor i.e. the farming community.
- Ineffective user education programmes especially for the lecturers students, and the research workers to enable them access materials on their own.
inadequate trained personnel to run the information units. As an example, almost all the research stations are currently being run by clerical officers and where possible a researcher is given the maintenance of the library as part of his day to day routines. KARI is however working hard to train more personnel especially at professional level. Majority of the personnel running the Agricultural sector libraries have no science subject background which is in itself a limitation when it comes to some tasks such as the formulation of subject search strategies from a scientific and technical data base. KADOC had fore seen this limitation early enough and therefore engages Agricultural Officers (Bsc Agriculture) and trains them as Documentalists to run the unit.

4. Possible Solutions to UAP Problems in Kenya

- Information units to work hard to prove their worth so that the administrators and decision makers can allocate more funds for information. The units' reports should show out the practical activities through correct data presentation.

- Kenya National Library Service Bibliography section to come up with a frequently updated National Union Catalogue of serials and monographs together with current bibliography (i.e. 1989 documents) and current serial titles lists.

- Directories of the various key personalities in each subject field as human sources for reference to be compiled.

- Need for library and information units, conventional publishing, book selling, and distribution to adopt the new technology for more quicker and accurate services.
1. Formal studies of user information needs and information seeking habits be studied and monitored to form the basis for the acquisition policies.

2. Frequent appraisal of information units services with an aim to make them better.

3. Manual groundwork (i.e. organising the stock) is a must before any information technology is adopted as it does not work miraculously.

5. **Small Scale*(Peasant) Farmers as a Special Information User Group**

The peasant farmers are here referred to as a "special information user group" because they are either illiterate or semi-literate. Very few if any can read and comprehend the information bulletins from let us say A.I.C.* research stations etc. in print format. They are an indispensable group in the development of our economy. They solely depend on their farm produce for their family income and subsistence. The farm households currently stands at 2,747,951 (sessional paper for Agricultural extension services Division; 1st Draft).

5.1 **Information needed by the small scale farmer**

- Experimental work which have to be applied on the farm e.g. on variety trials, rotational experiments, soil conservation trials and new locally made farm equipments e.g. cutters and grinders.

- Other information needed include information on farm inputs e.g. fertilizers, pesticides fungicides capital and credit facilities and commodity market prices.

5.2 **Current sources of information for the Keny's farmer**

The agricultural information must be seen as an unbroken chain stretching from the researcher way down to the farmer

* owns an average of 2.3 hectares of land.
and vice versa. The smooth flow of information between these two groups is essential. This flow is ascertained through the Ministry of Agriculture front-line extension workers (Agricultural Assistants - AAS and the Junior Agricultural Assistants JAAS). The Extension Division (see organograph fig. no. 1) plans and executes extension services in Kenya. The methods used include (i) monthly workshops and tours (ii) fortnightly training sessions (iii) use of contact farmers - (selected farms where surrounding farmers meet to learn useful information/technologies which they can later apply on their farms (iv) adaptive trials - (held to verify recommendations from research e.g. on varieties spacing, fertilizer and chemical rates etc.) (v) professional groups (in each Province to plan and advise on farm trials and act as resource groups) (vi) field days/demonstrations (vii) Agricultural shows (see fig - 2 for the link between research farmers and extension). The training and visit (T & V) method of extension approach adopted in 1982 has enhanced the information base for extension.

5.3 Requirements for Agricultural Extension Information Transfer

- non print media e.g. Audio-visual materials e.g. films and video recordings

- Practical demonstrations preferably in ethnic languages

- resource centres within the reach of the frontline extension worker where he can borrow materials for use.

- basic materials for new literates to cover basic relevant subjects such as basic Agriculture, Health, Nutrition etc.

- increase in the number* of frontline extension agents and their intensive training in communication skills.

*staff: farmer ratio range = 1:86 and 1:1738 in Mombasa and Machakos respectively.
AIC and other information units e.g. the District Information and Documentation Centres (DIDCS), District Development Centres' Libraries, Kenya National Library Services Branch Libraries and field Research centres' libraries to co-ordinate their services and equip them with useful materials for the farmers within their ecological zones. Extension of AIC to form rural branches would be very ideal. This plan should be enlisted in the Ministry's future development projections.

CONCLUSION:

The promotion of the UAP plan for Kenya is a must particularly now when "renewed rapid economic growth" is necessary. Equity in information availability in Kenya is a must for all the diverse groups of information users.

There is need for a National UAP Committee within KLA (Kenya Library Association) if not yet established to draw guidelines for the implementation of this dynamic concept and programme.
### Table 1.

**SALES TO MARKETING BOARDS FROM LARGE AND SMALL FARMS, 1984 - 1988**

| YEAR | LARGE FARMS | | | SMALL FARMS | | | TOTAL | | | PERCENT-
|------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|AGE
| 1984 | 386.22 | 42.3 | 402.53 | 41.7 | 788.75 | 42.0 | 51.0 |
| 1985 | 346.63 | -10.3 | 409.31 | 1.7 | 755.94 | -4.2 | 54.2 |
| 1986 | 515.53 | 48.7 | 422.79 | 3.3 | 938.32 | 24.1 | 45.1 |
| 1987 | 432.07 | -16.2 | 385.63 | -8.8 | 817.70 | -12.9 | 47.2 |
| 1988 | 500.21 | 15.8 | 445.33 | 15.5 | 945.74 | 15.7 | 47.1 |

* Provisional.

Source: Kenya: "Economic Survey 1989"

### Table 2.

**ENROLMENT IN AGRICULTURAL TRAINING INSTITUTIONS*, 1984 - 1988**

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Institution under the Ministry of Agriculture and Ministry of Livestock Dev.

* Provisional.

Source: Kenya: "Economic Survey 1989"
LINKAGE BETWEEN RESEARCH EXTENSION AND FARMER

RESEARCH

Professional Groups
Monthly Workshops
Fortnightly Sessions

Trials
Field Days

EXTENSION

FARMERS

Farm Visits
Field Days
Demonstrations
Shows

Source: Sessional Paper for Agricultural Extension Services Division, 1st Draft 1968.
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