

THE DEVELOPMENT OF AN INDUSTRIAL SOCIETY FOR UGANDA: AN INTEGRAL NEED FOR UGANDA'S INDUSTRIAL DEVELOPMENT

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Abstract

This paper examines the environment within which Uganda can be productively involved in the process of building an information society for industrial development. There are concerted efforts by the government of Uganda and civil society organisations in the country towards the development of information literacy and establishment of an information society in an industrialised society. Strategies for the establishment of an information society entail the need to integrate information society initiatives into the country's industrialisation development plans. This paper discusses the strategies for the establishment and proper functioning of an information society in Uganda's industrial development.

1: Introduction

['People no longer buy shoes to keep their feet. They buy them because of the way the shoes make them fit in society'.]

Different societies have different needs. These needs reflect the livelihoods, resources or knowledge needed for the well-being of that society (Overseas Development Administration 1995:35). Society is characterised by individuals, institutions and structures (Ikoja 2000:96). The structures capture, store, process, manipulate, display and transmit data/information. Institutions on the other hand have policies, systems, and plans. For institutions to develop visions for the society, individuals in that society must exploit their environment like in the areas of health, education and access to resources (Draper 1993:6). The resources in the traditional sense of production include labour, capital, land, and entrepreneurship. However, in this era of globalisation, information is a fundamental resource for any society and it is important that we understand how it can be effectively utilised.

To utilise information, societies need to be literate about their needs. Being literate in this sense, according to Stanley (1972) as referred to by Hillerich (1993:10) is "the minimum capacity both to understand the moral implications of and to act upon the demands of competence of what a particular society defines as responsible participation of a person [in a]

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society". However, Ribeiro (2001:33) believes that literacy by itself cannot provide attitudes towards information utilisation. Attitudes towards information use and utilisation relate to everyday life and affect the public. It is this attitude that needs to be exploited for the Country's industrial development.

There are concerted efforts by the government of Uganda and civil society organisations in the country towards the development of information literacy in the industrial development programmes. However, this requires a strategy to integrate information society initiatives into the country's industrial development plans. The question is which strategy best suits Uganda's industrial development.

2: Theoretical Background to the Development of an Information Society

For a community to be defined as "an information society", it takes different stages from being an information conscious society to an information literate society (Garfield 1993:230). According to Garfield, an information conscious society is a society in which people realise the importance of the need to access information. Societies in developing countries including Uganda have limited means to access such information. Knowledge on how to access information seems important in the development of an information society. That is why authors including Bruce and Candy 1995:247), Booker (1995:), Garfield (1993:231) believe that an information literate person is that who knows the techniques and skills for using tools in modelling solutions to problems. In developing countries, including Uganda, lack of available resources has contributed to low development of an information literate society. To be literate, a person should have the ability to access, evaluate, and use information from a variety of sources. In Uganda, there are limited sources of information. There is also limited capacity of the user's ability to access and evaluate the information for effective use. In the globalisation, and modernisation of economies, Alonso (1995:4) contends that an information literate person should be associated with 'infotec' revolution. Many organisations in Uganda have attempted to introduce Information and Communication Technologies (ICT) with varying degrees of success. There seem to be lack of a strategy on how ICT can be integrated in their development programmes. It remains that the development of information literacy is the ability to locate, manage, retrieve, and decode information using a variety of forms (Kirk 1995:2). That is why Garfield (1993:231) imagines the information society to be "when all people in all parts of a society have rapid access to information they need". To have rapid access to information requires a society to be literate about their needs. The industrial society in Uganda is not only illiterate about the information needs but also have negative attitude towards access and utilisation of information.

Needs for information according to Feather (1994) are described in three dimensions: the historical, economic, and political. To satisfy these needs, the political dimension has to take a lead to address the gaps between the information rich and information poor (National Research Council 1993:1). This is more likely to develop positive attitudes towards information access and use. It is also likely to develop the society literate about their needs. Political situation in Uganda seems not to have a good will that is motivated to meet the needs of all levels of societies. The question of balancing the needs and resources (information) requires an approach that is all embracing, and incorporating the whole society at large for social and economic development. Although various countries have worked towards co-operation and information sharing strategies, Alexander (1997) hopes that activity-based learning and collaborative learning, should be integrated in the mainstream teaching in the education system of a country towards the development of an informed industrial literate person. The activity based learning implies being literate about the activities or event in question. However there is a need for people to accept and appreciate each other in all their socio-economic and cultural diversity to work towards an information society for industrial development. That is why Tryfan (1984) believes that programmes like creating and communicating knowledge, promoting gender equity, information management, access and strategies for utilisation of information should be at the forefront towards the establishment of an information society for industrial development. Although various authorities have attempted to define a strategy for the development of an information society, no framework has been developed to integrate the information society strategies for industrial development.

3. Information Age Reform Approaches

From the above discourse it can be deduced that an information society is defined according to how it utilises information to meet its needs. That is why it is important to move towards the establishment of an information society.

Heeks (1998) describes four approaches towards reform and development of societies. These approaches are Ignore, Isolate, Idolise, and Integrate.

The Ignore Approach: In this approach, leaders are ignorant about information technologies and systems. They therefore do not include Information Technology (IT) and Information Systems (IS) in either their plans or reform. [Even when the Computers are present, they remain unused]. This is true for most of the industries that are more of labour intensive.

The Isolate Approach: In this approach, leaders remain computer literate but lack an understanding of the information role. They nevertheless are aware of IT and its potential. Investment is therefore included in reform plan [but is seen as a separate responsibility of 'computer experts'. Normally, use of computers is seen as after thought and is not linked to any systematic way in the process of reform. This is a common characteristic of most of Uganda Firms that use computers and ICTs as a support service rather than an input tool to the organisational functions.

The Idolise Approach: Here, Leaders have become semi-literate. They use computers and are over-aware of IT potential. They believe that IT can transform the business of the Organisation. They are dimly aware that information is something important. The organisation becomes awash with IT driven reform projects, which place technology at the heart of the change process. [This approach aims at using IT in the development process]. Although, this approach can lead to the development of Information Society, it fails in issues of Sustainability of the approach in areas of Investment in People. This approach is more likely to be expensive for the majority of companies in Uganda. It requires heavy investment in both functions and technology.

Integrate Approach: This is an approach where individuals in a society have become information literate. The members recognise information as a key organisational resource that is central to all functions. They believe that information technology (IT) plays a secondary role to the achievement of their function. IT is seen as a means to achieve certain reform ends, but not as an end in itself. In this approach, organisations place information in the driving seat. Heeks (1998:12) believes that in the information age, the integral need approach is the way forward by adopting strategies towards the establishment of information society. In Uganda, many companies fall in ignore approach and this has limited industrial development in the country. In the information revolution era, industrial societies have to work towards integrating information systems into their development strategies. The aim of this paper is to show how Uganda can adopt this approach towards the information society for industrial development.

4: Information Society Initiatives for Industrial Development

Developed countries have been referred to as the industrialised countries. This has tended to equate development with industrialisation. Indeed the development of many of the successful Asian countries referred to as the newly industrialised countries is believed to have been driven by the recent growth of industries in those countries. Industrial revolution in Europe was sparked off by breakthroughs in technology including the steam engine and electricity. It is a fact that industrialisation requires advanced technology and

heavy equipment. For developing countries, which are late in industrialisation, the approach is to focus on those areas where they have a competitive advantage. This is more important, by the fact that technology is now available, some times more cheaply, and can easily be adopted. Developing countries may adopt this technology and industrialise. Information and Communication Technologies (ICTs) have revolutionised business all over the world—like the development in steam engine and electricity did during the industrial revolution. In an effort to embrace the use of ICT in the industrialisation process, various organisations in the world have demonstrated the globalisation strategies to promote its use in developing countries.

Efforts have been made towards the establishment of an information society for developing countries. Some of these initiatives are based on Resolution 812 (XXXI) made in May 1996 at the 22nd Meeting of the Economic Commission for Africa (ECA) Conference of Ministers that recommended and adopted the implementation of African Information Society Initiative (AISI) (Amonoo 1998:4). To take up these initiatives, UNESCO (2002) has put up a programme for building an information Society for all. The programme is intended to promote international reflection and debate on the ethical, legal and societal challenges that come with the information society. It is aimed at promotion of wide access to information in the public domain, support training, promote continuing education and life long learning, support the production of local content, and foster Indigenous Knowledge (IK). The programme promotes international standards and information, and knowledge networking at the local, national, regional and international levels. The five areas of activities include:

- Development of international, regional, and national information policies;
- Development of human resource capacities for information age;
- Strengthening of information gateways for information access;
- Development of information processing and management tools and systems;
- Information technology for education, science, culture and communication.

To be able to address global concerns in the development of an information society, it is important to establish the current state of information and take stock of government and civil society organisation efforts to be able to define the way forward for Uganda Industrial development. More importantly, it is important to address global forces of the World Trade Organisation, International Telecommunication Union (ITU). It is also important to recognise the efforts of the regional blocks including, African Growth and Opportunity Act (AGOA), Common Market for Eastern and Southern Africa

(COMESA), and the East African Community (EAC) that require a framework for integrating the information society initiatives into the national industrial development programmes.

5: The Development of Information Society in Uganda

Uganda Vision 2025 aspires for a society that recognises information as a national resource and a co-ordinated network of information sources, systems and services (Government of Uganda, 1999:15). The Vision's objective, among others, is optimum utilisation of information. The Vision also aspires for a well-developed national depository library, and a records system to collect, preserve, and disseminate information; encourage and educate the public on effective records management and adequate documentation. The Vision provides the establishment of an enabling environment that will foster the development of Information and Communication in the society with the highest impact on socio-economic, political and industrial development at the national and local government levels. According to the Constitution of the Republic of Uganda, 1995.

Every citizen has a right to access information in the possession of the state or any other organ or agency of the state except where the release of the information is likely to prejudice the security of the state or interfere with the right to the privacy of any other person.”
(Government of Uganda 1995, Article 41(1).

Basing on constitutional provisions and aspirations of Vision 2025, a number of strategies have been put in place towards an information society for Uganda's industrial development:

5.1 Information and Communication Systems

Attempts towards the development of information society in Uganda can be described as a 'trial and error' approach since early 1970s when Uganda embraced the concept of National Information System (NIS) and in 1974 a national committee was set up to translate the idea into a structure. These efforts were again tried in 1986 by setting up a committee under the auspices of UNESCO and Ministry of Public Service. The project of NATIS was accepted as a government project under the Ministry, a draft bill was made in 1992 but never presented to parliament. This was the end of the project, no study has ever been done to revive the concept of the NIS. In 1999, the Department of Information, Presidents Office with the assistance of UNESCO drafted the Information and Communication White Paper (Okullu-Mura 2000). The White paper defines information and communication strategies for the communication and broadcasting sector. The other developments that have impacted the information sector are explained in the table below.

Table 1: Information and Communication initiatives

Policy	Institution	Functions
The Press and Journalist Statute 1995	Media Council, and the National Institute of Journalists of Uganda.	Regulating for eligibility for media ownership and requires journalists to register with the Institute.
Telecommunication Policy, January 1996	Uganda Telecom Limited (UTL) and Uganda Post Limited (UPL)	To liberalise the telecom sector in Uganda. Introducing competitions in the telecommunication sector.\
The Electronic Media Statute, 1996	National Broadcasting Council	Setting both technical and administrative standards, and supervising broadcasting ethics.
Uganda Communications Act, 1997	Uganda Communications Commission	Set national communication standards, set up rural communication development fund, and Uganda Communications Tribunal.
National Records and Archives Act, 2001	Rationalised management of all government and public records and Archives under one single authority, for preservation, utilisation and disposal of such records.	
National Library Act, 2003	National Library of Uganda	Depository and preservation of publications, setting up an information referral service and library co-operation in the country.
The Access to Information Bill, 2004	A Chief Information Officer	Right of access to information, manner, disclosure and rule and regulations. It is still pending parliament approval.
Policy Initiatives: Revision of the 1964 Copy Right Act, The School Library Development Policy, 2003 (Ministry of Education and Sports), the Information and Communication Policy, 2003 (National Council for Science and Technology), and Information and Communication White Paper, 1999 (Department of Information, Presidents Office).		

The availability of the above initiatives, especially with the liberalisation of the economy seems to have impacted the industrial development initiatives in Uganda. By the end of 2001, there were more than 60,000 fixed telephone lines connected, and 150,000 mobile phone subscribers. Uganda Telecom (UTL) has embarked on projects in an effort to enhance the development of an information society to develop the industrialisation in the country. Projects like East African Co-operation Digital Project, Tele-centres, NURP-TC project, Microwave links, and Kampala Optical fibre distribution ring (UNCST, 2001) are rapidly increasing the opportunities for information access to enable industrialisation in the country.

Privatisation and liberalisation of the economy has brought competitive investment opportunities that have promoted local industries to develop their information access capacities. There are increasing Internet Service Providers, internet cafes are mushrooming in towns, and a number of NGOs and institutions are offering a range of communication services which include telephone, fax, email, Internet, and computing. Many industries have incorporated ICTs in their main stream functions or utilised the public ICT services. This is a driving force for Uganda towards embracing ICTs in an effort to eradicate poverty in the industrialised informed society. This force is based on a need-based strategy that recognises the value of information towards industrialisation of the economy.

Although there appears to be developments in information sector, none of the policies targets access of information for industrial development. However, there are some disjointed initiatives that have attempted to address how information can be accessed towards an industrialised society.

In recognition of the need to develop appropriate and deliberate policies and strategies in order to enhance the role of ICT in poverty eradication, the Uganda National Council of Science and Technology –UNCST (2001:22) initiated the draft of the Information and Communication Technology policy. In its draft policy statements, its vision is to have a “Uganda where the overall national growth and development is sustainable, enhanced, promoted and accelerated by the application and use of ICT”. The draft policy provides strategies for the regulatory environment that makes the backbone of industrialisation in the country. However this draft policy puts more emphasis on hardware investment than the content and services offered, which are the engine of the information society. This limits the industrial society to access relevant information.

5.2: Developments in Indigenous Knowledge

African countries are rich in indigenous knowledge in which they have a competitive advantage towards industrialisation. There are a number of attempts towards the utilisation of indigenous heritage with varying degrees of success.

For example, the UNCST has gone a step ahead in the promotion of information society initiatives for industrial development. These developments include: integrating science and technology into the district programmes; technology provision and development activities; promotion of the traditional healing system; and the adoption of a national steering committee for Indigenous Knowledge (IK). The council emphasises documentary heritage and preservation of information. UNCST (1999) adopted IK on its agenda. In a workshop on IK for development initiatives, it recommended advocacy and sensitisation as well as creating awareness. A forum to formulate the national strategy and framework of action for development and application of IK in Uganda was set up. The Council emphasises the social, cultural, legal and ethical dimensions of the new information technologies. This would be realised with the development of an appropriate level of skills and of information literacy capacity for the development of Industries in Uganda.

5.3: Education for All

The vision of the Ministry of Education and Sports is: “Quality education and sports for all”. The mission reflects Uganda’s current and medium term priorities for the education sector. In its Education Strategic Investment Plan (ESIP) policy objectives, it aims at equity of access to all levels of education and building the capacity to provide public services and enable private service delivery (Government of Uganda, 2001).

The government of Uganda has also continued to make education available to children outside the school-going age bracket. This has been achieved through the provision of alternative programmes such as Complimentary Opportunity for Primary Education (COPE), Alternative Basic Education for Karamoja (ABEK), and Basic Education for Urban Areas (BEUPA). In collaboration with the Uganda National Institute for Special Education (UNISE), and National Curriculum Development Centre (NCDC), the Ministry of Education and Sports has appropriately developed various dimensions of special education. This is more targeted at training of teachers in the use of sign language, ways of handling children who are mentally retarded and making appropriate teaching aids (Government of Uganda, 2000). In its ESIP policy framework, the Ministry of Education and Sports (1998) prioritises universal access to high quality primary education and increasing the number of young people with benefit from relevant quality secondary education opportunities. It is hoped that this will build the backbone for an informed society for Uganda’s Industrial development. It is now a policy for all primary schools to offer integrated production skills (Uganda. National Curriculum Development Centre 2000:89). This subject enables pupils to acquire, develop and use practical production skills for socio economic development, and develop and strengthen the foundation for

entrepreneurial initiative and behaviour among learners. The government also encourages teaching of science and technical subjects in all the levels of education. It is hoped that this would develop the society towards the industrial literate society. However this remains in balance if no appropriate skills to enable easy access to information are availed.

5.4: Functional Adult Literacy

The Ministry of Gender, Labour and Social Development (2001:2) has adopted the Vision 2025 concept of Poverty Eradication Action Plan. This is being implemented through the Social Development Sector Strategic Plan (SDSSP). SDSSP focuses on the ministry's mandate to promote social transformation of communities by empowering them to enhance their potential skill development. It is the plan's objective to promote cultural growth protection of labour rights and freedoms, particularly of the vulnerable groups for sustainable and gender responsive development. Community empowerment and capacity building, functional adult literacy and promotion of culture for sustainable development are some of the means by which this sector's mission will be achieved. An empowered community can only be realistic if information is accessible through appropriate technologies for integrating community/society needs in the national industrial development plans.

5.6: Decentralisation of System and Services

The Local Government Act, 1997, Article 50 (d) provides for each unit to be responsible for managing its records. It is a function of the parish and village executive committee to oversee the implementation of policies and decisions made by its council, and shall "serve as the communication channel between the government, district or higher local council and the people in Uganda" (The Government of Uganda, 1997:42). The local council system has an in built secretariat for mobilisation and education of youth in its administrative structure. Local governments have a record of all industrial developments in their jurisdiction. However, they are more concerned with how much tax they pay to the local authorities. Little attempt is taken on how these industries can easily access information for the improvement of their innovativeness and hence economic development. Although there are initiatives by local authorities and NGO's that attempt to demonstrate various industrial innovations and government efforts at various local governments, there is no strategy in place to capture, store and enable the use of such information. This has limited local society to move towards an industrialised direction. Lack of access to industrial related information has made most of Ugandans less informed on various initiatives. This has limited industrial development in the country. Integrating the industrial needs of the society into the national development strategies is the way forward for an information society for Uganda.

Some efforts have been made towards an information society for Uganda's industrial development as summarised in Table 2 attached at the end.

Although there are a number of institutional initiatives to enable easy access and use, no strategy is in place to recognise and utilise those efforts. To recapitulate the above, it is clear that there are some developments in an effort to promote information literacy for Uganda's industrial development. This requires a strategic mission that should be clear to all stakeholders. This will help reduce duplication of efforts and enhance a greater coverage. A clear definition and strategy of Uganda's industrial information needs must be drawn and incorporated in Government objective.

6. An Integral Need for an Information Society for Uganda's Industrial Development

Uganda's reflections, visions and strategies need to be interpreted in an effort to address needs of the society. These needs can only be integrated in the development plans and activities of the Government, NGOs, communities and civil society. The needs must address the national aspirations on economic growth, human resource development, politics and governance among others. The National Vision 2025 aims at "a prosperous Uganda, harmonious nation and beautiful country". It calls for effective participation, democratic governance, technology advancement, equal opportunities, and an empowered and well-informed society. The following strategies can be employed for the development of an information society for Uganda:

Framework for the promotion of an information society

Establishment: There should be established a national information society initiative strategy for industrial development in Uganda. The Ministry responsible for industry should develop a strategy for information society for Uganda's industrial development.

Mission: To develop an industrious informed literate society capable of responding to present and future needs to foster Uganda's industrial development. The broad objectives of the institutional framework should be:

- To promote information service among the communities in the development of an industrial informed society.
- To develop policies and enforce legislation for development of information towards Uganda's industrial development.
- To ensure effective access and use of information for Uganda's industrial Development.
- To develop skills amongst communities for the development of an industrial informed society.

- To ensure effective integration and co-ordination of information society initiatives to the socio-economic development of an industrial informed society.
- To build information literacy capacity for life long learning towards industrial development.
- To ensure an empowered and informed industrialised society.

The following are the Strategies for developing an Integrated Information Society for Uganda's industrial development

1. Establishing a community and local sustainable information services in enhancing co-ordination with existing institutions in various sectors of the economy

- Government should provide initiative linkages among different NGOs, Local Government and communities to establish a more viable resource base for the development of an information society.
- District and local councils should ensure development of local information policies to enable access to information by all stakeholders.
- Local Authorities and government should ensure the development of community libraries and resource centres for repackaging of information and enabling access and utilisation of that information. Organisations and communities should adopt information-repackaging techniques in their development strategies.
- Societies should build capacities to take advantage of the existing tele-centres in areas of tele-medicine, tele marketing, and tele-education, e-commerce. Private sector should establish feasibility of establishing tele-centers that are affordable and relevant to communities.
- Societies should empower individuals and groups regardless of the geographical location to expand information processing and communication capacity in their organisational functions (Studemester, 1998).

2. Developing information policies and enforcing legislation towards Uganda's industrial development.

As a developing country, Uganda needs to build participatory and collaborative diplomatic relationships in all local, national, regional and international policy initiatives by:

- Putting in place development plans, which recognises the issues of security, human rights and protection in the information society initiatives for industrial development.

- Acknowledging and integrating the existing achievements and failures by relevant authorities, in ensuring democracy and governance in the promotion of information society for industrial development. Government should involve various stakeholders in its development programme.
- Ensuring that the constitutional provision of the right to access information and free expression are a pre-requisite to democratic and informed governance for the development of industrial society.
- Urging the Government to proclaim the Access to information law. Respective ministries and departments must interpret the law to develop respective departmental strategies. The population must be sensitised about such law before and after its enactment for easy implementation.
- Authorities (institutional, public and local governments) must ensure relevant laws that capture, access and utilise information for industrial development are enacted. However, the laws must favour the population needs and the population must be consulted to determine their destiny.
- Professional organisations and other pressure groups should be involved in fostering information literacy as a means towards establishment of an information conscious society for the society to recognise and adopt the use of information towards development of an informed industrialised society. All these require lobbying and advocacy on influencing attitudes of policy and decision-makers.
- Societies should re-address the expressed concern about degeneration of morality in the society. Moral education should be introduced into the school curricula to help in revitalisation of morals (Kigongo, 1994). Uganda as a country with the other development partners like Christian organisations should develop ethical and moral guidelines that would cement development initiatives and provision of services in the country.
- The Ministry responsible for industries should liaise with Ministry of Justice and Constitutional affairs to make sure that the law concerning copyrights and intellectual property rights including the patent and trademarks is enacted.
- Researchers in library and information profession should venture into designing a classification scheme and other access tools for Industrial information Systems relevant to Uganda's industrial needs.
- The National Bureau of Standards and other relevant authorities should develop information standards required for industries/organisations to facilitate easy access and retrieval of information.

- Revitalise the concept of a National Information System (NIS) for Uganda. The NIS concept would harmonise the information policy issues in all sectors of the economy including industrial sector. Uganda Library and Information Professional Association in Uganda should attempt and advocate for a national information system, code of ethics and work towards establishing information professional register for the country.

3. Ensuring effective access and use of information for Uganda's Industrial Development.

In an effort to promote information society initiatives the following strategies are required:

- For each society, selected information needs have to be identified and incorporated into the community knowledge base for accomplishing their certain goals.
- The government should ensure that information handling skills is a priority in national industrial development.
- Government and institutions should endeavour to value the individual knowledge sources like authors, traditional story-tellers (folklore) and producers of literary works (music, dance and drama). The values of individuals with inventions and innovations should be recognised. In the same spirit, information engineers who develop new ways of organising, storage, and access of information need to be recognised for their efforts.
- Towards an industrialised society, workers and public should acquire ICT literacy skills, and information management skills.
- Individuals should acquire knowledge on how to surf the Internet, and manage the new structures of information technology. Emphasis should be put on accessibility to public domain information, usage, and sharing of ICT facilities.
- Companies should adopt use of information technologies including geographical information systems, database management systems, and knowledge-based systems. Such systems will provide a rich domain base of information content fundamental to the development of an information society in the industrial sector.

4. Developing information initiative skills amongst societies for Uganda's Industrial Development

It is not true that people in poor or backward communities do not know what to do and how to do it. It is a matter of motivational factors. Societies should build capacities for information counselling services by:

- Developing information-seeking behaviour regarding social, personal and vocational exploitation among the society members. These services may be in schools, local councils and communities.
- Providing individuals guidance on how to cope in a changing society. We regularly hear people saying: 'I am fed up with the world' or 'I have failed to cope with the world' or 'I have been frustrated by this world'. Giving directional advice (counselling and guidance) to such people that need services.
- Information professionals should develop strategies in ensuring linkage and initiatives towards the development of an information society in the industrialised society.

5. Developing a socio-economic capacity of industrial information for research and development

There is a need for an understanding of the economic, social, political and cultural issues in the use and utilisation of information. This requires:

- A situational analysis of the current activities and programmes in the country and incorporating different initiatives into one-national information society initiative plan.
- Research institutions and Government departments to carry out researches and projects to build a sustainable information service in the country.
- Societies to develop adequate capacities on Research and Development (R&D) data on institutions and expertise available in the country.
- The ministry responsible for industry in Uganda to take a lead in ensuring the co-ordination and evaluation of research done in and about Uganda as a way of establishing a context for the development of a knowledge base of the country.
- The Ministry responsible to develop a National Industrial Register. This register should have linkage with international and national development agencies. This should work as a gateway for export information and business sector.

6. Building information literacy capacity for life long-learning towards industrial development

An information literate person is able to recognise the need for information, determine the extent of the information needed, access the needed information and evaluate it and its sources. This is a pre-requisite for life-long learning in an information society. This requires that:

- Institutions and companies should train people/staff to recognise the value of information and manage it.
- Information literacy programmes need to be incorporated into the curriculum at various educational levels and systems in Uganda.
- Institutions and schools should enhance their orientation programmes, information usage lessons in schools, and teaching/lessons modules should be developed for the enhancement of information literacy.
- The government and private sector should re address the question of literacy in local languages
- Library and Information Science (LIS) schools should develop curricula to reflect and remain responsive to the changing world in the industrialised world.
- Information workers should develop capacity to meet changing demands. They need to acquire new competencies and skills.
- Information workers should develop marketing strategies for information utilisation and usage for the society to appreciate the contribution of information to national development.
- The ministry responsible for industry should develop tailor made modules for the sensitisation and creating awareness of the information society initiatives in the sector.

7. Ensuring an industrialised empowered information society

The government and development partners should answer the urban social questions. ‘Good things are in town!’. Countries should shift the orientation of development to address the question of “who needs what” not “who can afford what”. The breakdown in our own knowledge (local languages, culture, tradition, and practices”) does not favour the development of the information society. The question of social amenities based in urban areas should not influence programmes of information society initiatives. But focus should be on integrating the needs of the society into national programmes in the development of the information society. With the globalisation and indigenisation of society, it requires balancing the gender, and social-economic inequalities in a society. The following are the strategies on empowerment:

- Societies should examine the position of women and shift margins of opportunity, strengthening economic governance, management of resources and access.
- Communities and industries should observe the universal norms and standards of gender equality as the yardsticks for women’s development and democratic participation. Communities however, require to an agenda that takes into account respective struggles and

perspectives of African women in the development and promotion of information society initiatives.

- Government, communities, companies should empower individual members in the societies as a competitive strategy. This can be done by:
 - Recognising that people are the major resource for an information society and without them, no development can be achieved.
 - Developing their participation in decision making in various societies.
 - Empowering people in the development process. This is a central element in setting the agenda for an information society.
 - Letting the people in the societies learn what they feel they need to fit in the society.

Conclusion

Information plays a vital role in economic development, living standards, working standards, and above all, scientific capacity. Success in any society rests on its capacity to collect, improve and provide information services to its citizens. Societies need to integrate their information systems and technologies into their development reforms and programmes. With the current development in information technology initiatives, together with the development of a literate person, Uganda needs to put in place strategies and policy guidelines for a sustainable information society. It is clear that the needs of society must be integrated into the country's development plans, if the strategy for the development of an information society for Uganda is to succeed. With the availability of an integrated information society initiative, an empowered and information literate person is able to access and use information for industrial development.

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Appendix

Table 2: Information Society Initiatives in Ugandan Industrial sector.

Institution/ Programmes	Information society Initiatives
Uganda Investment Authority	Provide all information on matters relating to business to both local and foreign investors.
Uganda Revenue Authority	Collection and dissemination of tax information. Education to the public about tax policy and payments
Uganda Computer Services	Provides advice and technical services on information technologies in the Country. It is in the process of redefining its role in the information sector.
Uganda Communications Commission	Responsible for implementing national communication policies
Ministry of Finance and Economic Planning	Co-ordination of industrial information and policy formulation for planning and economic planning programmes
Uganda Export Promotion Board, Trade Information Centre	Link up with other business and industries to identify foreign markets. Links to different databases to avail information to different users. Offers a range of information products including statistical data on products and services, directories, market research reports, country prices (manufacturers and Traders). They subscribe to online databases including Interactive trade map, Nun and Bradstreet, Public Ledger and Product map. They offer business cafes and useful web site addresses (Market Research, Trade Analysis).
Ministry of Trade and Industry	Documenting the collection of relevant documents and researches to make them readily accessible. Initiates and implements policies on behalf of government.
National chamber of commerce and Industry	Co-ordinates commercial information activities, helps members to access market information
Uganda Manufactures Associations	Holds exhibitions for members' products to link up with international manufacturers. It initiates discussions and exchange of information amongst members on industrial issues. It offers consultancy

	and information services to the community.
News papers, television and radio stations	Information service/guides that provides industrial and business information in their programmes.
Uganda Tourism Board	Directory of opportunities and profiles on investments in tourism
Private Sector Foundation	Investment opportunities, smarter partnerships
National Bureau of Standards	Standardisation, information services business statistics.
Uganda Bureau of Statistics	Produces the statistics of Uganda Business register. A record of all business establishments containing structural information about each business.
Agro Business Development centre	Offer technical and management skills in Agro business related policy and advocacy guidance.
Ministry of Agriculture, Animal Industry and Fisheries	Through the Plan for Modernisation of Agriculture (PMA), the Ministry carries our research, and ensures access to market information for sustainable utilisation and management natural resources.
Ministry of Works, Transport and Communication	Provided Engineers Registration Board for registering all engineers. This is to ensure standards and quality of work in the country.
Ministry of Health	National Health Policy. National Health Management System to ensure effective delivery of information to the community.
Agriculture Sector programme Support (ASPS)	Has the components of Farmers Organisation, District Agriculture Training Information centre (DATICS), Agriculture Extension, Rural Financial services Component (RFSC), House Hold Agriculture support Programme (HASP) and Live Stock Research Project (LSRP) offer advisory and extension services to the community. ASP links with MAAIF, Gender and Poverty Monitoring sub sectors in the country. It has set up an information centre to help farmers and the community to learn new methods of industrialisation.
Foundation for Human Rights Initiatives (FHRI)	With the enactment of the Community Service Act, 2000, the FHRI has endeavoured to offer technical and advisory services as a tool for sustained development. It has in place various radio programmes, put in place a resource centre, and ensured advocacy especially in property.

	management, procurement and disposal.
National Environment Action Plan Secretariat, National Environmental Management Authority	Ensures standardisation and co-ordination of data collection, analysis and information dissemination on existing and emerging environmental issues.
National Agriculture Research Organisation (NARO)	Through the International Information System for Agricultural Sciences and Technology (AGRIS). It targets researchers and involves repackaging of information to communities. The following services are available: The Essential electronic Agricultural Library (TEEAL), National Current Agricultural Information System (CARIN), National Information System for the Agricultural Science and Technology (AGRIN), and Information for Research Managers (INFORM) and the Current Agricultural Research Information system (CARIS).
Research Institutions and organisations	E.g. Centre for Basic Research, Makerere Institute of Social Research, Economic Policy Research centre, Makerere University offer research and extension services that integrates the academic fraternity with the community. Research networks exchanges, consultancies, and community and extension services.
Universities.	E.g. Mkerere University is hosting the Uganda Development Gateway. Makerere University Business School has a business clinic and small scale development programmes. I@mak.com a Makerere University decentralisation programme has impacted on the community extension in the country.
Civil Society Organisations	E.g. Women Enterprising Association, Action for Development, Foundation for Development. Have been doing the advocacy on the promotion for members to access information.
Other Stakeholders	Uganda Electricity Distribution Company, National Water and Sewage Co-operation, Local Authorities have got a stake in promotion of information literacy for industrial development.