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ABSTRACT

In principle, the emergence of National Information Policy (NIP) as a framework for developing information resources and institutions was welcomed by most countries in Africa with a messianic zeal. However, most of these countries, particularly those in the Sub-Sahara region, were unable to correspondingly match their zeal with concrete efforts aimed at enunciating and implementing the policy. This situation is not unconnected with mitigating factors and certain development peculiarities of some of the countries, which are discussed in this paper. Against the background of the above factors and peculiarities, most countries in the sub-region suddenly found themselves at a crossroads with the emergence of the information society that is typified by the increasing prevalence and convergence of information and communications technologies (ICTs). Thus the need for these countries to reappraise the concept of NIP and to embrace the national information and communications infrastructure (NICI) initiative is discussed in the wider context of national and regional development objectives. The challenges of the knowledge age are also articulated in the light of the way forward for development in Africa. The paper concludes that the alternative to African countries' failure to address these challenges will be for them to remain attached to the apron string of donor agencies and countries in perpetuity. (Contains 13 references.) (Author/MES)

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The imperatives of Challenges for Africa in the Knowledge Age: Status and Role of National Information Policy

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Abstract:

In principle, the emergence of National Information Policy (NIP) as a framework for developing information resources and Institutions was welcomed by most countries in Africa with such a messianic zeal. However most of these countries and particularly those in the Sub-Sahara region were unable to correspondingly match their zeal with concrete efforts aimed at enunciating and implementing the policy. This situation is not unconnected with some mitigating factors and certain development peculiarities of some of the countries, all of which are discussed in the paper. Against the backgrounds of the above factors and peculiarities, most countries in the sub-region suddenly found themselves at a cross-road with the emergence of information society which is typified by the increasing prevalence and convergence of Information and Communications Technologies (ICTs). Thus the need for these countries to reappraise the concept of NIP to embrace the NICI initiative are discussed in the wider context of national and regional development objectives. The challenges of knowledge age are also articulated in the light of the ways forward for development in Africa. The paper concludes that the alternative to African countries failure to address these challenges will be for them to remain attached to the apron string of donor agencies and countries in perpetuity.

INTRODUCTION

Information is a strategic resource and a pivot around which the growth and development of individuals, organisations and nations revolve. The importance of information in the last decade or

thereabout appeared to have been further underscored with the increasing convergence of information and communication technologies (ICTs) as tools for information gathering, processing, storage and transfer irrespective of time and spatial barriers. Moreover, information is the most traded product in this era of globalisation. Thus any nation desirous to avail itself of the advantages of globalisation can not but develop its information resources.

Unfortunately, in Africa, most countries and particularly those in the sub-Saharan region, the general paucity of information for development can be linked to the tendency to unwittingly take the resource for granted by most of the countries in the region. This tendency has subsequently resulted in the under development of information systems and services in most countries. Consequently, some countries in the sub-region have been known to base their development plans on parameters other than concrete, accurate and reliable data (Stolper, 1966).

Thus for African countries to be part of the globalisation processes in this millennium, there is a compelling need for the countries to review their information related rules, regulations, and policies with a view to evolving plans and strategies for developing their information resources, systems, infrastructure, and services. Accordingly, the objective of this exercise is to review the status, role, and adequacy of national information policy (NIP) as a framework for developing information resources on the African continent vis a vis the demands and challenges of information society. This is achieved against the backdrop of the constraints to successful formulation and implementation of the policy on the continent. This approach provides the platform for analysing the inevitable challenges facing Africa in the information or knowledge age. To this extent, information is conceived as structured data while knowledge is internalised information. Thus knowledge age is that era in which information production and communication are primary preoccupation as contemporarily obtains worldwide. In such an era, national or regional capacity to produce and communicate information is a function of the existence of a corp of qualified professionals, enabling environment, and infrastructure for ICTs. The possession of information in such an era is synonymous with power. As a concept knowledge age is used interchangeably with information society in this presentation.

Conceptually, NIP is a framework for developing the information holdings of a country. As a framework, it is a statement of mission or intention on how the information resources are to be harnessed, processed, and channelled for development processes of a country. Thus, the primary objective of NIP is to put order into the chaotic webs of information. This is envisaged to facilitate accessibility for information users without necessarily infringing on the privacy and intellectual property right of the individuals and organisations. Above all information policy can be formal as well as informal. Formal information policy is usually articulated into document that the individuals can readily lay hand on. In the informal sense, information policy is not codified but implied. In this sense, elements of the policy are scattered across other sectoral policies. This latter aspect assumes that information activities in such an environment will naturally emerge and take their rightful positions in the economy. Examples of this type of arrangement are United States of America and Canada.

This paper is divided into five sections. Section one provides the introductory background and this is followed by an over view of African development experiences in section two. While the third section presents the status and role of NIP on the continent section four reviews the challenges Africa must address in the knowledge age. The last section presents the conclusion.

AFRICA AND THE DILEMA OF DEVELOPMENT

Next to Asia, Africa has approximately an area of 11,700 squared miles and this translates to about 20% of the total landmass of the earth (World Almanac, 1999: 862-863). With over 48 countries, the continent according to the World Bank (2000:7) has an estimated population of over 612 million

people or 12.8% share of the World population. The same source on page eight estimated the population growth rate for the region at 2.9%. At this growth rate Africa per capita land area is put at 3.85 compared with 7.85 in 1970. This shrinking of the per capita land area of the continent portends a lot of implications for the ever-growing population with regard to an overall sustainable development and alleviation of poverty.

Though the countries on the continent are not necessarily homogenous in terms of ethnicity and culture they however share a common history of colonialism and struggles for independence. They share also a similarity of rich endowments with regard to diversified human and natural resources, which are yet to be exploited to their optima. With the exception of South Africa, Botswana and probably some of the countries North of the Sahara desert, the rest countries have been unable to bring their tremendous resources to bear on their development problems. While some countries have been incapacitated by avoidable internecine political-cum-ethnic wars, others were afflicted by acquired leadership syndrome, which is a tendency for leaders to see and treat public resources as personal resources that can be appropriated without due regard for the laws of the land. For such leaders illegal capital flights to other regions of the world have become routine affairs.

The consequences of the above tendency on the development of the countries are many of which the general underdevelopment of basic infrastructure as platforms upon which the development of the different sectors of the economies can be based stand out clearly. The relatively poor health and education services, industrial capacity under utilisation and the poor nature of information services exemplify the weaknesses of the sectors. Above all, most of the countries have to contend with negative balance of trade, the burdens of huge debts, dependent on aids for development purposes and inability to avail themselves of the numerous advantages presented by globalisation. In a sense, most African countries South of the Sahara appear to be at great risk of being sidelined in the area of development activities and in particular with regard to the raging world information revolution. This is not unconnected with the underdevelopment of their information systems and infrastructures.

STATUS AND ROLE OF NIP IN AFRICA

Increasing high level of awareness of the importance of development information as a strategic resource in decision making demanded that the resource should be properly managed. This demand gave rise to the emergence in the late 70s of the concept of national information policy (NIP) as a framework for developing and managing information resources, infrastructure and institutions. The acceptance of the concept received further boost according to Manten (1983) with the miniaturisation in electronics, which salutarily reduced the production and purchasing costs of computer and telecommunications as tools for information management. Furthermore, Rowland (1996) reported that the concept received a new perspective with the increasing convergence of information and communication technologies (ICTs) for information processing and transfer irrespective of time and spatial barriers. Against this background, the developed countries desirous to remain competitive in the global information industry evolved conscious plans and strategies that would help them consolidate the gains of the aforementioned developments.

Unlike in the developed countries, the concept of national information policy in Africa particularly in the sub-Saharan region became an issue not necessarily as a result of any conscious efforts on the part of most of the countries but as a result of persistent prompting from some multilateral agencies like UNESCO, UNDP, ECA and national agency like IDRC of Canada. Through consultations, workshops and seminars the agencies sensitised countries to the need to formulate and implement the policy at their individual national level. Libraries, documentation centres and archives which according to ECA (1999) historically constitute "the major storehouses and suppliers of information" served as the focus for such policy initiative.

As a concept, most countries in Africa accepted NIP with such a messianic zeal without correspondingly matching their zeal with concerted efforts aimed at enunciating and implementing the policy at their individual national levels. The non-existence of the policy at the national levels of most countries are usually explained in terms of low level of human and materials capacity to formulate and implement the policy on a sustainable basis. Accordingly, a number of plans and strategies aimed at facilitating the enunciation and implementation of the policy on the continent were evolved by IDRC (Akhtar and Melesse, 1994; Valentin, 1996) while UNESCO among other activities produced handbooks for formulating and implementing the policy (Montviloff, 1990; Horton, 1997).

Without necessarily disagreeing with aforementioned constraints it is observed that the non-formulation and implementation of the policy on the continent is fundamentally a product of certain development peculiarities of most countries in Africa. A situation where most of the countries are engaged in perennial political and ethnic crisis, which often result in avoidable wars can only serve to divert scarce development resources in favour of the prosecution of the wars. A look at countries like Botswana, South Africa, and Senegal all of which have elements of the policy on ground shows that they have relative stability which is crucial to policy implementation.

In a circumstance such as above, government's attitude towards the policy cannot but be that of rhetoric and less of concrete actions capable of uplifting the continent's information scene. Furthermore the issue of policy linkage is a major constraint to the actualization of the policy in the region. The implementation of national information policy cannot and must never be in isolation of other sectoral policies of a country. The tendency for government agencies and departments in some countries to see themselves as archipelagos of their own is certainly not conducive to development. It is in this regard that one may want to agree with the ECA (1999) report on NIP in Africa to the extent that the formulation and implementation of the policy on the continent "was marked by its lack of comprehensiveness in terms of contents and coverage."

The issue of leadership is another constraint to the enunciation of NIP in the region. Most countries in Africa appear plagued with leadership problem. The tendency for some leaders on the continent to see themselves as absolute leaders ordained by the gods to rule their countries in perpetuity despite apparent evidence of declining productivity does not augur well for meaningful development. The level of receptability to change by most of such leaders is at best very poor. Often time, such leaders feel they have answers to all the developmental problems of their countries. To them, expert advice or opinion from individuals, organisations, and agencies is no more than a routine to convince their populace that their government is "working".

With the probable exception of some few countries, the infrastructure for development information on the continent is to say the least very weak.. Sturges and Neil (1996) succinctly articulated this position when they reported that African libraries, information centres and data bases "are almost without exception the last places that serious researcher would visit in order to find information concerning Africa." The situation may differ from one country to the other. On the whole, the report depicts the general paucity of development information in the region due to non-development of infrastructure for information services. Perhaps if the countries had given adequate attention to the development of their information infrastructure and institutions within the NIP framework, the information scene of the continent could have been a lot better.

Against the backdrop of the non-formulation of the policy by most countries, Africa seems to find itself at a crossroad with the emergence of information society, which is dominated and characterised by the convergence of ICTs. Information society demands the existence of capacity to generate and transmit information through a network of functional systems and infrastructure. It also demands unhindered

access to information services irrespective of time and location of such services using the powers of ICTs. These demands underscore the inadequacy of NIP as a framework for addressing the challenges of the new era where technologies hold the sway.

Thus there is a need for African countries to review the concept, philosophy, and goals of NIP to encompass ICTs related issues. In this regard, emphasis should be on ICTs role in development processes and the environment in which they are to be applied. Of equal importance is the issue of information content on Africa by Africans. The continent can no longer continue to depend on information about the region originating elsewhere.

AFRICA IN THE KNOWLEDGE AGE

The knowledge age is dominated by the powerful convergence of ICTs. The age is also characterised by ever increasing human capacity for information generation and consumption. The level of development in this age is of such a magnitude that interactive communication on the "information superhighway" between two or more people regardless of time and location is not just a possibility but a reality that has brought about the emergence of information society which Loader (1998:3) described as "a new social and economic paradigm restructuring the traditional dimensions of time and space within which we live, work and interact." To live and be an active member of the Information Society, imposes some inevitable challenges vis a vis the possession of the right expertise and ICTs infrastructure.

In contemporary Africa, communication facilities such as telephony in most countries with the exception of South Africa, Botswana, Mauritius and some North African countries are still at a rudimentary stage of development. According to UNECA's countries telephone availability profile which is hereby annexed, most countries in the region still trail behind ITU minimum recommendation of 10 lines to 1000 persons. It is a truism to say that the gap between information rich and poor nations is most pronounced in Africa. Accordingly, Aiyepeku (2000) observed that:

> *there are enormous gaps between the technologically advanced, industrialised societies of the world and the developing nations in the availability of communication services. Of all the gaps that exist between the South and the North, none is growing faster than the Information gap, and the emerging 'information superhighway' threatens to increase the growth rate to the point where some countries and some segments of society... may be left out altogether.*

This assertion imposes on Africa countries the need to make some concerted efforts at both national and regional levels to evolve plans and strategies for developing their ICTS infrastructure. It is from this perspective that both the ECA (1999) and the ECA (1999ii) African Development Forum (ADF) initiatives on National Information and communications Infrastructure (NICI) deserve some considerations by African countries. The initiatives rightly underscore the inadequacy of conventional NIP to address the demands and challenges of information or knowledge age. But then any plans and strategies for developing African information and communication problems ought to be within an enlarged framework consisting of both NIP and NICI initiatives. Above all, the policy must be dynamic enough to accommodate a number issues and most especially the issue of appropriate ICTs and human development for Africa. The former has to do with hardware performance reliability which according to Morales – Gomez and Melesse (1998:12) also includes assessment of "the social, economic, and cultural dimensions of the technologies and their impacts on sustainable human development". The latter relates to the need to build a corp of information and communications professionals with capacity to combine information consumption and production most effectively. The production aspect is central to the need to put Africa on the global map of 'information superhighway' with Africans making substantial information input to the existing information about the continent.

It is however emphasised that sectoral development policies in some African countries are derived from sources other than from the overall development plans of the countries. This has the implication of making programmes and projects derived from such policies to look "alien" to the overall development focus of the countries. Accordingly, any framework for developing the information and communication scene of African countries must derive its philosophical root from the overall development plans of the countries. This principle will allow for inter-sectoral linkages which have been the bane of sustainable development on the continent.

It must however be pointed out that the ECA (1999:2) initiative advocated, "leapfrog strategies to accelerate the development of the continent". Appropriate as this proposal may seem, one is of the view that leapfrogging cannot solve African development problems in the areas of ICTs more so there is no short cut to development. In an era of rapid innovation and change in the development of ICT hardware and software arising from huge investment in R & D in the developed countries, leapfrogging as a development concept can only serve to compound African ICTs problems with regard to technical expertise and management capability. For instance, a situation whereby a country cannot fully grapple with the management of a piece of technology before another model of that technology emerges on the market makes leapfrogging a less acceptable proposition. Rather any policy arrangement to develop the information infrastructure on the continent in the context of NICI should focus on the empowerment of the individuals in respect of capacity building and the development focus of the countries taking into consideration the peculiarities and needs of individual countries. Every country is to decide its pace of development based on its available resources and capacity.

CONCLUSION

The knowledge age presents the African nations a new vista of opportunities for growth and development. These opportunities can however be fully harnessed in so far certain challenges are addressed. These challenges are the development of the human resource capacity of the countries so as to be able to effectively utilise ICTs with regard to information management. More importantly, Africans must convincingly face up to the challenge of putting Africa on information superhighway by way of information production. The continent must be seen to be contributing its quota to the world information heritage. The poor technological infrastructure of the continent and the appropriateness of the technologies are additional challenges that also deserve to be addressed with utmost attention and urgency. This is crucial if the countries in the continent are to harness the numerous opportunities of the information era. Specifically the performance reliability, socio-cultural cum economic dimensions of the technologies constitute major parameters for assessment. These challenges are surmountable but not without reviewing the philosophy, scope and focus of the conventional NIP to encompass some of the ideals of the NICI initiative. But then successful enunciation and implementation of the policy is a function of the existence of stability and security at the national level of every country. Above all, leaders at every level of governance must be imbued with a manifest political will power to make the policy work. By so doing Africa will naturally become a member of the information society. The alternatives to not addressing these challenges by African countries will be for them to remain attached to the apron strings of aid donor countries and multilateral agencies.

ANNEXTURE

Telephone and Cellular Network in Africa – 1997

Countries *	Population for 1997 in '000	Main Telephone Lines	Main lines per 100 inhabitants	Cellular subscribers	Cellular subscribers per 100 inhabitants
North Africa					
Algeria	29,473	1,400,343	4.75	15,000	0.05
Egypt	62,010	3,452,707	5.57	7,224	0.01
Libya	5,784	380,000	6.56	0	0
Mauritania	2,392	13,145	0.55	0	0
Morocco	27,518	1,378,000	5.01	74,422	0.27
Sudan	27,898	150,973	0.54	3,800	0.01
Tunisia	9,325	585,238	6.27	5,539	0.06
Total			4.47		0.06
West Africa					
Benin	5,720	36,453	0.64	4,295	0.08
Burkina Faso	11,087	36,528	0.33	1,503	0.01
Cape Verde	406	33,241	8.19	20	0.004
Cote d'Ivoire	15,250	129,808	0.85	32,400	0.21
Gambia	1,141	21,319	1.87	3,096	0.27
Ghana	18,338	77,886	0.42	12,766	0,07
Guinea	7,614	19,786	0.26	2,868	0.04
Guinea-Bissau	1,112	7,633	0.69	0	0
Liberia	2,880	4,500	0.16	0	0
Mali	11,480	23,488	0.20	2,842	0.02
Niger	9,787	16,404	0.17	98	0.001
Nigeria	118,369	405,073	0.34	13,000	0.01
Senegal	8,762	115,902	1.32	6,942	0.08
Sierra Leone	4,428	17,382	0.39	0	0
Togo	4,316	25,132	0.58	2,995	0.07
Total			0.44		0.4
Central Africa					
Cameroon	13,937	70,558	0.51	2,200	0.02

Centrafrican Rep.	3,416	9,704	0.28	471	0.01
Chad	6,702	6,004	0.09	0	0
Congo	2,745	22,000	0.80	1,000	0.04
Equat. Guinea	420	3,668	0.87	61	0.01
Gabon	1,138	37,253	3.27	9,500	0.83
Sao Tome & Principe	100	2,503	2.50	0	0
Total			0.53		0.05

Countries	Population for 1997 in '000	Main Telephone Lines	Main lines per 100 inhabitants	Cellular subscribers	Cellular subscribers per 100 inhabitants
East Africa					
Burundi	6,190	15,181	0.25	525	0.01
Comoros	652	5,508	0.84	0	0
Congo Dem. Rep.	48,040	36,000	0.07	8,900	0.02
Djibouti	634	8,151	1.29	110	0.02
Eritrea	3,780	18,919	0.50	0	0
Ethiopia	60,148	156,536	0.26	0	0
Kenya	33,140	269,773	0.81	5,345	0.02
Madagascar	15,845	43,197	0.27	4,000	0.03
Rwanda	5,883	15,000	0.26	0	0
Seychelles	76	14,864	19.56	1,149	1.51
Somalia	10,217	15,000	0.15	0	0
Tanzania	31,506	92,760	0.29	20,200	0.06
Uganda	20,791	51,829	0.25	5,000	0.02
Total			0.31		0.02
Southern Africa					
Angola	11,570	55,843	0.48	7,052	0.06
Botswana	1,496	72,189	4.83	0	0
Lesotho	2,078	15,975	0.77	1,262	0.06
Malawi	10,440	35,471	0.34	3,700	0.04
Mauritius	1,141	222,747	19.52	37,000	3.24
Mozambique	18,265	66,123	0.36	2,500	0.01
Namibia	1,613	100,848	6.25	12,500	0.77
South Africa	42,096	4,258,639	10.12	953,000	2.26

Swaziland	938	22,602	2.41	0	0
Zambia	8,275	77,935	0.94	2,721	0.03
Zimbabwe	12,290	212,000	1.72	11,300	0.09
Total			4.66		0.94

* SOURCE:: UNECA Committee on Development Information (CODI)

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