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Theme: Forging partnerships between libraries and extension services for improved access to agricultural information

Problems and collaborating alternatives for Tunisian Agricultural Libraries and Documentary Units “ALDUs”

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Abstract:

Our proposal attempts to grasp the problem of the Tunisian agricultural information sector and suggests some alternatives for a coherent system which can cope with the difficulties in the services of processing and diffusion of technical and scientific information.

Most of the queries and experts' reports indicate that the Agricultural Libraries and Documentary Units (ALDUs) in the 13 Tunisian high schools and research centers are far from rationalizing their management. Their services could not reach the ever-growing needs of the beneficiary elites, that is increasing research and higher education community.

The alternative is articulated through collaborative work that becomes the privileged mode of action in the era of intelligence and complexity. The paper demonstrates also that resources sharing and ALDUs services federation and cooperation will be the unique alternative to lay up the difficult bets ahead.

In order to forge durable partnerships for the improvement of the ALDUs products and services a framework of institutional structuring has to be defined. Collaborations are subdivided into several levels and types of contacts between partners. The typology of internal collaborations distinguishes three points of view:

- *Ideological and epistemological prospect: Contribution of traditional expertise to the agronomic knowledge*
- *Organisational prospect: Knowledge Management system KM, integration of the ALDUs services with the Records Management and Archive services*
- *Technological prospect: Workflow, On-Line Public Access Catalogue (OPAC),*

in an intricate domain such as agriculture, it is necessary for the partnership to take into account the availability of the institution in the same country and try to cooperate with foreign partners. External collaboration can be subdivided in the following geopolitical levels:- National partnership - Regional partnership International partnership - Multilateral partnership.

But this note is not limited to technico-organisational prospects because it proves that the basic solutions remain political and cultural solutions which is in agreement with the principles of IFLA, affirming the atmosphere of association and partnership.

Introduction

In the chaotic context of globalization, it is a major challenge to define the modes of institutional structuring and the effects of the relations of co-operation, partnership and integration on informational resources for a better access to knowledge. This note tries to highlight how collaborative work becomes the privileged mode of action in the era of the intelligence and complexity. In the construction of information services, it is allowed today that the form and the structure of the relations and the networks produce effects both : positive in terms of influence, of solidarity, and negative dependent on the weight of the investments and constraints on the social actors and for various perverse purposes. The relations and methods of the interactions and the contacts would especially deserve all the attention of the libraries as resources of agricultural information. Although agriculture remains the dominant socio-economic activity in the developing countries (three quarters of Humanity) the libraries are not able to establish the required connections between the higher education and agricultural research on the one hand and to pose channels of agricultural advisory service on the other.

This note tries to define a framework of structuring in order to forge durable partnerships for the improvement of the Agricultural Libraries and Documentary Units ALDUs products and services. The typology of the collaborative designs, that we propose, distinguishes from application: - internal Collaboration: - external Collaboration: Collaborations are themselves subdivided according to points of view.

This approach transverses in the direction where it does not assert objects of a particular discipline. It relates to various subjects which touch the cognitive information sciences, Management, political sciences and other disciplines....

It would be more didactic for this collaborative approach, which is a necessary alternative to the problems of the documentary environment of the South countries in general, and agricultural libraries in particular, to be focused for the demonstration, on a particular context and experiment. Concretely, the raising up of the various information services which exist within the Tunisian higher educational and research agronomic institutions, make it necessary to know the configuration of their state and to determine the proposals of the relational models of collaboration.

1- Contextualisation of the Tunisian agronomic documentary experience

From its significant role in the economic, social and environmental level, agriculture has always occupied a prevalent place in the socio-economic agenda of Tunisia long ages. Garret For corn of Ancient Rome saw to open out the agronomic literature with famous Magon in his

arboriculture treaty. Tunisia had since the beginning of last century a higher education¹ and agricultural research institutions² at very high level. Agricultural teaching as well as Research and Development (R&D) constitute priorities for the Tunisian government after independence. During the last forty years, more than the institutions of agricultural vocational training are created³, under the Ministry for Agriculture and the Hydraulic Resources (MARH), in the 22 Tunisian departments. Their aim is to bring closer their activities to zones of production and to farmers⁴. Agricultural research, teaching and scientific information, which guarantee a food safety, and remain exclusive spring of the State, were centred on regional rise according to the needs for the populations. Tunisia made enormous progress during last decades to ensure its self-sufficiency. Indeed, self-sufficiency is almost reached the cover rate, lower than 50% in the years 1980, is today around 87%, by which is satisfactory the international standards. Moreover, specialized centers⁵ and ten higher educational establishments⁶ profited all from significant means thanks to the efforts of

¹ - the Colonial Agriculture School of Tunis (EACT), established on the model of the French higher schools of agriculture, the formation of its first prepared promotion in 1898- become thereafter the Agronomic National Institute of Tunis (INAT) includes several disciplines: agronomy - breeding economy - agricultural engineering..

² -The Agronomic National Institute of Tunisia (INRAT) the oldest (created in 1891) and the greatest center of research, grouping seven laboratories and two units, a botanical garden and a library. The research Veterinary Institute of Tunisia (IRVT) who is limited to the veterinary services which is in charge of animal health, in particular production of vaccines, the detection of the diseases and their treatment, vaccination campaigns, etc.... These two institutions were created in the beginning of last century and had been providing invaluable support to Tunisian Agriculture. Later, in the middle of the years 70, other establishments of research were created such as the CRGR and the INRF which had to merge thereafter in the National Institute of Research in Agricultural engineering, Water & Forestry INRGREF which covers research relating the Agricultural engineering, Forestry: research topics concern in particular, the use of water for the irrigation, problems of the salinity of the grounds, agricultural mechanization, the forest protection, conservation, exploitation, the installation of the courses...

³ - The establishments are:- Institutes of research; - agricultural higher Educational establishments; - Regional poles of research development; - the network of the experimentation stations .

⁴ - Example: The Institute of the Arid Areas (IRA) was created in 1976 and carried on the undertaken research since 1969 in Gabès on the courses and the oasis, to answer needs for agricultural development of the south and protection of the medium against the aggression of turning into a desert

⁵ - Example: The Institute of Olivier (IO) in Sfax was created in 1982, axis its research on technological aspects and economic of the olive-growing sector, as well as the farming techniques, grounds, plant protection and production. Recently, the IO has auditioned sphere of activities research with the trees with cores and with pips in the semi-arid areas.

⁶ - For more details of each institute consult their respective sites in:

<http://www.iresa.agrinet.tn/>;

[Institut National Agronomique de Tunisie \(INAT\)](#) ; [Ecole Supérieure d'Agriculture du Kef \(ESA Kef\)](#) ; [Ecole Supérieure d'Agriculture Mograne \(ESA Mograne\)](#) ; [Ecole Supérieure des Ingénieurs de l'Équipement Rural Medjez El-Bab \(ESIER\)](#), [Ecole Supérieure d'Agriculture Mateur \(ESA Mateur\)](#) ; [Ecole Nationale de Médecine Vétérinaire \(ENMV\)](#) ; [Ecole](#)

the State. It is within this framework that the last plans allocated more credit for the improvement of the research performances. The Tunisian public expenditure, as a percentage of gross agricultural domestic product (PIBA), an indicator running of comparison, is clearly at the top in North Africa and the whole of the developing countries. The bond between higher education and research is consolidated thanks to the diffusion of information and the investments carried out in the improvement of the data processing communication network. They consolidated the activities of documentation for the provision of agricultural scientific information. The investments in the data processing find their support in the plans of development and know fast increases from one five-year plan to another. Each establishment has an university library or a documentation service. The services of the Agricultural Libraries and Documentary Units (ALDUs) were reinforced by data-processing resources and channels of telecommunication which support connections of the superior educational establishments to facilitate and guarantee the access to information. Since 1974, the National Agricultural Centre of Documentation (CNDA), publicly-owned establishment, has formed the first modern agronomic computerized database in Tunisia, showing the efforts and the expenditure authorized by the State for the treatment and the diffusion of agricultural information scientists. In spite of the investments allotted to splatter the services of information and documentation of the agricultural sector still remain serious problems

2-Problems, difficulties of the current services and gaps in the management of resources

The difficult situation of the services of the Agricultural Libraries and Documentary Units (ALDUs) of the 13 higher educational establishments and the agricultural research centers, was the subject of a survey in 2003⁷. This investigation enabled us to notice the degradation of the resources of ALDUs: - lack of qualified personnel: The investigation showed that 75 % of full-time manpower employed in ALDUs is not composed of qualified professionals, 50 % of them are workmen ;

- the indigence of the funds: the number of documents per user is of 14 titles, whereas it should be according to the Tunisian standard of 50 monographs per university user; These are endemic evils of the Tunisian libraries and specifically of ALDUs. These difficulties cause damage: absence of a paper media or electronic shared catalogue making it impossible for users to reach the resources of information in an achieved way. Added to that the levels and the number of the applicants of information was getting bigger quickly (in 2002/2003, the exponential rate of growth of the number of the students 29 % per annum⁸) If we missed the essence we could never satisfy the needs of the multiple categories users: students, engineers and technicians, staff of the ministry for agriculture; other categories of external users: farmers and promoters, all citizens and applicants of information. The documentary resources remain limited because of the absence of co-operation which rests on basic documentary principles stipulating the obligation to distribute the tasks and the functions such as acquisition, treatment, analysis and the exchange services such as the interlibrary loan. The co-operation the partnership would be the single alternative to face the difficult bets: in exponential growth of the intellectual production, the high cost of its follow-up and its

[Supérieure des Industries Alimentaires \(ESIAT\)](#) ; [Institut Sylvo-Pastoral de Tabarka \(ISPT\)](#) ; [Ecole Supérieure d'Horticulture et d'Elevage Chott Mariem \(ESHE Chott Mariem\)](#)

⁷ - Ahmed Ksibi-. Les Bibliothèques et les Unités Documentaires Agronomiques (BUDAs) en Tunisie : Carences et solutions alternatives .- In : RAADI la Revue Arabe d'Archives de Documentation & d'information N° 17/18(Décembre 2005) .p.p.111-156

⁸ Source: <http://www.mes.tn/> Web site of the Ministry for Teaching Superior, of Scientific Research and Technology, visited in June 5, 2003.

acquisition, the rational exploitation of the modest financial resources to answer the growing and plural request of the users collaborative

3- Collaborating alternative

the multitude of models of the co-operation and partnership relations which took place during recent years would deserve a delimitation of the framework and a definition of notions and concepts of collaboration

3.1 Definition of the concepts

In this study, by collaborative approach, we understand the joint implementation, within the framework of a project, for improvement of the material and intellectual production process⁹. The objective of the collaborative approach is to increase the effectiveness of collective work and to improve the production by making the methods of organization profitable, technology like support to work together with tasks, simultaneously or not, both at the same place and in different places. The networks and the digitalization of the documents governed by the hypertext support transform the human and intellectual relations. The emergence of the artefacts of the interconnection of documents, outcome of collaborative and creative behaviours, increase the human intelligence. These designs were guided by the works of Engelbart¹⁰, start from its following thesis: "the problems of the society increase at intervals without precedent, consequently the solutions to be brought there must follow the same rhythm. It is our survival which depends on our capacity to work together in a more effective way, to even show collective intelligence".

" collaborative Reading/Writing " the shared document which calls upon several writers/readers, even dispersed geographically, to work out statements, to affix collective annotations and comments. This procedure, ensured by various tools and software called groupware, gives place to what is called "increased information".

Without the meander of the theories of the collective intelligence management, we can distinguish the few thin borders between Collaborative Work and Co-operative Work. Dillenbourg affirms : "Into co-operation, the partners divide work, share the individually sub-tasks and then assemble the partial results in a final product. In collaboration, the partners work together".

The typology of the collaborative designs: in the definition of a relational framework it is of primary importance to make a success of an information system to define the structure of the groundwork for an internal logic of integration before the weaving external curb stones.

3.2- Internal collaboration:

It is a question of respecting the principles of step by step method that supports the basic groundwork, and prominence of the intellectual rather than the material:

- **Ideological and epistemological prospect:**

⁹ - Rapport à l'intention du partenariat de l'Observatoire Technologique /République et Canton de Genève .-Septembre 98 - <http://www.geneve.ch/ot>

¹⁰- Douglas Engelbart, is the famous inventor of interfaces who proposes collaborating or networking environments of work . In 1962, He established the philosophy in an article titled: "Augmenting Human Intellect: In Conceptual Framework "

The atmosphere of association and partnership in our ideology is in accordance with the principles of IFLA affirming that access to knowledge, and enjoying art and literature are for all the people¹¹, in conformity with conventions of UN and its specialized organizations¹². The libraries and information services contribute to the implementation of diversified information Society¹³ by respecting cultural diversity and the particular needs for the indigenous people and the minorities.

Obvious imbalance, between North and South, between people and social categories, touched all the sectors of the knowledge communication. It can be modified only by the installation of new mechanisms of modern regulation and information systems of management and knowledge.

This prospect can fit only by Knowledge Management system KM¹⁴ "knowledge where information, knowledge, "savoirs" and competence are supplemented as an entity to form part of a "whole". This modern management of ALDUs which will emphasize the contribution of traditional knowledge¹⁵ to the agronomic "savoirs" by a collective circulation of the ideas and practices by creating relations between pre-existent and often tacit competences and the diffused and licit "savoirs".

This knowledge called "Local", "indigenous" or "traditional" that the communities generate gradually is in the form of knowledge which they need to adapt to their agro-ecological and socio-economic medium and to compose with it. It contains many complementary aspects since it is generated and transformed by a systematic process of observation, experimentation and adaptation. For example, it results from eminently local concrete information, whereas the scientists must usually make new studies to collect the same information. It's a pity that traditional agricultural knowledge since colonization was replaced by the system of the patents in the shape of retransmitted commercial goods in an inequitable way. It is also a question by this system km of stimulating multilateral collaboration with institutions which have for a long time carried out research on the local knowledge Center CIKARD "Center for Indigenous Knowledge for Agricultural and Rural Development". It is necessary to act together for more comprehension of this the patents system, compromised by the liberal policies of reinforcement of the intellectual property, to show that it is not adapted to an authentic culture and the biological processes

-Organisational prospect:

This prospect is taken in a traditional direction for the management which is the implementation of the material resources, human (in particular intellectual) of the company in order to obtain economic performances. It can achieve these goals thanks to association, coordinate, operational and shared resources. The Agricultural Institution of Research & Higher education (IRESA¹⁶) is a structure of coordination, financed at the start by the World

¹¹ [IFLA Statement on Open Access to Scholarly Literature and Research Documentation.](#)

¹² [Déclaration des Nations unies sur les principes d'une coopération culturelle internationale](#)

¹³ Alexandria Manifesto on Libraries, the Information Society in Action

¹⁴ Abdelkader DJEFLAT « Economie de la connaissance et knowledge management: quels défis et perspectives » réseau MAGHTECH Faculté des Sciences Economiques, Université de Lille

¹⁵ [IFLA : savoir indigène - consultation](#)

¹⁶ -Created by law 90-72 of July 30, 1990, it is charged inter alia :- The promotion of agricultural research within the framework of the general policy of the State in this field, by

Bank, to create a National Agricultural System of Research (SNRA) whose objective is to connect all the research and the higher education agricultural institutions with its regional components. However, this recent structure of the IRESA can be described as bureaucratic, because it works according to the traditional model of hierarchical management. It is far from rationalizing its management by exploiting the collection of information available in ALDUs and capitalizing knowledge by the implementation of coherent means to integrate the services of documentary information. Moreover the investigation revealed the lack of coordination at the level of acquisition of the periodicals and the redundancies in the documentary technical tasks. This recent structure is often criticized for slowness of circulation, the passivity and the dependence of the institutions under its supervision. The reorganization of a network would resolve the problems of dispersion and inconsistency. This model of reorganization would place the digital library in the central point of the new "informational Society"¹⁷ - the networks are a remedy for the insulation of the libraries and their personnel. Apart from the circulation of knowledge by the access to the bibliographical and documentary resources, the network can also constitute an operating mode, for the libraries or for their partners who incites with the co-operation. Since the Sixties several networks of libraries¹⁸ were naturally constituted in the developed countries in order to ensure a collective dynamics by weaving bonds of partnership and by supporting the division. The reorganization in network is the essential factor for the evolution and the success of the documentary services of ALDUs. The reorganization offers opportunities for everyone. For the authorities, it is acquisition at lower cost thanks to the consortium common purchasing of the electronic documents and the actually unavailable data bases¹⁹. For the user, it is the possibility of identifying and of locating the documents existing on different sites by a single access. For the professional, it is the simplification of the procedures. For the system itself, data base for its food and its standardization. It is a paramount need because one cannot reconcile advanced technologies with null and void working methods.

- Technological prospect: This prospect is articulated on setting in places from there of a data-processing system of treatment in network for a better profitability of the BUDA which exist with the centre of the higher educational establishments, of the institutions of research in order to stimulate the practices of technological survey and innovation. Besides the technical solution which has been established since 1999 half of ALDUs has one connection to the Internet supported by the infrastructure of the Network in Intranet. Historically the agricultural sector enjoyed early computerization with regards to management of the bibliographical and factual data bases, which function since 1975 thanks to the support of international organisations such : FAO Food & Agriculture Organisation. The majority of the services of ALDUs (8/13) are equipped with a Data Base Management System (CDS/ISIS) developed By UNESCO.

ensuring the on the one hand connection between the Agricultural Research and Higher education Establishments and advisory service and producers

¹⁷ - Indeed, according to Joel de Rosnay, the society being born "organizes itself in networks rather than in pyramids of capacities, in interdependent cells rather than hierarchical gears, within one "informational ecosystem" rather than by industrial dies linear... "

¹⁸ - Association des Bibliothécaires Français.- Travailler ensemble : bibliothèques et réseaux, Colloque (1995, Saint Etienne) .- Paris, Ed. ABF, 1995

¹⁹ Agricola ,Agriculture and Natural Resources, Aquatic Sciences and Fisheries Abstracts (ASFA), Water Resources Abstracts , World List of Agriculture Serials WLAS...

This experiment of the integrated systems is incorporated thanks to the software MINISIS which was introduced with the ministry of agriculture by the end of the Seventies. It was connected by a software of same family CDS/ISIS. The choice of this software is based on several criteria among which the fact that they are provided freely by the Canadian co-operation of the IDRC (the International Development Research Center) and UNESCO. Even the European co-operation which promoted "the forum project" also bases on a version of CDS/ISIS. However secured by the hardware and software, ALDUs did not arrive at the profitability of the means placed at the disposal.

It is a constitution National Memory of Tunisian agriculture in the form of On Line Public Access Catalogue (OPAC), exhaustive and multi-media, allowing digitalization, the storage, the treatment, research... of documents.

This technological prospect is accompanied by deep communication and documentary upheavals: • multiplication of the Communication interpersonal: the virtual reference service (SRV) must offer the possibility to the users, starting from the entrance point to the consultable catalogue on the Web, to expose the problems encountered to a "resource person" whose electronic address is integrated into the banner page. Integration on this same level of a user guide on the catalogue would in addition make it possible to provide for the most current needs, and another communication formulas already tested: newsgroup set of themes, audio conference & videoconference... - Digitalization, the circulation of documents (commonly called workflow) and electronic Records Management and other tools for fitting documents allow the pattern recognition, research in the texts... These tools for handling make possible not only to supervise the technical functions of treatment but they authorize sharing document between individuals and institutions, by the possibility of joint semantic comparison, cutting, collective annotation ensured by various tools and software called groupware, gives place to what is called "increased information". ... Thus the control of flows of the administrative documents and the current and intermediate records accumulated in the institutions of research and teaching becomes feasible in integrated and validated by KM information systems.

This note is not limited to technico-organisational prospects because it proves that the basic solutions remain of a structural nature, of the political and cultural solutions which exceed the purely technical visions

New Information and Communication Technologies ICT " should help us become smarter and work together better, and in many ways, they have. But instead of progressing, tool builders these days are moving in circles, treading water rather than swimming forward. ²⁰

This is why this note does not limit itself to technico-organisational prospects because it proves that the basic solutions remain of a structural nature. They are rather policy guidelines and especially cultural, to have a mentality "sharing the same state of mind", exceed the visions purely technical

3.3- external collaboration

We should remark the change which took place during recent years in the concept of partnership. The partnership approach of the international relations gradually replaced the assistance and the co-operation as allies of the North-South dialogue. Initially, the partnership

²⁰ - [A Manifesto for Collaborative Tools](#) / [Eugene Eric Kim](#) -- (Blue Oxen Associates) March 29, 2004

approach was applied, hesitantly only with the State to State relations. Today, it is multidimensional and it is coloured by the interventions in this world concert of the companies, the public institutions and the civil Society. The catch with serious of this institutional relations new approach will have to lead to changes all of which was not seized yet, it is necessary some, by the principal interested parties.

External collaboration at an institution, with a country can be subdivided at the following geopolitical levels:

- National partnership: It appears strange to challenge the public institutions in the same country, even in the same ministry to work together and to make partnership their emblem. But the hierarchical model, that exists in the developing countries, makes each institution is more concerned with its political allegiance than a better service to the public and act independently from each other like the middle age prince. It is quite clear that there is a collaborative prospect to which it would be irresponsible not to give its chance. In a field as complex as agriculture, it would be necessary to take account of the institutions available in the same country and to try to throw the bridges with the foreign partners.

It is a question of activating insertion in the documentary medium of the existing documentary units in the same Ministry for Agriculture (MARH) It acts to federate works of the National Observatory of Agriculture (ONAGRI) heir to the CNDA and the services of documentation under the same supervision the such services of the APIA (the Agency of promotion of the agricultural investments) and the civil Society of the UTAP (Tunisian Union of agriculture and fishing) to coordinate the activities of study and documentation as a partner with full share. Tunisia has other establishments of the Ministries For education And Vocational training and Ministry for the Higher education of Scientific Research undertake documentary activities relating to agriculture. Indeed, no one can be unaware of the contribution of the existing documentary units and the resource centres under other supervisions: For example, the University National Center of Scientific and Technical Documentation (CNUDST) has a rather significant collection of theses covering this field.

- Regional partnership: It is also a question of stimulating regional collaboration with the services in charge of the co-operation within the IRESA. The Arab countries and in particular those of North Africa closest which share the same environment have only seldom research programs and joint projects. Against the development of relationships with the well-known French-speaking centers and networks in the fields of agricultural research, diffusion and adoption of technologies: International Cooperation In Agronomic Research Centers for the Development (CIRAD), - The CIHEAM (international center of Mediterranean agronomic high studies) financed by the European Community... and Moreover it would be necessary to explore other dies of co-operation and to adhere to others which is the resource centre of other French-speaking networks (InfoAgrar which is and the information resource centre of the Management of the Development by the Swiss Co-operation) and to subscribe to the other Arab and English-speaking networks....

- International partnership: multilateral co-operation for a repositioning in the concerned networks with organizations as the FAO (Agricultural AGRIS System Information). Considering the cost and the loads of acquisition of the electronic documents it is capital to exploit as much as possible this crenel of co-operation.

The majority of international networks have an on line system of exchange (the interactive catalogue covers most of monographs of FAO in the fields of agriculture, the genetics, the production and the protection of the plants, the breeding and hygiene veterinary surgeon, the forests, fishing, the installation of the grounds and water, of biotechnology, of the food and

the nutrition). The virtual library of FAO²¹, the Library David Lubin²² which, on request, provides to libraries members, services of interlibrary loans and photocopies, of bibliographical information, the microfilm reproductions or copies ... Each one benefits from these Partnerships. FAO widens its network of competence²³. The participants acquire an invaluable experiment of ground and a better comprehension of the international questions related on agriculture and food safety

During these years, in the field of the international relations, the universal character of the problems arising from poverty and the informational deficiencies were finally recognized. These problems, whatever the place where they appear, became common to the human community. The relation of assistance, then of co-operation, could then become relation of partnership and the durable development passed gradually from the incantation to engagements of all²⁴.

Conclusion

This collaborative approach poses a particular glance on realities of ALDUs and rests on convictions, specific methodological and conceptual tools which give good reason for gathering the librarians and the agricultural information specialists concerned. Its reinforcement and its development require moreover of the exchanges and confrontations within the newsgroup of the Agricultural Libraries. We propose the constitution of a network set of themes "partnership" of which the Seoul IFLA congress will be the first demonstration. - To seek to improve the collaborative tools - to place the user in the centre of the design of the applications, - to work jointly so that interoperability of our tools, will be the objectives of this group.

This "group AD hoc" acts to contextualise the structuring types, to recognize the effects of the networks on the informational resources and to identify the constraints of the actors. What is in particular the impact of the institutional and technological context on the construction of the networks and their effects in terms of capitalization of knowledge? and which are the consequences in terms of integration and construction of resources? These are the issues which await answers from the proposed workgroup.

²¹ - Since its creation in 1998, virtual library has put more than 6 000 documents on line to allow users worldwide to download agricultural information free of charge.

²² -the on line David Lubin library is considered one of the best world collections on the food, the agriculture and the international development and also of knowledge and competences on the agricultural world which were accumulated during more than 50 years in a million of monographs

²³ For further information on the programs contact: [FAO Partnership Programs](#)

²⁴ Tinturier, Jacques .-De la coopération à l'aide au développement en Afrique : propositions pour une politique d'aide de la France-. Paris : L'Harmattan, 2000.-207 p