REGIONAL DEVELOPMENT INFORMATION SYSTEMS : THEIR ROLE IN DEVELOPING REGIONS.
(Information Systems. 23)

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(The value of information as resource for national development is emphasised. A structure of Regional Development Information System under the framework of DEVSIS is discussed. The coverage, broad,categories of development users, the types of development information needed, the interdisciplinary nature of information, sources of information information generation points, the role of Regional DEVSIS, coordination of the different programmes, factors in inter-regional cooperation, various types of information services, compatibility among norms and devices, agencies promoting cooperation are discussed. The necessary infrastructure is suggested.)

1 INTRODUCTION

In an increasing measure it is being realised that information is a national resource and that its effective utilisation is essential for socio-economic development. The view is gaining ground that the information industry holds the key to the future development of indust-rialised societies. The information re-volution is moulding the pattern of thought in many fields -- economics, politics, government, sociology, etc. Economists and social scientists, over the past decade, have attempted to for-mulate a new economics of information, ranging a wide spectrum of activities in the information field, from the study of specific library activities to a recon-sideration of the role of information in the economic system such as the behaviour of "economic action" on the economic stage when they do have or do not have access to particular information. Natio-nal policies are formulated to guide the measures for securing efficacy of ex-penditure on better information flow to decision points.

In this context the objectives of the proposed global development infor-

mation system (DEVSIS) are broad and com-mendable in that the achievement of the objectives could help the establishment of a new international social and econo-mic order. The system has a placed em-phasis on service to developing countries and on regional cooperative efforts. In this paper some ideas about the likely beneficial effects of regional develop-ment information system in developing countries are presented. These ideas are based on a discussion paper contributed to a meeting of the Expert Group on a Development Information System for the ESCAP Region. (Bangkok, 1975-02-3/7) and the second session of the DEVSIS Steering Committee (Paris, 1975-04-28/29).

2 SCOPE AND COVERAGE OF DEVELOPMENT IN-FORMATION

The scope and coverage of Develop-ment Information as conceived in this paper can be characterized by a co-ordi-nation of the following parameters:

    (a) Broad categories of development information users;

    (b) Types of development information in relation to the user catego-ries; and

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(c) Generators of development information.

21 **Broad Categories of Development Information Users**

These include:

(a) Development policy makers;
(b) Development planning groups;
(c) Personnel engaged in socio-economic forecasting, determining socio-economic indicators, etc. for a country or region or product;
(d) Techno-economic and social survey teams;
(e) Research workers in socio-economic development;
(f) Planners and managers of research in socio-economic development;
(g) Agencies providing funds and other assistance for socio-economic development projects and programmes;
(h) Personnel concerned with or involved in, the assessment and evaluation of socio-economic development of projects and programmes of countries and regions, and of specific development projects;
(i) Consultants on socio-economic development projects and programmes; and
(j) Information analysts and other staff serving and/or providing information support functions to, personnel engaged in the types of work mentioned in (h) to (j).

Thus, the predominant users/clientele of a development information system are those concerned with or engaged in development planning and those who provide data and information support to them.

22 **Types of development Information**

In relation to the categories of user mentioned in Section 21, the main types of development information would include:

(a) Descriptive accounts and surveys --local, country, regional, and global-- of economic and social conditions at the macro and micro levels;

(b) Socio-economic development policy statements--original proposals and statements, and evaluatory notes accounts and reviews of the proposals;
(c) Development plans and reports of development projects and programmes;
(d) Accounts of managerial and administrative experiences in implementing socio-economic development plans and programmes;
(e) Statistical and factual data for use in socio-economic forecasting and development planning;
(f) Guides to resources--manpower, finance, technical, facilities--for supporting development projects and programmes;
(g) Accounts of the impact and evaluatory reports of the economic, socio-cultural, behavioural, technological and other consequences of implementing development plans and programmes;
(h) Descriptive and evaluatory reports of international regional cooperation, problems, etc. in socio-economic development efforts;
(i) Forecasts of future socio-economic and technological environment;
(j) Information on theoretical studies on socio-economic development, social and development indicators; models of socio-economic planning; theory and practice of techno-economic forecasting; research methods in development studies; etc.

23 **Interdisciplinary nature of Development Information**

"Development" is obviously an interdisciplinary subject. Relevant information is dispersed in a variety of subject areas: for example, economics, sociology, demography, behavioural sciences, policy sciences, anthropology, ekistics, culture, environmental sciences, earth sciences, agriculture, health sciences, engineering and technology, etc. A development information system would be a mission-oriented system.

24 **Documents and Other Sources of Information**

Types of documents in which deve-

lopment information may be published in-
clude:

    Textbooks and monographs
    Periodicals
    Newspapers and serials
    Theses
    Research and technical reports
    Working papers and discussion papers
    Conference proceedings
    Reports of research in progress
    Government papers
    Staff papers, memoranda, and other
     institutional internal records.
    Data Sheets
    Maps, charts, etc.

In addition to these conventional
forms of record, non-conventional forms
such as magnetic tapes, videotapes, micro-
forms, films and other audio-visual mat-
erial are also becoming increasingly
important sources and media of information
dissemination.

Perhaps, about 25 per cent of the
total development information may not be
published or made available for wide use.
Such information may be found only in in-
stitutional files and memoranda, corres-
pondence, and other unpublished material
(8 grey' literature). An additional seg-
ment of information marked 'Classified'--
that is, for restricted circulation/con-
fidential use/secret -- may not also be
available for wide use at least for quite
some time after the generation of the in-
formation.

Institutions and individuals may also
be important sources of information for
particular purposes. They may be consult-
ed or called upon for advice and opinion.

25 Information Generation Points

Development information generation
points may be categorized in several ways-
for example, in relation to a developing
country the categorization may be as fol-
lows:

    1) Within the developing country;
    2) In other developing countries; and
    3) In developed countries.

Within each of these categories, there
may be further sub-division such as fol-
lows:

    1) Government departments -- federal

     and state
    2) Research centres
    3) Educational institutions
    4) Field stations and surveys
    5) Conferences, seminars, etc
    6) Commissions, and committees
    7) Societies and associations
    8) Private consultants/consulting
     firms

While there are many similarities in the
documents and/or information generated by
these agencies, there may also be some
differences among them with respect to
the type of information, distribution,
availability, etc.

3 TYPES OF ROLE OF THE REGIONAL DEVELOP-MENT INFORMATION SYSTEM

A Regional Development Information
System, especially for a developing re-
gion, can play two major roles. These
are:

    1) Stimulation of the establishment
of development information systems and
services in the different countries of
the region; and

    2) Stimulation, initiation, develop-
ment, and support of intra-regional co-
operation and co-ordination of develop-
ment information services and activities.

These roles are discussed in the
succeeding sections.

4 ROLE IN FOCUSSING ATTENTION ON DEVE-LOPMENT INFORMATION

In Section 2 and its sub-divisions
it has been pointed out that

    1) "Development" is an interdisci-
plinary subject, and as a consequence;

    2) Information pertaining to deve-
lopment is scattered in a wide range of
primary sources and dissemination media;
and

    3) Awareness of and access to deve-
lopment information may have to be ob-
tained through a number of secondary and
tertiary sources. Therefore, while on
the one hand almost all the countries of
the region are very much in need of deve-
lopment information and data for socio-
economic research and development plan-
ning -- activities in which they are all
deeply involved -- access to needed in-
formation is difficult; and the search,

selection, and assembling of development
information is both time consuming and
costly. Facilitation of access to in-
formation in and for developing countries
is a basis for the global development in-
formation system (DEVSIS), the feasibili-
ty of which is currently under study (1).

The establishment of a Regional De-
velopment Information System (=Regional
System) could help

1) To draw the attention of govern-
ments, institutional authorities, and
library and information centres in the
countries of the region to the problems
of access to the providing information
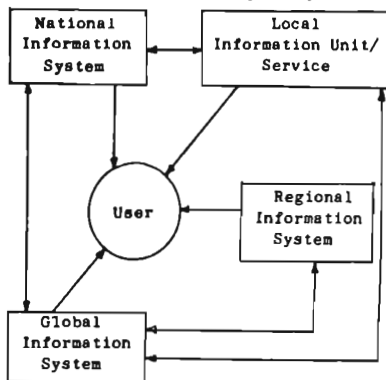services for, socio-economic development
planning and research;

2) To initiate action to develop
appropriate infrastructure for national
development information systems/network.

Such a national system/network is
necessary also to make effective use of
*the services and facilities that may be
generated by international systems such
as DEVSIS, AGRIS, etc, and the Regional
System when it comes to be established.

5 ROLE IN REGIONAL CO-OPERATION AND CO-
   ORDINATION IN DEVELOPMENT INFORMATION
   SERVICE
       The ultimate objectives of any in-
formation system is to facilitate user's
access to timely, precise, and reliable
information at reasonable cost. The in-
formation needs of a person or a group of
persons in a country should first of all
be sought to be satisfied by the immedi-
ately accessible local information unit,
supplemented by the services of the local
information network, and the national in-
formation network. The specific infor-
mation needs and mode of presentation of
the information most helpful to the user
can best be assessed by the information
personnel in or associated with the in-
stitution or project concerned. It is
helpful to consider that a goal of a re-
gional information system is to facilitate
the accessibility to the information need-
ed at a particular point and to supplement
the facility and service available locally
and nationally, and not to replace the
local service. It is also worth noting

that local information units and/or the
national information system can draw upon
global information services such as AGRIS
and DEVSIS to supplement their respective
resources. In this context, again a re-
gional system could be viewed as facili-
tating and supplementing the local and
national services either directly or in-
directly via the global service. The fol-
lowing chart pictures this dynamic inter-
action between the hierarchy of systems:

Viewed in this perspective, a major
issue for consideration with respect to
the role and functions of the regional
system may be formulated as follows:

   The primary function of the regional
   system being that of facilitating
   and supplementing the local and nat-
   ional information services, in what
   ways would the local and national
   information systems be benefitted by
   the establishment of a regional sys-
   tem, directly and indirectly?

Some detailed consideration of this
issue is important even to justify a pro-
gramme of action to establish a regional
system in which the different countries
will be involved, by way of participation
and investment, in various ways. Some of
the ways in which this participation may
take place and some of the ways in which
the benefits of the establishment of a
regional system might be realized, are
mentioned in the succeeding sections.

51 Common Factors to Guide Intra-Region-al Co-operation

There are several features and problems common to the countries of the region which could form the basis and guiding factors for intra-regional co-operation and co-ordination in information service provision. Some of these factors are:

1) Common socio-economic objectives and goals despite the differences in the levels of development. Also the problems of import and transfer of foreign technology, the local adaptation of such technologies, and the development of intermediate and appropriate technologies, primarily in agriculture and industry in several countries of the region. These features are reflected in the information needs of the countries.

2) Almost all the countries of the region are involved in socio-economic planning and development programmes. Hence the need for development information.

3).While development information of maximum relevance to each of the countries may be that generated within the country and within the region in countries with similar socio-economic features and structures, a fair proportion of the needed information is generated in the economically advanced countries of the west. Therefore, access to such information is a common concern of the countries of the region.

4) Several of the countries in the region are planning their respective national information systems, although they may be at different stages in the process. The integration of the services and facilities available from a regional system into the national information infrastructure would be an immediate common concern.

5) Inadequacy of telecommunication facilities in most of the developing countries of the region.

6) Inadequacy of reprography facilities in most of the institutions and information centres in the developing countries of the region.

7) A somewhat not-too-well-structured publishing industry in the developing countries of the region.

8) The problems of multiplicity of languages and scripts used for communication of information at various levels in some of the countries of the region raise problems of translation, etc.

9) The problems of incorporating modern information technology -- which may involve large investments at least at the beginning -- into the national information system at a viable level is another common feature in most of the countries. Regional Development information System can help to motivate and support action to realize effective regional co-operation and co-ordination of development information services and systems which would ultimately result in national benefit of the co-operating countries. Some of the areas in which intra-regional co-operation and co-ordination might be sought and which might be fostered by the Regional System are mentioned below.

52 Formulation of National Policies on Development Information

The objective of intra-regional co-operation in the formulation of policies on Development Information, in particular, and socio-economic and techno-economic information, in general would be to identify and harmonize compatible elements helpful in such policy formulation. The elements of the policy should preferably be based on common objectives, shared experiences, compatible socio-economic features etc, among the countries of the region, with necessary provision for appropriate variations and adjustments for the differences, if any among them. The establishment of the Regional System could help to draw attention of the authorities to these factors and hasten the process of inter-regional co-operation.

The regional system could facilitate the incorporation of the development information systems in the country into the national information system of the country concerned through interchange of information about experiences, problems, and solutions in this regard in the countries of the region.

The Regional System could facilitate

national inventory of resources -- information resources, financial resources, manpower resources, and facilities -- helpful in national development information system design, and as a prerequisite for effective co-ordination and co-operation in the design and development of the Regional System itself.

The Regional System could help in the training of development information system planners and policy makers as a regional co-operative programme.

53 Information Resource Sharing

In an interdisciplinary subject such as "development" with the information on it being widely dispersed, it is practically impossible for any one library or information centre to acquire and maintain a complete collection of information materials. Therefore, inter-library co-operation in information resource sharing is imperative. Not only should there be co-operation among libraries and documentation centres within each country, but also among centres in different countries in the region. Inter-regional co-operation could be in the form of

1) Inter-library loan of documents or provision of reprograph copies whenever that is economical and feasible;

2) Exchange of publications; and

3) Answering technical and other enquiries.

In this context the Regional System can act as a referral and switching centre and as a clearing house to direct and channelize enquiries for information and documents arising at any point in the region to the appropriate library or information centre most likely to satisfy the enquiry.

The Regioanl System could also act as an additional focal point through which the information centres and information users of the region can interact with and utilize other regional and global information systems.

Such co-operation and referral service will be facilitated by the compilation of regional union catalogues of serials, and of other specialized materials such as theses, technical reports, etc,

and referral directories of area collections, institutions concerned with or having development programmes, projects, and research, data banks, information analysis contains and of experts in the subjects of socio-economic development. The establishment of the Regional System would be a motivation and support for the preparation of such union catalogues and directories.

The union catalogues and directories would also facilitate the identification of gaps in primary and secondary information sources on socio-economic planning and development in the region, and thereby lead to action to fill the gaps.

54 Information Services

Current awareness service (alerting service), SDI literature search, data service, and similar bibliographical and documentation services will form important components of the total development information services in the countries of the region. Such services are now provided in several institutions, but at an institutional level based largely on the institutional resources. There are a few services at the national level but again largely based on the resources of one or two 'national' or large institutions. Such services have their limitations both in terms of coverage as well as availability and distribution of the services on a wider scale, the influencing factors being limitation of information resources, professional personnel, facilities and finances. Also, as yet there are no information services mainly focussed on development. On the other hand, development information is dispersed in a wide range of documents and requires extensive coverage of information sources. These factors and considerations of economy call for exploration of possibliities of organizing regional development information services as a co-operative and collaborative effort with a view to meeting the specific information needs of the users in the region. A frequently published current awareness/alerting title service, SDI servies to groups and individuals, establishment of socio-economic and

techno-economic data banks and data ser-
vice, information analysis and critical
review service are but a few of the pos-
sible services that may be rendered by or
through the Regional System for the bene-
fit of a wider range of clientele. For
this purpose, the regional system can also
draw from international services, such as
AGRIS, DEVSIS (when it becomes operative),
etc

In a regional co-operative effort
the use of computers and machine-readable
data bases either generated within the
region or obtained from international in-
formation services, is likely to be more
viable and economical than each country
attempting to develop computer-based ser-
vices at a local or national level.

The Regional System may, in its turn,
be conveniently used as a feeder system
of regional development information to the
international services. Of course, the
structure and modus operandi of the sys-
tem -- whether it will be of the AGRIS,
INIS type or some other type of collabo-
ration and networking -- will have to be
carefully considered and worked out.

55 Communication and Interlinking Faci-
lities

A prerequisite for the effective in-
stitutional co-operation and collabora-
tion, and provision of information ser-
vices in the region is the establishment
of efficient telecommunication systems
within each of the countries and between
the countries. The establishment of the
Regional System could stimulate, facili-
tate, and support the establishment of
such communication links in the region.

In this context, the Regional System
could also plan to utilize satellite com-
munication facilities which will enable
it to utilize data bases located at glo-
bal distances.

56 Compatibility and Norms of Procedures
and Devices

There are obviously several advan-
tages in securing compatibility, inter-
convertibility, and interchangeability
in the format and structuring of informa-
tion handling devices, procedures, etc,

particularly in computer handling of in-
formation, microforms, etc.

The establishment of the Regional
System could be a motivating factor for
the libraries and information centres and
services of the region to consider the
various issues of compatibility, etc. In
this connection, the Regional System
should initiate and support normative act-
ion in conformity with the international
proposals, manuals, guidelines, and stand-
ards already developed, such as those for
UNISIST purposes.

57 Document Procurement

A good proportion of the documents
and other information sources such as mag-
netic tapes, microforms, films, etc, used
by libraries and information centres in
regions in Asia, for example, are obtain-
ed from countries in Europe and America.
There is a considerable time-lag in the
receipt of such material by surface mail.
Normal air transport is costly for gene-
ral use by libraries and information cen-
tres in the region. The Regional Infor-
mation System might consider promoting an
institutional mechanism (eg, a co-opera-
tive consortium) by which:

1) The search and identification of
relevant development information material
published in the west are facilitated;
and

2) Air-lifting at reduced cost(e g
through subsidy, or through inter-nation-
al agreements) of at least the more impor-
tant periodicals, and other information
source materials, is facilitated.

The Regional System may have to seek
the help and co-operation of other UN spe-
cialized agencies such as UNESCO and the
International Postal Union, in this mat-
ter.

58 Copyright and Other Legal Aspects

To facilitate the free flow of in-
formation and information materials, copy-
right and other regulations in the coun-
tries of the region may be liberalized
and interpreted in such a manner as to
facilitate bona fide translation of docu-
ments from one language to another, and
reproduction of copies of documents at a

substantially lower price for wider dis-
tribution. Such a facility may also have
to be provided by other countries from
which large quantities of reading mater-
ials are imported into the region.

Such facility for translation and
reproduction of copies of documents
should of course be compatible with the
appropriate provisions of secrecy and se-
curity of specialized information and the
economics of publishing in each of the
countries of the region and elsewhere.

The Regional System could initiate
action and provide a forum for discussion
of these issues among the countries of
the region with a view to finding some
acceptable solution.

It is important to guard against the
political overtones that might accompany
discussions on the legal and economic as-
pects of publishing and distribution of
documents.

59 Education and Research in Library and Information Science

The building up of an information
infrastructure capable of providing effi-
cient development information service re-
quires not only information sources, and
facilities but also specialized informa-
tion personnel. There could be intrare-
gional co-operation in the education and
training of such information personnel.
Such co-operation could, for example, be
developed in the following ways:

1) Personnel from one country be
trained in another country where facili-
ties may be available.

2) Provision for in-service and on-
the-job training in specialized areas for
personnel from other countries of the re-
gion.

3) Facility for exchange of teachers
in library and information science bet-
ween countries of the region.

4) Facility for exchange of informa-
tion through seminars, conferences, work-
shops, etc, on specialized techniques,
tools, and advances in the information
field.

5) Establishment of a regional edu-
cation and training centre in library and
information science with options for spe-

cializing in development information, en-
vironmental information, computer-based
information services, etc.

6) While research in the library and
information field may be carried on in
the library schools and other centres in
each country, there can be intraregional
co-operative research projects to investi-
gate problems of common concern to the
countries of the region, eg, survey of
information sources, compatibility of in-
formation, handling procedures and devi-
ces, thesauri for development information
use and user studies, etc.

A related question is co-operative
action to minimize the brain drain of in-
formation specialists from the region to
other parts of the world.

In all these co-operative endeavours
for raising information manpower for the
region, the establishment of the Regional
System is likely to have a salutory effe-
ct, and help to initiate action in the
matter.

6 CO-OPERATION AMONG INTERNATIONAL AGENCIES

In programmes for setting up nation-
al, regional and international information
systems, more than one international body
such as UNESCO and UNDP, and help from
particular countries, may be involved,
sometimes with particular components of
the system. It is necessary that such
efforts and aid be co-ordinated in a way
that the agencies are able to contribute
to the project as a co-operative effort
if that would be more economical and/or
useful, rather than interacting and opera-
ting separately with the individual coun-
tries. With respect to establishment of
development information systems in the
ESCAP region, the Regional System centre
or office could help to bring about this
co-ordination of international efforts
and monitor them by keeping itself aware
of the developments of this nature in the
region.

7 REFERENCES

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