

RESOURCE SHARING NETWORKS FOR HIGHER EDUCATION AT STATE LEVEL

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1 RSNW: WHAT AND WHY?

Resource sharing may appear to be a new term for the traditional concepts of 'inter library loan' or 'library co-operation'. But even though resource sharing includes the activities meant by these earlier terms, there is significant difference in the approach. The terms inter library loan and library co-operation take the existence of libraries for granted and describe how they can achieve their objectives better by working together. But the new term 'resource sharing' appears rather to assume a range of physical, intellectual and conceptual resources on the one hand and a body of people with library and information needs on the other hand, and covers the activities involved in organizing the one into a set of optimum relationships to meet the needs of the other.¹

So resource sharing may be seen as a new term for working out inter-institutional relationships for the benefit of the users which is frequently described as changing from a material orientation to a client orientation.

Networking is the most important means to give practical shape to this philosophy of resource sharing. When two or more libraries formally engage in a resource sharing programme, that is, in a common pattern of information exchange through communication for some functionally interdependent purpose, it becomes a library Resource Sharing Network for which we will use the acronym RSNW. RSNW is an independent organization serving more than one library, using at least some communication technology which distributes services to user libraries and at the same time receives information directly related to continuous production of services from the user libraries for the purpose of sharing the resources for the libraries.²

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11 THE NEED AND OBJECTIVES OF RSNW

RSNW is now mandated in every library and information system by the information explosion, the advance of modern technology, the rapidly escalating costs of needed resources and the wide disparity between resources available to individuals by reason of geographical location or socio-economic position.³

The Working Group of University Grants Commission on library and information network at national level gives a summary of the reasons necessitating RSNW among libraries of higher education system. It states that approximately a total sum of Rs 150 crores is spent towards books and journals by all the libraries inside higher education system. Still a teacher or student in any college or university is handicapped due to paucity of resources and services offered by his library. But it is neither possible nor feasible to fund all the libraries in the country so as to be self-sufficient in meeting fully the needs of their users. Instead of this if the users can be enabled to have access to holdings of each other library, the total national resources could be utilized optimally by every one. This will also ensure that the libraries avoid to a great extent duplication in procuring costly books and journals and aim at developing more unique collection. So overall economy and improvement of efficiency as well as minimising the incidence of financial and other constraints faced at the level of individual libraries are expected to accrue from a network based service. Apart from this the academic community could, through an RSNW, establish instant contact with their counterparts in the country for academic conversation.

So an RSNW among college, university and research libraries in a region can provide better service to students and teachers in their teaching-learning process. Better it can be defined in quantitative terms, for example: lower cost, access to more materials and rapid availability of all required materials. Better it can also be defined in qualitative terms such as convenience of access for librarians and patrons. So RSNW makes possible more improved library services more economically by pooling resources and sharing resources.⁴

2 IMPLICATIONS OF AN RSNW

Success of an RSNW depends not only on having appropriate goals and objectives, but also on creating and operating a service within the right legal, administrative and fiscal framework. It requires a significant organisational commitment from the participants. It is based upon agreements within the group of participants that specific test should be performed and specific guidelines adhered to. Consensus among participants on goals and objectives for RSNW is essential. Then group deci-

sion and sharing of the operation of the knowledge among participants is required.

3 RANGE AND REQUIREMENTS

As per the present concept of the term 'resource sharing,' library resources to be shared include not only books and other communication media, but also the expertise of their staff, their technical and physical facilities and the systems and networks of which they form a part.

In resource sharing there are two stages. They are first exploiting the existing resources within a group of libraries, and activities designed to improve overall provisions within it.

31 EXPLOITING EXISTING RESOURCES

The ability to refer readers to an appropriate collection of resources or to borrow from it, depends on a detailed knowledge of the available collections. This necessitates directories of libraries and other information centres and maintenance of upto date union catalogues, union list of serials etc, preferably in on-line catalogues.

Once the location of the materials on a subject required by a user has been found then there should be provision for inter lending or referring readers to other libraries holding the required information. Translation service is also essential if the information service of a national RSNW is to transcend linguistic barriers in a country like India. References to documents should be provided through indexes and abstracts. All this can be done through a computer network system in which all the university and college libraries in the state and country can participate. That will increase the availability of library resources among users of participating libraries and will reduce the rise of per unit costs in those libraries. Computer networks can maintain online union catalogue of millions of holdings, can forward requests for loans, and from the information stored in it can do pre-order searching, can prepare and print bibliographies and catalogues and many other works.

32 IMPROVING OVERALL PROVISIONS

The second stage is joint action for increasing the total resources of the group of libraries in the RSNW. First step is to draw up a written statement of the acquisition policy of the libraries in the group. On the basis of information obtained from expert and systematic appraisal of existing collections, agreements on collection development to strengthen total holding can be reached. Cooperative acquisition schemes will be required for improving the provisions. It will include rationalization of

coverage and joint ownership of materials paid for fully or in part from some source of central funding. Shared coverage of serial publications of marginal interest and backfiles becomes possible under this. Agreements can also be reached on shared purchase of expensive or little used items or to fill identified gaps in total resources. Where a source of central funding exists for the RSNW, fewer problems are likely to arise in co-operative acquisition. A joint storage project becomes possible. It is necessary for relieving the limited storage space available in college libraries from the less used materials which can be transferred to a shared store on a cheap site. Such materials can be passed into joint ownership.

With the increasing sophistication of library and information services and the need to adopt to a more user oriented approach and to concepts of participative management, continuing staff education programmes are becoming a more prominent feature for RSNW. The sharing of expertise and facilities can be used at different levels, for staff education.

33 INTERDEPENDENCE OF SCHEMES

It is clear that all stages and all forms of resource sharing depend on each other for effective operation. Shared cataloguing leading to inter-library loan and to referral and delivery system is an example. Once an RSNW has been formed, demands for new services often arise from members of that network. Much depends also on effective administration and for this the key tool is the regular monitoring of performance in terms of quantity, quality and cost of services in comparison with alternative modes of provision. These must also be monitored in relation to the priority to be given to that service in the light of new circumstances. Such monitoring is especially important, where a service complements or acts as an alternative to other forms of service such as those which are centrally provided or which could be provided by one or two large libraries on a contract basis. For constructing an operational model for an RSNW careful study of local circumstances, and some times launching of a controlled experiment to determine the viability of a local scheme is necessary.⁵

4 TYPES OF RSNW

The nature of the libraries and the differences and similarities in their levels of services and their existing organizational set up will mainly determine the pattern of flow of information in a RSNW.⁶ The common types of RSNW are (1) distributed RSNW in which all participants are in a position to contribute on an equal basis, (2) hierarchical RSNW in which unsatisfied needs are passed to the next and more comprehensive

centre of resources, (3) star type RSNW in which one participant holds all resources, with all other members utilizing it, (4) automated RSNW which is a computer based network with telecommunication microwave satellite links between terminals and main computers, (5) RSNW exhibiting a mixture of the characteristics of two or more of the above.

5 RSNW IN INDIA

A body of national status is needed for planning and co-ordinating RSNW activities if the information resource of the nation is to become useful for all the citizens. The RSNW system should be one that goes with the political and administrative set up of the country.

In eighties much attention was devoted to the development of information systems in India. Many RSNWs came into existence. Most of these were enabled by the support of UNESCO. The development in telecommunication and information technology like the use of satellite communication technology, increasing availability of micro processor and growth of indigenous computer industry enhanced the possibilities of efficient, cheap and advanced RSNW.⁷ Hierarchical type of RSNW programmes like NISSAT, NICNET, INDONET etc, and Star type of RSNW like NASSDOC, INSDOC, DESIDOC etc, existing at present are the result of these developments.

5.1 NEED FOR RSNW IN HIGHER EDUCATION

The new educational policy stresses the importance of library and information services in increasing and maintaining the quality of education and life.⁸ So, for effective library and information services in higher education an RSNW at national level is an urgent requirement for the following reasons.

The quality of education depends upon the support services, mainly the library and information support facilities given to teaching-learning process. So to maintain quality, the growth of higher education is to be regulated according to the facilities we can provide. But in spite of the fact that there is a need to regulate expansion of higher education in view of the limitations of resources it is not easy to deny expansion altogether. The weaker sections of the society have looked upon higher education as the only means for vertical and economic mobility and to deny them access to higher education would be against all cannons of social justice and equity. The development of higher education in India thus faces the challenges of quantity versus quality and a strategy has to be evolved to arrive at an acceptable balance between the two demands. An adequate realisation of this objective requires concerted

efforts, careful educational planning and co-ordination of resources and constant vigil as well. This calls for identification of priorities and regional needs and above all the determination of relevance and excellence in higher education.

52 EFFORTS BY UNIVERSITY GRANTS COMMISSION

Right from its inception in 1951 UGC was aware of the role of libraries in improving the quality of teaching-learning process. So it gave high priorities to the development of library collections and services in universities and colleges. But the knowledge explosion, emergence of new disciplines at a very rapid pace, the exponential volume of published output, the nontraditional forms of documents, the tremendous increase in the number of students and teachers, new courses, and the rise of the cost of books, periodicals and other library materials have all created problems of an alarming nature for libraries, and generated new demands for library and information services. Tackling these problems went beyond the resources of individual institutions or libraries. The situation called for system or systems under which the resources can be pooled together and utilized by the whole teacher-student community of the nation.

53 STAR TYPE RSNW OF UGC

To tackle the problem, firstly UGC has decided to set up a number of inter-university centres in different subject areas. The purpose is to share the information and other research facilities which UGC cannot afford for various institutions or regions individually. The initial ones came into existence near major experimental centres as autonomous institutions with core staff.⁹

Information centres were established for science at Indian Institute of Science, Bangalore; for humanities at SDNT Womens University, Bombay; and for social science at M S University, Baroda. A Nuclear Science Centre has been established at Jawaharlal Nehru University, New Delhi as Inter-University Centre. Another for astrophysics and astronomy has been established at University of Poona.

The objectives of these centres is to improve the information access to the teachers and students throughout the country and to provide for bibliographic support as also to make available the latest documentation available in the respective disciplines. These centres have already started functioning and they are providing current awareness services and information and reference services. The services are developed on

a computational database built by scanning hundreds of Indian and foreign journals.

6 NATIONAL RSNW FOR HIGHER EDUCATION

In 1988 UGC constituted a committee on Information and Library Network System to suggest measures to network libraries in the country so as to share their literature resources towards optimum utilization and to avoid duplication in holdings to the extent possible. Its working group has submitted the report in December 1988. The report gives the project proposal for the establishment and development of an RSNW, that is, Information and Library Network known by the acronym INFLIBNET.¹⁶ The report covers all aspects of INFLIBNET like output and services, organization, standardisation for information handling, application of software requirements, computer hardware, technical specifications, network architecture, communication, data capturing and data preparation, manpower and training needs, management mechanism, implementation mechanism and cost implications.

INFLIBNET is designed to be a computer communication RSNW for linking libraries and information centres in universities, colleges, UGC information centres and research and development institutions in the country. Overall objectives of INFLIBNET given in the report are: (a) to evolve a national RSNW interconnecting various libraries and information centres in the country to improve their capability in information handling and services, (b) to provide on-line access to document collection by creating on-line union catalogue etc, (c) to provide better access to worthwhile bibliographic information sources with citations and abstracts through indigenously created databases of the sectoral information centres of NISSAT and UGC information centres and others by establishing access to international databases, (d) to develop a system of document delivery service, (e) to optimise information research utilization through shared cataloguing, resource sharing etc, (f) to introduce computerisation of operations and services in libraries by following uniform standard, (g) to facilitate scientific communication through electronic mail, computer conferencing etc, (h) to develop required manpower, and (i) to evolve standards and guidelines for techniques, methods procedures, hardware and software etc, for facilitating the exchange and use of information.

6.1 ORGANIZATIONAL SET-UP OF INFLIBNET

INFLIBNET as envisaged by the report is a versatile, integrated RSNW system. Yet it operates at different levels: national, regional,

sectoral and local. The catalogue of libraries will be aggregated bottom upwards from college and departmental libraries to university library and to regional centre. Secondary information database maintenance and services will be taken care of by sectoral information centres. End-users will be served mainly at local level such as colleges, departments, universities and research and development institutions. About 100 nodes are planned initially for this purpose.

There will be a national centre for managing, overseeing and co-ordinating the affairs of this RSNW and four regional centres at north, east, west and south which will maintain union catalogue of holdings of libraries in the regions and database of projects, institutions and specialists. At the sectoral level UGC information centres, present and proposed, NISSAT Sectoral Information Centres and other centres which perform national level functions and services in specific subjects, disciplines, or missions are included. Sectoral centres will acquire, create and access retrospective and current bibliographic databases and offer a variety of modern information services. As many as 100 university and research and development institutional libraries will be designated and equipped to serve as document resource centres for the purpose of document delivery service.

INFLIBNET will have its own standards in areas like classification, subject heading, cataloguing, input format, exchange format, physical format and information processing. This will be based on existing national and international practices for uniform adoption throughout the RSNW. Software packages for the overall requirements as well as for automation at individual library level will be developed. Hardware requirements at all levels are identified and their technical specifications have been drawn.

62 TYPE OF THE NETWORK

INFLIBNET is designed to be an automated hierarchical RSNW. The communication architecture will be a hybrid version of satellite and terrestrial networking. The communication system will have a central hub and 400 ground terminals at 150 university libraries, 50 autonomous colleges and 200 other institutions comprising research and development institutions, document resource centres and sectoral information centres. All will be inter-connected via satellite link.

The plan is to fulfill the target in four years from April 1990. The total cost of implementing the INFLIBNET in the first four years comes to Rs 150 crores comprising 100 crores non-recurring and 50 crores recurring expenses.

INFLIBNET can totally change the library and information system in the country by the end of the next plan period 1990-95.

63 NEED FOR A STATE CENTRE

The realization of objectives of INFLIBNET will depend upon how far we can make the existing resources more live and the centres at lower levels more efficient and active. The existing institutions that are to be accepted as INFLIBNET's various level centres in the hierarchy should have the required maturity for receiving the benefits of INFLIBNET system and in distributing the benefits in an equally and unbiased way among the teacher-student community of the State.

So to assess the possibilities of existing units which are to participate at local level as centres of INFLIBNET, to receive and distribute its services, we have to take the existing situation in a specific region in the country. In limiting this region and in deciding the different levels of organization we have to follow the political and administrative divisions already existing in the country.¹¹ India has a federal structure and the constituent unit being the State, states can be the convenient unit at one level for the RSNW. So we also can take state as the sample area inside which will limit our study. The colleges, universities and other higher educational institutions inside a state will be having similar administrative and organisational pattern and the existing limits of control and co-ordination if any, by some higher authority will be extending upto the boundaries of the State. So we have to evaluate the existing units inside the State which are to become the lowest level units; local centres of INFLIBNET inside the State and see how far they can satisfy their role as part of this RSNW. From this evaluation we have to evolve suggestions for required restructuring of the units or remodelling of sub-system of INFLIBNET that works within the State. Many states will be having similar situations, similar problems and the same solutions can be applied there also. Here we take Kerala as the sample region for evaluation.

7 THE HIGHER EDUCATION SITUATION IN KERALA

There are 4 universities and 172 arts and science colleges in the State¹², viz, Kerala University which has 44 colleges affiliated to it, Mahatma Gandhi University with 57 colleges, Calicut University with 71 colleges and Cochin University with none. Of these, 40 colleges are run by government and 132 by various private managements. The students strength at the university level undergoing regular courses aggregated to 3.29 lakhs and studying privately 1 lakh during 1988-89. The number of students undergoing post-graduate courses in university departments was about 1180 and in colleges it was 4747 during the year. The number of teachers in universities was about 450 and in arts and

science colleges it was 13465. Expense on university education was 73 crores during the year.

Library services available to the students studying directly under university departments is somewhat satisfactory. But this student community is less than one percent of the total students. The post-graduate students in the university departments are less than 25 percent of the total post-graduate students of the State. So 99 percent of the total students and 75% of the post-graduate students in the State have to depend on the college libraries for their book and information requirements. But actually no library service exists in most of the colleges. Colleges maintain libraries because it is obligatory on the part of the college to have a library. Collections are obsolete and unlive. There are post-graduate colleges with less than Rs 800 per year as budget allotment for their central library. But at the same time they maintain two central libraries for two shifts under the same roof—a criminal waste of tax payers money.

The quality of collections, facilities, services and staff remains meagre or very poor in college. Even in university libraries it is unsatisfactory. No standards or guidelines exist. Existing services are not co-ordinated at university or State level. The major hurdle is the multiplicity of authorities managing the libraries. Each group has a feeling of possessiveness and they restrict their services within some groups. So 99 percent of the resources are located within universities which serve only one percent of the teacher-student community and less than 25 percent of the total post-graduate and other higher level students in the States. The majority who are actually out of the purview of these systems and services directly controlled by universities are the students mainly coming from underdeveloped regions and economically and socially backward groups. Thus, the library and information services for higher education in the State is not distributed equally and in unbiased way among teacher-student community who requires it. So the system requires restructuring to cover the whole user community.

71 MEASURES FOR REVITALIZATION OF SERVICES

The major hurdle for revitalization of library and information services is the multiplicity of authorities managing these systems and services, that is, different universities, government, then private management etc Each group has a feeling of possessiveness and does not extend the services beyond some limits. A doctoral dissertation from USA on Indian academic libraries explains citing statistics and facts that the administrative authorities including governments, vice chancellors, principals and the UGC are responsible for the poor image, inefficient service, obsolete

collections and lack of facilities in college and university libraries in India.¹³ So it would be worthwhile to delink all these libraries from their parent organizations to make them service points of an RSNW extending throughout the State, or networks extending to colleges coming under each university.

If the universities and colleges in Karala with their present set up are linked as they are as different level centres and service points of INFLIBNET, the benefit of that RSNW will reach only a very small minority of teachers and students. All the present defects in the existing systems and service inside the State will be shifted to INFLIBNET services also.

So for making INFLIBNET's services available to the whole teacher-student community, a restructuring of the existing systems in the State, before linking the same with INFLIBNET, is essential.

8 MODEL RSNW FOR KERALA

The success of any RSNW depends not only on having appropriate goals and objectives but also on creating and operating a service within the right legal, administrative and fiscal framework. The need for establishing a reasonably cohesive and homogenous unit is stronger when the schemes include such ambitious costly commitments in library and information services as envisaged by INFLIBNET.

A model plan is attempted here for an on-line RSNW which can be formed in Kerala for all colleges and universities, and which can be linked with INFLIBNET at its lower level to make use of the possibilities of INFLIBNET to the teachers and students in the State. (Diagram 1).

Assuming that the existing systems in Kerala are efficient, INFLIBNET as planned in the report accommodates them as they are into its system. The same attitude is causing the failure of many UGC programmes to maintain standards in higher education. Actually UGC or INFLIBNET will have no jurisdiction over universities, Director of Collegiate Education who controls the government colleges, or private colleges and their libraries. Hence INFLIBNET plans are not likely to succeed in the present situation unless it insists that an RSNW as suggested by it in a uniform pattern should exist at the state and university levels if they are to become part of the INFLIBNET system. Only a State level centre can co-ordinate the services inside the state successfully. So in the hierarchical network planned by INFLIBNET, in the levels between regional centre and local centre we have to introduce another level, that is, state centre. This state centre should co-ordinate the services in universities, departments, colleges and other institutions coming under them. INFLIBNET should insist on a uniform pattern for different levels of organizational structure of the network under every state centre. There should

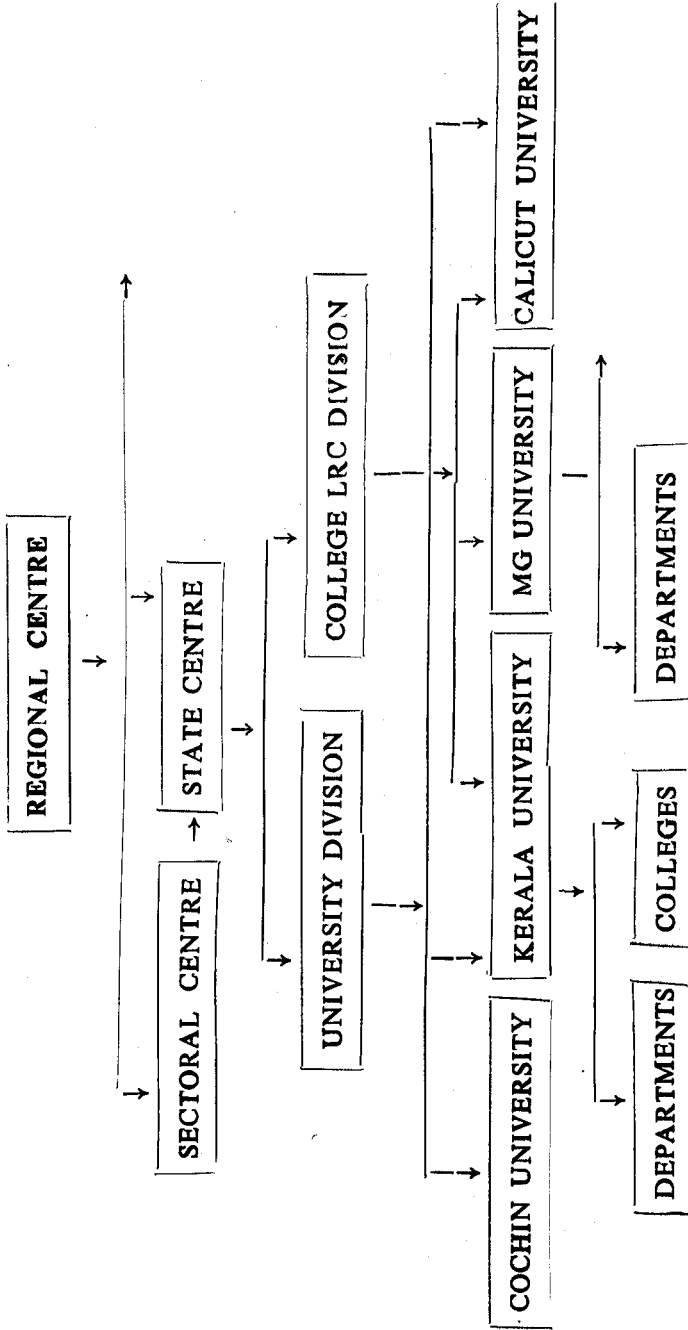


Diagram 1. State level RSNW for participation in INFLIBNET.

be a model approved by UGC and INFLIBNET. Without this, co-ordination at the regional and national levels will be difficult and INFLIBNET will end as a programme useful only for a very small minority inside the teacher-student community, and will cause huge waste of tax payers money.

A hierarchical RSNW for the State Centre of Kerala and local centres under it which can be very smoothly accommodated into INFLIBNET is proposed in Diagram 1. The structure is a little different in these levels from what INFLIBNET working group report has envisaged. As per that report there is no State centre and no co-ordination at State level. Co-ordination of the RSNW under local centres, that is, universities is also not efficiently planned in the report.

81 STATE CENTRES OF INFLIBNET FOR KERALA

The State Centre has to function near to and in close collaboration with any of the universities in the State. It should also be close to the authority which controls the colleges and other educational institutions. In Kerala, University of Kerala stands foremost in collection, facilities and services, nearness to the system which controls the colleges, nearness to many other specialized collections and its location at the State capital. So the State Centre which is to be the apex of State level network can be established at Kerala University. Gradually buildings and other facilities independent of Kerala University should be made available for this centre.

The State Centre should have two divisions. There should be a university division which is to co-ordinate the RSNW activities of the units at the next level. There should also be a college library resources co-ordinating division. This division should operate the fund meant for the purchase of expensive materials like computer hardware, software etc required at colleges for joining the network. Centralized acquisition of these materials will make possible savings of cost and maintenance of quality. Training of professional staff in computers and other specialized works also can be done at the State Centre. Local centres of INFLIBNET will function in association with all the universities of the States.

82 LOCAL CENTRES AND SERVICE POINTS

Working group's report on INFLIBNET envisages the serving of end-user at local centres, that is, university departments and colleges which come in the same level. Instead of this the State should have two levels under State centre. Local centres should function at universities. Even though they will function as service points as envisaged by the report to

some extent, they will not be the actual service points for the end-users. For the users service points will be maintained at university departments, colleges and other institutions which will be co-ordinated by the local centres functioning at the university. At the first instance for a group of departments or colleges in nearby places one service point at a central location will be sufficient. But the objective of service points at all departments and colleges, should be materialized within a fixed time limit if INFLIBNET is to share the services equally and in an unbiased way among the whole teacher-student community.

9 CONCLUSION

Benefits that can be obtained by universities and colleges in the State from such an RSNW are too many. It can avoid unnecessary duplication of expensive resources and thus prevent the call for additional finance for this purpose. Responsible and effective library and information service at less cost becomes possible. Teachers and students of the four universities will have access to a wider range of materials, collections and services. For colleges access to the same resources that are available to the universities becomes possible. So the extension of the utility of these resources to the majority of the teacher-student community who were earlier out of its purview becomes possible. This helps the higher education to achieve its objective. It produces a desirable condition by reducing areas of information deprivation and contributing towards a more equitable library and information service environment.¹⁴

The staff education relates to the efficiency and effectiveness of services in academic libraries. RSNW as proposed here makes possible at the State or local centres staff education programmes which are indirect means of improving service to users by updating staff on new problems, new solutions and new types of services. In this way vision, initiative and technical know-how are more easily shared around.¹⁵

So an RSNW as proposed here for the State, as part of INFLIBNET or an independent one can make possible a healthy development of library and information services which can meet the needs of higher education economically and effectively. Concept of RSNW is a boon to library and information service in academic institutions. Automated heirarchical RSNW as planned by INFLIBNET at national level with efficient RSNW as planned above in States can do miracles in education and research. So it is the responsibility of every state and university to prepare itself by establishing such RSNW to become part of INFLIBNET system and to receive and distribute its services to the whole teacher-student community of the state.

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