

Dynamic Reference Desk in Public Libraries of 2000

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0.0 Introduction

India in 1995 has 44,205 public libraries. Since independence, the important relationship between library services and implementation of educational programmes has been recognized. In 2000 India will have one billion citizens. Nearly 50 per cent of World's illiterate population will be in India. India will have distinction of the largest illiterate democracy of the World.

0.1 Literacy, Science Literacy, Technical Literacy, and Computer Literacy

To be literate has two quite different meanings: 1) Learned and 2) to be able to read and write.

The second meaning of literate — to be able to read and write at a functional level — can be extended to suggest that “Scientific literacy” refers to the ability of the individual to read about, comprehend, and express an opinion on scientific matters.

“Technical Literacy” means, even if one is illiterate it does not matter, what matters is one should be able to use the well established techniques. Majority of our peasants are illiterate, and in 21st century also majority of the illiterates will be in rural area. Therefore, we must impart the latest technical skills to the peasantry by the method of learning by doing.

If the term “Scientific literacy” includes the social sciences and the application of scientific team work in solving problems, improved scientific education and technological training can further contribute to economic well-being. Japanese “Quality Circles” use statistical procedures, graphics, and group discussions to identify defects in products, procedures, and services, as well as employ generally the minds ;and hearts and hands of workers to improve productivity.

“Computer Literacy” means ability to use advanced paraphernalia of all computer and communication related techniques to solve day-to-day problems. To use radio, one need not know physics, similarly to use computer, there is no need to learn programming. It is the user friendliness, which contributes to computer literacy.

0.2 Advancements of ideas

With Copernicus and Galileo, we ceased to be the species located at the centre of the universe, attended by sun and stars. With Darwin, we ceased to be the species created and specially endowed by God with soul and reason. With Freud, we ceased to be the species whose behaviour was potentially governable by rational mind. As we began to produce mechanisms that think and learn, we ceased to be the species uniquely capable of complex, intelligent manipulation of our environment.

In the 21st century “Surrogate mother” will become a profession to bear “Test Tube Baby” and the great burden of nature on every women to bear children may also get transferred. What a blessing for ladies who don’t have time and or want to escape labour-pain!

1.0 Science Reference Desk (SRD)

“SRD” is the minimum requirement in the Public Libraries of the 21st Century similar to “Blackboard” in schools of the 20th century. The 21st century challenges are well known.

1.1 Scientific Temper

India is a curious mixture of scientific advance and traditional superstitions. Take astrology, for example. Scientists have tested astrology in many different ways and found it devoid of any scientific basis. Yet, to convince the believer that this is the case is not easy.

Our own constitution mentions objectives of education — such as creating a *Scientific temper* for promoting national integration. The University Education Commission headed by Dr. S. Radhakrishnan expected — “In the modern days, the University should promote a national outlook and nurture scientific temper among the youth. It should wipe out dogmatism, fundamentalism and prejudices from the minds of the youth. On the other hand, it should develop right kind of temperament and ability to judge between right and wrong, good and evil”.

So many religions and religious dogmas divide society, but science, in contrast, transcends divisions and has no national, political or geographic boundaries, i.e. it is universal. Hence, science will dominate the 21st century.

Scientific Temper is our National priority and it cannot be overemphasized. By the 42nd Constitutional Amendment to the Indian Constitution in 1976, the scientific temper has been made a part of the duties of the Indian citizen. The statement on scientific temper involves the acceptance, among others, of the following premises:

- that the method of science provides a viable method of acquiring knowledge;
- that human problems can be understood and solved in terms of knowledge gained through the application of the method of science;
- that the fullest use of the method of science in everyday life and in every aspect of human behaviour from ethics to politics and economics, is essential for ensuring human survival and progress; and
- that one should accept knowledge gained through the application of the methods of science as the closest approximation to truth at that time, and question what is incompatible with such knowledge; and that one should from time to time reexamine the basic foundation of contemporary knowledge.

1.2 Technology Policy

The basic objectives of the Govt. of India ‘Technology Policy’ are to:

- attain technological competence and self-reliance, to reduce vulnerability, particularly in strategic and critical areas, making the maximum use of indigenous resources;

- provide the maximum gainful and satisfying employment to all strata of society, with emphasis on the employment of women and weaker sections of society;
- use traditional skills and capabilities, making them commercially competitive;
- ensure the correct mix between mass production technologies and production by the masses;
- ensure maximum development with minimum capital outlay;
- identify obsolescence of technology in use and arrange for modernization of both equipment and technology;
- development technologies which are internationally competitive, particularly those with export potential;
- improve production speedily through greater efficiency and fuller utilization of existing capabilities, and enhance the quality and reliability of performance and output;
- reduce demands on energy, particularly energy from non-renewable sources;
- ensure harmony with the environment, preserve the ecological balance and improve the quality of the habitat; and
- recycle waste material and make full utilization of by-products.

1.3 Role of Librarian

A librarian's role is to bring together all the information resources that come to bear on a topic. The added ingredient of a librarian in the technology transfer picture expands the horizons of inquiry beyond traditional technology transfer. At the same time, when a librarian is exposed to technology transfer programmes, it enhances their usefulness to patrons beyond traditional library science limits.

Full text information retrieval is a technology that has its roots in library science. The strength of this technology is in its potential to search information with neither the need to classify information into categories documented by the database technology, nor the need for any domain analysis required by AI/expert system technology. It could also offer free-

association search capability. These features make it a better candidate for implementing gateway services, which deal with vast amounts of information of a diverse nature.

The ability of information professionals to function effectively in an information environment requires some preliminary understanding of that environment which encompasses work from information and library science, business, management, public administration, psychology, organizational behaviour, and related fields to provide a strong baseline for understanding the information behaviour of managers.

We are entering the second era of the Information Age in which enabling technology will allow information to be delivered as a seamless boarders service to be used immediately by local or remote customers. The library and information profession must reengineer to take its rightful place in the corporate new age.

The information revolution which we are approaching, the IT revolution, is only the last of the four major information revolutions (speech, writing, printing, and Information Technology & Information Revolution) which have punctuated man's own evolution. The upcoming IT revolution will make different demands on libraries; will offer them different opportunities. If these are not grasped then the eventual future for public libraries may be limited. Technology *per se* is not, in many senses, an important issue here — it is the way that technology is, or will be, utilized that will be the key. There will be a need to re-draw operational models of libraries to reflect this revolution and its attendant information super-structures — and this will be far harder than getting access to, or learning to live with, the technology.

1.3.1 Marketing of Information

The managers of information centres and networks do not seem to have the marketing approach even though the library and information profession is believed to have been engaged in user need studies, user education and several other related topics. In the context of marketing of information consolidation and repackaging is an useful approach to the information product design and development.

The system consists of high visibility (authors), profit (publishers) and affordable cost (libraries). Consumers need interalia exposure, needy

access and flexibility of use. They have many requirements but least power. User needs differ for current and older journals. Of the various single modes of publication none performs very well for all parties. Combination of modes may be more effective.

There is a fundamental and less than adequately recognized tension underlying the information policy issues. That tension is between the nature of information as inherently a value added product and the nature of information as a commodity with compelling 'public good' characteristics and with unique properties of transferability and distributability. These conflicting properties of information each attempts to drive the information technology, and changes in information technology therefore change the balance between these forces and require new solutions. Further more, the present accelerating changes in information technology are tending not only to change the balance point between those factors, but even more interesting and less recognized, they tend to make more compelling the forces and the arguments on either side of the balance point.

1.3.2 Networks — Linkages — Resource Sharing

During 1995 India had 200 universities and 7000 colleges. Fortunately, today India has very good infrastructure for research and development (R & D) activities shared by Central Government and State Governments. There are 522 Central Government — run R & D institutions in the country. Delhi tops with 87 institutions, followed by Calcutta (43), Bombay (39), Bangalore (39), Hyderabad (30), Madras (18), Pune (14), Dehradun (12) and Lucknow (11). Another 66 R&D institutes are distributed in 11 other cities These are 8 in Ranchi; 7 each in Chandigarh and Nagpur; 6 each in Ahmedabad, Bhubaneswar, Kochi and Thiruvananthapuram; and five each in Allahabad, Bhopal, Dhanbad and Kanpur. And the rest 169 almost one-third are located elsewhere in different states excepting Manipur and Tripura.

In so far as the private sector in-house R & D units including state public/Joint sector undertakings as recognized by the Department of Scientific & Industrial Research are concerned, Maharashtra tops the tally with 398 units followed by Tamil Nadu (122), West Bengal (103) and Delhi (101).

periodicals. The city of Delhi brings out the maximum number of periodicals 495, followed by Maharashtra 328 and UP 258. Our industrial strength is revealed by the 630 (31.6%) titles belonging to engineering and technology and the strong agriculture base by 327 titles. The third largest segment of periodicals numbering 297, however, belongs to medicine.

Profiles of local experts in various fields can be compiled in anticipation of information demand. Enquiries can be answered by contacting experts.

1.3.3 Information Village

It aims to increase in skill-based rural employment in both farm and off-farm sectors, with information technology and information related services. The aim of Small Farmers' Agri-business Consortium (SFAC), initiated by the Govt. of India is to take the benefits of modern agri-business to resource-poor farming families. SFAC plans to spread knowledge-intensive technologies which are also ecologically sound.

The Information village is envisaged primarily as a computer-based information access centre. Depending on the infrastructure available and the information requirements, these computer systems may have different configurations at different levels of sophistications.

In villages modern systems of information are taken to the village-individual-farm if possible-to see what impact it would have on the living conditions of these population.

Bio-village is defined as a village where the best traditional wisdom and technologies are integrated with such features of modern biological technologies as are relevant to the condition of the village. Each Information village, depending on its size, will have one or more information shops', which will be managed by enchanted unemployed/school teachers/students/women of the village. These managers of information shops will act as information seekers for the village and satisfy the information demands of the village. Being modelled along the lines of 'pan shops', information shops convey the idea of villagers going down to the shop for purchasing information. The owners of the shops, being interested in making profits, select the best sites to locate the shops and pay attention to the quality and display of the products and the quantum of sales.

Information seekers will obtain what they need from among a set of information resource centres using an appropriate communication medium. In order to meet the various information needs of the villagers, the concept of resource centre has been introduced. The resource centre essentially acts as a single-point source for all types of information products. The information resource centre will be fed by a set of information producers. It is proposed that the information network should satisfy all the information needs of the villagers and the information will be repackaged in such a way as to be most useful to the villagers. The specific content of the information package will be determined by the needs and requirements of the villagers. The information needs of the villages will be identified using the participatory Rural Appraisal Methodology. The nature of the information package as well as mode of communication will vary across the country.

It is the primary responsibility of the information value address to ensure that the information products are ideally suited for consumption in the rural areas. They would repackage the appropriate technological and scientific results in a form and language that is suitable for dissemination among the villagers.

To farmers, "harvesting is believing" and hence the economic impact of the new information spread in the village will determine the sustainability and replicability of such an intensive knowledge and skill transfer programme.

Librarians of Public Libraries should establish strong linkages with the grass-root level information workers at villages and the Rajiv Gandhi Foundation, "Rural Library Project".

1.3.4 Learning Society

It is not an exaggeration to describe the present society as a Learning society. The most important demand that development makes on people is probably to learn, to adapt and to grow.

Four essential components in a library to achieve excellence are : (1) sufficient resources; (2) leadership; (3) competent staff, and (4) teamwork. The indispensable components of excellence seem to be staff competence and harmony. Without them no leader, and no quantity of resources, can move a library along the development path from good to better to best. What is essential is a competent staff working in harmony

towards a clear purpose that is suitable for conditions. Such a staff will benefit much from a gifted leader but can do without one. Competence requires study and practice; collegiality needs only sincere efforts. Most of what excellence demands costs no money. It looks for great human acts.

Guidelines on selecting the appropriate aspects of information technology in Library and Information Science Curriculum are available.

Following the lead of the British Open university, distance learning institutions have been established in many developed and developing countries of the world.

There is still too much reliance on traditional academic courses in librarianship. Library schools should try to keep pace with new technologies to ensure that future information managers will be able to satisfy the information needs of their clientele. This will also enable library school graduates to work in a variety of organizations dealing with the processing and dissemination of information.

The training of para-professional library staff in new technologies with an emphasis on reference services is necessary. Para-professional training is in effect a continuing education opportunity that focuses on skill development and learning transfer as a means to improve work performance.

Imaging technology which convert information in paper format to computer-readable binary format, is creating a multitude of electronic databases. Imaging industry is highly dependent upon expertise possessed by library science graduates. In order to take advantage of this new job market, library science teachers and students must learn the skills involved.

A professional is to be continuously at work on ones own growth and development. He never stops studying. He seeks to develop within himself not only new knowledge but new wisdom that comes from continuous study and reflection. Of course, there is the problem of time. But the real professional will find time to do these things. Personal effectiveness is one of the essentials of professional leadership. The professional must plan and execute a continuous programme of self-education. Through constant study, one can escape from the strait-jacket of ones own discipline. The world is changing, and we must be prepared to change with it, only then can we seize the opportunities presented.

1.3.5 Science Anxiety

Since anxiety is the avoidance of the study of science and thus the lack of understanding of basic concepts by much of the general public.

Inferior teaching methods in schools, antiscience attitudes of many writers, artists and teachers, fear of quantitative concepts and media stereotypes of scientists contribute to science anxiety.

Majority of our scientists are also mediocre because most of them received mediocre and unscientific education in science. In their college days they were trained in illequipped laboratories, studied in illequipped libraries and were taught by illequipped teachers. Their assignments and errors were never corrected, they did not inculcate the habit of self-study and scholarship. Their Ph.D. theses and their research papers may not have been examined carefully. Unless drastic steps are taken we may doom our coming generations to permanent mediocrity in science and make our country a permanent begger of science and technology.

Evaluation of candidates for Reference Services for employment should be done very carefully to ascertain that the candidate is not "Science anxious" and has an intellectual curiosity about the sciences, willing to learn necessary skills, and not afraid to handle difficult reference questions. An applicant should be aware of issues affected by science and technology and asked how he/she would handle specific reference questions. They must come to the job with right attitude towards science and technology and be properly trained by experienced science librarians.

On the job training must supplement the inadequate library school preparation. Head reference librarians should compile a training manual for new employees which should include examples of actual science reference questions and a bibliography of the many available guides to the scientific literature. The new librarian must be required to answer the sample reference questions and learn the thought process involved in the reference work.

1.3.6 Integrated Approach

We have some experience of evolving and implementing the macro-cum-micro objectives: food security. This objective required integration of (i) creativity, the seed technology by establishing Agricultural Research and Education, Universities, by integrating their contribution for specific

micro objectives through an all-India system on an area specific basis; (ii) building of dams, irrigation systems; (iii) industries (steel, cement, machinery for constructing dams etc.); (iv) fertiliser, pesticide industries; (v) economic policies, price subsidies; (vi) purchase sale organizations, FCI down to the village level; (vii) plans of state governments; (viii) organize retailing system; (ix) land reforms, consolidation of holdings; registration of tenants; and so on.

The management strategy for “food security has to integrate political levels; administrative levels; contribution of science, engineers, technology; economics, commerce, various sectors of industries and social policies of the government. The management strategy provides for integration of macro objective with micro objective. Under the pressure for food security objective we applied the integrative “development approach” by giving the dominant driving role to innovations in seed technologies plus supportive administrative role and limited political support.

“Green Revolution” was possible because of the integrated approach. Therefore, research extension and development agencies will have to function as integrated links in a chain, if the wheel of agricultural progress is to move speedily and without interruption. If this can be achieved, the food-population equation in the tropics would attain a favorable balance from the point of view of food supply and it may become possible for many developing countries in the tropics to off-set through ‘green power’ their handicaps arising from the more restricted geographic distribution of ‘oil power’.

Above mentioned successful approach example can provide goal-directions in order to define end-objectives of ‘SRD’ and enable librarians of 21st century in implementing the macro-cum-micro objectives of the evolution of “Scientific Temper” in every citizen of India.

1.3.6.1 Micro Objectives of Scientific Temper

The person who has acquired scientific literacy will possess the ability to:

recognize that scientific concepts (e.g. velocity, acceleration, force, energy, electrical change, gravitational and inertial mass) are invented or created by acts of human intelligence and imagination

and are not tangible objects accidentally discovered, like a fossil, a new plant, or a particular mineral.

recognize that to be understood and correctly used, such terms require careful operational definition, rooted in shared experience and in simpler words previously defined; to comprehend, in other words, that a scientific concept involves an idea first and a name afterwards, and that understanding does not reside in the technical terms themselves.

comprehend the distinction between observation and inference, and to discriminate between the two processes in the scientific context under consideration.

distinguish between the occasional role of accidental discovery in scientific investigation and the deliberate strategy of forming and testing hypotheses.

understand the meaning of the word "theory" in the scientific domain, and to have some sense, though specific examples, of how theories are formed, tested, validated, and accorded provisional acceptance; to recognize, in consequence, that the term does not refer to any and every personal opinion or unsubstantiated notion and thus, for example, to see through the creationist locution that describes evolution as "merely a theory."

discriminate, on the one hand, between acceptance of asserted and unverified end results, models, or conclusions and on the other, understand their basis and origin; that is, to recognize then questions such as "How do we know...? Why do we believe...? What is the evidence for...? have been addressed, answered, and understood, and when something is being taken on faith.

understand, again through specific examples, the sense in which scientific concepts and theories are mutable and provisional rather than final and unalterable, and to perceive the way in which such structures are continually refined and sharpened by processes of successive approximation.

comprehend the limitations inherent in scientific inquiry and be aware of the kinds of questions that are neither asked nor answered.

develop enough basic knowledge and understanding in some area (or areas) of interest to allow intelligent reading and subsequent learning without formal instruction.

be aware of at least a few specific instances in which scientific knowledge has had direct impact on intellectual history and on one's own view of the nature of the universe and of the nature of the universe and of the human condition within it.

be aware of at least a few specific instances of interaction between science and society on moral, ethical, and sociological planes and

be aware of very close analogies between certain modes of thought in natural science and in other disciplines such as history, economics, sociology and political science; for example, forming concepts, testing hypothesis, discriminating between observation and inference, constructing models, and doing hypothetico-deductive reasoning.

The list is neither exhaustive nor prescriptive. As per need of time one may add a few or modify a few. Thus, it gives flexibility and dynamic characteristics to "SRD".

1.3.6.2 Quality

Quality in libraries can be defined through: speed, precision, currency of products and services, reliability of information, accessibility, completeness of information, presentation of information, time and cost needed in relation to the usefulness to the client.

Quality assurance deals with: Does the library develop the required products? Does it provide the required services for its clients? Quality assurance also deals with the strategies and procedures to insure quality.

Quality management distinguishes between quality planning, control, checking. Quality planning deals with the question which requirements to products and services should be met to what extent. What are the goals and missions of the "SRD"? Which users with what needs are its clients? Quality planning for a product or a service must continually adapt to the changing conditions and take into account external aspects (related to customers) and internal aspects (related to library concerns). Quality control deals with testing and correction of the realization of high quality in a product or service. Quality checking deals with checking whether a product or service fulfills the requirements agreed upon.

Quality policy comprises the basic intentions and goals of an

organisation concerning quality. These include customer orientation, fast reaction to changed market conditions by introducing new products, or discontinuation of products no longer demanded, offering products and services of high quality, strong customer service.

Information Technology can support total quality management (TQM) and continuous quality improvement (CQI).

We have accepted the challenge of international competitiveness in 'Knowledge- industry'. We will not be able to meet this challenge unless we have quality, not only for some selected readers, but for all of those who visit and don't visit "SRD" due to various reasons.

1.3.6.3 Visibility and Vision

There is so much debate at National level on science & technology in the post-liberalisation era but librarians are never involved in such a debate. Why? It is because librarians are behaving themselves as passive observers. They are suffering with inferiority complex. If librarians continue with such a mania it is no wonder all the top positions in library administration will be occupied by non-librarians and librarians will continue to be treated as clerks. It is a threat to the librarianship in the 21st century. Active participation in national current debates is essential to maintain visibility. Adapt yourself to the challenges or accept extinction. These discussions help us to understand our relative position in the evolving scheme of direction. How can we plan our future if we do not have a basic understanding of the present? Our future is limited to the initiatives we take today. The librarianship should share the concern of educators, public servants, and scientists regarding science literacy crisis.. To date, there has been little written in the literature of librarianship about science literacy. The library profession has to play its significant role in the promotion of science literacy.

Visibility of the information professional in terms of his role in contributing to society through information services must be constantly maintained. Directly serving the information needs of key officials has been found to be a successful approach. Information professionals have a responsibility to study the various modes in which information is used and its benefit to users. Studies of this nature will aid in the development of methodologies to track the information use, to gain a better understanding of the role of information, to learn of methods that could

be effectively used to disseminate relevant information to individuals and groups, and to educate potential users and society at large on the benefits and need for effective information management and use. They should also take it upon themselves to play a variety of roles and to seek out and take advantage of opportunities in order to reach common goals related to the improvement of the national information infrastructure.

We frequently handicap ourselves by our own self image. We see ourselves as technicians-information retrievers, system builders, etc. and so are viewed by others in the light. These are obviously useful as skills, but they are not management skills. In order to attain a management position we need to believe in ourselves as managers rather than as technicians and begin to act in the appropriate manner. We should develop our career path with a management job as its goal. No doubt we are bad at advertising and marketing of our own skills and abilities.

“SRD” librarian must keep abreast of current relevant journals and literature. One should refer at least core journals regularly. e.g. *Library Administration*; *Public Libraries*; *The Reference Librarian*; *Resource Sharing & Information Networks*, etc.

One should also contribute articles to national and international journals regularly. You can take one of the current local/national/international problem, collect data, literature, information, compile an article understandable to the target group and satisfy the talent, potential or felt need of the group. Feel yourself successful in the success of others.

To cite an example let us say: AIDS is a local problem, national problem as well as a international problem. How many of the librarians of our country have kept up-to-date knowledge of the tremendous growth in AIDS literature. If readers approach you and asks a few questions are you in a position to satisfy them. Try to understand that readers have realised that you can be of no use to them!

Public Health and Mortality Studies deal with AIDS, and a Public Librarian must cater to the information needs of the Public.

Public Library is the temple of learning open to public-meaning encompasses unborn child to dead ones also, i.e. you must preserve information on dead ones but have vision to plan your library to the needs of the yet unborn infant.

The validity of the Fifth law of Library Science i.e., Library is a growing organism is looked into the context of advancements in modern technology and their impact on libraries. The use of CD-ROM, in place of conventional books is visualised. The problems and prospects of CD-ROMs are explained.

Article 21 of the Constitution of India guarantees Right to Life as a fundamental right and if by life we do not mean mere vegetative or animate living and do mean life with human dignities then certainly education is covered by Article 21 of the Constitution. Right to Education is included in Right to Life. Though there is no Article declaring education to be within fundamental rights yet. Infact from Article 21 has sprung up a whole lot of human rights, jurisprudence viz. right to legal aid, speedy trial, means of livelihood, dignity and privacy, health, pollution-free environment, and so on.

Article 21 declares that no person shall be deprived of his life or personal liberty except according to the procedure established by Law. Though the article is worded in negative terms it has both negative and affirmative dimensions. The provision of Part III (Fundamental Rights) and Part IV (Directive Principles) are supplementary and complementary to each other and that Fundamental Rights are but a means to achieve the goal included in Part IV.

Right to education, understood in the context of Article 45 and 41, means: (a) every child/citizen of this country has a right to free education until he/she completes the age of 14 years and (b) after a child/citizen completes 14 years, his right to education is circumscribed by the limits of the economic capacity of the State and its development. But more money has been spent and more attention is directed to higher education than to-and at the cost of — primary education. Though Education is the largest budgetary head after Defense yet the expenditure of 3% GNP is much less as compared to other countries spending 6 to 8% of their GNP.

Have you noticed that 14 years is only chronological age limit in the Articles mentioned above. What about mentally handicapped or slow learner having chronological age by birth 20 years but Mental Age only 10 years? Can Public Libraries take care of them through Open Learning approach? After 14 years state does not guarantee education, but Public Libraries are open to them till they die. Thus Public librarian has to understand the wide scope of them.

After the imposition of Emergency in 1975, the Constitution was amended in a number of respects. This was done in 1976 through the 42nd Amendment. One of its provision was to make education central (because of the provisions for coordination and standards). Now the entire field of education, from primary to university level, became a concurrent subject. However, as usual there has been no follow-up (Implementation Phobia) legislation since then to spell out how concurrence would be implemented. For all practical purposes, therefore, education stays where it was before 1976.

Today only 14-16 per cent of the graduates are employed. Rest of them are in three groups i.e. self-employed, underemployed, and unemployable graduates. Should we trace the deep roots of our failures?

Pre-independence, orientation, anglicism, vernacularism

When the House of Commons in 1792-93 considered renewing the East India Company's Charter, a debate concerning higher education arose. William Wilberforce argued that Parliament should take steps to provide useful knowledge to the inhabitants of the British India. One member of the Court of Directors of the company, however, is reported to have observed: "We have just lost America from our folly, in having allowed the establishment of schools and colleges, and it will not do for us to repeat the same out of folly in regard to India."

Orientalism as an educational and cultural project began in the late eighteenth century in order to facilitate the process of reverse acculturation whose goal was to train British administrators and civil servants to fit into the culture of the ruled, and to assimilate them thoroughly into the 'native way of life. The scholars produced by Orientalism — William Jones, Henry Colebroke, Halhead and Charles Wilkins — undertook exhaustive research digging our most literary and linguistic resources of ancient India for the reintroduction of the 'natives' to their own 'heritage'. It encouraged (false) prestige in the past achievements. Thus it was successful in establishing past i.e. *Bhoot*(Ghost) *sawari*(procession) on Indian intellectuals. Even now we live in the so called glories of the past records and culture which is nothing but refined opium to the psyche and can be called "psychological Moratorium."

Anglicism was dependent upon orientalism for its ideological programmes. Anglicists ensured eternal spirit of and authority in the

English texts themselves. The differentiated education that the Indian social structure encouraged, that is, vernacular for the lower classes, and English for the upper classes, ensured english high culture to be maintained in all to purity without the erosion that was then occurring to the so-called polite literature within England. The filtration theory of Macaulay and John Stuart Mill succeeded in cultivating a small elite group of Indians who were to act as the benevolent disseminators of the values of freedom, justice, rationality and humanism enshrined in the body of english texts. This paved the way for the construction of an ideological system of education which "even a political revolution will not destroy and upon which after ages may erect a vast superstructure."

This resulted in WOG (Western Oriented Gentlemen) culture. Thus making Indians "homogenised and civilized"?

The original concept of 'rule by concept' was developed by Antonio Gramsci. By-creating an ideological system of cultural production which is capable of generating its own controlled opposition and co-opting in the process of substantial part of the native intelligentsia as "willing participants" in the system.

Even the worst education system will produce out of sheer genetic potential some human-beings born with some sort of mind which survives even education. And so out of even this Macaulay system the greats like C.V. Raman, Gopal Krishna Gokhale, Bal Gangadhar Tilak, S.Radhakrishnan, and our great S.R. Ranganathan have been produced.

Post independence education as harbinger of an emergent society

One of the first acts of the Indian leadership was to place availability of education for the people even higher priority than the availability of food, or clean drinking water for all. The obvious thinking was that all other objectives of development are properly spelled out and implemented. It was believed that if ignorance could be removed, superstition and blind belief are rooted out. and if bigotry and intolerance could be contained the nation would consolidate itself, and people would proficiently participate in decision-making with regard to their own future. The spread of regional languages as the medium of instruction was another facet of policy to facilitate the spread of learning and creativity and to reduce the gap between the common man and the 'educated elite'.

But, the colonial hangover has resulted in the feeling that whatever we do will be inferior to foreign technology.

This little-bit deflection was necessary because we should know our target group thoroughly. We should be in a position to establish empathy with the target group.

Past is Past. No one has the capacity to change past. As librarians we are habituated to take care of only past records. But between past and future there extends an intermediate region with which I am casually connected either actively nor passively at this moment. Thus, what we are left with is NOW !JUST NOW! No more than that. As I concentrate on each of this thought, "NOW" slips by me into the past. My past is nothing more than a history of how well I dealt with each irretrievable "NOW". So if yesterday is history and tomorrow is prediction, only the present exists.

The future is nothing more than an approaching series of "NOWs". During each of the "NOWs" I will make a decision whether or not future "Nows" will be different. A brighter future grows out of a brighter 'NOW'. Therefore, my future improves only as I make better use of the current moment.

It's the time remaining that counts. My willingness to accept responsibility for improving my time will determine the quality of the rest of my life. The same velocity that carries this 'NOW' into the past can carry me at the same rate towards exciting moments of the future whenever increasing goals become reality. The challenge is clear. The choice to utilise or not to utilise my "Now". Now itself is mine. I cannot preserve future "NOW". My time will be spent making things happen.

Some of us may say that "we can learn lessons from past". Do we really do it? Do we really have time, patience, daring and sensitivity to stare at our past records as it is! Many may say we have no time, or we don't want to waste our time for the sake of unchangeable past. As long as I am running I need not worry. Now, I am running as fast as I can. But, are you sure that you are not running in the reverse direction? Please check it yourself. Compete with your own past records.

A science-dependent economy is characterized by boldness, team spirit, and recognition of and reward for merit. These qualities are essential for scientific innovation. Creativity, means instability and a society must be dynamic enough to absorb that instability.

In contrast a society whose production of wealth mainly depends on natural elements like monsoons still thinks in terms of the God above and the feudal lord on the earth. Such a society opts for stability at the cost of innovation. In it people are generally timid, afraid of new ideas and new things, and obsessed with rituals rather than results. Such a society is most comfortable in a demerited patron-protege relationship.

What is needed is a system which is so supportive that its members achieve more than they seem to be capable of:

1.3.6.4 Turning Visions into Reality

Athletes draw mental pictures of them-selves performing at their best, continuously rehearsing their visions until they play them out in real life. On a more metaphorical level, cancer patients imagine chemotherapy as a magic elixir flooding their systems and washing away the malignant cells. Still others use visualization to reduce stress or alleviate pain.

Precisely how visualization works remains a subject of conjecture and ongoing clinical research. But the fact that it can be effective in certain situations has been understood intuitively for years. To be sure, imagining is no substitute for reality. The cancer patient can no more given up medical treatment than the athlete can forgo physical training. But many sports psychologists and physicians believe that just as depression or despair can impair performance or recovery, a strong positive visualization can enhance it.

There has to be a synchrony in terms of time between knowledge transfer or skill transfer and the supply of input necessary to apply that knowledge. i.e. If you give information that a new variety of mango is very tasty and high-yielding early and of best where is the seedling or cutting or material? We must have a tie-up between knowledge and the other links in the system necessary to device maximum benefit for the livelihood of the rural poor from that knowledge.

It is important to those people who actually work with the end user to package to information and thereby be sure of getting feedbacks.

Packaging of information for different groups is also important and should be focused on the hitherto neglected (i.e.) unreached) people.

Assessing the present status of village literacy, levels of income generation activity and how it matches the available skills, will help to decide how to inform them.

A cell combining specialists of different kinds of work should come together and prepare some useful information, which would be region specific and target group specific, or of important at a particular time.

For example AIDS is going to be of topical importance in few years, as all over the world signs of AIDS epidemic are detected. Hence, all sorts of people will be interested to know details, because "Prevention is the only cure in AIDS disease". "SRD" will have flood of information on AIDS, but what is most important is packaging this information as per the needs of the clientele. Your success depends on pinpointedly reaching to a small bit of information from the huge literature or databases available, which will satisfy specific enquiry. So SRD librarian has to anticipate or visualise the need for information and keep to ready. Demographer, journalist, Medical professionals, Virologist, Social workers, sex workers, an ignorant citizen, ect. will demand very specific information useful to them personally or to a group.

As an information professional you may have different interest, say compilation of a 'Bibliography on AIDS' or 'Bibliometric analysis of AIDS literature'; as publisher may be interested in publishing and making money out of it "How to Find Information About AIDS"; an economist or the World Bank may have macro-perspective; nurses may find job opportunity and may be interested in "National Action Agenda on AIDS for Nurses"; lawyer may be interested in legal aspects of AIDS; manager may be interested in "Management of patients with HIV/AIDS: the Indian Experience"; to be specific an unusual question may also be asked on "Condom illiteracy"; a student may ask teacher when was the first AIDS case detected in Maharashtra and the teacher may contact you for exact data; what are the research plans on AIDS control; etc. etc. In other words SRD librarian clientele are all inclusive of "idiot to idealist"; "home to hostel"; "Library to lodge"; "bus to brothel"; etc. etc.

To deal with such a diversified target group is not an easy task. You must have special capabilities and cope-abilities to cope-up-with the demands of your country. Think of our country first. Second loyalty to SRD. Last priority to ones own family. If Japanese can think this way, we can also think, even we may think better than Japanese. There are exemplar role models in this very country who could think of nothing but

country. First priority country!, second priority country!, and third priority also country only! Keep such role models of highest ideals to be achieved so that at least we reach some standards in our life.

The Chinese symbol for crisis is made up of two words: danger-opportunity. Creativity is playing with imagination and possibilities, then making new and meaningful connections while interacting with ideas, people, and the environment. This process results in a product or application that in turn will anchorage more creativity. It can happen within an individual, as interaction between people, or as idea transfer between widely separated cultures. A problem is anything that can be made better through same change — it usually involves aspects of danger and of opportunity. To solve a problem well, we need to use analytical, creative, and critical thinking in the most appropriate sequence.

1.3.6.5 Hybrid Manager Strategy

Hybrid Managers are managers who can combine knowledge and practical experience of business with technical competence in order to strategically and competitively benefit the organisation.

For those managers, who are genuinely concerned with the well-being of their organisation and of their staff, it becomes imperative to ensure their access to management information, since this can help the individual to learn and assess whether both personal and organisational effectiveness can be improved. Success in rapidly changing environments require better informed and more flexible managers whose growth in quality can only have positive effects on their organisations. Peter Drucker's observation on the continued value of information has particular relevance and application for management information: "We are shifting to information-based organisation is still ahead of us-it is the managerial challenge of the future.

First macro-objective of sustained transformation from the Eighth Plan is: Science and Technology as the most important factor (i.e., as the driving force and not merely a factor). The concept of driving force, i.e., level of creativity in science/technology, entrepreneurship and political will-power for continuing change.

In essence the frame demands the nature and cultivation of "human energy (work ethics; efficiency) which is a function of education (life long education) as growth force. The aim of trying up of a management

strategy to a conceptual frame is to plan for future today. Potentials of human energies are not finite. Human energies can create new materials not provided by nature.

The concern over science illiteracy is legitimate, among other reasons because of the ever-increasing linkage of science, technology, and public welfare.

Jacob Bronowski said: "The progress of science is the discovery at each step of a new order which gives unity to what had long seemed unlike. Faraday did this when he closed the link between electricity and magnetism. Clerk Maxwell did it when he linked both with light. Einstein linked time with space, mass with energy, and the path of light past the sun with the flight of a bullet; and spent his dying years in trying to add to these likenesses another, which would find a single imaginative order between the equations of Clerk Maxwell and his own geometry of gravitation."

When Coleridge tried to define beauty, he returned always to one deep thought: beauty he said, is "unity in variety." Science is nothing else than the search to discover unity in the wild variety of nature — or more exactly, in the variety of our experience.

A management strategy is concerned with a programme for dealing with current problems/aims as well as for gaps, i.e. the preconditions for sustained development of future. Management strategy, in essence, is integration of talent and resources for obtaining macro-micro objective challenges.

Power of the people is cultivated by nurturing (a) their productivities; (b) their business capabilities (self-employment, entrepreneurship); (c) positive health and family planning as peoples' movement; (d) enabling the poor to apply various technologies for improving their quality of life and other aspects of culture; (e) cultivating organizers from among the people and, in particular, the poor (f) enabling the poor themselves to organize themselves with political and law-and-order support and (g) education, i.e. learning system for these micro objectives.

1.3.6.6 Lobbying for Finance

Public library has long served as an aggregation of materials available equally to all. Library and Information services must achieve

substantially higher levels of public financial support specifically earmarked for that purpose.

A good tradition in this country has been that the Prime Minister is incharge of the Science and Technology portfolio. The Prime Minister has employed suitable mechanisms to obtain the advice of the scientific community on relevant issues. The direct interest of the Prime Minister in science has helped to develop a close relationship between the Government and the Scientific community. Hence, Librarians should influence the Scientific Advisors to the Prime Minister regarding special financial support to establish "SRD" in every public Library.

In a national context, other methods have to be used to convince government and management of the need for appropriate financial allocations to support information systems. The people to be convinced may be categorized as policy makers, top management in the civil service, chief executives and managers who, in the organizational hierarchy, are often responsible for the information system. Each of the above needs to be approached effectively.

T. Viswanathan narrated an example of the model that has been practised with regard to public libraries of Tamil Nadu. In every village, the villagers will donate a piece of land for putting up a public library. The required infrastructure to store the books will also be donated by them. Every graduate in the village would be enrolled as a member of the public library, and this amazing system is actually working. Twenty crores worth of land has already been acquired under this programme, by donations from people. He quoted one particular example of a single elderly individual who has donated all his wealth to this cause he was looking for. His only condition was that his own cremation should be carried out by a librarian! Hence, what is required is initiative and taking people into confidence.

In villages "SRD" should be run by non-governmental voluntary organisations to ensure social dedication, commitment and rapport with users.

Cultivate powerful lobby of supporters (members of parliament, leading scientists, social workers, journalists, etc.) for quality services. Low quality cannot survive with dignity in a highly competitive world.

Stimulate demand by advertising "SRD" services and create an "information hunger" consider whether you can give a new service that will gain the support of users, improve your image, etc. Get feed back on your services so that you know which are good and which are not and publicize your activities through personal contacts. Think in terms of users and service. Keep an outside expert, on your board of management, who will have greater credibility.

"SRD can be partly or fully financed by Philanthropist/Business or Industrial establishments/Lions Club/Rotary Club etc., if services rendered are of such a standard that individuals or voluntary organisations get credit and popularity. It can also be a joint sponsorship by four-five philanthropists or voluntary organisations.

2. Conclusion

Macro-objectives of "Scientific Temper" have been already specified through 1) Statement on Scientific Temper, 2) Technology Policy, 3) National Policy on Education - 1986, and 4) Eighth Five Year Plan. Already well established: Education system, Research and Development system, Industrial system, Scientific Publications system and Public Libraries system are available. Integrated approach can be used by developing linkages among all these through establishment of "Science Reference Desk" mechanism in all Public Libraries of India so as to cater quality information to public reached and unreached so far so that synergy develops.

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