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INFORMATION TECHNOLOGY AND KANNADA

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1. INTRODUCTION

Many Modern Indian Languages are now used as vehicles of education, administration and mass communication. Since the reorganization of the various provinces of India into linguistic states and since the recognition of Kannada as the official language of Karnataka through the Karnataka Official Language Act in 1963, Kannada has made serious inroads into various domains of communication. This has resulted in the accelerated growth of the language. Today, one can easily find scientific and technical literature written and published in Kannada. Unfortunately, this is still not the case in many other Indian languages.

The information explosion and the need for quick access, transmission and dissemination of information has led to the development of new technology, the Information Technology (IT). The technology thus developed has become a handy tool for the efficient performance of other functions like governance, education, commerce, weather forecast, communication, etc. Bringing information, technology and Indian languages together in a single platform is an important task that should be accomplished as early as possible if people's participation in the economic development of the region is to be ensured.

Language functions as the vehicle of deliberate knowledge, and knowledge is power. Technology is a tool as well as a weapon. Since much of modern technology is deliberate knowledge, facilitated, gained and transmitted through language, one way to empower people is through using their language for the acquisition, design, development, and transmission of technology. Using another language for such purposes makes access to and mastery of technology more difficult even as it creates and widens the gap between various classes of people.

The Information Technology is more closely related to language than any other type of technology. Through an effective use of Information Technology using Kannada, the people of Karnataka could be better served. Likewise the people of Tamilnadu, Kerala, or Hindi-speaking states, etc., could be better served by using their respective state languages. IT experts and entrepreneurs should recognize that in the final analysis there is no substitute to Kannada, for example, in the state of Karnataka, if they wish to bring the benefits of the IT revolution to the people of Karnataka. They should recognize that the development and use of Kannada as a carrier of information technology will help the

overall growth of the people of Karnataka. However, at the moment, the focus is more on developing software for consumption elsewhere.

2. THE CASE OF KARNATAKA

The Government of Karnataka has placed IT as one of the priority items on its agenda. It has been declared that the benefits of IT should reach the rural masses. It is to be achieved by bringing IT into the domains of administration, education, communication, trade, etc. The government has also recognized that Kannada, the Official Language of the State and the language known to the majority of its population, is the only medium of interaction through which this can be achieved successfully and completely.

Successful implementation of this plan of the government requires a constructive intervention from the government in the form of incentives to be given to the entrepreneurs for the development of software in Kannada. A Program of Action taking into account the present status of Kannada Information Technology (KIT) and the direction in which it can move in a phased manner in the next five years to fulfill these objectives is documented here.

3. STATUS OF KANNADA IT

The present status of Kannada IT is that:

1. A Kannada keyboard layout has been standardized and approved by the government for use with the computers. All the government departments are expected to buy the systems software compatible with this keyboard layout.
2. Some individuals and some software firms have developed Kannada word processors with minimally required functions. Many are distributed free of cost. Some are priced.
3. A word processor-cum-database management software *Kannada Kache:ri*, customized to the governance of the State, is developed by a private group and it is marketed by the Government.
4. It was reported that in Karnataka a private firm has made an experimental attempt to use computers for Kannada teaching purposes in some schools. The details of this project and the results are not available.
5. An ambitious programme introduced in the rural high schools in Mysore, Chamarajanagar, Gulbarga and Bidar district has not made much impact or progress. This project was sought to be implemented through the use of English.
6. A corpora of Kannada texts with 3.60 million words for the period from 1989-90 is developed by the Government of India Department of Electronics at the Central Institute of Indian Languages, Mysore, and it is being made available in CDs free of cost for non- commercial use from Jan 15, 2000.

4. KANNADA IT IN ADMINISTRATION

The package *Kannada Kache:ri*, which is being used in 10 state government departments at present, needs to be introduced in as many as 25 Boards, Universities, and other Statutory Organizations, all governed under the Karnataka Civil Service Rules, etc., and evaluated for its ability to cope up with the tasks involved. At the same time it has to be evaluated also for its user-friendliness and other characteristics. The suggestions from the actual users of this programme will help in assessing the usefulness of the package. Also such a try-out will help identify the additional features that the package should incorporate to make it more useful.

5. KANNADA IT IN EDUCATION

Hands on computer literacy, not the knowledge about the computers and how to use the computers, for performing different activities should become a part of school education in a graded manner. A broad based curriculum is here presented below. My suggestion begins with the assumption that computer literacy can be introduced even from first standard and continue as long as the student desires.

Primary level

At the primary level of education, we should aim at introducing the computer as a "play-while-you-learn" tool to the students and help them to use it as a tool to learn, through basic manipulative skills. Reading, writing, numeracy, day to day science, morals and ethics through simple stories, development of civic sense and duties, and other constructive values highly esteemed in the civic society can be easily introduced using the computer software of various types in Kannada. Spelling software is easy to develop and can be made available in large quantity to be used by the computer kiosks. We should be absolutely clear in our approach and thinking that developing computer literacy is not an end in itself. Our goal is not to produce computer programmers out of every Karnataka child. Our goal is to enable our children acquire good values using the computer. Computer skills are very important, but they are not an end in themselves.

Higher primary level

At the higher primary level of education, we should aim at expanding the activities learned in the primary stage and help prepare the student to attain the take off stage required in the secondary school.

Secondary level

Essential word processing and database management should be the focus at this level. The student will be able to input data and process the same as per the needs. Thus, a student leaving the secondary school will have skills in basic word processing and database management and be ready to acquire the advanced skills in the later part of his education.

College level

The student at this level is introduced to the process of accessing information from various sources, including the search engines, as required for his studies. He continues to learn word processing, database management and use of spread sheets.

6. KANNADA IT RESEARCH

1. As I mentioned in an earlier section, basic corpora of Kannada for the period 1989-1990 is now available. The data, however, does not take into account the very recent developments in Kannada nor does it include the texts from 1950 to 2000. Hence it is necessary to augment the same by incorporating texts from the year 1950 to 2000. Before doing so, it is necessary to verify the sampling procedure and make the corpora a truly representative sample of Kannada. This has to be completed in a period not more than one year. This will serve as a database for research into modern Kannada. It helps in the analysis and description of Kannada. With this database, grammars, dictionaries of various kinds, materials for the preparation of school textbooks, children's literature, and materials for the neo-literates, etc., can be developed.
2. A database of all the Kannada scientific terms available in print and currently used needs to be created. This will serve as a nucleus for standardizing the terms and for the production of scientific literature in Kannada.
3. Convertibility and working on all the platforms has to be the major criteria for producing the technological tools.

7. ELECTRONIC TEXTS

The following important and essential texts required for reference are available in print. These have to be brought out in CDs.

1. ***Kannada - Kannada Lexicon***, 8 Volumes, published by the Kannada Sahitya Parishat. It is already available in the machine readable form in the Kannada University with some tools for retrieving the data for research and other essential purposes.
2. ***Igo: Kannada, A socio-linguistic dictionary of Kannada***, published by the Navakarnataka Publications Private Ltd.
3. ***Kannada Janapada Ko:sha***, published by the Karnataka Janapada Parishat. The publication of this was aided by the Central Institute Of Indian Languages.
4. ***Kannada Vishwako:sha***, all the volumes published by Mysore University.
5. ***Karnataka Vishaya Vishvako:sha***, published by the Mysore University
6. ***Kannada Janapada Vishvako:sha***, published by the Kannada Sahitya Parishat.
7. ***Karnataka Gna:na - Vigna:na Ko:sha***, published by the Navakarnataka Publications Private Ltd.
8. ***English - Kannada Dictionary*** (Single volume), published by the Mysore University.
9. Electronic database of texts of literary works of modern Kannada also has to be created. This will give an impetus to the literary studies. To begin with, it can have texts of all works of the Jnanapith awardees and all the works that have been

awarded Kendriya Sahitya Academi prizes. In this category the *Samagra Vachana Sangraha*, published by the Directorate of Kannada and Culture, should be included.

8. PROJECTS

The following projects may be taken up on a priority basis.

Primary level

1. The packages for non-verbal items, games, entertainment, fun, etc., that can be used for learning the manipulation of key board, developing non-verbal skills, improving cognitive skills, etc.
2. A multimedia Kannada script education package is useful for both formal and non-formal education streams covering all the letters of the Kannada script and their combinations.
3. A package of word games that reinforce the learning of the script and help in improving the vocabulary stock of the students.
4. A self-evaluation package Level One for identifying the competency achieved by the students in Kannada and other subjects in Kannada at the end of each year of schooling.

Higher primary level

1. Advanced level games and exercises of the type explained above.
2. A self-evaluation package Level Two for testing the competency achieved by the students in Kannada and other subjects in Kannada at the end of each year of schooling.

Secondary level

1. A user friendly Kannada word processing and data base management package along with a tutor.
2. An interactive package to learn Kannada as a second language from the beginning level skills to the advanced level skills.
3. A self-evaluation package Level Three for testing the competency achieved by the students in Kannada and other subjects in Kannada at the end of each year of schooling.
4. The interactive Science, Social Studies and Mathematics Packages in Kannada to supplement the class room learning for primary, higher-primary and secondary school levels.
5. A flexible and broad-based syllabus is to be prepared and it should be possible that it gets updated/revised as and when needed.
6. A glossary of IT technical terms (English-Kannada), that helps in implementing the above syllabus (and also helps KIT research), to be constantly updated and available in the machine readable form and also available online.

Administration

1. A database of Kannada technical terms used in general administration, administration of various departments of the government, legal matters and various Acts both Central and State, is already available in the print form. It may be converted into machine readable form with necessary tools for search operations.
2. *Kannada Kache:ri* is to be modified to make it more user-friendly, and updated to perform as many tasks as possible. It is also possible to incorporate the data base of administrative Kannada terms into *Kannada Kache:ri*.

9. IMPLEMENTATION

Educational Technology has been applied for the development, teaching and learning of Indian languages for many years. However, the educationists and the technologists hardly worked together for a common goal. The very essence of IT demands a meaningful co-operation between the content specialists and the software engineers. Surely, if this is taken seriously, we will not miss the bus this time. We will, together, bring forth a revolution that will vitalize the Indian languages and through the use of these languages the people at large will derive significant benefits from the IT revolution sweeping India.