

Overview of IT revolution for rural empowerment through Tamilnadu Veterinary and Animal Sciences University

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With the advent of global information society, new communication technologies are increasingly being adopted as effective tool for reaching rural audiences. Yet the benefits of the information revolution are still much debated, particularly, in the case of developing countries like India. There is serious concern that the gap between the information “haves and have not’s” will continue to grow unless the developing countries acquire the infrastructure and resources to access these new technologies and they are likely to become more marginalized and isolated economically, socially and politically. The situation is more serious for remote rural communities where basic communication infrastructures such as newspaper, television, radio and telephone is lacking. A separate Ministry for Information Technology and Communication is taking care of providing assistance to different states to address this need in India.

Information technology is the key to provide timely and useful information on various basic needs. Basic communication and information services and the introduction and use of information and communication technology must become a priority in order to secure sustainable human development. Internet access is available to only the wealthy and educated elite in developing countries and also in most of the societies women have much less access to information network.

The ICT Applications in rural development may be classified as “provide decision support to public administrators for improving planning and monitoring of developmental programmes, improve services to citizens and bring in transparency, empower citizen through access to information and knowledge and help in capacity building to improve the functions of the developmental organizations and expand employment opportunities in rural areas”

IT in India.

Government of India has come out with plans for ICT enabled agricultural development. Process of developing database knowledge systems, decision support systems are in progress. Government also proposes to network the district level agricultural offices, before the end of 2006-07. The concept of beaming educational programmes through satellites was effectively demonstrated for the first time in India in 1975-76 through the Satellite Instructional Television Experiment (SITE) conducted using the American Application Technology Satellite (ATS-6). During this unique experiment, which hailed as the largest sociological experiment conducted anywhere in the world, programmes pertaining to health, hygiene and family planning were telecast directly to about 2400 Indian villages spread over six states. Later, with the commissioning of INSAT system in 1983, a variety of educational programmes are being

telecast. With the success of the INSAT based educational services, a need was felt to launch a satellite dedicated for educational service and ISRO conceived the EDUSAT Project in October 2002. EDUSAT was launched on board ISRO's Geosynchronous Satellite Launch Vehicle, GSLV, in September 2004. EDUSAT is the first exclusive satellite for serving the educational sector. It is specially configured to meet the growing demand for an interactive satellite based distance education system for the country through audio-visual medium, employing Direct to Home (DTH) quality broadcast.

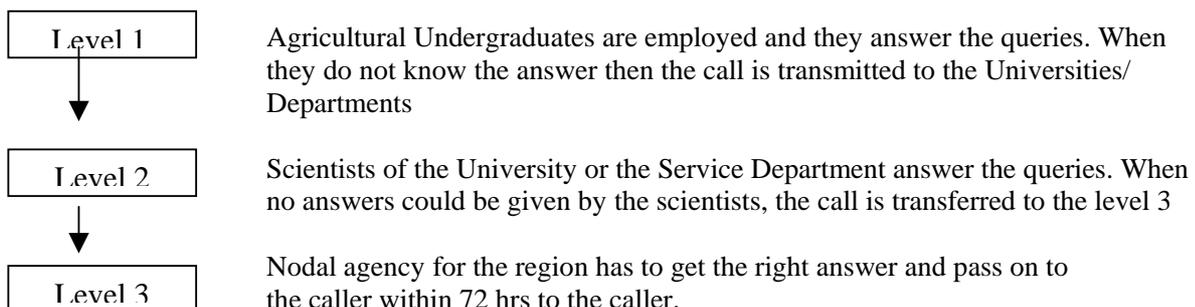
The technology revolution is changing the gender calculus in India. Women play larger role in extension of software market in India and they constitute 45% of the high tech work force. It is estimated that the future prospects of employment in the software sector amounts to 2 million jobs in software and 2.2 million jobs in I.T. enabled services by the year 2008 (NASS.COM)

Government of India has made arrangements for linking all the agricultural institutions and Krishi Vigyan Kendras (Farm Science Centers) i.e. District level farmer's capacity building centers. About 160 institutions and 250 Krishi Vigyan Kendras are to be inter connected by the end of 2006-2007.

n-Logue communication a commercial organization (local ISP through WiLL technology) has established more than 600 telecenters through out India and is expanding their network very fast. They have established their centers in the name of Chirag.

Kisan Call Centers

Farmers are getting information though Kisan Call Centers by accessing the toll free telephone number 1551. From any part of the country the farmers can access the scientist between 9 a.m. to 6 p.m. to clarify their doubts and get technological and marketing information on Agriculture, Animal Husbandry, Fisheries, Horticulture and allied fields.



Radio Media

Many private agencies have been permitted to broadcast entertainment channels through FM Radio. Government of India has launched 'Edusat' and trying to provide technology to the stakeholders through satellite. "Gyan Vani" broadcasts the educational programmes for 4 hours a day. State wide All India Radio broadcast variety of programme including Agricultural programme for 30 min. in a day.

Television media

Doordarshan Kendra (Government owned TV channel) have allocated 30 minutes duration thrice a week for the scientists to provide technologies to the farmers. They have commenced this programme in almost all the States of India. In Andhra Pradesh State, a commercial channel “e-TV” also provides 30 minutes duration on the farmers related programmes for 5 days in a week.

IT Initiatives in Tamilnadu State of India

Tamilnadu in India is the first State to announce “IT Policy” as early as November 1997. As on 2000-2001, 764 companies are involved in software industry involving Rs.31160 millions. The hardware export of Tamilnadu during 2000-01 is estimated at Rs.5740 millions.

IT in Tamilnadu

Government of Tamilnadu has initiated Rural Access to Sustainable Information (RASI) center in Kancheepuram District. These centers were started in order to serve as a link between administration and villagers for providing information, notify the people on Government plans, schemes and for redresses grievances. This scheme was implemented under Village improvement programme. (Swarnajayanthi Grama Swarozgar Yojana) The women who have studied up to 10, 12th standards and having knowledge on basic computer and DTP operations were selected for the scheme by the District Collector. They were supplied with computer accessories to a tune of Rs.50, 000/- for establishing telecenter. As an encouragement they were provided with a subsidy of Rs.25, 000/-. They were trained on DTP work initially at free of cost. At present these rural centers are engaged in DTP work. Typing of Government correspondence at the District level and helping people to contact district administration through e-mail. There are about 25 centers from this district and earning approximately a sum of Rs.1000/- per month. There is a possibility of increase in the revenue if these centers are made into rural educational and knowledge centers.

IT in Education

Course on Computer basics has been introduced in State Higher Secondary Board syllabus. Computer education has been made compulsory in all Government Higher Secondary Schools during 2000-2001 about 40000 students from 1200 schools become digitally literate. Five teachers per school per year have been imparted computer literacy skills. A one year computer literacy programme for students in all government Arts and Science colleges, all Medical colleges and Law colleges in the state has been launched covering 30000 students every year.

E-Governance

Tamilnadu Government has got website www.tn.gov.in to provide information of relevance to the citizens. State level government tenders for purchase are included in this site which can be downloaded at free of cost. Database of all land records throughout the state is under creation. Application software has successfully developed tested and hosted for

registration of the immovable properties in the sub-registrar's office and district Registrars offices (URL: <http://igregn.tn.nic.in>) similarly software has been developed and tested for the regional and rural transport offices for registration of vehicles. Testing of application software for assessment circles in the Sale tax department is almost complete which enables 80% of the sales tax collection in the state (www.tnsalestax.com). Initially the internet browsing was catering to students who were searching for institutions abroad for higher studies or for information on subjects relating to their education. Some were using it for finding placements in countries outside India but for many it was more of an entertainment medium. Of late the internet has gained importance for seeking employment, matrimony, astrology etc. with many people.

E-commerce

Many international companies who have established markets on the internet are appointing teleworkers from dispersed location worldwide to act as representatives for marketing their products and services through internet. Booking of tickets by Rail or Air through online has become a regular affair in Tamilnadu. Office automation facilities like DTP, photocopying etc are being outsourced as offline infrastructures to the e-marketers. The site on www.ruralbazar.tn.gov.in has been hosted by Government of Tamilnadu to market the produces of women Self Help Group.

Seventy Percent of Indians live outside the urban areas. If India has to progress, there is little doubt that India's villages have to progress too. Transforming rural India is a challenge that should focus the best of the Indian minds. Many people argue that what the poor need is food, water, shelter, electricity more than technology. In addition to providing food water and shelter the man living in the rural area can earn his livelihood if he adopts the available technologies in his day to day practice. Analyzing the situation, assessing the needs, refining and delivering the technologies if carried out efficiently will pave way for poverty reduction. To explore the possibility of IT in rural areas, schemes have been drawn by Tamilnadu Veterinary and Animal Sciences University and documenting the lessons.

State Bank of India has proposed to install 500 rural internet kiosks in Tamilnadu and Pondicherry regions and has started implementing in two of the Districts. Internet kiosks will have facilities such as email, voice mail and bankers are in the process of developing content in a bigger way to help the rural farmers with the support of various educational institutions.

IT in Karnataka State of India

Similarly Karnataka State Government has started many I.T. projects: **Rural Digital Service (RDS)** - Rural Digital Service, an **e-Governance project** provides the citizen, an IT interface to avail services offered by the Government at the State, District and Taluk head quarters in the village itself with the sole mission of bringing the administration close to the common man. **Samanya Mahiti** - Samanya Mahiti is a general information system on the basic amenities available in the villages of Karnataka.. **Sahakarapana** - Audit report of over 30,000 cooperative societies is made available on the Internet for the benefit of shareholders & investors. This brings transparency in Co-operative Societies administration. Auditors use NICNET facility to update the audit report directly from the Districts. **BHOOMI Project** - Bhoomi, the land records management systems is the first e-Governance project successfully implemented for the benefits of the common man, jointly by the GoK & NIC, Karnataka. It has been providing service to more than 70 lakh farmers of Karnataka since the last 4 years. Bhoomi has become the model for replication in many other States. It has received wide spread recognition by public and also won international award (Sliver of CAPAM 2002). **Returns Filing System (RFS)** - This system

is implemented in 130+ circle offices of Bangalore for income tax collection. Second Phase is expected to cover all the remaining offices in Karnataka. **e-MAN** - Management of Assets in NIC Web based software for the integrated maintenance of consumable and non-consumable technical stores. **Aasthi Terige** (Property tax) - A system for computerization of the property tax calculation and collection in the Gram Panchayat has been implemented. **Ganakeekrutha Grahakara Seve (BGS)** is for the automation of revenue billing and new connections for BWSSB. Bronze award of Government of India for 2003 Mukhyavahini **Project** facilitates automated functioning of the Chief Ministers Secretariat, through the implementation of - Petition Monitoring & Public Grievances - Chief Ministers Relief Fund - Web based application to generate up-to-date action taken report from the department. **Webpaas** - Ministry of External Affairs has decided to decentralize the process of acceptance of passport applications. **WEBPAAS** is the software developed for acceptance of passport applications at the DC/SP offices and Collection centers. The data is entered at the district offices and then uploaded to a central server. The regional passport office then downloads data from the central server. **Krishi Marata Vahini** is Web based Online Agricultural Commodities Price Information System. The **Ahara** website is a unique exercise carried out, to popularize the Governments Food Policy towards Below Poverty Line (BPL) beneficiaries. The above details can be accessed at **www.kar.nic.in** under e-Governance projects of NIC, Karnataka.

Almost all the States in India have created such electronic IT facilities for the citizens. The main rationale for establishing multimedia Information centre by Tamilnadu Veterinary and Animal Sciences University is to enable rural people to have authenticated information at the right time for rural development. It includes determining information needs of different communities and designing systems for access to relevant information and capacity building resources. It is often expressed by the scientists of Extension Centers that they have difficulty in reaching large number of people owing to limited manpower, transport facility, high cost and lack of time. Tamilnadu Veterinary and Animal Sciences University is also in constant search for newer, faster and economic methods of technology transfer systems. The flow of information in the recent years is so high, but we lack efficient system to transfer the same to the target group. To meet this urgent need of finding out effective means of Transfer of technology, schemes on **“Information Technology and Rural Extension in India”** and **“Empowering Resource Poor Women to use ICTs”** have been drawn by the Directorate of Extension Education of Tamilnadu Veterinary and Animal Sciences University.

The scheme “Information Technology and Rural Extension in India” has commenced at our University with the below mentioned objectives in collaboration with Dept. of Communication, Cornell University, USA, M.S. Swaminathan Research Foundation, Chennai on 16.7.2001

- A need assessment tool tailored to information needs. This is to be shared freely through professional meetings and www. Mechanism
- An inventory of information needs in three communities, with particular sections devoted to special target groups
- A value added process model
- Case study that will be relevant to telecentre developers in India and elsewhere
- Developing community relevant software for assessing information

The scheme was coordinated by the Director of Extension Education of Tamilnadu Veterinary and Animal Sciences University with the support of three of the Veterinary University Training and Research Centers located at Vellore, Madurai and Tiruchirapalli. The Heads of these centers were asked to identify suitable village for locating the information centers. After several visits to different villages and carrying out Rapid Rural Appraisal, Kuzhumani, Puduthamaraiappatti

and Chitteri villages were finalized by the Scientists of Tiruchirapalli, Madurai and Vellore hub centers respectively.

Directorate of Extension Education of the University took the responsibility of providing all the print, audio, and video and computer accessories to all the hub and village centers. And also took up planning and implementation of survey, need analysis and PRA exercises in all the three communities. Prof. Royal D. Colle of Department of Communication, Cornell University and Mr. Raul Roman assisted in planning and executing the above activities. Scientists of M.S. Swaminathan Research Foundation helped us in conduct of focus group exercise.

The Village Information Centers commenced functioning on 21.4.2002, 20.4.2002, 10.5.2002 at Kuzhumani, Pudhutharamaipatti and Chitteri respectively. Baseline survey was conducted at these villages to assess the media uses and other information needs. A steering committee was formed in each village consisting of Officers from the departments of Agriculture, Animal Husbandry, Revenue, and Panchayats, bankers, educationists, media personnel, youth NGOs, farmers, women and University staff for implementing, coordinating and monitoring the activities of Village Information Centers.

Need analysis indicate that men in all the three communities were interested in getting the information on agriculture related activities, market price of various agricultural commodities, details on availability of agricultural inputs and economics. Women were interested in agriculture, health, public sanitation, availability of potable water, self employment, marketing of milk. Youth were interested in information on education, self employment, job opportunities and rules and regulations of different sports. Based on the suggestion of the steering committee 5 to 10 members were given training on basics of computer such as Paint, Word, Excel, internet browsing, sending e-mails etc. A web page in Tamil was hosted in www.tanuvass.org/rural containing details on district profile, agriculture, horticulture, animal husbandry, fisheries, education, home science, health, transport, sports, entertainment, job opportunities and financial institutions. They were provided with audio and video CDs containing Animal Husbandry practices, Dairy and fisheries product preparation, value added products, general knowledge, tutorials, Tamil typing software. All the three communities had utilized the different IT tools with the assistance of the technical personnel of the University appointed for the purpose for a period of about two years. These centers were handed over to the respective communities by the University after entering upon a memorandum of understanding. All the three Village Information Centers are functioning under the overall supervision of the hub centers, without any financial assistance from any external agencies or the University

Experiences

Young children showed keen interest and learnt the technology fast. They used computers to play games, chat with their friends and send e-mails. It also helped them to learn basics of computer through Village Information Centre. They were able to browse information through different websites on education and have been successful in getting admission in Hebrew University, Israel. Many students studying in colleges have used the centre for carrying out their project work and read the educational CDs. Unemployed youngsters have started converting the banana waste into paper after browsing in the internet. Children studying in 10th and 12th grade have used computer centre to view their examination results. Saranya, a three year old child of Chitteri uses the telephone at the Village Information Centre to talk to her mother. Even old ladies do not have confidence of making a telephone call by themselves without the assistance of the facilitator of the centre or PCO earlier have grown confident to make the call with out depending on the facilitator.

Men were able to get needed technologies through CD and the university website. They were able to get details on short duration of paddy variety for cultivation and assistance for treating their livestock. They were able to send mail to their kith and kin living abroad.

Mrs. Meenakshi was able to get birth certificate of her son through online at Madurai district. Many women were able to get assistance of veterinarians to treat their animals in time. When there was an outbreak of “enterotoxaemia” disease in sheep, the photograph of the ailing animal was sent to the hub centre from one of the Village Information Centers (Chirag) at Melur Taluk of Madurai District and the investigation commenced on the same day. Disease was diagnosed and prophylactic vaccination carried out thus saving more than 6000 animals in and around this area. Ms. Malathi a poor illiterate woman saved her husband’s life when he had acute stomach pain and vomiting. She approached the Village Information Centre and got the address of the Doctors and Hospital and admitted him in hospital in time. He was treated and became well.

On Line Health care

Aravind eye hospital at Madurai has started e.health care with the village information centers. People of the rural area are able to get timely assistance on eye care by accessing through computers.

On Line Veterinary care

Our hub center at Madurai are on line on Wednesdays to answer the queries related to Animal Husbandry practices and Veterinary care thro’ on line. During the last three months this center has received more than 259 emails asking for clarifications on Animal Husbandry Practices.

Problems faced

These Village Information Centers were located in the Government owned community buildings (Panchayat buildings) where local governance is active day in and day out. Women of the local community were hesitant to approach the centre since they are located in such buildings.

Solution

Poverty hurts poor women more but women can play a bigger role in eradicating poverty and making the life of the family and community better, if they are empowered. The food production lies in the hands of women who ploughs the land, sow the seeds, manure the land, weeding, harvest and collect the grains. Similarly in Animal Husbandry sector livestock is managed by women. She takes up feeding, breeding, managing the young ones and protection against contagious diseases. It is necessary that women have to be educated on latest technologies. When a skill is practiced by women they also get encouraged and also teach their children. Our study revealed that women are more interested to become computer literates and also allow their children liberally for paying, learning and to update their knowledge on IT.

Self Help Groups are now recognized as a key transmission belt for development effect by the state and civil society. Promotions of women SHGs are seen as effective means to empower poor women and enable them to participate in and drive their own development.

With this view, Tamilnadu Veterinary and Animal Sciences University has established six more Multimedia Information Centers in the households of women SHGs at Chennai, Cuddalore, Kancheepuram districts. To overcome the cultural norms of the society that prevents the women and young girls to mingle freely in the community for learning their basic rights or earning a livelihood and to have information access with almost similar facilities as that of Village Information Centers. Based on this observation another scheme was drawn to “Empower Resource Poor Women to Use ICTs” under the funding support of UNESCO. It started functioning from 5th May 2003 at the houses of Six Self Help Group women with the following objectives.

The whole project is conceived as an action research program. The specific objectives of the project are

- To identify the information and service needs of resource poor women groups.
- To establish a system for enabling target groups to access and apply ICTs for their development and capacity building.
- To provide service on needs of technology marketing and micro-financing, for sustenance.
- To build and test a viable and sustainable model for linking women groups and ICTs.
- The overall objective of the action research is to explore the potential of ICTs for poverty reduction.

The action research component has the following specific objectives.

- Testing the feasibility of using the SHG and other women group structure as a means of extending ICT benefits to poor women in the community
- Testing the feasibility and practicability of combining different ICTs with the core computer technology for the information access in systematic learning and communication situations that will provide poor women for poverty alleviation.

The project implemented and developed through an interview schedule designed to conduct baseline survey to access the demographics and profile of SHGs and to identify their information needs. It focused on SHG member Socio-economic profile, SHG related profile, Group profile, Impact of SHG, Training, Media usage profile, Information sources and uses, Overall information needs assessment and questions about project. The SHGs were identified by interaction with Government, NGOs, service departments, financial institutions and industries and are selected based on the following criteria.

Interest of SHG members towards ICTs, Space availability in the house hold, Ideal location of the household for the information seekers, Capacity of the group to maintain the information center, Interaction and sharing of knowledge among the group and between the groups, Involvement in micro enterprise activity and Financial status of the group

In each site (rural, semi urban and urban) about 10 to 12 SHGs were identified and RRA and base line survey was conducted with the members. Based on the capacity and interest as mentioned above the below mentioned six groups were selected for the project implementation.

At Cuddalore district, two rural groups namely Thendral SHG of Varakkalpattu village and Malar SHG of Kandarakottai village selected. At Kancheepuram district, two semi-urban groups, namely, Indhu SHG of Kancheepuram Town and KVK SHG of Maraimalainagar were selected. At Chennai District, Two urban groups namely, Indragandhi SHG of Pallikaranai and Kalikambal SHG of Aminjekarai were selected for this study.

After identification of the SHG groups, computer and other accessories with inbuilt CD writer, UPS, modem, webcamera, speaker, head phone and three in one CD player are installed in all information centers. Telephone connectivity is also provided to all the sites except the rural site at Kandarakottai. (Applied for phone connection but yet to be installed). Internet connection was established to the semi urban and urban site through dial up facility and in the rural site, internet connection was established through CorDect wireless in local loop (WLL) technology. Books on fodder for livestock, economics and marketing in livestock have been supplied to all of the information centers. Educational CDs containing question and answers have been supplied to the Information Center for the benefit of students appearing for 10th and 12th grades that have public examination. CDs on animal husbandry technology were also provided to the information center for the benefit of information centers users. Other areas for audio-visual aids include fish culture, making milk sweets and skill oriented screen printing technology among many others. Audio CDs on Goat farming and Infertility and artificial insemination are also provided to the information centers. To overcome the language barrier Tamil software like word processor, word tutor were also installed for easy understanding. PRA and group discussions were conducted at all the sites to find out the daily, monthly activities of the group members. Computer training and internet training was given to the five interested SHG members. After computer training the members have started exploring the use of computer more and also some of them are sending mails through internet.

Experiences

The selected SHGs are identified as computer group by the villagers, government officials NGOs/private organizations, bankers and by other SHGs. It is a group identification as well as Individual identification. Developed mindset in SHG women to think and rethink on using the information tools for their income generation. SHG members are posting records maintained in registers hitherto in computers now. Mrs. Chandra (rural group) told that usually we meet once in week but now if we have free time we are coming to the center to share, learn and to watch what others are doing in the computer. The level of discussion is increased. Ms. Devi (semi-urban group) rearing rabbit as hobby in her house without knowing anything about scientific farming and management aspects of rabbit farming. After watching the CDs on Rabbit farming developed by Tamilnadu Veterinary and Animal Sciences University, now she is in a position to prepare the feed and adopt other aspects of management of farming business, which has resulted in higher yield and profit. Mrs. Rajamma (Rural Group) knows typing and shorthand. Using the facilities at the center she earned through typing (nearly Rs. 250-300 per month) and utilizing the cash she joined for higher course in typing and now employed in a private company.

Interaction with the Bank Managers has increased. The Vallalar Bank Manager (where the Varakalpattu SHG having account) invited 3 times and asked the leader of the SHG for making SHG accounts in e- form. In Kandarakottai, the Indian Bank Manager who visited the information centre along with other officers asked Mrs. Vijaya to teach how to browse in the internet. She taught them about email and other function. It encourages the youths and others to visit the centre frequently. After the screen printing training Mrs. Chitra (Semi-urban group) started doing screen printing work in small scale and getting order from other members. Similarly Mrs. Valarmathi who is asking for DTP training after attending this Screen printing training programme aiming to do this printing in a large level as a group business with the help of her husband who is also involved in printing press related job. These information centers have brought change in the minds of youth to learn different methods of communication application in computers. Car race and computer games are more popular among the children. Nandhini a ten year old girl started teaching what she has learnt at Kandarakottai Centre to those who are visiting the centre. Children are teaching to other children who had no previous exposure to computer and

to their parents and SHG members. School going children are playing quiz games and are occupying the centers during Saturdays, Sundays and holidays. Children studying in Tamil medium school do not get opportunity to learn computer and those studying in English medium have only the theoretical knowledge on computer. The Telephone is helpful for the SHG members to contact with the market traders to get orders at all branches of MCC Bank at Chennai. In rural groups, when the action researchers is out of station they were able to contact M/s. EID Parry over phone when they don't get connectivity or for any type of trouble shooting. The women stakeholders utilized the internet facilities to popularize their SHG products in the Government website www.ruralbazar.tn.gov.in. SHG members of KVK group, Indu group, Indra Gandhi group, have started chatting with the Kiosk operator of Village Information Centre Ms. Suganya who is in Madurai District (nearly 400 k.m. away from Chennai) she is also a SHG member and got introduced among themselves. Mrs. Chitra and her husband Mr. Babu did chatting with their relatives who is working in Fazera (UAE)

Problems faced

Getting Telephone connection at Kandrakottai is still a problem. But, this rural group is well managed by the N-Logue wall sets with the help of collaborator cum industrialist concern M/s. EID Parry Ltd. Women are interested in skill training programmes to earn livelihood. They do not get adequate web sites in Tamil Language to learn by them. Most of the websites are in English. It decreases the interest of users. Due to the hesitation on correct usage of English language for writing or for seeking information many members are not sending mails or browsing Internet.

Sustainability

SHG members are taking more effort to make the center sustainable. They are charging for the services from the beneficiaries and from other users. Another important issue is the support services rendered by the State Government and the Government / Private Institutes, for example, recognizing the activities of SHG and to market their products the Tamilnadu State Government has developed a website www.ruralbazar.tn.gov.in. Tamilnadu Veterinary and Animal Sciences University has provided a URL www.tanuvvas.org/rural to get information on various animal husbandry and fisheries activities in Tamil language. These centers are becoming more and more useful for student community/youth (to see the examination results and internet browsing for job opportunities etc.). Besides to overcome the language barrier Tamil software's like Word Processor (Padhami - in Tamil) and Word Tutor (Aasan – in Tamil) were also installed.

These “Rural Academicians” provided with information and communication technology tools are continuously using PCs for their knowledge building and also teaching their children and other members on its usage which is likely to be a continuous process, needs to be watched for the ultimate benefits.
