SWOT Analysis of the Rajiv Gandhi Project for EduSat Supported Elementary Education (RGPEEE) and the Good Practices Adopted

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ABSTRACT

For providing education to all, the Indian Parliament took a decision in 2001 whereby access to education was made mandatory for every child between the age of six and fourteen by the year 2015. With the core objective of meeting the challenges of quality in education and reaching out to the unreached satellite technology was reaped in. World’s first exclusive satellite, solely dedicated for the purpose of education dissemination was conceived. ‘EduSat’, the geostationary satellite system was launched in 2004. The entire country is reached by the satellite which has multiple beaming transponders. The five Spot Ku Band footprints cover the northern, north eastern, eastern, southern and western regions of the country. The national beams in Ku Band and Extended C Band cover the Indian mainland. Hubs (Uplink and Studio Facility), Receive only Terminals (RoT) and Satellite Interactive Terminals (SIT) are set up at designated locations (Bandyopadhyay, 2007).

In 2005, the Rajiv Gandhi Project for EduSat Supported Elementary Education (RGPEEE) came into operation. What RGPEEE is all about? Not much is known to the academic world about this project. It is a satellite (EduSat) based Education Project meant for teaching mostly at the primary level and also at the elementary level. The study conducted by us reveals that RGPEEE has in an immense way changed the perceptions of the beneficiaries, the primary school students and teachers on ICT enabled education. We have confined our area of study to a remote district of the Indian state of Madhya Pradesh.

This paper underlines the strength of the project. It talks about the assimilation of the programme content by the target group in a virtual environment. The project is significant because it has been put into operation in one of the most inaccessible geographical regions of a relatively less developed state of a developing country. We have identified the good practices of RGPEEE which can be replicated when similar projects are launched elsewhere. We also realised the urgent need for sensitisation of a semi-literate population on the use of electronic media for education. It recommends that among other factors, a fundamental cause of failure in achieving some of the objectives of the project has been not adopting strategies to suit the acculturised behaviours of the local population.

Keywords: EduSat (Education Satellite), RoT (Receive only Terminals), ICT (Information and Communication Technology), SWOT (Strengths, Weaknesses, Opportunities, Threats), Good practices, Elementary education, Pedagogic improvements, Teaching-learning, Blended learning, Tele-teaching, Tele-lesson, Tele-learning, Electronic media, Tele-teacher, Trans-discussion, Trans-learning

1. INTRODUCTION

The study has been undertaken in response to our quest in search of good practices around and to surmise the results of launching an ambitious primary education enhancement programme delivered through world’s first exclusive education satellite, the EduSat. To conduct the study, we first resorted to SWOT (Strength, Weakness, Opportunity and Threat) analysis. We utilised the results of the SWOT analysis to evolve good practices in mobilising the resources and capabilities for best results in similar endeavours.

Providing basic education which includes five years of primary education followed by three years of
upper primary education is regarded as a pre-requisite for development. Lack of educational access and securely acquired knowledge and skill form a part of the definition of poverty and a means for its diminution. Internationally, many UN resolutions including the ones adopted at Jomtien in 1990 and Dakar in 2000 emphasise this. Congruent with such international declarations the governments of many countries have adopted policies towards universalisation of education (Govinda & Bandyopadhyay, 2007).

Providing educational access to all children between the age of six and fourteen is a constitutional obligation of the Government of India. Elementary education has been made a fundamental right by the 83rd Constitutional Amendment. ‘The Right of Children to Free and Compulsory Education Bill 2008’, the proposal from Department of School Education and Literacy, Ministry of Human Resource Development got approval from the Union Cabinet in 2009. It provides for free and compulsory education to all children between six and fourteen years.

2. PROGRAMMES, PROJECTS AND STRATEGIES

In India, expansion of education is being undertaken mainly through a host of major initiatives by the government (UNICEF 2006). The significant ones include:

- Programme of Action (1992)
- District Primary Education Programme (1994)
- National Programme of Nutritional Support to Primary Education (Mid-Day Meal Scheme) (1995)
- Sarva Siksha Abhiyan (SSA) (2001)

Primary education system has come out of many shackles due to concerted efforts. It has made significant progress in terms of access to basic education. The Fourth Annual Status of Education Report (ASER) released in January 2009 indicates that there has been a sharp rise in school enrolment in rural India (Dasgupta 2009). In 2007-08, the number of out of school children fell from 75 lakh to 45 Lakh (Chauhan 2008). Press releases of the ASER Report of 2011 show the high enrolment achieved in rural India. Indian states that had high proportion (over 10%) of 11-14 year old girls out of school in 2006 have made significant progress. In Bihar, out of school numbers have dropped from 17.66% in 2006 to 4.3% in 2011. Rajasthan shows a decline from 18.9% in 2006 to 8.9% in 2011. Uttar Pradesh has shown the least progress 11.1% in 2006 to 9.7% in 2011.

Even though overall primary school enrolment has shown increase, the actual number of children who regularly participate and complete schooling is not very impressive. At the all India level, children’s attendance shows a decline from 73.4% in 2007 to 70.9% in 2011 in rural primary schools. Basic reading levels has shown decline in many states across North India. The country figure for the proportion of children in Standard V able to read a Standard II level text has dropped from 53.7% in 2010 to 48.2% in 2011. Basic Arithmetic levels estimated also show a decline. For example, nationally, the proportion of Standard III children able to solve a two digit subtraction problem with borrowing has dropped from 36.3% in 2010 to 29.9% in 2011 (ASER 2011).

Discussions and declarations on basic education lead eventually to universal access to education and universal retention. Pedagogic improvements like joyful teaching-learning process, child centred approaches and activity oriented methods enhance retention. But this is possible only with quality teacher training, retraining of old teachers, improved curricula with localised content and learning transaction through the mother tongue, etc. Besides these are the other elements like tools of new media, flexible school timings, attractive classrooms, conducive and friendly school environment, good infrastructure and child friendly evaluation techniques which play their role in providing successful basic education.

A very common sight in rural and semi-rural India is that of children queuing up in the streets to fill a bucket of water from the road side water tap, tube well or from a mobile water tank, in the morning a time when they are supposed to be at school. It is a great accomplishment for a child if he gets a bucket of water for the family after a great tussle. If he fails, he would be rebuked or thrashed by his parents. When such a child is admitted to school, he is very likely to get dropped out because a bucket of water is of greater priority for the family than the child’s learning at school. The parents need to feel the requirement of education for their child which can bring about a transformation in their lifestyle and attitude. The parents should think in terms of making alternative arrangements for getting a bucket of water for the family needs and send the child to school.
Here comes the issue of motivation of the child for going to the school. More often than not the child remains demotivated and the parents are unable to offer any kind of help. The root cause behind such a scenario is that the teaching-learning transaction taking place in school lacks quality and the desired elements which motivate a child. A primary school handling four classes (I, II, III, IV) may have just one teacher. How can we expect him to reach all the classrooms in a day? He can be in one class only at one time. For those children in other classrooms the time spent at school turns out to be wastage. Technology can play a vital role here. If the teacher can be brought through technology, it would compensate partially for the non-availability of teachers. It can also ensure that the virtual teacher is applying quality teaching methods using the best available tools and aids. This is what Rajiv Gandhi Project for EduSat Supported Elementary Education (RGPEEE) is essentially trying to achieve.

The RGPEEE has a distinctive feature. We observed during our visits to some of the schools where the programme is in operation, that the students are exposed to the myriad benefits of blended learning. In the present world, blended learning has become increasingly important. A broad definition of blended learning refers to the optimal mix of different delivery technology or modes [Maguire and Zhang (2007)]. Some of the schools associated with RGPEEE are not suffering from the problem of shortage of teachers. These schools receive the satellite signals and tele-teaching takes place as per schedules. During the tele-teaching sessions the presence of the teachers in the room augments the learning process by way of blending the normal classroom transactions with the tele-lessons. Blended learning undoubtedly is the order of the day for many open and distance learning institutions across the globe. At school level, RGPEEE is the best example we can cite for this. Here the blend includes the traditional classroom activities, participatory learning and the educational experience created using a mix of integrated distance learning technologies. It is not happening at all the schools, but wherever there is blending; it has made its impact by way of the following:

- Joyful and experiential learning
- Exposure to various tele-learning modes and thereby prepares the teachers and the students for the future where technology is to play a very crucial role
- Realisation of the potential of technology as a tool for teaching
- Strategising judicious combination of technology and face-to-face modes

A deeper study on the RGPEEE could give further insights into blended learning taking place at school levels.

3. TECHNOLOGY IN INDIAN EDUCATION SYSTEM

It has been acknowledged that technology intervention empowers, brings wealth and status. It may further be underscored that Information and Communication Technology (ICT) intervention in education enhances learning experiences and achievement. It brings a whole lot of new experience to students at any level or stage. A 2004 definition of Information and Communication Technology (ICT) given by UNESCO Asia and Pacific Regional Bureau for Education and Commonwealth of Learning states that “Information and Communication Technologies are technologies used to communicate and create, manage and distribute information. A broad definition of ICT includes computers, the internet, telephones, television, radio and audiovisual equipment”. It has been universally accepted that ICT is good for development. In the area of education, the World Bank points out that ‘educators and policy makers agree that ICTs are of paramount importance to the future of education’ and that ‘ICT in education initiatives are likely to successfully contribute to meeting the Millennium Development Goals’. ICT alone is not a panacea for alleviating all difficulties in imparting education in rural India. But launching of India’s exclusive education satellite EduSat ushered an era of virtual learning in the country. Technology in education is applied virulently at higher education level. However, its application in school education is rather measured. EduSat reaches electronic media assisted learning to schools. Since EduSat supports the Rajiv Gandhi Project for EduSat Supported Elementary Education (RGPEEE), we have analyzed the project.

4. RGPEEE

The Rajiv Gandhi Project for EduSat Supported Elementary Education (RGPEEE) has reached its seventh year of operation since its launch in December, 2005. RGPEEE is a project mooted by Ministry of Human Resources Development (MHRD), Distance Education Council (DEC), Indian Space Research Organization (ISRO), India Gandhi National Open University (IGNOU), DEP-SSA and the concerned State Governments (Gupta K. Ajay et al 2008). The network has a provision of one teaching end with
sub-hub at Jabalpur in Madhya Pradesh with connectivity i.e.; down linking facility or Receive only Terminals (RoT) at around 700 primary and middle schools in Siddhi district of Madhya Pradesh. Besides this, down linking facilities exist in a few locations in other participating states (Chhattisgarh, Uttar Pradesh, Bihar, Rajasthan and Uttarakhand) also. Technical assistance to the project is provided by ISRO, the academic inputs are given by the concerned state governments, the manpower requirements at the studio by IGNOU and the financial assistance from MHRD.

4.1 Mission

- To support compulsory education to all children between 6-14 years.
- Ensuring quality learning at primary school level
- Use of technology for virtual classrooms
- Production of quality education content
- Training of teachers

During school vacations, the available infrastructure is used for conducting teacher training programmes.

4.2 Geographical location of the project coverage area and some statistics

The project covers seven Hindi speaking states of India namely Madhya Pradesh, Chhattisgarh, Uttar Pradesh, Bihar, Rajasthan and Uttarakhand. Almost all the primary schools in the district of Siddhi, numbering 695 out of 739 in Madhya Pradesh, a few schools in the states of Chhattisgarh, Uttar Pradesh, Bihar, Rajasthan and Uttarakhand totaling 1082 fall under this project. This study covers chiefly the Siddhi district of Madhya Pradesh because 90% of the RoTs are installed in this district.

Madhya Pradesh is also known as the ‘Heart of India’. It covers an area of 308,245 sq.km. and is the second largest state in the country. Literacy rate in Madhya Pradesh has seen upward trend and is 70.63 percent as per 2011 population census. Of that, male literacy stands at 80.53 percent while female literacy is at 60.02 percent. In 2001, literacy rate in Madhya Pradesh stood at 63.74 percent of which male and female were 75.35 percent and 54.61 percent literate respectively. The literacy level of Madhya Pradesh is almost at the national average. According to the census-2011 report, the state has male literacy rate of 80.53% with female literacy rate of 60.02%. While the female literacy has considerably improved over the last decade, a great disparity persists in the literacy rates of males and females. Madhya Pradesh has one of the largest tribal populations in the country. Out of the 50 districts in the state, 18 are predominantly tribal. Eighty nine blocks (approx. 28%) of the total 313 development blocks are tribal blocks.

4.3 The Rajiv Gandhi EduSat Studio

The Rajiv Gandhi EduSat Studio (RGES) is set up at the district headquarters, Jabalpur fully equipped with modern recording devices, transmission hub to produce educational video programmes. RGES records and telecasts programmes by unlinking to the satellite ‘EduSat’.

4.4 Hardware

A typical RoT has the following hardware: dish antenna, solar panel, battery, set-top box, inverter and a colour television.

Out of about 1100 RoTs in total, 695 RoTs are installed in Siddhi district of Madhya Pradesh.

4.5 Administrative/Financial support

Introduction of ICT requires fertile conditions through a limited way in terms of logistics, human resources. The required facilities are available at the base studio set up in Jabalpur. There we encountered a group of personnel manning the technical and operational aspects of the system. They suggested ways for improving the functioning of the studio and the network by arranging frequent training programmes, providing robust administrative and financial support and developing an efficient feedback mechanism. The group is motivated.

4.6 Programme and schedule

Teaching programmes meant for students of Class I to Class VIII are recorded in the DVD format at the RGES, Jabalpur. The content of the programme is selected on the basis of the curriculum prescribed in the participating states. The tele-lessons are generally based on the common hard-spots of the syllabi being followed.

The teaching medium is Hindi. Each programme is a slot of 40 minutes’ duration. The programmes are recorded and telecast on weekdays (Monday to Friday), three programmes (1030-1110, 1110-1150 and 1150-1230) in the morning and the same repeated in the afternoon beginning at 2 pm.
Programme for teachers are telecast on Saturdays from 1.30 to 2.00 pm. Training and orientation programmes meant for teachers are held from April to June during summer vacations. Besides these, special studio trainings are provided to select teachers for the production of video programmes.

The telecast schedules are prepared 15 days before the beginning of each month. These are sent by post to the District Project Coordinators who distribute them to the schools. The schedule is displayed on Saturday for the forthcoming week. The very next day’s schedule is also displayed at the end of every programme to make the viewers aware about the next day’s programme.

5. SWOT ANALYSIS OF RGPEEE FOR TESTING ITS SUITABILITY TO IMPART EDUCATION AND TRAINING MODULES AT SCHOOL LEVEL

Does teaching at school level require strengthening? Does learning methods require changes to meet existing and new challenges? The process warrants a look at the curriculum drafting, monitoring progress of students and teachers, understanding their problems and programme evaluation at various stages. We performed SWOT analysis to check the strengths, weaknesses, opportunities of and threats to RGPEEE. A number of schools were randomly selected and visited. Separate questionnaires meant for students, their guardians and teachers were distributed and feedback received. The questionnaire formats are given in the Appendix-I, II & III. We collected responses from the students, teachers and guardians by way of face-to-face interaction with this. These were consolidated and subsequently the items of SWOT Analysis emerged which are mentioned hereinafter.

5.1 Strength of RGPEEE

- The Rajiv Gandhi EduSat Studio at Jabalpur is well maintained with the required facilities for uninterrupted transmission of programmes.
- Initially, the insurance companies were not coming forward for providing insurance coverage to the RoTs. There is a change and initiations are on for extending insurance coverage for RoTs against theft/damage of Dish/Solar panels/equipment etc in some cases.
- Teachers are enthusiastic about the project. The tele-teacher is the representative of a modern proactive teacher.
- Weakness of traditional system – like teachers’ engagement in other work like election, enumeration, immunisation awareness programmes, etc. and inadequate number of teachers in rural schools has to some extent got overcome by the tele-teacher and tele-lessons of RGPEEE.
- The students and teachers are very happy and satisfied with the contents of the tele-lessons. The tele-lessons have enhanced the strengths of the students thriving towards acquiring more knowledge. Teaching-learning transactions tend to get easier, certain study aids which otherwise can’t be brought into classrooms can now be shown.
- One of the unique features is that the RGPEEE is inviting resource teachers for presenting the tele-lessons from among teachers who are directly associated with the classroom teaching activities at school level.
- Quality lessons motivate the students to attend schools and thereby help in retention.
- The Project is cost effective and has the potential for substantial revenue generation.
- It promotes experiential learning.
- It provides exposure to the young learners about the wonders that can be done by way of tele-teaching.
- Last but not the least; the satellite is not selective about the location of the receiving dish antenna. Wherever a dish is installed, the signals will automatically be downlinked. There will be no interference of the bandwidth as it often happens with the net based teaching in remote areas.

5.2 Weaknesses of RGPEEE

- There is shortage of manpower to run the infrastructure. Most of the teachers could not be trained to handle the equipments at the schools. As of now, no monetary compensation is provided to the teacher who has been entrusted with this task. Lack of funds and technical support in terms of maintenance, etc. are also among the weaknesses. Almost all the trained staff left the project because they were engaged on temporary/contractual/deputation basis.
- On one end teacher absenteeism and on the other the overburdened teachers.
- Some of the tele-lessons require professional editing. We noticed in one of the programmes [Yes, it is; No, it is not (isn’t)], a girl introducing herself saying her name, gender etc. The photograph shown was that of a girl wearing a fancy dress of an angel. It could have been of a girl in her school uniform or a girl in
a home dress and photographed in a familiar rural surrounding so as to create greater impact on the young viewers.

- Many cited examples in tele-lessons are supported with still photographs which could have been moving videos to make them livelier.
- Some of the tele-lessons recorded two to three years back are still being used. There are no scopes to contact the subject expert during/after session.
- Two-way interaction is not there for seeking clarification. To some extent this could be provided by the teacher present in the classroom.
- Schools are not supported with telephones, either landline/mobile to contact the studio during live programme delivery. The occasional calls received at the studio tell about the malfunctioning of a RoT due to various reasons like satellite link failures, theft of solar panels, equipment, TV sets, etc. However, the maintenance team details, help desk, toll free number are being transmitted on regular basis through tele-lessons. But without the telephone, these services remain on paper only.
- The tele-lessons under the project are meant for elementary schools. Since the Indira Gandhi National Open University (IGNOU), one of the implementing agencies of RGPEEE which is solely dealing with higher education does not show keen interest in this school education project.
- The payment to the resource persons for recording a tele-lesson was earlier INR 100/-, now enhanced to INR 250/- + conveyance charges of INR 100/- which is a pitiable amount, an unimpressive remuneration to draw best talents.
- No concrete feedback mechanism has been developed about the programme, system installed at the end-points, though feedback forms have been designed and distributed among the students, teachers and parents. In the implementation guidelines, mechanism to collect the feedback is provided. However, the overloaded teachers at school are not able to undertake the task on regular basis. It is understood that a majority of schools are functioning with just 2-3 teachers.
- Financial constraints pose a weakness to the project. The Project does not provide any contingency fund to the RoT installed schools to buy a new LNB which costs locally around INR 200/- or to go for a minor repair locally if the system fails to work. Getting approvals and getting the work done to make the system functional are uphill tasks. The schools have no provision to meet such petty expenditure from the school’s fund. As such in some cases the systems lie unused for months together.
- The general public is not involved in the project. Most of them are unaware of such a project being in operation in their locality. And some of those who know something about it do not know what it brings about, what its benefits are to the students, teachers and society at large.
- The local administration and media are very lethargic and apathetic about RGPEEE. They do not discuss either the issue of the efficacy of the project or the non-functioning of an RoT. They do not even report the theft of the solar panel or television set to the local police station.

5.3 Opportunities for RGPEEE

- System maintenance opportunities available locally can be made use of
- Providing incentives to personnel involved in handling the RoT equipment brings both, accountability as well as increases the level of satisfaction.
- During the process of preparation of a training module meant for the teachers, at least one teacher as a master trainer from each RoT Centre gets trained and that enhances his knowledge about the whole system, which includes aims and objectives, funding agencies, the studio, transmission mode, content generation, script writing, presentation, the problems and solutions thereof, etc. So the teachers are enriched with basic technical knowledge about the system.
- The teachers and resource persons get exposure to the new media.
- Effective utilisation of SIT network available at the RGPEEE, Jabalpur for effective monitoring and training purposes.

5.4 Threats to RGPEEE

- Theft of the equipment and its security.
- Malfunctioning hardware – there is zero maintenance since September, 2008. In most cases back up batteries have dried up.
- There is the possible threat in the near future that the remaining functional systems may also cease to be in operation unless remedial measures are taken.
- Possibility of unhealthy competition from private entrepreneurs and privately funded educational institutions in terms of tele-teaching process.
- The few functional ones may go dead, may be within some months or so, due to theft or due to technical failure, whatsoever which will
ultimately have a negative bearing on the minds of young learners in their future endeavours with technology assisted learning.

- The maintenance of the system is undertaken by BEL, under the supervision of ISRO. At present the task is outsourced to the private firm “Help Desk” who sometimes does not give maintenance support and service of the equipment.
- The students are psychologically down due to non-functioning of the system. This was evident while having open discussions at the schools where the system was not functioning.
- In some cases police stations expressed their unwillingness to take reports on theft complaints. In some cases, first information reports are taken by police after 2-4 months after the incident has occurred. Not a single case has been brought to the court so far.
- The RoTs are insured but so far very few claims have been settled by the insurance company.
- May be due to inefficient functioning of the police force, the mechanism to book a thief who stole the equipment is ineffective. Had it been there it would have prevented future thefts.
- Natural threats like storm, falling trees on the dish antenna and solar panels.
- Children playing cricket – falling of cricket balls on the equipment.
- Children throwing stones at mango trees, etc. some of which fall on the solar panel and dish.
- Providing 24 hour security service to the equipment on rooftops is near impossible task due to lack of adequate funds.

Now that we have made the SWOT Analysis, let us go over to the good practices, which emerged out of the Project.

6. GOOD PRACTICES

6.1 The schools in Jabalpur where RoTs are installed share the schedules with other nearby schools. The students come from the nearby schools with their respective teachers to view the television programme in a RoT-available school. This sharing of resources is certainly one of the good practices that we have noticed. This also brings in the community feeling among students and teachers.

6.2 The teachers of the schools where the project is launched are mostly locals residing in the neighbouring areas who are very familiar to the local habits and customs. Their style of narrating stories and bringing in examples from familiar environments in classrooms are good practices.

6.3 Information retention is powerful through visual communication. Yes, a picture is worth more than thousand words. We found that the tele-teachers were keenly followed by young learners. Some of them were so eagerly engrossed in the programme that in many classrooms the learners did not notice or pay attention to our entry into their classroom in the midst of tele-teaching session. Even though there was general silence in the large rooms where a hundred or more children were assembled, we could also observe their actions and gesticulations and discussions being built up among them based upon the programme. Team learning undoubtedly strives to increase student engagement.

6.4 The forenoon tele-lessons are being repeated in the afternoon where the schools function in two shifts. Therefore, the students and teachers who have missed the lessons or want to watch them another time are benefited.

6.5 Some schools run in two shifts. The programmes of RGPEEE are telecast from 1030 to 1230 (three slots) and being repeated from 1400 to 1600 whereas the timings of the shifts in the school are 0715 to 1145 (Class-I to V) and 1145 to 1715 (Class-VI to X). In such case, the third slot is not being watched by the students in the first shift. The good practice being observed in such a case is that the learners who missed the third slot (1150-1230) are allowed to watch the same programme in the second shift.

6.6 Due to lack of sufficient number of television sets students of different classes (I to V) were kept together in a large classroom to view the tele-lessons. It means children of varying age group are settled together as a single group in one classroom. In a way, it promotes trans-discussions. In other words the discussions transcend the barrier of classes, i.e. levels. To good number of students of the lower class, the lessons pose challenging moments when the lesson is that of a higher class. It leads to sharpening their intelligence, honing their skills and improving their cognitive ability and identifying the more intelligent ones. Quite often a senior student emerges who helps in guiding his/her juniors. Trans-learning builds confidence among the children. If one such student is found, he can be chosen for incentives/scholarships for higher studies, etc.
6.7 A Toll Free Number is available at the Studio to facilitate feedback. This is a good practice.

7. **SUGGESTIONS**

7.1 Most of the schools have space constraints in the television viewing room. By increasing the number of television sets and installing those in different classrooms under single RoT equipment *(dish antenna, solar panels, battery, set-top box)* can solve the problem with reasonable expenditure.

7.2 A telephone facility can be provided at the RoT installed schools tying up with the state government so that interaction would be possible at the user end with the Toll Free number at the main studio for seeking any clarification or sorting out the problems that come either way.

7.3 Public involvement is required for the success of the project. The tele-lessons are pictorial based and so the parents or public who want to watch the programmes may be permitted or invited to see them in the afternoon session. In this case the schedules can be put in a public place like Panchayats or prominent walls of the schools/health centres, etc. There is scope for extension of transmission time, as well.

7.4 Teachers are to be exempted from the possible non-teaching activities undertaken by them in schools other than activities related to the project. If not all, at least some of the teachers should be trained to man the equipment. Otherwise, an operator-cum-technical assistant from local area can be engaged. The teachers trained for operating the system at school, tend to draw the best out of the tele-lessons. The teachers identified for acting as resource persons and who are involved in content development may be provided with a certificate on completion of the training. They must be made to feel that it benefits them which ultimately enhance the quality of teaching-learning process. Adequate monetary incentives may also be provided.

7.5 The efficacy of learning through electronic media and RoT’s role in the development of the students and in turn society are to be widely publicised through hoardings, bulletin boards, public advertisements and most conspicuously through electronic media. This will definitely increase awareness among the public at large. Some provisions may be made so that teachers and students from far flung areas can visit the transmission studio at Jabalpur to get first hand knowledge about the system and its functioning.

7.6 Towards security of the system *(dish, solar panel, LNB and sometimes TV, set-top box and battery)* local participation is very much essential. To a great extent adequate insurance coverage can ensure healthy functioning of the system. Finally, we would suggest the RGPEEE be brought under the umbrella of a nodal agency dealing with school education, like the National Council of Educational Research and Training (NCERT), Central Board of Secondary Education (CBSE), the Primary Education Department of the state, etc.

8. **CONCLUSION**

In India, use of Electronic Media technologies in classroom has a short history *(Chaudhary et al 2011)*. Nevertheless, during this short period the progress has been steady. Higher education has been the greatest beneficiary of Information and Communication Technology *(ICT)*. The study conducted by us reminds us that RGPEEE is a very innovative school education programme launched in one of the most inaccessible geographical regions of a relatively less developed state of India. The RGPEEE programme has employed one of the many tools of ICT available through world’s first exclusive education satellite, the ‘EduSat’. When internet connectivity is yet to make deep inroads into the villages of India and when the country ranks very low among developing nations in broad band connectivity and speed, initiatives like the RGPEEE gains strength and significance. Results of SWOT analysis have thrown some rays of confidence giving insight into the project and the Good Practices emerged out of RGPEEE for further studies of interest.

**REFERENCES**


