Prelude

The Higher education project for students with visual impairment is currently implemented by the International Council for Education of People with Visual Impairment (ICEVI) with the support of the Nippon Foundation in Indonesia, The Philippines and Vietnam. The project is assisting visually impaired students pursue higher education by using technology for their studies.

The detailed objectives of the project are as follows:

- Making access to higher education a less formidable experience for visually impaired students
- Reducing stress and improving satisfaction and performance of visually impaired students in their studies
- Providing valuable data on different approaches of implementation as it relates to factors such as flexibility, accessibility, and student satisfaction levels
- Increasing awareness on the part of government officials responsible for institutions of higher education and the general public

In 2006, the project was launched in Indonesia in partnership with the Indonesian Union of the Blind (PERTUNI) and initially it was commenced at the following three centres.

1. **The University of Jakarta** – Students with visual impairment are enrolled in this university and studying in various parts of Jakarta.
2. **Senayan@Library, Jakarta** – This library under the Ministry of Education is a classic example for how a public library can be made accessible for students with visual impairment. Besides studying technological applications in studies at this library, students come here to access text materials using the cataloging system of the library, which is accessible.

3. **Indonesian University of Education, Bandung** – This centre is located in Bandung and many students are accessing the facilities. The University building is undergoing a major renovation at present and therefore, the equipments of the Resource Centre have been moved to the Mitra Netra centre in Bandung temporarily.

All programme sites, working as a part of the higher education projects, have Resource Centres established for the purpose of providing training in technology to students with visual impairment and the Nippon Foundation provided a generous grant to ICEVI to establish these centres. The centres are equipped with computers, scanners, printers and low vision devices in order to increase educational access to these students.

Mitra Netra, a voluntary organisation of persons with visual impaired functioning in Jakarta provides the needed technical support to all the Resource Centres in Indonesia for implementing the higher education project effectively. The evaluation of the first phase of the programme revealed very encouraging results and therefore, the Nippon Foundation came forward to extend the project in the following two additional regions in Indonesia since late 2007.

1. **Makasar** – The programme is implemented through YAPTI, a non-governmental organisation providing support services and education to students with visual impairment in Makasar. 10 students are enrolled in higher education in this region.

2. **Surabaya** – The resource centre is located at the Special Education Department of the State University in Surabaya. 12 students with visual impairment are using this centre.
In addition to implementing the programme in these five locations in Indonesia, the project was extended to three locations in Vietnam and one location in The Philippines since 2007. The project sites in Vietnam are

1. **The Vietnam Blind Association, Hanoi** – The resource centre established at this centre provides support to visually impaired students enrolled in higher education institutes in the vicinity of Hanoi. Though students have to travel to some extent to reach the resource centre, it is becoming popular as it opens access to them to the world of learning.

2. **The University of Pedagogy, Ho Chi Minh City** – A resource centre has been established at this university and it is noted that the special education students studying at this university are also using the resource centres to understand how students with visual impairment use technology for their learning purposes. Therefore, this centre serves as a resource for teacher preparation as well for student learning purposes.

3. **The University of Humanities, Ho Chi Minh City** – As the students are studying in far of locations in this region, the Resource Centre at the moment is underutilized. It will be moved to a new location soon.

The Soa Mai Centre, which is a prospective non-governmental organisation consisting of persons with disabilities and also specializing in technology is providing the required technical services to the resource centres in both Hanoi and Ho Chi Minh City. As the Vietnam Blind Association has branches all over the country, the location of the Resource Centre at its headquarters in Hanoi is creating a positive awareness about the higher education for students with visual impairment.

In the Philippines the project is being implemented through

1. **The Resources for the Blind (RBI)**, which is one of the leading non-governmental organisations working in the area of education and rehabilitation services for persons with visual impairment. The RBI works closely with the Government, Universities and other institutes for persons with visual impairment and therefore, its strong network at all levels is an added value to the higher education programme. The services of the Resource Centre established with the support of the Nippon Foundation are used to the optimum extent and the centre has adequate devices.

**Service Delivery Models**

The Higher education program adopts two major models of implementation – one with the University / Higher education institute becoming a focal point for providing
technology services and the other being a lead NGO providing support services to students enrolled for higher education in the vicinity. The visual descriptions of the models are as follows:

In the **University model**, the programme comes under the overall supervision of the Department of special education which assigns a coordinator to look after the activities. The peer group involvement is one of the key strengths of this programme. Though the resource centre is primarily meant for the students of that university, students enrolled in neighbourhood institutions of higher education also make use of the services. The coordinator in consultation with the students fixes the time slots for these students. It is observed that in some centres, the technology centre is used by sighted students too to some extent whenever the students with visual impairment do not use.

**NGO Model**: In the NGO model, the major services are provided at the Technology Centre created at a place away from the University. The NGO helps students with visual impairment enroll in the higher education institutions in the region. Here the community participation is important. The NGO tries to use the community resources to a largest extent to provide services for the students enrolled in the higher education programmes. There is a coordinator in this model directly working under the supervision of the NGO for assessing the day-to-day activities.
of the program. In both models, students share laptops for taking class notes and also to write assignments and examinations.

**Built-in Evaluation Process in the Project**

Since the inception of the programme, the evaluation component of the project was carried out by officials from ICEVI, Pertuni and the Nippon Foundation. The achievements of the project were measured against the objectives and the methodology of evaluation included visits to the project sites, interviews with administrators, focus group discussions with students, assessment of the use of the Resource centres, etc., to find out the impact the higher education project had made in their life in general and higher education studies in particular.

The responses were encouraging and it is gratifying to note that the project has created a positive attitude in the society that visually impaired students can perform learning tasks on par with that of sighted students with the help of technology. The specific observations made during the evaluation visits are as follows:

**The general outcomes of the evaluation are as follows:**

1. The technology has made a big breakthrough in the education of students with visual impairment.

2. The project in general has created awareness among the community about the capabilities of persons with visual impairment.

3. The knowledge in using technology has certainly helped the students to finish assignments in time.

4. The impact of the project is evident from the fact that enrolment of students to higher education has started increasing.

5. The project has reduced stress among the students about examinations as they were able to use computers for writing and also get question papers in Braille.
6. Parents' involvement is evident in the programme.

7. The project has enabled students to improve their academic performance on par with that of their sighted counterparts.

8. The project has demonstrated how two models of service delivery – one through a government supported university and the other through a non-governmental organisation could provide services to an expected level of satisfaction.

9. The use of technology for their independent study has motivated at least 10% of the beneficiaries of the project to buy their own laptops for further studies.

10. The beneficiaries of the project feel that the skills developed by them through the project are helpful for them to secure employment.

11. The implementers of the programme at the Universities find a value in the project as it is unique and brings credentials to the University.

Areas that need to be addressed
It is clear from the evaluation visits that the higher education projects in Indonesia, the Philippines and Vietnam have made significant impact on the overall self-esteem of students with visual impairment and in their skills too. However there are some issues still to be addressed if the students have to derive maximum benefit out of the project. They are enumerated as follows:

Affordability and Accessibility:
The existing resource centres in the country are unique of their kinds and visually impaired students throng these centres to equip their knowledge in technology. However, the students are not able to derive benefit from the knowledge acquired when they leave the higher education settings. As most students are not able to afford individual computers / laptops, the opportunity to use the acquired knowledge is restricted. Low cost devices may assist them but funding is necessary for them to buy devices. In addition to affordability, accessibility also seems to be an issue. The students from far off places too use the resource centres in the countries and sometimes, travel takes too long and as a result, the time available for learning technology is restricted. For example, students who use the Resource Centre at the Vietnam Blind Association in Hanoi have to travel long distance to use the services. Though it is ideal to establish many resource centres which provide maximum proximity to students with visual impairment, it is not possible at the moment due to higher costs involved for the purchase of the equipment and building infrastructure.
The accessibility factor may be brought to the attention of Governments and other funding agencies in order to motivate the interested organisations set-up such resource centres. In summary, students with visual impairment want more resource centres in locations where they need to travel less, but the cost factor is obscuring this affordability and accessibility.

**Need to change the Unwelcome Environment**

The inclusion of students with visual impairment is a two-way process – first the environment should be a welcome one and secondly the person with visual impairment should have the readiness to get involved in the mainstream society. When students with visual impairment enter the higher education institutions, sighted students tend to assist them, but later when they realise that these students have access to technology, which the sighted students do not have, a sense of hostility develops. This alienates some sighted students from visually impaired students. Similarly teachers too are sometimes not very sensitive to the learning needs of students with visual impairment in the mainstream programmes and this mental barrier results in an unwelcome environment for the student’s learning process. In addition to the mental barrier, which is of the major concern, there are concerns relating to the mobility of visually impaired students. In some cases, it is reported that necessary tactile materials are not available at the places of study and this hampers the mobility skills of them. However, it is observed that visually impaired students try to move independently in the institutions with the general orientation that they get from sighted students. There needs to be a thorough orientation given to sighted students and administrators that technology in the case of visually impaired students is not a luxury and it is a necessity for them to become independent.

**Lack of braille materials and technical know-how on vital areas:**

The materials presented in the institutions are the ones used for sighted children and they need to be made available in braille. Not all materials are available in braille which makes learning difficult to some extent. Availability of braille printing facilities at the country level or at the local level would be ideal. It is learnt that there is no dearth of braille printers in Indonesia but making one or two printers exclusively available for higher education institutions, especially for the resource centre seems to be difficult. Therefore, the Universities and the local NGOs should be asked to take up the issue with authorities concerned at the Government to make vital braille materials available for visually impaired students in the higher education programmes.

In addition, lack of knowledge of the subject teachers about the adaptation of visual ideas into non-visual experiences in subjects such as mathematics and science is also a matter of concern. In a mainstream university, the students are expected to
learn these subjects, which are abstract in nature. Therefore, building the capacity of these teachers to teach abstract concepts is one of the pressing issues.

**Conclusion**
The higher education project has resulted in many constructive things. By observing students of higher education doing well using technology, school children are also motivated to study well. The confidence of the general public towards students with visual impairment is also becoming positive.

ICEVI looks forward to continuous support from the Nippon Foundation for expanding higher education programmes in other regions and specifically for establishing accessible resource centres so that most visually impaired students can get the benefit of technology. The project may also consider providing more laptops to each resource centre so that visually impaired students need not wait for a long time to do assignments and also to access information. Besides facilitating establishment of required resource centres and making available more laptops, the project needs to take initiative to organise a number of capacity building programmes for teachers and fellow students to create a welcoming environment for the effective inclusion of students with visual impairment.

The higher education can be considered as a continuum of ICEVI’s Global Campaign on Education For All Children with Visual Impairment (EFA-VI) and therefore, ICEVI sincerely extends thanks to the Nippon Foundation for supporting the project in Indonesia, The Philippines, and Vietnam.