

Xavier's Resource Centre for the Visually Challenged (XRCVC)



Annual Report

May 2014 – May 2015

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The XRCVC's Report for 2014-15 (May to May)

That economic and social well-being is distributed unequally within and among the disabled and their able counterparts is indisputable. Celebrating diversity by encouraging inclusion is a guaranteed way to right this anomaly. A truly inclusive society is one that embraces and systematically respects the rights and dignity of all, in which every citizen has an opportunity to fulfill his or her aspirations.

The Xavier's Resource Centre for the Visually Challenged (XRCVC), (www.xrcvc.org), is a resource and advocacy centre for visually challenged persons. As an enabling unit on campus at St Xavier's College (Autonomous), Mumbai, we endeavour to transform lives both at the micro and macro levels. Along with providing direct and indirect support to visually impaired persons at the micro level, we also work closely with government agencies, corporates, researchers and educational institutions on advocacy and sensitisation initiatives at the macro level.

The XRCVC's credo is, 'Breaking Barriers, Achieving Access'. Visual impairment, after all, is a physical condition which can be overcome, rather than go on to become a disability.

With the unstinted support of the staff and students of St Xavier's College and a small but committed team of 10 professionals, we work to empower visually impaired persons all over the country.

As we enter the academic year 2015-2016, we are poised to open an additional centre in Thane — the XRCVC-Viviana Extension — at Viviana Mall, one of India's largest malls. We are confident that this facility will help us reach out to more people and increase the scope and width of our offering.

But first, let's dwell on the period May 2014 – May 2015, which was eventful and rewarding in many ways.

Our membership base expanded from 352 to 509 during the year. We were also able to touch—and hopefully transform—thousands of lives across the country through our advocacy work, particularly in the areas of education access, financial access, print access and independent living (see section sub-titled 'Advocacy').



We revamped our website (www.xrcvc.org) during the year and also established a robust presence on the social media with a Facebook page (XRCVC—Xavier’s Resource Centre for the Visually Challenged) and Twitter handle (@XRCVC) in order to disseminate information about our activities to members and other stakeholders. Helming this initiative in a voluntary capacity is Shriram Parthasarathy, a social media professional.

The XRCVC had the pleasure of welcoming on board Mimansa Vahia, who joined as Consultant (Maths and Science Accessibility Project) in March 2015, and Shizanne D’Mello, who joined as Technical Assistant in December 2014. We’d also like to extend our deep appreciation to Jamuna Vadicherla and Archana Vadicherla, who left the XRCVC during the year.

Like in the previous academic year, our activities through the year were channelised through our restructured triad of work:

- Direct Support Services
- Advocacy
- Awareness

Given below is a summary of our activities in 2014-15 under each head.

Direct Support Services

Technologies

- The XRCVC is arguably the leading state-of-the-art assistive technology centre in the country for the visually impaired. Like every year, we procured a wide range of new technologies in 2014-15. Some of these include Sonic Labellers, PlexTalk portable MP3 players, computer desktops, printers, an induction cooktop, Bonita magnifier, Dream 3.5 inch hand held video magnifier, a 32-inch Panasonic Television, ONYX swing arm near and distance video magnifier with MAGic screen magnification software, i ball UPS and Snow 7HD Magnifier. Also, softwares like Photoshop, Tally, NVDA, SMA and updates of Kurzweil, MAGic and JAWS, Talking Typing Tutor, Hindi and Marathi OCR software, Corel Draw, DBT, etc.



Training

Our comprehensive and revamped training schedule ensured that our Special Educators had their hands full throughout the year, equipping members with a wide range of training workshops covering Computers & other Assistive Technology, English, Orientation & Mobility, and Science & Maths education. The indirect trainings during the year included customised sessions by the XRCVC team including Calveena D’Sylva, Rebecca Carvalho and Mimansa Vahia. These were held at schools as well as at the Centre.

Through the year, the XRCVC’s training services reached out to 531 persons (see Table 1).

Table 1: Training Services May 2014 – May 2015

Direct Training	No of beneficiaries	Indirect (Stakeholder) Training	No of beneficiaries
Computer & Assistive Technology (AT)	97	Computer & AT	12
English	13	Employment	23
Orientation and Mobility (O&M)	327	Education	44
Education Including Mathematics & Science Support	15		
Total	452	Total	79



A trainer helps a student explore a tactile structure of the Orion cluster at the first Astronomy session conducted at the XRCVC



Volunteers

We had over 100 volunteers who worked with us through the year, majority of whom were sourced from the Social Involvement Programme (SIP) of St Xavier's College (Autonomous). These volunteers helped our members in various ways — from creating accessible print and audio content, to reading study material, helping with individual and group teaching assignments, creating teaching-learning aids (TLAs), and as writers for exams.

Scholarships

- The XRCVC continued its scholarship programmes, benefitting blind and low-vision students studying across various streams of education. The XRCVC-Tech Mahindra Foundation Scholarships for 2014-15 were awarded to nine visually impaired students. Two are pursuing MBAs, and the others, degrees in arts, law, computer science, and education.
- The Lions Club of East Bombay Scholarship for the year was awarded to our member Indirani Sankari, for being the most deserving visually impaired student graduating from St Xavier's College, Mumbai.



Indirani Sankari was awarded the Lions Club of East Bombay Scholarship for 2014-15



- During the year, two of our members, Kaustubh Tapal and Deepak Jaiswal, attended a Leadership Training Programme for Young Leaders with Disabilities organised by National Centre for Promotion of Employment for Disabled People (NCPEDP) in Delhi. The objective of this programme was to reach out to young people with disabilities and expose them to the social sector movement in India. It also aimed to identify young people with disabilities from across the country and across disabilities and give them a platform to get exposure to advocacy and policy work at the national level.



Film actor and St Xavier's alumna Vidya Balan distributing assistive devices to visually impaired persons under the Government of India's ADIP scheme

Distribution of devices

- In August 2014, the XRCVC aided the distribution and helped spread awareness of two innovative and affordable assistive aids for visually impaired persons (SmartCane™ and PlexTalk Vachak) under the Government of India's Assistance to Disabled Persons (ADIP) scheme. At a mega function, over 100 of these devices were distributed by film actor Vidya Balan, an alumna of St Xavier's College, who said, "Any opportunity to go to St Xavier's is welcome and then to be going back for a special event organised by the XRCVC to distribute affordable assistive devices to the visually challenged is humbling. Prof. Sam has been a huge influence and inspiration in my life and the XRCVC is a testimony of his conviction and relentless efforts. I look forward to going down memory lane as much as I do to being part of this afternoon that will leave an indelible mark on



the lives of those who receive these devices.” Under the ADIP Scheme, which was established by the Department of Disability Affairs under the Union Ministry of Social Justice and Empowerment in 1981, low-income people with disabilities can avail of aids, devices and some basic surgical procedures either free of cost or at subsidised rates. The distribution was conducted in association with Saksham Trust, Delhi and IIT Delhi in conjunction with the National Institute for the Visually Handicapped (NIVH), Dehradun.

- Besides, laptops were distributed to visually challenged students under the XRCVC - Rotary Club of Bombay Hanging Garden Laptop Loan Scheme during the year. The laptops were sponsored by Rotary Club as part of their programme titled Project Xcessworld - District Grant No 1516291, A Project to Empower the Visually Challenged.
- The XRCVC also distributed Nexus Tablets to visually challenged persons to promote the reading habit.



Mr Suresh Bazaj, a well-wisher, distributing a Nexus Tablet to a student at XRCVC



Sports and Recreation

Our members participated in football tournaments conducted in Delhi, Baroda and Mumbai during the year where they acquitted themselves creditably. They also participated in chess and cricket tournaments across Mumbai.



Visually impaired students of St Xavier's College in action at a cricket match with their counterparts from Wilson College

Advocacy

Project Access will continue its work in the fields of print, educational and financial access alongwith the space of independent living.

Financial Access

- Based on a representation made by the XRCVC and inputs from other like-minded organisations, the Reserve Bank of India (RBI) issued a notification on May 21, 2014 making it mandatory for all ATMs to be 'talking machines' from July 2014. While this is a positive development, it has been observed that many banks have passed off limited default speech (for example "Welcome / Thank you", etc.) as meeting the talking criteria. Therefore, the XRCVC requested RBI to issue a clarification which clearly states that 'talking' ATMs should mean fully accessible ATMs as per Indian Banks' Association (IBA) guidelines. We are hopeful that the clarification will be issued soon.
- The Centre is also working with senior officials from banks like Citibank, HDFC Bank and State Bank of India to help them build inclusion into their offerings.



- XRCVC members are also part of the Indian Banks' Association (IBA) Working Group on Banking facilities for Persons with Special Needs.
- Work also began with the National Payments Corporation of India (NPCI) over an ATM Literacy Programme for the Visually Challenged
- Dr Taraporevala was a panellist at the National Consultation on full and equal rights to financial services for people with special needs. The session was organised as part of the 36th Skoch Summit Reigniting Inclusive growth at New Delhi.
- Dr Taraporevala gave a special address on "Making Microfinance More Disability Friendly and Inclusive" at the Inclusive Finance India Summit 2014 at The Center for Financial Inclusion, Accion, in Delhi.

Education Access

- Dr Taraporevala was inducted into a Sub Group constituted by the Ministry of Culture, Govt of India to identify the needs of the visually impaired in the component scheme of the National Mission on Libraries India. The mission, a Rs 1000 crore initiative of the Ministry of Culture under Government of India, works to modernise and digitally link nearly 9,000 libraries across India to provide readers access to books and information.
- XRCVC through this year accomplished pioneering work in the area of mathematics and science education. Students were provided direct support services. XRCVC created accessible electronic textbooks, teaching learning aids (TLA), and provided conceptual training to these students. In addition XRCVC has started creating a TLA resource library for mathematics and science education, starting Std 1 onwards.
- Dr Taraporevala was also inducted as a member of the NCERT's working group entrusted with the task of creating an accessible map book in Braille.
- During the year, the XRCVC continued its collaboration with the Maharashtra University of Health Sciences (MUHS), Nashik, to develop additional appropriate examination circulars for visually challenged students studying Physiotherapy.



- Natasha Shah, a former student of St Xavier's College and a member of XRCVC, secured admission in IIM Indore for an MBA programme.
- Jaya Ramchandani, an amateur astronomer, conducted a workshop on astronomy for our members.
- The XRCVC also coordinated with schools in the neighbourhood of St Xavier's College to provide over 200 writers for disabled students for their various examination requirements.
- The XRCVC is also working closely with the National College Tiruchirapalli to help them establish an accessibility centre in the college.
- Dr Taraporevala and Sandeep Singh of St Stephen's College followed up with the University Grants Commission (UGC) and provided feedback to officials on the Government of India's HEPSN scheme.
- A team of nine members from St Stephen's College, Delhi (7 students and 2 teachers), visited the XRCVC in October as part of a student research project funded by the University of Delhi. The project, christened DigitVaran, aims to develop digital resources and software to help visually challenged students of an undergraduate college environment get the best out of the available curricular and extra-curricular opportunities. The project involved a survey of visually challenged students to identify shortfalls in curricular resources, soft skills, and information. The other part of the project involves developing digital resources to overcome these. The team plans to develop an Android-based information gathering, filtering and dissemination system which will pass information about daily extra-curricular activities in the college to students on their mobile phones. The XRCVC organised three workshops for the team – Reading Without Seeing, web access, and one on Science & Maths.
- Dr Taraporevala participated in a meeting convened by the Government of Maharashtra in December to discuss how Technical Devices & Software could be disseminated to disabled persons.
- In April 2015, Special Educators, Calveena D'Sylva and Rebecca Carvalho conducted the ASER (Annual Status of Education Report) test at the XRCVC for Pratham organisation.



- Dr Taraporevala delivered an invited talk on ‘Leadership for the Development of the VI People’ at a National Seminar – ‘Leadership in Educational Institutions: Opportunities and Challenges-Guiding the way to 21st Century’ at the K J Somaiya Comprehensive College of Education, Training and Research at Somaiya Vidyavihar, Mumbai.
- Dr Taraporevala was invited for an international consultation on promoting quality education for children with disabilities through “universal design” of all learning materials jointly organized by UNICEF and Saksham in New Delhi.

Print Access

- As a result of the XRCVC and other like-minded organisations working closely with the Union government, the President of India signed India’s approval of the WIPO treaty on June 17 2015. Subsequently, India became the first country to ratify the document on June 30. Once 20 countries sign and ratify the document, cross-border sharing of published works in accessible formats can start. The signature of the treaty by a country is a public indication of its commitment to end the book famine for the print-disabled community by improving access to published works in accessible formats for the 260 million blind persons in the world as well as those affected with other print disabilities.
- The XRCVC was included as a member of the Committee to Promote the Implementation of Provisions on Print Disabled in the Copyright Amendment Act 2012 and Marrakesh Treaty. The committee has been constituted by the Ministry of Human-Resource Development, Govt of India.
- Dr Taraporevala was appointed Project Consultant by the Directorate of Art and Culture, Govt of Goa to facilitate the setting up of a state-of-the-art resource centre at the Goa Central Library at Panaji and satellite units at the district / taluka levels.
- The XRCVC is also working closely with the UK-based Royal National Institute of Blind People (RNIB) to develop a content-sharing system between the Daisy Forum of India and RNIB through the latter’s Overdrive platform.
- During this period, the XRCVC produced 50 DAISY books in full-text-full-audio format (comprising 12,702 pages with an audio run time of 545 hours, 48 minutes, 41 seconds). The XRCVC is preparing all its accessible DAISY titles to be ready for uploading onto a



national accessible online library which it is working to roll out on behalf of the Daisy Forum of India (DFI).

Independent Living

- During the year, the XRCVC worked closely with the BEST, IIT Delhi and Mumbai First to test OnBoard, globally a first-of-its-kind device developed by ASSISTECH Group, IIT Delhi that facilitates boarding of public buses by visually impaired persons. The device helps users to not only identify the route number but also to locate the door of the bus, thus addressing their needs comprehensively.

The device works on radio frequency and consists of a very affordable, small user module and a bus module with a speaker fitted next to the front door of the bus. The system has a very simple user interface.

Apart from BEST, both Xavier's Resource Centre for the Visually Challenged (XRCVC), Mumbai and Mumbai First played a key role, taking the initiative to organize the trials in Mumbai. The XRCVC not only organized the users including their training and feedback but also provided all logistical support to the team from IIT Delhi to conduct the trials. The XRCVC undertook this initiative as part of Project Access along with Sightsavers. Mumbai First helped in setting up meetings with key BEST officials to ensure a seamless coordination of the operation.

The device was first tested with a small number of users on cluster buses operated by DIMTS in Delhi. The Mumbai trials was the first instance when a full-scale real life unsupervised testing of the system had been undertaken. The trials were conducted for more than two months starting 31 Jan 2015 and concluding on 8 April 2015. During this period two phases of testing were undertaken. The first phase saw OnBoard units fixed on 16 buses on route numbers 121 and 134 which led to over 100 supervised boardings by visually impaired persons. The second full scale phase of the trials saw the units fixed on all of the 24 BEST buses covering route numbers 121 and 134 operated from BEST Backbay depot. Nearly 20 visually impaired users conducted nearly 350 unsupervised boardings during this phase, establishing the utility of the device in real settings. Trupti Vazirani, a banking professional from Kandivali said, "This device has added advantages. Conductors hear the device and come right to the front of the bus to make sure we have bought our tickets. The driver too waits for us to board the buses."



The pilot trials of the project were largely funded by Department of Science and Technology (DST) under their TIDE (Technology Interventions for the Disabled and Elderly) scheme. The balance funding was routed through Project Access – an XRCVC-Sightsavers Initiative. The project now aims at approaching both government as well as corporate houses for funding the next round of trials.

The report based on the analysis of the trial data is expected to be ready by July 2015. Besides, efforts are being made to improve the design by incorporating the feedback obtained during these trials. The next step is to scale up the trials with a larger number of buses as well as users.



The XRCVC helped conduct trials for OnBoard, globally a first-of-its-kind device that facilitates boarding of public buses by visually impaired persons.

- During the year, the XRCVC also actively initiated research and development on visual / auditory / tactile teaching-learning aids and other independent living aids. We worked on integrating diverse technologies which could create a composite system to read through fingers, see through eyes, or hear through ears. This led to the prototype of an audio / tactile / visual map of India and the actual deployment of an audio / tactile / visual menu for the first time at the Bombay Blue chain of restaurants and at other restaurants thereafter. The research has immense potential for the teaching-learning process as it can promote paired reading and can assist a non-Braille literate person to also function effectively.



The Bombay Blue menu is likely to feature in the forthcoming edition of the Limca Book of Records, as a menu card with such diverse accessibility features is being launched for the first time in India, and perhaps even the world. This is an attempt to provide comfort and independence to visually impaired and other print-disabled persons, and to ensure that they can order from the menu without any assistance. The menu card features food items with their description and prices in a large font and in Braille. Each item has a corresponding audio sticker with the same information that can be accessed by an audio labeller pen. The menu card was launched by Bollywood actors Neha Dhupia, Aditi Sharma and Divyendu Sharma in Mumbai. These accessible, inclusive Menu Cards were conceptualised and developed by the XRCVC and created at Chanakya Mudrak Pvt Ltd, New Delhi. Radio Mirchi contributed by adding audio to all the menus for Pan India Food Solutions unique venture. Inder Kumar Arora, Director, Chanakya Mudrak Ltd said, “As a technology driven Print house, we feel honoured to be associated with this project. Our little contribution in this direction is a small step towards making prints accessible to all.”



Film actor Neha Dhupia launching Bombay Blue's accessible menu which can be read either with the hands, eyes or ears

- On the occasion of World Braille Day on January 4, Viviana Mall, Thane unveiled a slew of accessibility initiatives in partnership with XRCVC including audio-tactile store names, floor plans and restaurant menus. The XRCVC also organised a Braille-based treasure hunt for visitors at the mall.
- The XRCVC is working closely with Innovation Hub Technologies, Bangalore to develop an audio-enabled navigation device for visually challenged persons.



- We are also working with B-Engage, a Mumbai-based event-management firm, to help make a major retail accessible for the visually impaired.
- During the year, the XRCVC tested Microsoft's Windows phones for accessibility features using a tester panel comprising both experienced testers and amateur users, and gave feedback by way of thorough test case scenarios as also overall impression-based thoughts.
- XRCVC also tested text-to-speech softwares like Manasi and the Flite App for Android, and the website of Tech Mahindra for accessibility.

Employability

- The XRCVC organised a focus group discussion during the year on Employment and Employability at St Xavier's College, for DIAN, a Hong Kong-based organisation which had earlier conducted a student survey that looked at the experience and perspectives of students with disabilities in India as they select an employer. The aim was to use this to provide insights to companies on how better to position themselves as an employer of choice for this target group.
- We also facilitated a discussion on employability in the banking sector for the Blind Graduates Forum of India (BGFI) on November 29. Over 30 persons participated in the discussion, which was held at St Xavier's College.
- Dr Taraporevala contributed to a research study titled Tapping A Pool of Disabled Talent in India: Focus on University Students at the Disability Forum: Break Barriers, Open Doors - Celebrating Good Practice in India, in Bangalore, hosted by Thomson Reuters, in celebration of International Day of Persons with Disabilities. The study, which was commissioned by Community Business, can be accessed at <http://www.communitybusiness.org/library/publications.htm>
- Dr Taraporevala was a panellist at a discussion on "Challenges faced & Changes to be Incorporated in Assistive Technology, Infrastructure, Law & Company Policies" at a national conference organised by Confederation of Indian Industry (CII) on 'Diversity - A business imperative & not a CSR initiative'.



- Our member Prathamesh Bendre completed a successful four-week internship with Mid-day from April 6 to May 5. Convinced of the need to introduce inclusion in the newsroom, the editor and management of Mid-day have requested the XRCVC to place more interns with the newspaper in future.



An episode of the TV serial 'Hunnarbaaz! Mission Skill India' being shot at the XRCVC

- An episode from the TV show 'Hunnarbaaz! Mission Skill India' which airs on DD National was filmed at XRCVC. It was a special series for the differently-abled where the Ministry of Disability Affairs showcased a wide range of career opportunities for the Visually Impaired.

Publications

The XRCVC brought out two major publications during the year.

- The first, titled 'I For Inclusion', was distributed to all participants at Antarchakshu™ at St Xavier's College in September. It is a handbook on mainstreaming education for students with blindness and low vision to help the educator better understand the various nuances of building an inclusive set-up within the educational framework.



The XRCVC's publication 'Equip Your World' being released in Dehradun by the Union Minister for Social Justice and Empowerment

- The second, 'Equip Your World – A synoptic view of access technologies for the visually challenged', a manual on access technologies for the visually challenged, was compiled and edited by Dr Sam Taraporevala and Calveena D'Sylva. It was released in November by the Minister of Social Justice and Empowerment, Govt. of India in Dehradun. It has been published jointly by the XRCVC and the NIVH (National Institute for the Visually Handicapped) and is available in three different formats (sighted large font print, Braille, and full-text-full-audio DAISY). This book is a widely researched compilation of over 300 diverse technologies which can help in the holistic development of blind and low-vision persons, and can ensure their effective participation as productive members of society. The book is a culmination of Reading Without Seeing, an outreach programme conducted by the XRCVC, at which users get an opportunity to have a hands-on experience of a wide range of assistive technologies.

The XRCVC also conceptualised and designed a 2015 calendar-cum-'Braille alphabet' tutor in the size of a bookmark which was printed at Chanakya Mudrak, Delhi. It has been printed using a special polymer deposit technology, which seamlessly blends Braille with sighted text in such a manner that it can be used by visually challenged persons as also the sighted. Similar approaches have been possible using screen printing methods. However, those need large volumes to make them financially viable. This unique approach of digital print enhancement is useful when volumes are relatively low. It can also very successfully incorporate 2D graphics.



Useful applications of this technology can be when illustrated storybooks in Braille can be created for children where paired reading using sighted text and Braille can be created on the same surface. The thicker paper ensures that the dots would not degrade as they are not the result of perforations but rather a polymer deposit.

Awareness

- The first edition of the event, at St Xavier's College in September 2014, was targeted at educationists. Over 1932 participants, including 993 educationists drawn from all over Mumbai, went through an eye-opening experience with their eyes shut. The central idea of this process was creating awareness about the lives of the visually challenged.

Antarchakshu 2014 primarily focussed on Inclusive Education, which aims at training and sensitising educationists towards the totally blind and low-vision people as students — and even as teachers. The participants were blindfolded and engaged in basic activities like playing with numbers, reading maps with their fingers, conducting experiments in a laboratory, and much more, the way the blind do. They even played a round of football and basketball with their blindfolds on!

Participants also had the opportunity to go through a detailed exhibition area, and were exposed to the various emerging technologies used to facilitate effective education access, including exhibits showcased by a team from Assistech, IIT Delhi. The experience included a short experiential trip to an inclusive classroom, which had one of our visually



An inclusive classroom was created during Antarchakshu™ at St Xavier's College to spread awareness about teaching-learning aids and methods for visually impaired persons



impaired members, as a student using accessible materials for the simulated class. This was designed to reinforce the message that visually challenged students can sit and participate shoulder-to-shoulder in the teaching-learning process with their sighted counterparts in classrooms, and go on to lead independent, successful and fulfilling lives. Mila Desai, a teacher trainee who participated in Antarchakshu™, was visibly moved by the experience. “The workshop just made me realise that we actually hinder the growth of visually impaired people with our so called kindness and compassion. It exhibited the fact that they are at par with us and maybe even more focused and better than us, as they do not take things for granted as sometimes we do,” she said.

As mentioned earlier, all participants were given a handbook on mainstreaming education for students with blindness and low vision, titled ‘I For Inclusion’, to help the educator better understand the various nuances of building an inclusive set-up within the educational framework. The handbook was written and produced by the XRCVC.

- The second edition of Antarchakshu™ was held in February 2015 at Viviana Mall, Thane, one of India’s largest malls. Over 1,750 persons participated, including mall staff and shoppers. The event was held for the first time in Mumbai at a public place and was designed to create awareness about, and reinforce the message of accessible systems for the visually challenged.

The participants enjoyed activities like eating, playing football in pitch darkness or shopping in a mall with a blindfold on. During the approximately 45-minute experience, student volunteers assisted each participant through various activities, exploring the world of the visually impaired. The participants were taken through the experience of walking around barriers, counting currency, etc. Shoppers were allotted scores at the successful completion of each activity. The activity area was also designed as a shopping zone, so that participants could empathise with the experiences of the blind while shopping. Writing about Antarchakshu™ in the *Times of India*, Freney Fernandes said, “A young boy was seen teaching a 37-year-old woman to play football at a mall in the city. Unusual sight, but all the more unusual fact was that the boy was visually challenged and the woman was blind-folded.”

The event took on interesting ideas related to accessible shopping and mall experiences, fulfilling Viviana’s endeavours in creating an accessible and enhanced shopping experience for all its customers, irrespective of their physical condition.



A blindfolded shopper selects a shirt at Antarchakshu™ conducted at Viviana Mall

After completing the shopping experience, the blindfolded participants were escorted by volunteers to the food café where they experienced what it meant to dine in the dark. Participants were given a fully accessible (audio-tactile) menu card from which they had the option of selecting their refreshments using their fingers (with Braille) or ears (using an audio input).

They were then ushered into the exhibition area, where a huge array of assistive devices including screen reading software, handheld magnifiers, a smart cane, accessible daily living devices, accessible board games and playing cards, and audio described movies, among others, were on display. They were also oriented on how Maths and Science can be made accessible to visually impaired students through Teaching-Learning Aids like 3D models of animals, Geoboards, a Cubarithm, etc.

Among the highlights in the exhibition area was a demonstration by Bhavesh Patel, an XRCVC-member and a blind photographer, on how he shot an advertisement with movie star Katrina Kaif for the well-known brand of soaps – Lux. Viviana also set up a kiosk for eye donation registrations at the venue in partnership with the Eye Bank Association of India (EBAI), which recorded a large number of registrations.



- The XRCVC has applied for trademarking of the title 'Antarchakshu' on behalf of the Bombay St Xavier's College Society and hopes to get it registered shortly.
- We also conducted a sensitisation workshop modelled as a treasure hunt for employees of a software major at Mumbai.
- Besides, the XRCVC provided consultation, training and support to the crew of a film 'Do Lafzon Ki Kahani' which features the lead actor (Kajal Agarwal) playing the role of a blind girl.
- During the year, many intensive customized, sit-down versions of Antarchakshu™ were also conducted at varied venues for multiple audiences by the XRCVC team comprising Neha Trivedi and Krishna Warriar, along with Ketan Kothari from Sightsavers and other volunteers. These were held at a wide range of corporates, media houses and educational institutions covering a total of 27 workshops reaching out to 4913 persons (See Table 2).



Participants learning how to guide visually impaired persons at a customised awareness workshop conducted by XRCVC



Table 2: General Awareness workshops and events

No	Date		Nature of workshop	Venue	No of participants
1	16 June 2014	Architecture students	Sensitisation	JJ School of Architecture	20
2	24 June 2014	Exchange students from Notre Dame University	Sensitisation	St Xavier's College	18
3	2 July 2014	TYBMM Students, St Xavier's College	Sensitisation	St Xavier's College	50
4	18 July 2014	Architecture students	Sensitisation	IES College of Architecture, Bandra West	43
5	26 July 2014	Antarchakshu 2014 core team	Sensitisation	St Xavier's College	21
6	2 Aug 2014	Students, Employed	Workshop on employability	St Xavier's College	17
7	9 Aug 2014	Teachers	Sensitisation of teachers at Prime Academy		5
8	22 Aug 2014	Students	Sensitisation	St Xavier's College	52
9	1-12 Sept 2014	Antarchakshu volunteers	6 sensitisation and training workshops	St Xavier's College	181
10	12-13 Sept 2014	Educationists, teacher-trainers, students	Sensitisation workshop (Antarchakshu)	St Xavier's College	1993
11	19 Sept 2014	Students	Sensitisation for Alliance Global students	St Xavier's College	25
12	25 Sept 2014	Tech Mahindra Employees	Sensitisation	TMF office, Chandivali	4
13	8 Oct 2014	Marico staff	Sensitisation	Marico Andheri office	29
14	8 Oct 2014	Marico staff	Sensitisation	Marico Kalina office	32
15	7 Nov 2014	Students, teachers from Bombay International School	Sensitisation	St Xavier's College	45



16	18 Nov 2014	Film and ad film makers	Sensitisation	Red Ice Productions Pvt Ltd, Versova, Andheri	23
17	25 Nov 2014	SYBMM students	Sensitisation	St Xavier's College	45
18	4 Dec 2014	Capgemini staff	Sensitisation (Treasure hunt)	Capgemini office, Vikhroli	112
19	13 Dec 2014	School students	Sensitisation	Cathedral & John Connon School	60
20	3 Jan 2015	Visitors to Viviana mall	Sensitisation	World Braille day sensitisation treasure hunt at Viviana Mall, Thane	110
21	9 Jan 2015	Architecture students	Sensitisation	AIKTC College, Panvel	17
22	14 Feb 2015	Students	Sensitisation	Vaze College, Mulund	10
23	19 Feb 2015	Students	Sensitisation	Antarchakshu Viviana volunteer training and sensitisation	182
24	20-21 Feb 2015	Mall visitors	Sensitisation	Antarchakshu-Viviana 2015 at Viviana Mall, Thane	1763
25	3 Mar 2015	Exchange students from The Alliance for Global Education, Pune	Sensitisation	St Xavier's College	10
26	8 April 2015	Community Business Dian members	Sensitisation	Nomura office, Powai	23
27	6 May 2015	Aditya Institute of Management and Research, Borivali	Sensitisation	AIMSR, Borivali	23
Total					4913



Reading Without Seeing

The XRCVC had launched an extremely effective national-level awareness programme in 2012 under the banner of 'Reading Without Seeing', which takes access technologies to blind and low-vision users across locations, and ignites in its audiences the curiosity and basic knowledge to begin their journey of accessing the printed word independently. The programme equips participants with the basic knowhow of a host of assistive technologies.

The programme gained added momentum this year with 13 workshops reaching out to 331 persons (see Table 3). The XRCVC's info pack '*Accessible Technologies to Facilitate Reading—A Synoptic View*', a compilation of access technologies with detailed description and user-relevant data, was also distributed to participants during the workshops, conducted by the XRCVC team comprising Sushil Pandit, Keshavan Nadar, Aniket Gupta and Shizanne D'Mello, along with volunteers Rajesh Mehta and Jatin Shah.

Table 3: Reading Without Seeing (RWS) Workshops (May 2014 – May 2015)

No	Place and Name of Organisation for whom RWS was conducted	Date	Venue	No of Participants
1	Mumbai (NAB & XRCVC) Functional Training Course	26 May 2014	XRCVC	26
2	Mumbai (NAB & XRCVC)	27 May 2014	XRCVC	32
3	Mumbai (NAB & XRCVC) Para Professional Course	30 May 2014	XRCVC	27
4	Mumbai (NAB & XRCVC) Basic Rehabilitation Course	5 September 2014	XRCVC	15
5	Mumbai (St. Stephen's College & XRCVC)	9 October 2014	XRCVC	9
6	Mumbai (NAB & XRCVC) TCTVH	16 January 2015	XRCVC	12
7	Junagadh (NAB & XRCVC)	31 January 2015	NAB Junagadh, Gujarat	53
8	Junagadh (NAB & XRCVC)	1 February 2015	NAB Junagadh, Gujarat	58
9	Mumbai (TCS Corporate Maitree) ACTC	7 March 2015	XRCVC	10
10	Mumbai (NAB & XRCVC) Basic Rehabilitation Course	1st April 2015	XRCVC	20
11	Mumbai (NAB & XRCVC) Teenager's Batch SSC & HSC Passed	7th May 2015	XRCVC	36
12	Mumbai (SNDT & XRCVC) Para Professional	9th May 2015	XRCVC	9
13	Mumbai (NAB & XRCVC) Functional Training Course	26th May 2015	XRCVC	24
Total				331

PRESENTATIONS AND COLLABORATIONS: NETWORKING INITIATIVES

- Dr Taraporevala was invited by the Department of Disability Affairs, Ministry of Social Justice and Empowerment, Government of India to be a member of the expert committee for its ADIP scheme. The Ministry has been implementing the Scheme of



Assistance to Disabled Persons for Purchase / fitting of Aids and Appliances (ADIP) since 1981 with the objective of providing durable / sophisticated and scientifically manufactured modern, standard aids and appliances to promote physical / social and psychological rehabilitation of Persons with Disabilities (PwDs) by reducing the effects of disabilities and to enhance their economic potential. The XRCVC subsequently prepared and submitted to the DDA a list of Access Technologies that can be used under the government's ADIP scheme.

- During the year, four films by the XRCVC were shortlisted for the finals of 'CommunicAbility', a Documentary Film Competition held by The Catholic Health Association of India in Hyderabad. The films were Accessibility 2.0. The Blind Act, Breaking Barriers, Achieving Access, and I Experience, I Learn (Antyodaya).
- Dr Taraporevala was the keynote speaker and invited panellist at the Conference on Accessibility for Visually Impaired on the Theme of "Building an Accessible Arena" organised by Rotaract Club of Drishti and Karna Vidya Technology Centre at the Institute of Mathematical Sciences, Chennai.
- Dr Taraporevala delivered a talk at TEDx Xavier's titled 'Integrating the visually Challenged into society' at TEDx St Xavier's, Mumbai on February 8 2015 at St Xavier's College. TEDx is a non-profit devoted to spreading ideas, usually in the form of short, powerful talks (18 minutes or less).
- XRCVC member Prashant Naik, an employee of Union Bank, received the NCPEDP Mphasis award for Universal Design during the year in the area of disability.
- Dr Arvind Gupta, renowned low-cost toy maker, visited the XRCVC during the year to explore research collaborations.
- During the year, the XRCVC also had regular interactions with senior officials of the Department of Disability Affairs, Ministry of Social Justice & Empowerment, Government of India, on various inclusivity initiatives mooted by the Government of India.



Conclusion

We would like to extend our gratitude to our funders and partners, without whom we would not have been able to come this far. We would like to specially thank Tech Mahindra Foundation, Dhun Pestonji Parakh Discretionary Trust, Samruddha Resources Ltd, Tata Capital Housing Finance Ltd, SAP, National Institute for the Visually Handicapped (NIVH), Johnson and Johnson Ltd, Inventia Healthcare Pvt. Ltd, Sightsavers, Synopsys (India) Pvt Ltd, Lions Club of East Bombay and Rotary Club of Bombay Hanging Garden for supporting our various projects. We would also like to acknowledge the sponsors who have contributed to the success of Antarchakshu™—Tata Housing, Microsoft Corporation (India) Pvt Ltd, CMC Ltd, Godrej Industries Ltd, SBI Mutual Fund, Hindustan Unilever Limited, SBI CAP Securities, Shriram Housing Finance and Tata Sons Ltd.

A big thank you to our large pool of volunteers as well. Their commitment ensures that a small organisation like the XRCVC is able to touch the lives of countless people all over the country.

In conclusion, we would like to place on record our deep appreciation to St. Xavier's College—the management, staff members and students, for demonstrating to educational institutes all over the country how a centre of learning can be truly inclusive to persons with disabilities, particularly blind and low-vision persons. Special thanks to Dr Fr Frazer Mascarenhas SJ, whose original vision, support and guidance has helped the XRCVC become a centre of excellence of national repute. We wish him all success for the future.



[XRCVC members bidding farewell to Dr Fr Frazer Mascarenhas SJ, who was an ardent supporter of the Centre's initiatives](#)