# New Options for Accessible Books to Reach More Readers in Low Resource Regions - webinar transcript

Full details about this webinar including links to related resources can be found on our website:

<https://daisy.org/news-events/articles/new-options-for-accessible-books-low-resource-regions-w>

- [Nafisa] Hello everyone and welcome to this DAISY Consortium webinar entitled, New Options for Accessible Books to Reach More Readers in Low Resource Regions. Okay, let's get started.

I'm your host today, my name is Nafisa Baboo, and I work at Light for the World, and we are an associate member of the DAISY Consortium. And I'm based in Cape Town, South Africa. As Director of Inclusive Education, I know how essential accessible books are for learning. As someone with low vision, I personally rely on accessible digital books for my professional life and for leisure as well.

Most of the world's people with blindness and low vision live in low and middle income countries where resources are scarce and accessible books are not commonly available. And yet with the amazing work being done by the DAISY Consortium, together with other fantastic organisations, the situation's changing for the better.

So in this we webinar, we will take a look at the challenges, opportunities, and most excitingly, the solutions to bring accessible books to reach more print disabled readers in low resourced areas. In this session, we will hear from innovators from Sri Lanka, Ethiopia, and France. But at this point I'm going to hand over to the DAISY team to introduce themselves. Over to you.

- [Dipendra] Hello, this is Dipendra Manocha, I'm Director of the Developing Countries programme, DAISY Consortium, and I'm a person with blindness myself.

- [Richard] Hello everyone, my name's Richard Orme, I'm Chief Executive at the DAISY Consortium, and I live in England.

In this session, we'll start by acknowledging some of the very real challenges, but also identifying the exciting opportunities available to us as together we advance the mission to reach the next million people with blindness, low vision, and other print disabilities with accessible books and reading. As Nafisa said, we then turn our attention to the really exciting part, solutions, including possibilities that have just become available due to the generous support of Microsoft. We'll hear from case studies in Sri Lanka and Ethiopia, before telling you how to access tools and support. And in the discussion, we'll love to hear your comments and also to take any questions. So now we turn to a slide here, which Dipendra will talk us through. And I see a picture here of Dipendra, you are standing in a room, there are some small people sitting on a carpet, what's happening here?

- [Dipendra] So this is all about the very low resource regions within developing countries. So this project is actually challenging the real tough places and the tough things to go about. I'm here in just about 200 kilometres away from Delhi, which is a very remote area. It's a resource centre, actually, situated in the rural setting in India. It's a resource centre for inclusive education, and there are children who are having kind of a first interaction with some devices and technologies that's in here. And I would just like to pick up a story of one of the boys who's part of this training which was going on.

The boy is actually already 13 years of age, and I just actually happened to ask him about his spellings of his name and he was not able to do that. And the reason why that is happening is that he has never had access to a book in accessible format himself. His mode of learning has been only the teacher in his school, the lectures that he has been taking in the classroom. That's the only input that this boy is actually having, with no reference books to turn to. And the special educators are very hard to come by. They're just about two special educators catering to almost a hundred schools in the region. And that's a kind of challenging situation where we are in. And we could face electricity outages, low bandwidth of internet availability. And so under these circumstance, what are the options that we have to help children out there? Was the challenge that we tried to ascertain and try to pick up in the project that we are talking about.

- [Richard] Well, for many people, the smartphone is their constant companion. It's the first thing they reach for in the morning. People are using smartphones for reading articles, newspapers, and books. And there are really great apps out there for people who rely on accessibility features. But of course, not everyone has access to a smartphone. And the infographic I'm showing at the moment, from a company called BankMyCell, illustrates this very clearly. It shows that 74% of people in developed countries have smartphones, and yet 75% of people in developing countries do not have smartphones. This shows the global smartphone divide. So these wonderful devices are definitely an important part of the accessible reading puzzle. But if we're going to reach out to the next million people who are still experiencing the book famine, we need to keep innovating in other ways. So tell us about some other technology gaps then, Dipendra?

- [Dipendra] Right, so one of the biggest revolutions that has happened actually in this century is that persons with blindness have, due to the technology advancements, are able to read and write in mainstream script. Now, this makes a huge difference in the potential of their being able to, you know, have written communication with the rest of the world. So it has implication and impact on their education opportunities, the livelihood opportunities, and leading an independent and fulfilling social life. But even if we have such devices in the hands of people, even those 26% people that have smartphones, will they actually work in the language of the users that we are talking about? Because not everybody is fluent in English, it's not their first language in most of the places, and it's not even a language for many people, because they just know their local language. So the text to speech engine, if that doesn't exist, even if they have smartphones, it's not going to work for them. Similarly, if we have low-cost braille displays, but the braille translation doesn't work for the language, then it's just not going to work. Similarly, even if we have low-cost solar power players, like plain MP3 players, where we put in the audio recordings on those players and become a talking textbook for them and hand it over to them, but till now what was happening was these books had to be handcrafted for these players, and very, very less number of books were being produced by organisations handcrafted them and just handing it over to the immediate members of those organisations. So mass distribution, the large scale distribution was really not happening, international exchange, etcetera was not happening. So these have been huge challenges to overcome.

- [Richard] So having heard about challenges, let's have an overview of the opportunities and cheer ourselves up, because there are some opportunities which offer great potential. So we are going to talk about tools to make accessible books. We are going to hear about help that's available with training and with technical support. We're going to talk about the amazing potential of global sharing of existing accessible books. And we are going to hear about the wide choice of reading devices. So the tools to make accessible books have got easier and cheaper. So first of all, a shout out to Obi, which is the free audiobook tool from DAISY. It's a really mature software, it's used in many countries, and thanks to the work of our members and our partners, it's localised in many languages. So the solutions are there for the production of the audiobooks to these international standards like DAISY.

And for digital books, well, in the last few years we've seen a shift from using the special, maybe more difficult authoring tools, to using Microsoft Word. Not only is this a very popular and well-known piece of software, Microsoft have just kept improving the features, so the user is helped to produce accessible documents. It has features like the accessibility checker, it has language detection, and coming soon, artificial intelligence will help identify and fix accessibility issues. And by producing documents in Word with headings, images with alt text, links, tables, even mathematics, these can then be converted to accessible DAISY and EPUB books. And those same great Word documents can be used for producing braille also. These more modern work practises are really helping the production of accessible books, making it easier and more efficient.

- [Dipendra] I would actually just mention that one, not very far time away, just maybe a month, two months away, I've visited one of the libraries which was serving persons with print disabilities. And believe it or not, they were actually hand typing, handcrafting the braille books which are to be provided to users. And imagine all the opportunities that Richard has just mentioned, and it can, you know, the same amount of human resource, same amount of time could produce a hundred times more impact than what traditionally was used and which is still in practise in many places. And why would it be still in practise? There are obviously two major reasons for it. First is the awareness, people don't know that world has moved ahead, because they've not been part of this community and there's lack of awareness. And the second part is that even if they come to know about it, even if they hear about it, they haven't had opportunities to learn these things.

So there are a lot of efforts going on in terms of capacity building projects within developing countries so that the awareness is created and also the capacity to use these tools to enhance the impact is also created. So for example, the Accessible Books Consortium has been almost covering almost 10 countries every year to run capacity building programmes. Similarly, UNESCO or the Seeing is Believing programme of the Standard Chartered Bank, etcetera, there's been several organisations which have been actually been investing a lot of efforts and resources to build capacity in developing countries so that the impact of the time and resources being spent on dealing with this issue can be multiplied many, many folds.

- [Richard] And through our partnership with many NGOs, and in particular with the Accessible Books Consortium, which is hosted by WIPO, and also acknowledging our partnership with other supporting organisations, including Light for the World, but also UNESCO, the African Publishing Innovation Fund, UNICEF, SCORE Foundation, and Standard Chartered, there's now a great body of developed training and technical support materials, which means delivering this capacity building is cheaper, faster, and more efficient than ever. And just like this webinar, there's lots of training materials available online, including structured learning courses with certificates for people who complete them. So here's another of those amazing opportunities that exist to help us scale up.

And another thing is that thanks to the Marrakesh Treaty, we now have a legal framework for the exchange of accessible books internationally. There's a real treasure trove of existing titles in many languages of accessible books in standard formats such as DAISY and EPUB. So for example, the Accessible Book Consortium's Global Book Service has over 820,000 titles in more than 80 languages. And Bookshare has members in over 90 countries and they're enjoying some of the 390,000 titles in many languages. A membership of Bookshare is free in developing countries to individuals, and there are discounted subscriptions available in others. So here's another great opportunity here to get books into the hands of readers with print disabilities. But what would they read on? Dipendra, you tell us about the wide choice of reading devices?

- [Dipendra] You know, so that has been another very exciting story that has happened in past decade. I remember in 2012, the World Braille Council said that the braille reading device has been so expensive that in developing countries, actually we've never used to even mention this solution, which was available in the world for, say, so many decades. But 2018, for example, the low cost braille display, some people would still not call it low cost, but still, I mean, something which was costing about $3,000 has come down to something like $500. So yes, something which can reach developing countries is now available. There are smartphones and free of cost apps like Dolphin EasyReader or Simply Reading. Our DAISY players, which are wifi enabled, and they're hardware specific hardware devices which have very easy to use interface with, you know, hardware buttons on them in the world of touchscreens, so even people who are afraid of touchscreens can use these kind of DAISY players dedicated devices. And being connected devices means that they actually get connected directly to these online resources that we are talking about, Bookshare and ABC Global Books Service, and you can search, download, and start reading those books straight away on this device, either with our eyes, ears, or fingers, which means a book that we download can actually be read as a large print, or as in braille, or we can actually listen to them. So great opportunity, and the cost of all these devices have been coming down quite significantly, and the languages support also has been growing pretty fast on these devices.

- [Richard] So many opportunities, but how do we actually bring those into the hands of people with print disabilities by delivering solutions? So having looked at challenges and opportunities, let's get to grips with some practical solutions that provide us with new options for accessible books to reach more readers in low resource regions. It's a really big issue to get to grips with, but fortunately we have some of the world's biggest and most dynamic companies to work alongside us. So it's a huge pleasure at this point to welcome Ioana from Microsoft. Ioana, welcome to the webinar.

- [Ioana] Hi folks, and thanks for having me. Pleasure to be here. My name is Ioana, I'm part of the accessibility team at Microsoft. And over the last year I have had honour and privilege to work with the folks at DAISY on the amazing project that they have been developing and sharing with you. As a little bit of background, almost five years ago at Microsoft we announced a grant programme called AI for Accessibility. And really the scope of the programme was to support nonprofits, and startups, and academia to push the boundaries of what we can do in accessibility innovation. But we also realised, as much as AI is a force and everybody seems to be talking about it right now, there is a wider opportunity in technology that doesn't just encompass AI. So a little over a year we have expanded our programme to focus on low cost assistive technology. We know that assistive technology is a huge opportunity and need in the world. By 2050 over 1.3 billion people will need assistive technology, and we also know that those in low and middle income countries are in need of technology that is affordable and available. So it's been a great, great pleasure to be part of the work that DAISY has been doing. And with that, over to you Dipendra.

- [Dipendra] Thank you, Ioana. So we've just seen that there are challenges, like in the rural area of Kasganj, but we have also seen there are a lot of opportunities. But why this project has come about is that, in spite of all this, those opportunities, there are very large number of people right at the bottom of pyramid who are not getting their books in accessible format. And this project is actually just an effort to go down one level further in the pyramid to cover those extremely challenging areas. And one of the examples here is this effort of adding, for example, there were no coverage for braille translation for a language like Swahili. Now, in at least five African countries, Swahili is being spoken, which meant that even if they had digital books, even if we had books from Bookshare, from any resources coming in Swahili, they could not be read by fingers, they could not be read in braille on refresher braille display, even if we had those books on a refresher display on this device. So we added two of these languages in a braille translation open source library called Liblouis, which are Swahili and Chichewa. Chichewa is a language of Malawi. And the impact of adding it in Liblouis means that the companies like Orbit Research, etcetera, could add those languages on their own displays, and it automatically gets added to braille translations software such as Sonar Braille, or you know, if anybody's trying to read braille through screen reading software and refresher braille display, these things automatically gets, you know, included in softwares like NVDA, and Jaws, and so on.

And even like services like Bookshare, they provide facility to download books in BRF format, and obviously they are also using Liblouis in the background. So very vast number of braille translation systems get support for these languages automatically. And that is why we have added these two languages just to demonstrate the kind of difference it can make for the population of entire countries, such as Kenya, Tanzania, Malawi, etcetera, where they will now have an opportunity to read their books in accessible format and in braille.

- [Richard] That brings us to the next thing we did under this project, which is that we developed an application to convert existing books so they can be used on more of the devices that are typically in the hands of people with disabilities in low resource parts of the world. So I have an image on the screen of some different sources of accessible books, what we call the treasure trove. So we have the ABC Global Books Service, we have Bookshare, there are other libraries too with large collections in Spanish, and Portuguese, and English, such as from ONCE, from the National Library Service in the US, and many more. There are books that may have been produced already because they've been scanned and then turned into a Word document. There may be files directly from textbook publishers or they could be in the public domain. So how then could these be changed so that they could work on the variety of different devices that are typically in people's hands? So in the middle of this schematic we have all those different sources on the left hand side with arrows pointing to a screenshot of a new tool from DAISY.

So for many years, different libraries within the DAISY Consortium have used something we call the Pipeline to do these format conversions. But this software has been maybe difficult to use, typically you need an technology department to configure and use it. And what we're doing is we're bringing the power of the Pipeline to your desktop. So in this image here we have all those different forms of books coming in. There's a screenshot where I'm choosing what the source book and the different script I want to run, and this will then convert that existing accessible book into a format that could be read then on a laptop, or a smartphone, or a DAISY player, but also on an MP3 player, read on one of those amazing braille devices that Dipendra mentioned, or on a basic phone. So through the launch of this DAISY Pipeline app, we developed a converter tool to unlock the treasure trove.

Well, it would be great to hear from some folk who have been part of the trial of this. So let's first of all hear from Masho who is in the north of Ethiopia. And they've been experimenting with one of the outputs, which is the use of this to create books that will play on a solar pad audio player called the MegaVoice. Masho, over to you.

- Hello everyone, my name is Masho Kodanemariam. I'm an executive director for SENEthiopia, Special Education Needs in Ethiopia. SENEthiopia is based on Mekele, the capital city of Tigray. Tigray has been in a war situation over the past two and plus years. Prior to the war, we had been working on talking textbooks that enable the blind and visually impaired students access their school curriculum using simple MP3 players. This MP3 players are solar powered, cost effective, and user-friendly. However, due to the conflict, we couldn't continue this work, and are in the process of restarting our services.

The blind and visually impaired students in Ethiopia have very limited accessible book formats, and their chances of owning smartphone or DAISY player have further reduced due to the war. Even if Ethiopia has adopted the Marrakesh Treaty, it has not yet come to implementation. Due to the treaty, many books from the global library have become available in Ethiopia. However, we are not able to take benefit of this as persons with print disabilities do not have access to devices required to read these books. As earlier, we are relying heavily on low cost MegaVoice player for our talking book services.

DAISY Consortium has developed DAISY Pipeline software to convert DAISY books to format compatible with MegaVoice players. This has unimaginable benefit to our situation as we now have access to several thousands of books that can be provided to persons with print disabilities even in our country. This will enable the blind and visually impaired person in low income countries, including Ethiopia, not only to have access to school textbooks, but also to university reference works, fiction, and non-fiction works in accessible format.

We are extremely thankful to Microsoft and the DAISY Consortium to provide solutions to our challenges. Thank you.

- [Richard] Well, thank you to you, Masho, and huge respect to you and your organisation that have been real innovators in this area. You've taught us how creating versions of these accessible books that will work on the devices that people are more likely to have is a really important piece of the puzzle. And as you mentioned, this concept goes beyond Ethiopia. So we were excited through this project to extend it in a new trial area. This is in Sri Lanka in partnership with our long-term friends, DAISY Lanka. So next we'll hear from Ashoka, who will tell us about their project to bring accessible textbooks to students in Sri Lanka in the most low resource areas. Over to you, Ashoka.

- [Ashoka] Hello everyone! Today, as the Chairman of the DAISY Lanka Foundation I'm delighted to share with you our latest project for visually impaired students in Sri Lanka's most challenging regions. Visual impairment is a significant issue in many parts of the world, particularly in least developed countries where access to adequate healthcare, education, and assistive technologies are limited. The lack of infrastructure and resources exacerbates this issue, making it challenging for visually impaired students to access the education that they need. The DAISY Lanka Foundation, in collaboration with the DAISY Consortium, has launched a project to provide pupils from Sri Lanka's most challenging regions books of the subjects they are studying. This project is of great importance, especially to visually impaired students who face many challenges in accessing education. Education is a fundamental right of every child and all children should have access to it, regardless of their physical abilities. The high cost of specialised educational equipment often limits the educational opportunities available to visually impaired students. By providing MegaVoice audiobook players and books on the subjects they are studying, DLF is making education accessible to this group of students. The project is particularly crucial as it targets the most challenging regions of Sri Lanka where access to educational resources is limited. By providing these

students with the equipment and resources they need to learn, DLF is ensuring that they can receive an education that is on par with their peers in other parts of the country. The benefits of this project are immense. The MegaVoice audiobook players and books will allow visually impaired students to access educational resources they may have been unable to access due to cost constraints. It'll also help to bridge educational gap between visually impaired students and their peers, as they will have access to the same educational resources. The project will also help to increase the confidence and self-esteem of the visually impaired students. With access to the equipment and resources provided by the DLF, these students will be able to participate fully in classroom activities, helping them to feel more included and valued. Finally, the project will help visually impaired students to develop independent learning skills. The MegaVoice audiobook players will enable them to access educational resources independently, helping them to become more self-reliant and better prepared for life after school.

In conclusion, the DAISY Lanka Foundation, in collaboration with the DAISY Consortium, is committed to providing access to education for visually impaired students in Sri Lanka's most challenging regions. We are grateful for the support we received so far and look forward to continuing to make a difference in the lives of these students. Thank you.

- [Richard] Well, thank you, Ashoka. And let's then bring this to a close by concluding on what we've heard about realising the opportunities and taking forward the solutions. So we've heard about the new workflows based on Microsoft Word and some of the other free tools that exist for creating accessible books. Using Obi, using Microsoft Word, and tools from the DAISY Consortium, such as WordToEPUB, to create accessible digital books in a much more efficient way, as we heard from Dipendra. To participate in international sharing, taking advantage of the existing hundreds of thousands of accessible books that already exist, and converting those books so that they can reach more people by using the devices that people already have with the newly released DAISY Pipeline app. And as we also explained, because of our great partnership with many organisations, we've got a great tool chest of training and support from DAISY. So work with us to receive your training and support, and build the projects that bring together both the kit and the content for people to enjoy access to education and reading with the confidence that they're moving forward, and we are reaching the next million people with print disabilities.

- [Dipendra] Just to maybe just add one critical finding, while implementation of this project, especially when we were working with Ashoka, many of the people who are participating in this trial, actually, when they got their books, they were the first accessible books that they ever had. So I think that's very critical to show that it's really reaching out to the next million. That's the way.

- [Richard] Well, that's great, Dipendra, we started with Naveen's story, the boy in that area in rural India, and then, yes, through our partnerships with Masho's organisation, SENEthiopia, and with DAISY Lanka, yeah, we are really reaching new people, or new people are being reached together with our partners. And so some of the resources that you might find useful to take this further, of course, on the DAISY website, that's your treasure chest of tools and how you can reach us if you have questions or comments for us. There's also some online learning for you. So if you go to DAISY.org/learning, there are free courses that you can take which will help you make accessible Word documents, and we're adding courses to that all the time. You can create accessible EPUB, learn about accessible publishing concepts, and join the community of organisations in the DAISY communications network. You do not have to be a member of the DAISY Consortium to be part of our family. So if you visit DAISY.org/network, if you are not already a member, sign up to our communication network, and come and join the party. Also, we heard from Ioana and Microsoft's great programme. And at microsoft.com/ai-for-accessibility, you can read about this project, you can read about the Microsoft programme, and some of the other great partners that they're working with. I mentioned the ABC, you can get to the ABC website through accessiblebooksconsortium.org. And of course you can reach Bookshare at bookshare.org. These slides and these links will be provided to you. We'll post them on the DAISY website at DAISY.org/webinars, so you'll be able to get to those, probably from Monday. But for the moment, that's the end of our slides. Nafisa, back to you.

- [Nafisa] Thanks to Richard and Dipendra for describing so well the challenges, and more importantly, the opportunities and wonderful new solutions for accessible books. So now I'd like to invite our audience to ask their questions, and to this questions we hope to clarify anything and explore a little bit more in detail the topic. So in the meantime, please keep those questions coming in and we'll try and cover as many as we can in the remaining time. We have a few questions to kick us off though.

So let me start with one question going to Dipendra. It says, the MegaVoice players sound really great. Do other devices have advantages over these players? So Dipendra, over to you.

- So, yeah. I mean, so the DAISY players, which are traditionally being used for accessible books, do have text to speech engines, they have connectivity, so they provide a much richer reading experience. But what we are trying with MegaVoice players is that they're actually cost effective, and trying to get the navigation facility off a DAISY player on these players when we do the conversions through our thing. They're obviously not as feature rich as a DAISY player, but still, as we said, it's about reaching to next million with at least something. And this something is actually much better than nothing. - Yeah, and as you say. - Thanks Dipendra, I think the price point. - Dipendra, this is about. Yeah, this is about reaching the next group. So the folk that already have those DAISY players are enjoying the ability, for example, to have a Word document or a DAISY book already on that, and then to use the text to speech to read out a word and spell it. Maybe they're using those same DAISY players to record in a lesson as well, make notes, and these sorts of things. So much more powerful. So what we're not saying is that the MegaVoice players somehow replace those. This is where the resources are not available to provide those players to people and these resources, because they don't have the connectivity, there isn't the electricity, or there isn't the funding. This is an amazing new opportunity that they've been exploiting in Ethiopia for a while, and we are using these new tools to open up the treasure trove of existing titles so that you're not limited to a few books that are made for the MegaVoice players, you'll be able to convert books that already exist. And so the choice of books for those players is greatly expanded.

- [Nafisa] Thanks Dipendra and Richard. So Richard, since I have you there. Here's a question to you, is the Pipeline app available to convert audio to text or audio to braille?

- [Richard] Oh, that's a great idea and a great question. So it will not currently do that. It won't take an existing audiobook and then kind of use voice recognition to convert it. But that's something we'll certainly consider in the project, thank you for the idea.

- [Nafisa] Yeah, forward to innovate together, right? So then there's another question to Ioana. What additional support might Microsoft be able to provide for organisations providing accessible books? Over to you, Ioana.

- Hi folks. So there's a few things that you can access in terms of resources, and we'll make sure to include those in the resource list. One, if you're a nonprofit, we do have support in form of software and reduced hardware that you can access. Equally, through the AI for Accessibility programme, if you are interested in accessibility and innovation, we have recently launched an innovation toolkit, which is meant to help organisations, and you can find that at aka.ms/innovationtoolkit. And if we're talking about books in specific, I'll have to go back to the point that Richard was making in terms of Word is a great software to ensure accessibility of documents and books, and they are currently investing in making it even better when it comes to accessibility and accessibility reminders. So that would be my third sort of best practise and resource.

- [Nafisa] Thanks Ioana. I must say, I'm really impressed by the progress of Microsoft has made. It's made me reduce, I mean, to have an additional accessibility software, because the features are so good these days. Thank you for that. I have another question now for Dipendra. Dipendra, how did you choose the language to work on for the digital braille in the projects described earlier? Can you maybe share a little bit about that?

- [Dipendra] Right, so yes. See, we had several parameters set up and what we thought was that first thing was that the numbers, how many people actually are using that language and the language doesn't have a braille translation system for it, and that is how I would say Swahili came in, because it's being used even as a national language and official language in so many countries, and very large number of people in those countries, like Kenya and Tanzania, etcetera, are actually using that language for education, for in their daily lives, etcetera. Then we also had that parameter that, you know, that when we do something in a language, we also should be able to show the impact of that on the ground. So where did people actually had tools and yet did not have braille translation for it? And that's how Malawi came into the picture and Chichewa language came into picture. Where, you know, an organisation has provided refresher braille displays in the hands of almost every child who's going to the school in that with blindness and low vision of certain age in that group. Yet, they were not able to read their Chichewa language books on those braille displays. And that's why we thought that, I think, this would be a great example to pick up to show the real impact on the ground where the braille translation software would start working. So we had these three, four, as I said, parameters, and we chose accordingly.

- [Nafisa] Thank you, Dipendra. Since we have you on the mic, so there's another question that's linked to this or about languages, how many languages does the DAISY Pipeline converter work in or convert into?

- [Dipendra] So I guess DAISY Pipeline is in a way is language independent, in the sense that if you add a language in Liblouis, DAISY Pipeline can be used for braille conversion for it. If we have a text to speech engine, it can, again, do conversion from text to audio with it. But when it comes to digital text to digital text, from one format to another, like from DAISY to EPUB, there is absolutely no restriction in terms of language, because there we are not relying on any external sort of components to exist. So it's quite language independent when it comes to text to text, but when it comes to text to braille or text to audio, then obviously it'll be dependent on the availability of text to speech engine or braille translation engines, which are obviously an external add-ons, external plugins to DAISY Pipeline.

- [Nafisa] I think this text to speech engine. - Could I jump in here, Nafisa? - Yeah. - Oh, sure, go for it. - If I could allow me? So in the technology gaps, Dipendra, you talked about that there are many language groups that do not have text to speech, and one of the great things that's happened in the last year or so is that more languages are covered, and especially maybe of interest to this audience, languages such as Swahili, Amharic, and Zulu now have high quality text to speech engines for the very first time. Now we need to do some work still within the Pipeline to support these and make sure that we are getting that right, this is something that maybe we can do in the coming year, but the future is very bright. We need more and more of these synthetic voices supporting these language groups, but things are pointing in the right direction.

- [Nafisa] Fully agree with you, Richard, I look forward to there being more Burkina Faso. So there is another really interesting question, and I'm not sure if Ioana would be able to answer this. Is there any connection between the initiative with UNICEF for the Learning Passport and other Microsoft initiative to promote accessibility? Is.

- Sorry, I was trying to listen the question. So if there's a correlation between this particular initiative with the DAISY Consortium and the one with UNICEF and the passports? No, those two things are not connected. Obviously in the world of Microsoft, the sphere of accessibility is quite wide and we have multiple folks working with different institutions and organisations. But for this particular project, AI for Accessibility was not involved in the one that was mentioned with UNICEF.

- [Nafisa] Hopefully maybe this discussion here could inspire that connection, because I know the Learning Passport is going out to so many people in developing countries and promoting better quality of teaching and learning. I see there's another question for Richard. Where can people get the DAISY Pipeline app? Can you tell us where to find that?

- [Richard] Sure, in the list of resources I mentioned on the DAISY website, that's where you can get all our tools, like Obi, WordToEPUB, and the new Pipeline app. We'll pull these links out and make them available in the resources. But if you want a nice quick and easy way, you can go to DAISY.org/pipelineapp, it's that simple. That'll take you straight to the place where you can download it. It's available for Windows and for Mac.

- [Nafisa] Thank you Richard. I'm trying to see if we have a bit more questions here. We have one question related, okay, let me just see if I can formulate it better. Oh, there's one question about, will there be new regions that we plan to work in with projects like to reach the next million? Over to you, Richard.

- Well, myself and Dipendra, we are working on this together with our wonderful members of the DAISY board. We are just reformulating our strategy on supporting developing countries. What we know is that even though we are connected to more than 80 countries who are members of our communication network or members of the DAISY Consortium, there are many countries that are not taking advantage of all these great solutions and opportunities. So absolutely, we want to push out and reach new areas. In particular, I think a focus would be Latin America. There's so many existing titles in Spanish and Portuguese that would be relevant there, and then we know that they could take up some of the tools that we've developed. We also know that some of the areas are low resource too, so that seems to be a good priority. We've got great initiatives already happening across Africa and Southeast Asia. Just this last year we worked together with the African Publishing Innovation Fund to deliver training in 23 African countries. But we want to take this opportunity to say that if you are working in an NGO connected with any of these countries, serving people with print disabilities, we'd love to talk with you to build a project together and really speed things up so we can get books into the hands of people with print disabilities. There's never been a better time. So reach out to us at the DAISY.org, we'd love to talk with you.

- Thanks Richard. I do see another comment on there from Bill Kendell who was just saying that he really feels that there should be a connection with the Learning Passport and promoting accessibility, not just Accesso. We're fully with you on that, Bill, it's really a great suggestion. And we really need to make sure it's true, to get out to more regions, into more countries. And I hope that through connections and inspiring more partners to work together, we could really enable that. I have a question though, I was just wondering, you know, there has been discussions also on our chat about access to gadgets and devices, I want to know, besides access to gadgets and devices, what is one of the things that still stands in the way of students accessing these accessible books? What do you think are some of the other challenges that stand the way?

- [Dipendra] Yeah, I think there's obviously, as I said, the lack of awareness is that people not getting access to, especially the areas that we have just mentioned even in our presentation, the families are not being able to reach the right places to be able to get those resources. The outreach of people like special educators or rehabilitation professionals is limited in low resource regions. So that's a huge challenge. Every country doesn't have an online delivery system. So even the distribution system that can cater to remote areas, or you know, outside the metro policies of the developing countries becomes a huge challenge there. Just to get a new book in hand, sometimes people have to travel such a long distances just to just to get an access to a book. So challenges are manyfold and I think there is a whole ecosystem that exists of kit content competence. And the issue is that the device, and the content in accessible format, and the training, all three, and the delivery system, all four actually have to work together. And if you pull out even one of them, the rest of the three actually just fail. So that's the whole issue out there, that to have a real impact, all four have to be there, the whole ecosystem has to be there. And I'll again say that taken out just one of them takes the whole ecosystem down. So that's a challenge. - Thank you, and.

- And there's that saying, isn't there, that the journey of a thousand miles starts with a single step. And what we're talking about here, particularly with the things we focused on in this session, has been that first step, the first rung of the ladder. So Naveen and for other people like Naveen who got their first book, their first time they were reading independently through these new breakthroughs, that is just fantastic. But beyond that, they'll be going into study in an integrated setting. And so they need the teachers and the professionals working with them to understand how they can create accessible resources. You know, folk will be working with handouts, and exam papers, and other pieces of work too, they'll be creating their own coursework. So we need to kind of tackle that issue of everyday accessibility, which we are really seeing now in products like Microsoft Word. So this is something that we work on at the DAISY consortium too to make sure that accessibility is not just in accessible books, but is ubiquitous, it's access to information everywhere. And this also brings us to the point of, rather than creating special versions of accessible textbooks, it's working with the publishers and the organisation that commissioned textbooks, to make sure that when they're published, they're born accessible, they're accessible out of the box. And this of course is a huge area of work for DAISY Consortium and our partners, and we are making massive strides on that. So in today's webinar we've talked about one part of the jigsaw, this piece around reaching the next million, but DAISY consortium, our members and our friends, are working so hard on the other pieces of the jigsaw as well.

- [Nafisa] Thank you for that, Richard. And I really think another big part of that jigsaw is also digital literacy, right? I think that, yes, we have all this great technology and we have accessible books, but the how to, we take for granted that many of us in more developed countries are digitally literate, but this is also sometimes a barrier. And that human nature to be a little bit resistant to new things, right? I think that these are all challenges that are possible to overcome.

So we are now coming to the end of our session. Once again, I want to say a big thank you to Dipendra and Richard for a great session, and all our present presenters that are here. These accessible publishing and reading webinars are brought to you by the DAISY Consortium, it's a global nonprofit organisation. And just to remind you that the experts and team members, such as Life for the World, work on innovative and impactful initiatives to further the mission of accessible publishing and reading. And we are all here ready to support one another. And if you have any ideas on other webinar topics in the area of accessible reading and publishing to include, please let us know, we'd like to hear from you. You can write to us at webinars@DAISY.org. Hmm, yeah. So time has really run out, and I know that we will have future exciting and interesting sessions on several topics linked to promoting books and material more accessible. Well, this is the end and of our session and I hope you'll join us again soon. In the meantime, thank you for all your time. Stay safe and well, and have a wonderful restful day, and goodbye. Goodbye everybody.