

# MAITS

Global Disability Training

## INTRODUCING APPROPRIATE PAPER BASED TECHNOLOGY (APT)

Appropriate paper-based technology (APT) is a low-cost, sustainable, and innovative approach to designing and manufacturing a wide range of products using paper-based materials. In low-resource countries, this technology has shown significant potential in creating specialist equipment for children with disabilities. Children with disabilities often face significant challenges in accessing affordable and appropriate equipment that can help them to participate in daily activities and improve their quality of life. *(The efficacy of appropriate paper-based technology for Kenyan children with cerebral palsy by Catherine Barton - MAITS Trainer)*

### WHY APT?

It offers a low-cost solution that can be customised to meet the specific needs of disabled children. This technology has been used to create a range of equipment from standing frames, chairs to variety of toys. By leveraging APT technology, organisations can help to address the challenges faced by children with disabilities in low-resource countries and promote inclusive and sustainable development.

MAITS trainers have developed Appropriate Paper-based Technology (APT) trainings which have been delivered to local partners in Sri Lanka, Pakistan, India, Bangladesh, Nepal, Kenya and Uganda. Simple pieces of equipment and toys made out through APT (reinforced cardboard, using flour glue and varnish) improve children's health, wellbeing and independence, reducing the care and financial burden.



Training ACELP staff in Nepal, 2022

### PARTNERSHIP IN PAKISTAN

MAITS initiated its partnership with ACELP, Karachi in 2017.

ACELP, established in 1974 in Karachi, is a voluntary organisation dedicated to supporting children with developmental delays and special needs. Registered under the Directorate of Social Welfare, Government of Sindh, ACELP offers diagnostics, special education, therapies, and vocational training. Committed to inclusivity and child development, ACELP provides a supportive learning environment for children to master their physical, intellectual, emotional, and social skills.

**ACELP**  
Institute of Child Development

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MAITS initiated an APT training programme to train trainers at ACELP in 2022. A team of four including three therapists and a carpenter joined APT training at SGCP, Nepal which was organised by MAITS and delivered by two expert APTiers from the UK.

The impact of APT training at ACELP has been significant and transformative. Previously relying on costly and heavy wood and lasani (laminated) materials, ACELP has shifted to crafting therapy equipment and educational tools using APT techniques.

ACELP have expanded their product range to include lighter, more affordable equipment such as CP Chairs, standing frames, and rotating disc puzzles in various shapes. The advanced APT training has further enhanced their skills, allowing them to produce a wider variety of APT materials tailored for children with disabilities.

The trained therapists disseminated their learnings and skills with 6-8 staff members at ACELP, including teachers and qualified therapists.

Trained professionals at ACELP discovered that APT training could enhance children's fine motor skills and hand-eye coordination. In response, ACELP staff trained 10-12 special children to craft toys from cardboard, paper, and glue. These affordable, eco-friendly toys are not only used by children at ACELP but also highlight the potential for income generation and climate conservation by reducing the use of plastics, wood, and other synthetic materials.

Recognising the transformative impact of this training, ACELP has expanded its APT programme to special needs children under supervision and plans to scale this initiative to other urban and rural organisations across Pakistan.

In a collaborative effort with ACELP, MAITS aims to empower women at home through APT techniques. By producing low-cost, environmentally friendly equipment and toys, women can generate income while contributing to climate conservation by limiting the use of non-biodegradable materials. This initiative not only promotes employability but also addresses the demand for affordable disability-friendly products, fostering sustainable livelihoods and environmental responsibility.



Watch our  
intro video



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Read our  
**Annual  
Report**



Annually, ACELP estimates benefiting 25-40 clients through APT, with these numbers expected to grow as the programme continues. Continuous production of custom-made equipment at the ACELP serves not only the children in their care but also meets orders from other organisations. Their commitment remains steadfast in improving facilities and enhancing the capabilities of families with special needs children.

## PROJECT PROPOSAL

The proposed project in Pakistan represents a transformative initiative aimed at establishing an Appropriate Paper-Based Technology (APT) workshop that will serve as a catalyst for positive change over the course of three years. This workshop will not only impart valuable APT skills but also empower a substantial number of individuals by providing innovative educational opportunities.

The project's core objective is to establish a workshop conducting periodic trainings to train more trainers who will be subsequently train individuals to learn APT techniques. MAITS aims to train at least 10 trainers in the first year, who can lead the dissemination of APT training to at least 50 grassroots level workers in Pakistan each year. By equipping these individuals with marketable APT knowledge, the project simultaneously creates income-generating opportunities, promoting entrepreneurship and financial sustainability within the local communities.

The establishment of the APT workshop aligns with the broader goal of breaking down barriers and promoting inclusivity for vulnerable children and young adults in disadvantaged Pakistani communities. Through strategic partnerships and a focus on scalability, this project has the potential to serve as a model for replication in other regions, thereby amplifying its impact and reach in the quest for long-lasting positive change.



## OUTCOMES INCLUDE

- We will establish new APT workshops in target countries, providing training and access to materials/equipment to a larger number.
- We will train more individuals, enabling them to design, manufacture and repair a wider range of equipment, including specialist equipment.
- We will ensure that APT equipment produced by trained individuals meets quality standards, reducing the likelihood of equipment failure and increasing its effectiveness.
- We will create new income-generating opportunities for trained individuals, promoting local economic development and sustainability.
- We will raise awareness of the benefits of APT techniques and encourage adoption in other areas of target countries, promoting wider access to affordable and appropriate equipment.

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## Benefits for the Trainees

- **Skill Acquisition and Economic Empowerment:** Learning APT offers individuals, including those with disabilities, the ability to produce useful items, opening new economic opportunities and income avenues.
- **Empowerment and Independence:** Mastering APT provides a sense of achievement and autonomy, allowing individuals to create valuable items for themselves and others.
- **Environmental Stewardship:** Adopting this eco-friendly technology promotes awareness and responsibility for sustainable practices.

## Benefits for the Community

- **Economic Development:** Local APT workshops create jobs and boost the economy by producing and selling APT-made items.
- **Sustainable Practices:** Using wastepaper for wood-like articles conserves trees and promotes recycling.
- **Education and Skill Sharing:** The training programme fosters skill-sharing, with local master trainers enhancing community knowledge and self-sufficiency.

## Sustainability and the Environment

Sustainability is a cornerstone of our APT workshops and training initiatives. We prioritise the longevity of these programmes through several key strategies. By fostering locally retained skills in Nepal, Bangladesh, and Pakistan, we ensure that knowledge and expertise in APT remain within these communities for the long term. Economic empowerment is another critical aspect, as we teach participants to create marketable APT products, thereby promoting entrepreneurship and financial sustainability. Moreover, our focus on women's empowerment through APT workshops serves to break gender barriers and drive social change. We further enhance sustainability by integrating APT into local educational curricula and programmes, ensuring ongoing access to these valuable skills. Through fostering knowledge sharing and collaboration, we aim to ensure that APT practices continue beyond the project's duration, contributing to environmental benefits as well. APT technology itself plays a crucial role in reducing the environmental impact, including the use of recycled materials and eco-friendly techniques, reducing waste through digital documentation and duplex printing, and promoting resource efficiency.



**Dr Shabnam Rangwala  
Won a Bond  
Volunteer of the Year  
Award 2020 for her work  
with MAITS.**

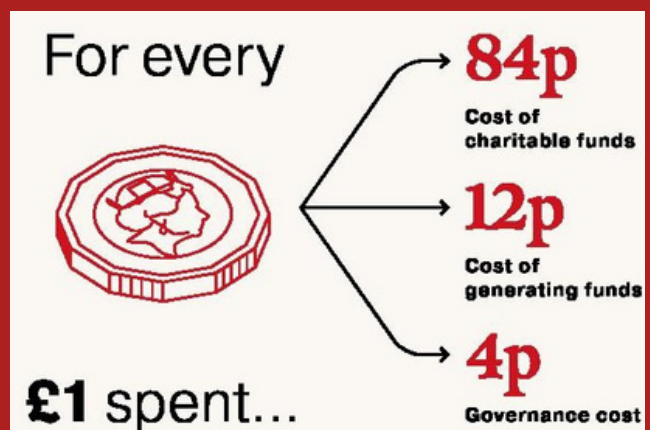
**In October 2022, we won  
Bronze at the Global Good  
Awards in the Community  
Partnership of the Year  
category, for the rollout of  
our CHW training with  
partners ACELP in  
Pakistan.**



## Ensuring Cost-effectiveness

**We keep our costs low by engaging local skills and capabilities in our target countries wherever possible.**

**Our governance costs are typically no more than 4-5% of operating costs meaning that almost 80% of monies raised by MAITS goes directly to delivering life-changing training to improve the lives of children with disabilities, wherever in the world they are born.**



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