

**LOCATION**

Ghana and India

**PARTNER**

ADAPTIVE EYECARE LTD, UK  
 Adaptive Eyecare Ltd (AEL) is a UK company formed to research, develop and manufacture corrective eyewear fitted with 'adaptive' lenses. AEL's award-winning adaptive lenses can be focused by the wearer to suit their personal requirements. Adaptive spectacles are increasingly seen as a simple and cost-effective way of delivering affordable sight correction in the developing world.

**SUMMARY**

This pilot project was aimed at generating initial data on the extent and consequences of uncorrected vision in developing countries. It is hoped that this research will lead to further studies and – most particularly – persuade policy makers that investing in vision correction pays significant social, educational and economic dividends.

**PERIOD OF FUNDING**

January to August 2001

**GRANT**

£84,775

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# Research into the extent and impact of uncorrected vision

**BACKGROUND**

According to the **World Health Organization**, around one billion people, mostly in developing countries, need vision correction but do not have access to it. This is because there are not enough specialist personnel to prescribe, process and deliver conventional spectacles to meet the need. While there is, on average, one eye-health worker for every 8,000 people in Europe, the ratio for sub-Saharan Africa is one per million.

The social, economic and educational impact of this is profound but little recognised. According to a **World Bank** estimate, uncorrected vision affects performance in developing world schools where around 10% of developing world students need, but don't have access to, vision correction.

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A new technology developed by **Adaptive Eyecare Ltd (AEL)** has been specifically designed to address this problem. Instead of using conventional hard lenses, AEL produces spectacles with adaptive lenses that can be quickly and easily adjusted by the individual wearer to give the vision correction they need, minimising the need for highly trained and scarce personnel. Adaptive spectacles are also affordably priced, making the technology appropriate and cost-effective.

**THE PROJECT**

While much research continues to be done on the global impact of blindness, there is virtually no data on the impact of one-fifth of the world's population living with uncorrected poor vision. This is the background to international research initiated by AEL and funded by the KaR programme.

The **Economists Advisory Group Ltd** designed the first phase of research into the economic and social impact of uncorrected vision with AEL. It was managed by **GIC Consulting Ltd** in partnership with the **Lions Aravind Institute for Community Ophthalmology in India**, and the **Ghana Institute for Linguistics, Literacy and Bible Translation** in Tamale, Ghana.

The Indian research studied the impact of uncorrected vision on worker productivity and employment in the textile industry, while the Ghanaian research investigated the experience of literacy professionals who find that uncorrected,



poor vision is a fundamental impediment to learning, and a primary cause of learners dropping out of classes and failing to become literate.

The research revealed that:

■ In Ghana, literacy professionals' experience that uncorrected vision is a major hindrance to learning was strongly supported by this study which found that 74% of all learners needed spectacles and that 93% of those who had given up attending classes also needed spectacles.

■ In India, 79% of the textile workers surveyed needed vision correction, including 75% for near vision (for example, doing close work or reading). However the impact on productivity on this occasion was less than expected due to external factors (see below).

AEL and its many international collaborators hope this research will lead to further studies of what has, up to now, been an almost entirely ignored economic and social burden for developing countries. Interest in conducting further work in this field has been expressed by, among others, **Aravind** in India and the **Institute of Development Studies** in Sussex, UK.

#### LESSONS LEARNED

■ The extent and impact of uncorrected vision cannot be viewed in isolation. In Ghana, literacy class attendance and performance is affected by external factors including economic and social commitments, which can vary on a seasonal basis (for example, at harvest time).

■ In India (as noted above) the impact of nearly 80% of the textile workers needing and being provided with spectacles was much less than expected because:

- the hot and dusty conditions deterred the workers from wearing the spectacles they had been given
- the work was less visually demanding than was originally described
- there were only minimal financial incentives for improved productivity as a result of wearing the spectacles. However, these findings are in sharp contrast with other studies, for instance that of the Bangladeshi handcraft workers' non-governmental organisation, the **ECOTA Forum**, who reported that spectacles are the most-needed additional tool for workers as they grow older.

This project is now completed.