This is about a modified device to align the rim, spokes and hub of a Bicycle wheel together. It is very potential for self-employment, which is very demandable, where a lot of people use bicycles or rickshaws as their common ride, need to be repaired often such as: in Bangladesh. A technician normally uses an alignment jig available in market, which is not manageable by a wheelchair user due to the device design and methods of operations. This new modified device broke the barrier of self-employment of a wheelchair user and brought a new opportunity of financial independency.

**Background:**

In Bangladesh 3 wheeler rickshaw and bicycle are very common transport. Those transport wheels are ordinary bicycle types wheels, which are assembled with Tyre, Tube, Rim, Spokes and a centre Hub.

Due to huge numbers of transport require same or seemlier types of wheels and needs to repair those time to time, it made a wheel fitter huge demandable. A Roadside wheel fitter normally assemble 15 wheels (on average) here in Bangladesh. Customers are waiting in front of them is a common picture. A single wheel fitting charge is 40 BDT. So s/he can earn 600 BDT per day easily. (80BDT=1$)

**A true Story:**

Mina was an ordinary village girl born in 1986, married when she was 16, became completely Paraplegic in 2007 due CVA, she was a mother of a 1 year old boy. After paraplegia she struggled for 4 years, with ruthless social negligence and this is what a daughter of a poor farm labour deserves commonly in Bangladesh.

CRP met her in 2010 and made targets to rehabilitate her and trained her on several trades, but none were proved as suitable. CRP recruited her as a probationary helper to assist on wheel spoke fitting work in the metal workshop, where CRP produces all of the metal based Assistive Devices. It was a big challenge to match her with a workshop environment, where a physically fit male can be recruited in general.

During her spoke fitting work, she was closely monitored by CRP Rehabilitation Engineer. A list of obstacles were identified. According the list CRP adapted her workstation repeatedly. Finally a simple modification solved most of her problems that let her able to finish her job in time independently.

In the probation period she tried to use an ordinary tool post, but the wheel diameter resist her to reach the knob for quick and smooth operation. She became fade up and feel herself as a burden to all.

**Outcome:**

CRP’s Rehabilitation Engineer increased the sizes of the knobs that suitable enough to operate smoothly and mount the tool post on a wheelchair accessible table.

Today Mina is an independent spoke fitter and working for CRP’s Wheelchair production as a regular staff and became the model for other female AT users. She has now a female assistant (SCI wheelchair user)

CRP is receiving responses from the other potential trainees. Soon it will start another pilot training, where the trainees will be trained on this demandable job and self-employment in their own community.

For further details:

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