

**GABION WEAVING AND RETAINING WALL CONSTRUCTION, GALLE MUNICIPALITY, GALLE DISTRICT**

**Appropriate Technology:**

Gabions are a *highly appropriate form of technology* for community access infrastructure because:

- They require little or no machinery for fabrication and construction on site
- They can be woven by unskilled workers from the community once a minimum of training is provided
- Construction may be carried out by unskilled workers supervised by a Technical Officer
- They result in durable structures when constructed correctly

For community access infrastructure gabions may be used to construct:

1. Retaining walls for unstable slopes
2. Erosion protection along river and canal banks
3. Erosion protection at the outflows of culverts, bridges, drifts and other cross drainage structures
4. Sea front erosion protection
5. Bed level river crossings

All gabions in Sri Lanka are *currently being imported*. For community access projects gabions may be woven on site using simple weaving frames which may be fabricated locally, hand tools, protective equipment and wire which may all be procured locally.

**35-40% of the contract value will be spent on labour wages** for weaving gabions. The work is highly suitable for **employment of women and disabled persons** when piece rates are applied.



**Classroom training for Technical Officers & Community members**



**Locally fabricated gabion weaving frame**



**Community members during on site practical training in gabion weaving**



**Tying panels together to complete gabion basket**



**Site where gabions are to be used to protect village access road in Galle**

**Community Contracts for Gabion Weaving & Placement of Gabions:**

Because of the simple nature of the work, gabion weaving & placement is suitable for:

- Contracting directly to **Community Based Organisations**
- Contracting to **Small Scale Contractors** (class M7 and up)
- **Establishment of Small and Medium Enterprises** within communities – thereby providing long term employment, possibly to groups such as women, widows, elderly and disabled people

In Galle **community contracts with a CBO were used for weaving and placing gabions**. The design for the weaving frame was sent to a local metal workshop for fabrication and tools and protective equipment were procured locally – allowing **quick start-up of the project while retaining funds in the project area**. Wire within the required specifications was procured in Colombo and sent to the site.

Before start of the works the senior training engineer mobilised the community members, Technical Officers and Works Supervisors for **classroom and practical training**.

A second contract has been issued for construction of a 2 metre high retaining wall to **protect a main village access road** from further erosion which would render the community isolated.