

Cost Estimate for Arsenic Biosand Filter (Kanchan Filter)

Filter Unit Costs, Wholesale Price

Container - Gem505	303
Lid - Gem505	102
Basin - Gem1700	75
Piping materials	133
Fine Sand	1
Coarse Sand	1
Gravel	2
Iron nails	350
Piyush	34
Sand & gravel transportation	19
Local distribution	30
Tools	5
Packaging	15
Labour	54
Operation documentation	25

Total Cost	1150
Mark-up for Local NGO	115
10%	
Cost plus mark-up	1265

Note:

1. Wholesale price of Gem505 bucket with lid is 405 Rs. Usually this price can be obtained from dealer for a bulk purchase of 10 or more sets.
2. Piping materials costs include pipes, fittings, teflon tape, etc.
3. Fine sand cost is assumed to be 100 Rs per tractor (government tax).
4. Coarse sand and gravel costs are assumed to be 6.25 Rs and 9 Rs per cubic feet respectively. Cost is based on prices from a crusher near Butwal.
5. Iron nails wholesale price is assumed to be 70 Rs per kg. (62 Rs per kg in Birgunj). Five kg is required.
6. Raw materials transportation cost includes tractor rental, driver, fuel, etc. to bring sand and gravel from river and/or crusher. It is assumed that full tractor loads will be all used to make filters with no waste sand and/or gravel.
7. Local distribution is the cost for local entrepreneurs to transport plastic buckets and nails (in bulk) from district-level dealers
8. Tools costs include all tools necessary to construct the filter (e.g. wrenches, mug, stove)
9. Packaging include cost for bags to hold pre-washed and pre-measured amounts of fine sand (20L), coarse sand (4L), gravel (6L), and iron nails (5 kg).
10. Labour cost include all costs associated to sieve and clean sand, to assemble piping system, to build filter, etc.
11. Operation documentation cost include one sticket and one brochure to explain filter operation and maintenance. These documents are available from ENPHO.