**Annex C – Advantages, disadvantages, and expectations of Ceramic Water Filters (CWFs)**

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| **Advantages** | **Disadvantages** |
| Demonstrated internationally to be highly effective at removing bacteria (up to 99.99%) with proper operation and maintenance[[1]](#footnote-1) | Monitoring of clay filter pot production is needed to ensure consistency and quality in the absence of governmental regulation |
| Satisfaction rates are typically very high (>90%)[[2]](#footnote-2) | Clay filter pots can break during transportation  [typically 5% but depends on quality of packaging and roads] |
| Low cost per liter of treated water (~14,000 MMK for hardware, on average 10 liters filtered per day per household, assuming average lifespan of 500 days2) | Education, training, and monitoring investments needed to initiate and sustain use |
| Recommended 2-year lifespan of the CWF filtration pot | Limited flow-rate - especially with high turbidity or high total dissolved solids  [1.5-4.5 litres per hour can be expected initially with low turbidity low TDS waters – decreasing gradually over time] |
| Usage can be sustained beyond lifespan if spare parts are available and accessible | Scrubbing of the CWF pot with a brush is periodically needed to increase flow rates |
| Post-treatment storage is part of the functionality of the device – therefore minimizing the risk of re-contamination after filtration | Pre-treatment (stand & settle or cloth filtration) may need to be conducted in some settings prior to CWF filtration to remove turbidity and ensure reasonable flow rates |
| Some potential to mobilize for emergency response (can be inventoried at the factories themselves or in warehouses) | Not all households where the CWF is distributed will actually begin to use it  [depends largely on quality and duration of training – 5-15% of households should be expected2] |
| Portability and transportability of the device are moderate (higher than a bio-sand filter but lower then chlorine products) | Households will gradually stop using the CWF over time – mostly due to breakage of the clay filter pot  [typically 2% drop-out per month2] |
| Produced in Myanmar (international importation is avoided) | Clay filter pot replacement mechanism needed to ensure long-term use – the logistics for which may be challenging |
| Concept of filtration is intuitive – thus understanding of the use and benefits can be high | Poor handling and cleaning of the CWF pot and plastic bucket can cause contamination of filtered waters  [FC concentrations could be >10 cfu/100mL in more than 20% of households]2 |
| Typically does not change the taste or smell of the water – unlike some HWT options | Small proportion of users may complain about the taste of the filtered water2 |
|  | Small proportion of users may complain about the smell of the clay filter pot2 |
|  | Small proportion of users may experience mold on the clay filter pot2 |
|  | Plastic bucket and/or tap can crack or break – depending on quality and duration of use [typically a very small proportion of households after 1-year of use2] |

1. However, a formal laboratory performance assessment for the CWFs produced by the factories in Myanmar is needed [↑](#footnote-ref-1)
2. An assessment of CWFs in the emergency context of Rakhine State, WASH Cluster, 2016 [↑](#footnote-ref-2)