

Supplementary Material

Supplementary Material A – TWT user survey questions

A. Demographic information of TWT users

Q.1 What is your Sex?

Q.2 What is your Age?

Q.3 How many people use the TWT in your household?

Q.4 How long have you been using the Tiger Worm Toilet?

Q.5 What toilet practices were you using before you had a Tiger Worm Toilet?

Q.6 Since getting a Tiger Worm Toilet, how has your experience of going to the toilet changed?

Q.7 Did building the Tiger Worm Toilet cost your household any money?

Q.8 How much did you pay for it? *(If the user answered 'yes' to Q7)*

B. SanQoL attributes and TWT-related inquiries

Q.9 How often do you feel disgusted while using the toilet?

Q.10 Could you specify which aspects you find disgusting? *(If “always” was selected in Q.9)*

Q.11 How often do you worry about health risks associated with the biodigester component of the Tiger Worm Toilet?

Q.12 How often do you feel that owning a Tiger Worm Toilet impacts your sense of dignity (shame)?

Q.13 How often do safety concerns, particularly regarding the biodigester, cross your mind when using the Tiger Worm Toilet?

Q.14 How often do you get privacy when using the Tiger Worm Toilet?

25 Q.15 How often do you notice flies in the toilet and biodigester?

26 Q.16 How often do you notice a smell around the toilet and biodigester?

27 Q.17 Do you encounter any issues regarding the biodigester as part of the Tiger Worm

28 Toilet?

29 Q.18 What problems do you encounter with the biodigester in your tiger toilet? *(If the*

30 *user answered 'yes' to Q17)*

31 Q.19 Have you ever emptied a biodigester?

32 Q.20 Are you utilising compost for agriculture or gardening? *(If the user answered 'yes'*

33 *to Q19)*

34 Q.21 Would you like to answer a few more questions?

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36 **C. Additional questions (answered by approximately 78% of users)**

37 Q.22 On a scale of 1-10, how do you feel about the idea of future use of Tiger Worm

38 Toilets in your household?

39 Q.23 Is there any inconvenience with the Tiger Worm Toilet when the number of users

40 increases?

41 Q.24 What specific challenges do you encounter? *(If the user answered 'yes' to Q23)*

42 Q.25 Is there anything you would like to see improved in the Tiger Worm Toilet design

43 or service?

44 Q.26 What improvements would you like to see in the Tiger Worm Toilet? *(If the user*

45 *answered 'yes' to Q25)*

46 Q.27 On a scale from 1 to 10, how do you find maintaining a Tiger Worm Toilet?

47 Q.28 Please specify the challenges you face in maintaining your Tiger Worm Toilet

48 Q.29 Do your neighbours know about your Tiger Worm Toilet?

49 Q.30 Has your neighbour used your Tiger Worm Toilet? *(If the user answered 'yes' to*

50 Q29)

51 Q.31 What was their feedback or experience? *(If the user answered 'yes' to Q31)*

52 Q.32 Please share any additional comments or experiences you would like to highlight.

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75 **Supplementary Material B – Physical inspection checklist for TWTs**

76 **Q.1 Door**

77 • Good Condition: Structurally sound, no visible damage or defects, operates
78 smoothly, provides security and privacy.

79 • Needs Repair: Minor issues like scratches, dents, or loose components that need
80 attention.

81 • Needs Replacement: Significant damage beyond repair, such as large cracks or
82 breaks, requiring complete replacement.

83 • No Door Available

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85 **Q.2 Locks (Inside and Outside)**

86 • Both Functional

87 • Inside Functional, Outside Not Functional

88 • Outside Functional, Inside Not Functional

89 • Both Not Functional

90

91 **Q.3 Floor**

92 • Good Condition: No visible cracks or damage; smooth surface; no signs of water
93 pooling or seepage; clean except for minor temporary spots.

94 • Needs Maintenance

95 • Needs Replacement

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97 **Q.4 What needs maintenance? (If the 'needs maintenance' option for the**
98 **flooring is selected)**

- 99 • Minor stains that can be cleaned
- 100 • Small cracks that do not affect functionality and can be repaired
- 101 • Loose tiles or flooring material that needs to be secured
- 102 • Minor water pooling that can be removed or cleaned

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104 **Q.5 What needs replacement? (If the 'need of replacement' option for the**
105 **flooring is selected)**

- 106 • Major cracks that compromise the structure or safety of the floor
- 107 • Severe staining that cannot be cleaned and poses hygiene concerns
- 108 • Significant damage: large holes or gaps compromising safety or hygiene
- 109 • Persistent water pooling (that cannot be removed or cleaned)

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111 **Q.6 Toilet Pan**

- 112 • Good Condition: No stains, cracks, or damage; securely attached and functioning
113 properly.
- 114 • Needs Maintenance
- 115 • Needs Replacement

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117 **Q.7 What needs maintenance? (If the 'needs maintenance' option for the toilet**
118 **pan is selected)**

- 119 • Minor stains like soilage or oil that can be cleaned
- 120 • Small cracks that do not affect functionality and can be repaired
- 121 • Visible faeces that can be cleaned and do not indicate a deeper issue
- 122 • Water accumulates in the toilet seal, requiring drainage improvement
- 123 • The toilet pan is sunken into the flooring

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125 **Q.8 What needs maintenance? (If the 'needs maintenance' option for the toilet**
126 **pan is selected)**

- 127 • Minor stains like soilage or oil that can be cleaned
- 128 • Small cracks that do not affect functionality and can be repaired
- 129 • Visible faeces that can be cleaned and do not indicate a deeper issue
- 130 • Water accumulates in the toilet seal, requiring drainage improvement
- 131 • The toilet pan is sunken into the concrete

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133 **Q.9 What needs replacement? (If the 'need of replacement' option for the toilet**
134 **pan is selected)**

- 135 • Major cracks that compromise the structure or safety of the toilet pan
- 136 • Severe staining that cannot be cleaned and poses hygiene concerns
- 137 • Significant structural damage that affects functionality and cannot be repaired
- 138 • Permanent waterlogging and clogging with faeces (making the pan unsafe for
139 use)

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141 **Q.10 Wall**

- 142 • Good Condition: Walls are structurally sound, free from cracks, leaks, or
143 significant stains, and provide privacy.
- 144 • Needs Maintenance
- 145 • Needs Replacement

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147 **Q.11 What needs maintenance? (If the 'needs maintenance' option for the walls**
148 **is selected)**

- 149 • Minor cracks or stains that can be easily patched
- 150 • Small leaks that can be addressed with minor repairs

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152 **Q.12 What needs replacement? (If the 'need of replacement' option for the wall**
153 **is selected)**

- 154 • Major cracks or structural damage compromising integrity
- 155 • Severe stains that cannot be removed or pose hygiene concerns
- 156 • Significant structural damage compromising safety or privacy
- 157 • Holes are present and may result in water leakage, particularly during the rainy
- 158 season

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160 **Q.13 Ventilation**

- 161 • Good Condition: Proper airflow; no obstructions
- 162 • Needs Repair: Minor blockages; needs cleaning
- 163 • Needs Replacement: Major obstructions or damage
- 164 • Poor Condition: Non-functional ventilation and poor airflow

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166 **Q.14 Roof**

- 167 • Good Condition: No visible cracks or leaks, structurally sound, provides full
- 168 protection from rain and sunlight.
- 169 • Needs Maintenance
- 170 • Needs Replacement

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172 **Q.15 What needs maintenance? (If the 'needs maintenance' option for the roof**
173 **is selected)**

174 • Minor cracks or leaks that require patching or sealing

175 • Minor stains that can be cleaned without affecting functionality

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177 **Q.16 What needs replacement? (If the 'need of replacement' option for the roof**
178 **is selected)**

179 • Major structural damage compromising the integrity of the roof

180 • Large leaks that cannot be effectively patched and fail to provide adequate
181 protection

182 • Severe stains that cannot be removed and pose hygiene concerns

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184 **Q.17 Electric bulb**

185 • Yes, inside the toilet

186 • Yes, outside toilet

187 • Both

188 • No Electric Bulb

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190 **Q.18 Is the outlet pipe visible?**

191 • Yes

192 • No

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194 **Q.19 What is the current condition? (If 'yes' is selected in the previous question)**

195 • Good Condition: Functional fixtures; no leaks

196 • Needs Repair: Minor leaks or visibly small holes

197 • Needs Replacement: Major leaks or visibly large holes

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199 **Q.20 Holes or Burrows around Tiger Worm Toilet**

200 • Present

201 • Not Present

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203 **Q.22 Additional comments or observations**

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222 **Supplementary Material C – Defining structural components through images**

223 **1. Door**



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226 (Good Condition of the door)

(Repairing door holes for privacy)

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230 (Replacement needed for damaged door)

(No door available)

231 **2. Floors**



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234 (Flooring in good condition with skirting) (Need repair - minor crack on the floor)

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238 (Major cracks and significant damage to the floors affect functionality)

239 **3. Toilet pans**



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(Good Condition: clean &

242 intact toilet pan)

(Broken toilet pan needs repairing)

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246 (Sunken and damaged toilet pan due to burrowers needs to be replaced)

247 **4. Walls**



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250 (Good Condition & structurally sound walls) (Cracks on the walls need to be repaired)

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254 (The part of the wall that has collapsed needs to be replaced with a wall panel)

255 **5. Roofs**



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(Good Condition of the roof)

(Minor cracks and stains need repairing)

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262 (Leakage through the roof needs replacement)

(No roof available)