

Rural Sanitation in Upper Egypt: The Minya approach

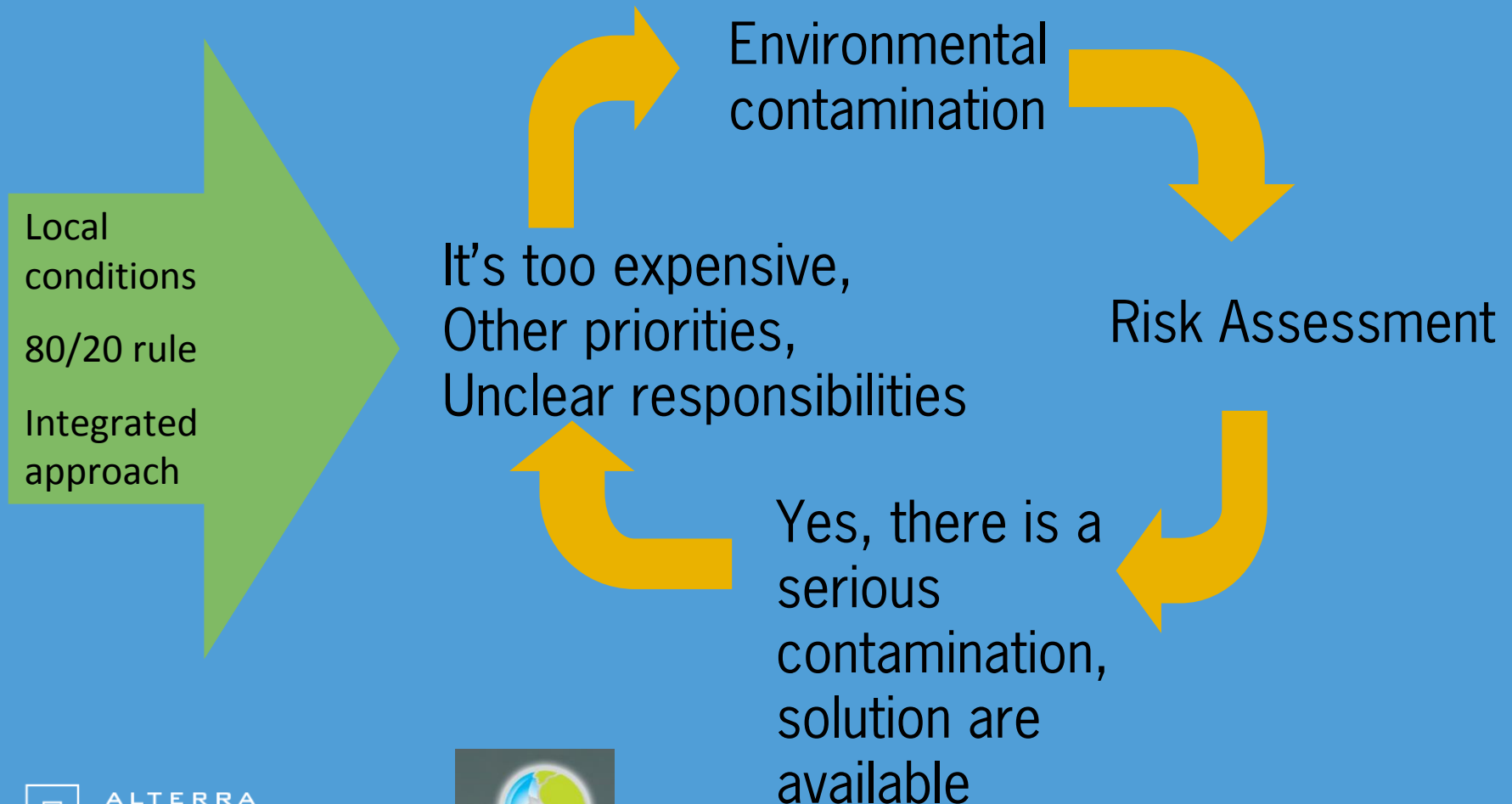
- Joop Harmsen, Kamal Ouda Ghodeif, Mohamed Sherif Saad S. El Tony, Hakiem El Wagieh, Enas Michael, Esam Helmy and Floris van der Veen



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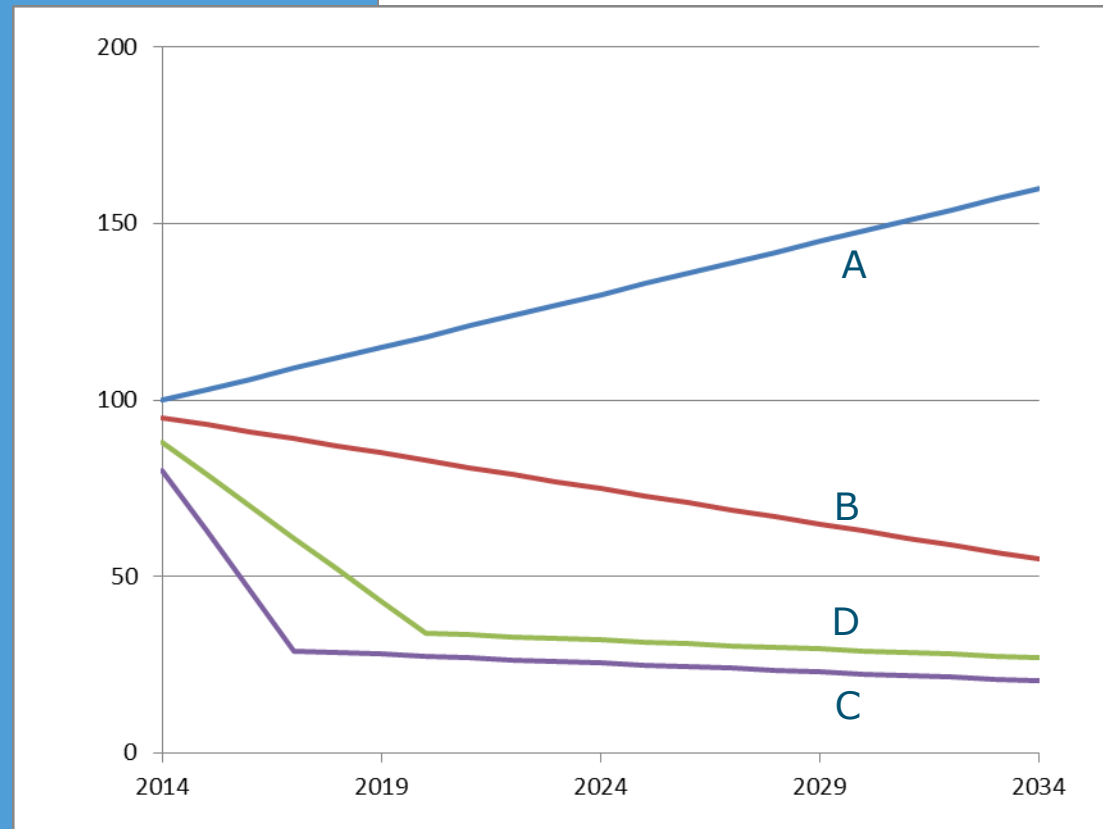
The assessment circle



80/20 rule

80% of result,
using 20% of
investment

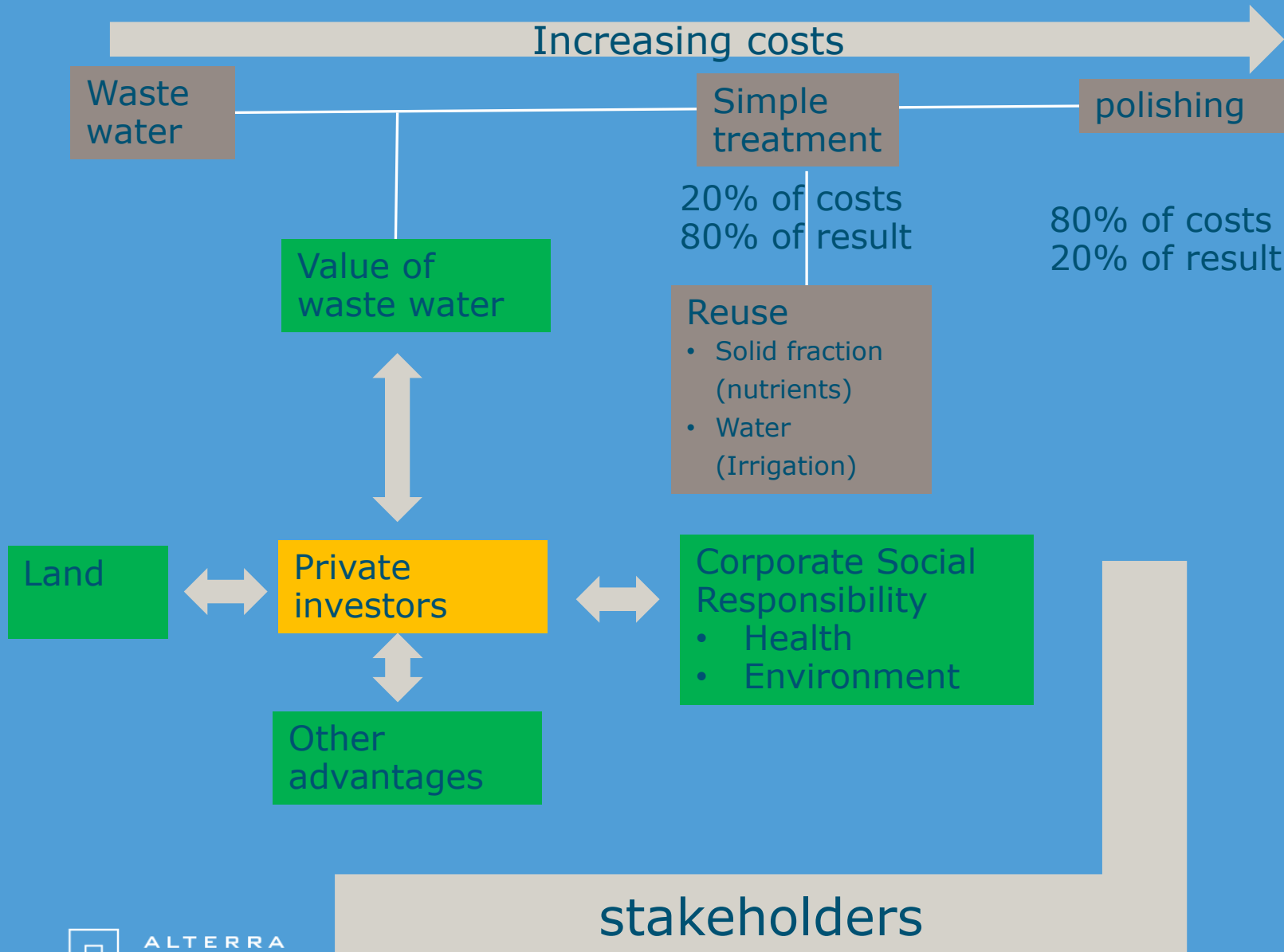
- A: no treatment increase 3%/year
- B: A + Investment for full cleaning of 5% of wastewater (reference is 2014)
- C: A + 80/20 rule for four years followed by 60% of investment to clean increase + 40% to clean 20% of 80-20 rule
- D: A + 50% of investment for 80-20 rule + 40% of investment for full cleaning for 8 year,s followed by 60% of investment to clean increase + 40% to clean 20% of 80-20 rule



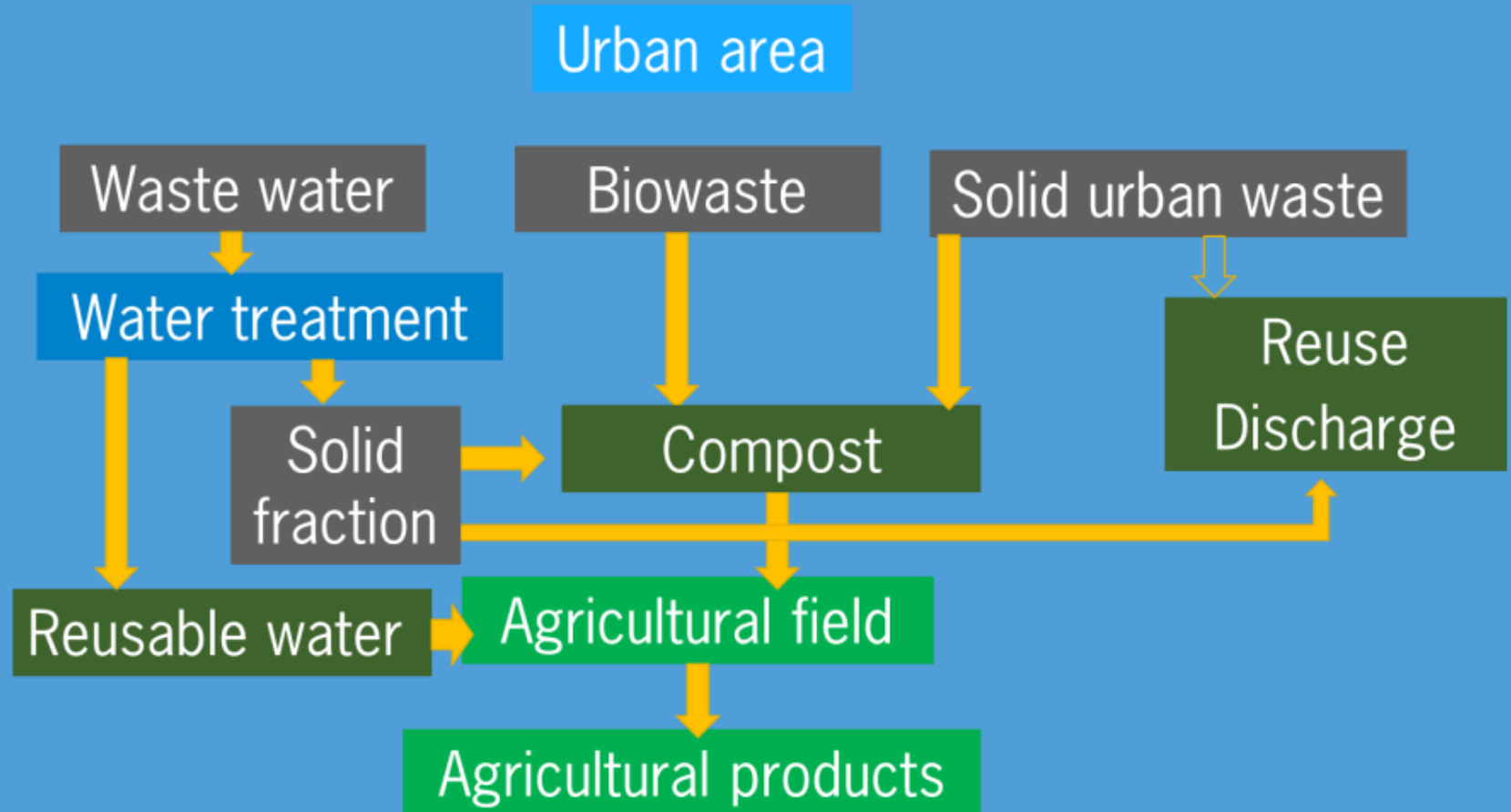
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Value of waste water



Integrated approach



Selection of village

Scoring of selected sites regarding criteria

Criteria	Deir Gabal El-Tair	Deir Abu Hinnis	EL-Shaikh Masoud	Sharona	Minya WWTP
Cheap cleaning technology	+	+	+	+	0
Quick start	+	+	+	+	++
Covering whole village	+	+	+	+	-
Possibilities for reuse	+	+	+	+	++
Total score	2	2	2	2	4

++	Easy to fulfil crit
+	Possible to fulfil
0	Not possible to f
-	Not applicable f

Deir Gabal El-Tair (selected village)



Cave where
Jezus, Jozeph
and Maria
stayed



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Limestone and risks of rock slide

- Waste water makes lime stone instable
- Risk of collapse (example in Cairo with 90 deaths)
- Deir Gabal El-Tair site has high potential risk
- Cave and church important for Muslims and Christians
- Cave is in danger & Site of Holy Family route
- 2 Millions pilgrims/year
- Touristic potential



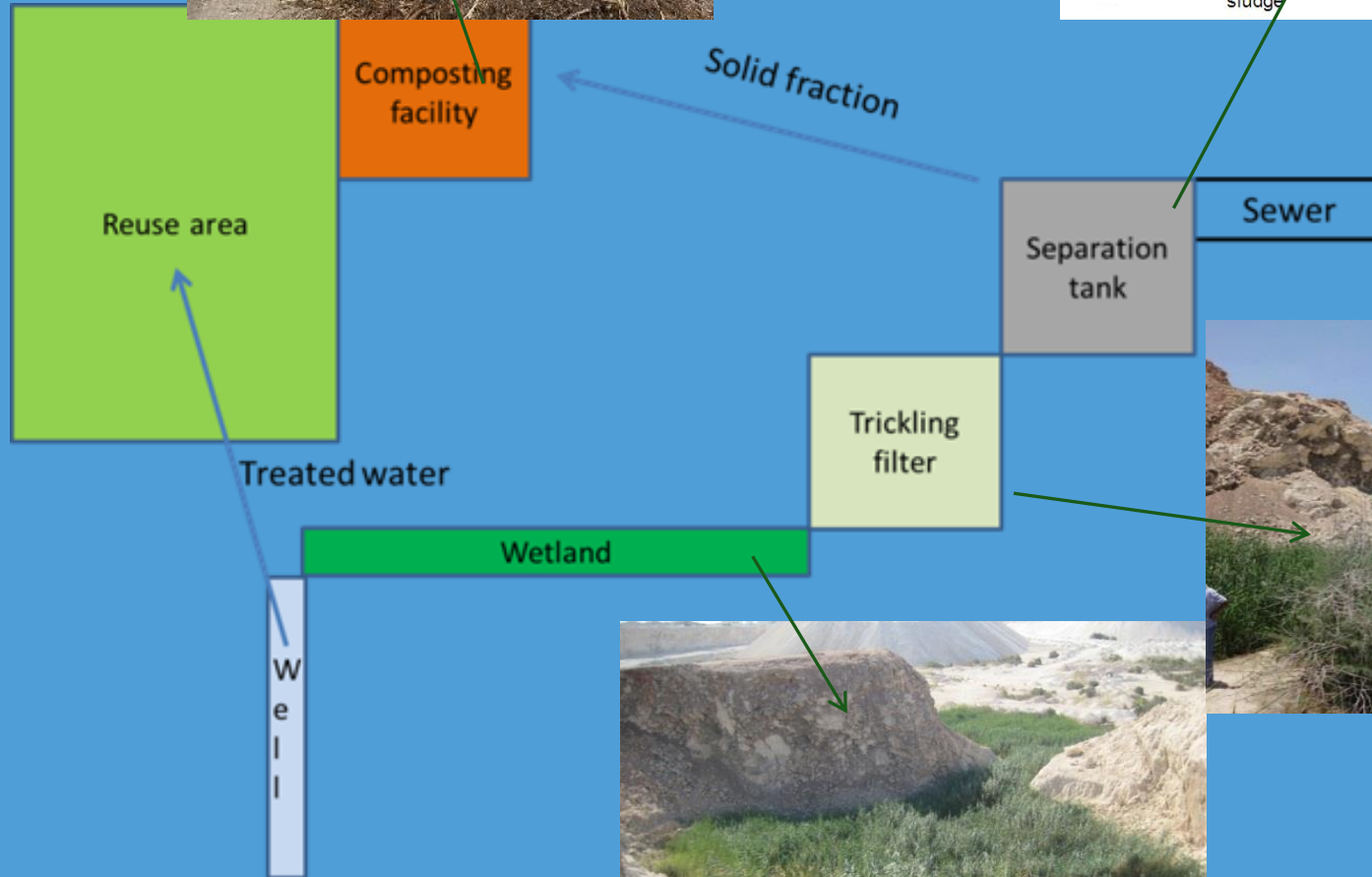
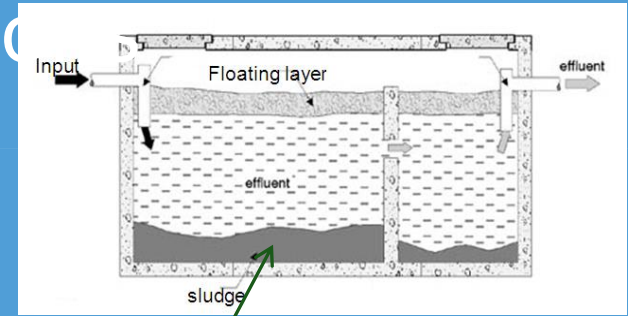
Manshiyet Nasron , 2008



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Use local conditions



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Peak discharge



- Do not design on peak discharge, but make a solution for this



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Stakeholders

- Church (saving the cave)
 - People in the village
 - Visitors of the village
 - Local government (governor is very positive)
 - Several ministries
 - Agriculture (landscape/production)
-
- Using the report, resources (money, man power) will become available)

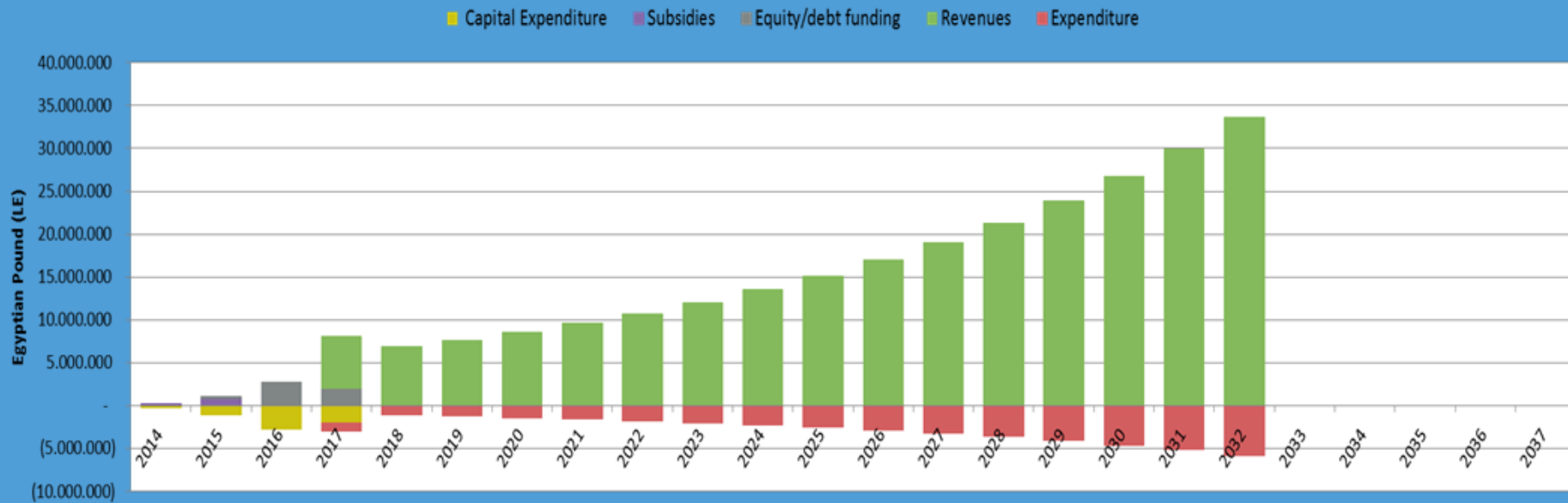


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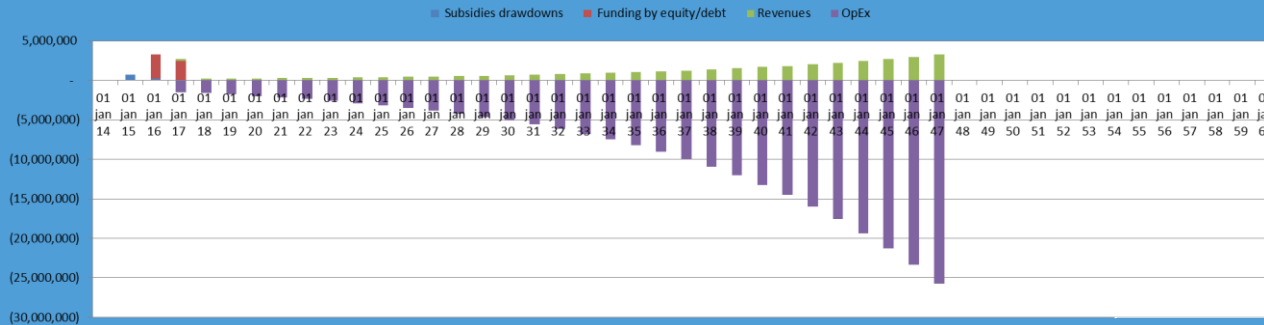


Economic Feasibility study pilot

SLIDE 12



Deir Gabal El Tair)



No revenues



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Large scale: Treatment of waste water Minya



- Groundwater of good quality present
- Investors will be interested



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Other villages

- Infiltration and simple septic tanks
- No sewer system
- No pilot on short term
- Improvement necessary



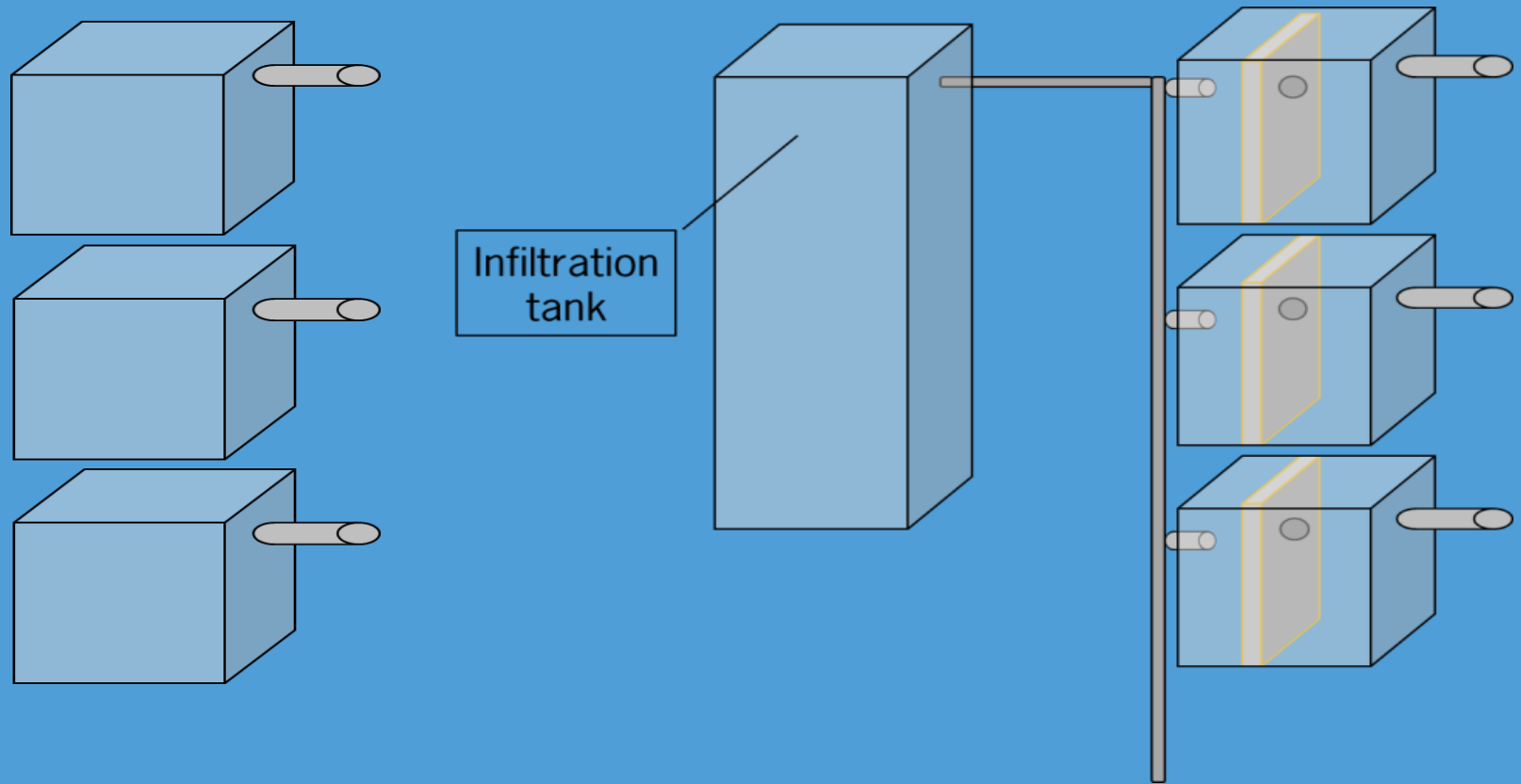
Sand



Clay



Improvement in other villages



Conclusion 1

- Using technology according 80/20 rule
- One village, Teir Gabal El-Tair, available in which a pilot can be started
- Saving of a Holy Place is important argument
- Local conditions and landscape are used
- Second pilot near Minya WWTP to show the applicability of waste water by private investors
- Plan with phasing is presented
- Comparable situations (villages are present)
- Recommendations are given for other visited villages in order to improve the situation



Conclusion 2

- Enthusiasm on the project is present in Egypt and the Netherlands
- There are drivers on this moment:
 - Saving the cave
 - Improving living conditions in village
- Business opportunities will be enhanced with a pilot:
 - Mobile toiletten
 - Composting
 - Agricultural Reuse (large farmers)
 - Pelgrims and tourism
 - Septic tanks



Profit



Better health (man
living just besides the
waste water storage)



Saving of the cave
Interest Governor,
several ministries



Landscape and reuse of
water