

COMPOST FILTER



**AN INNOVATIVE SUSTAINABLE SANITATION
SOLUTION**

Sanitation for the mountain places is sometimes a problem.



COMMON APPROACHES MAY NOT WORK

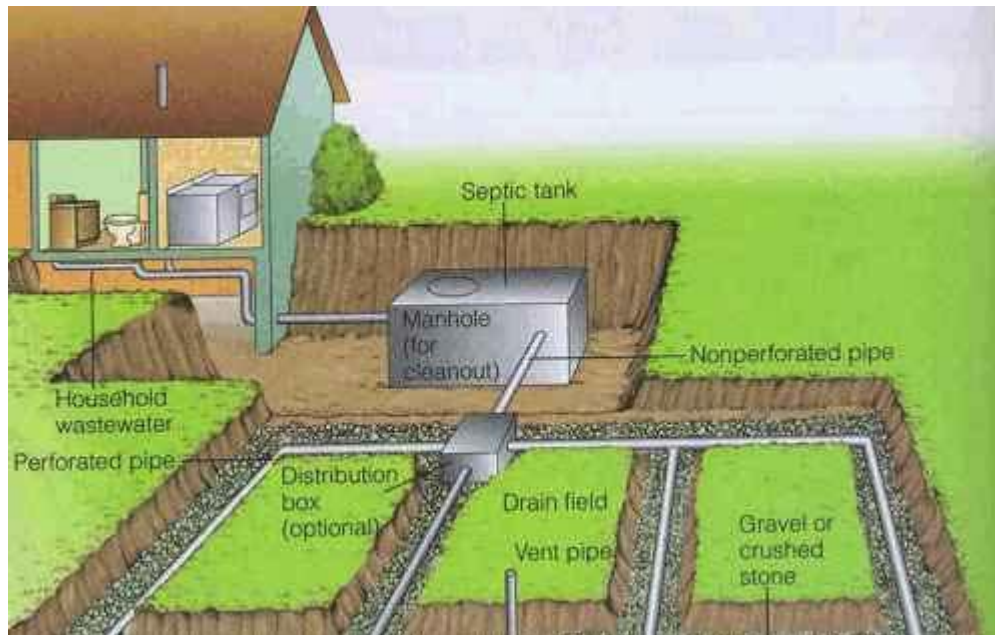
PIT LATRINE ?

- **BAD SMELL**
- **COLD**
- **TOO FAR FROM THE HOUSE**
- **POLLUTION AND LOSS OF NUTRIENTS**



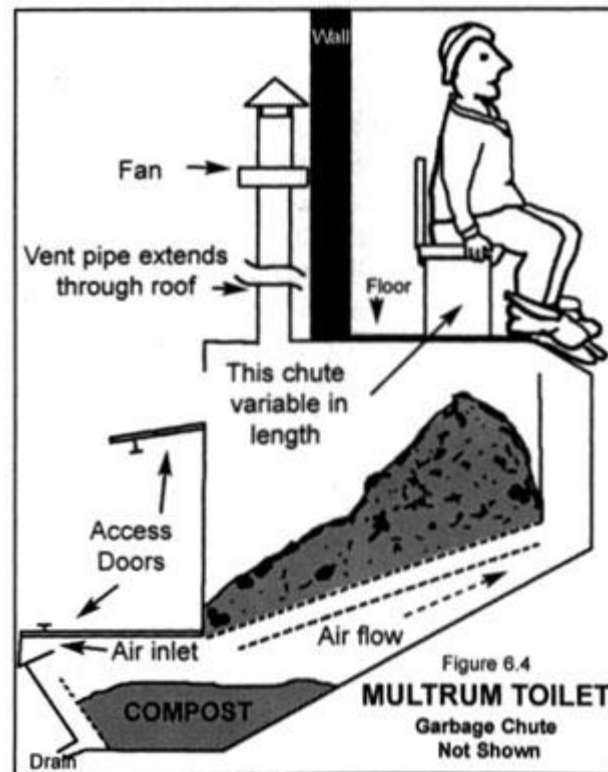
WATER TOILET+SEPTIC TANK+LEACH FIELD ?

- **Expensive and difficult to build and provide service**
- **Pollute the environment**



DRY COMPOST TOILET ?

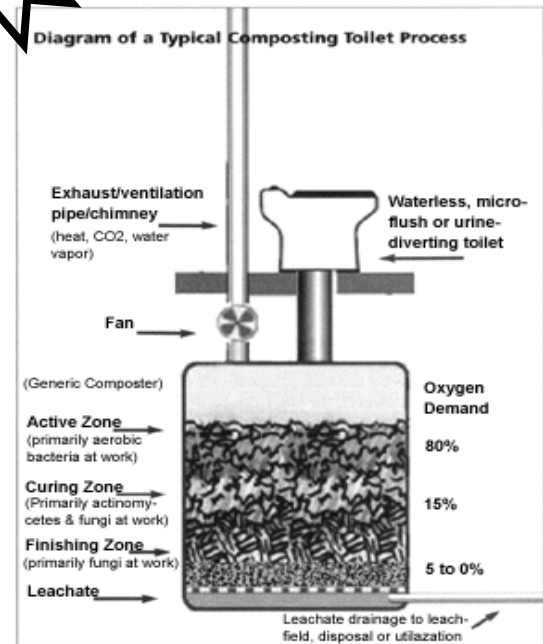
- **Too big to use within existing buildings**
- **Do not meet users expectations**



SOLUTIONS?



COMPOST FILTER!

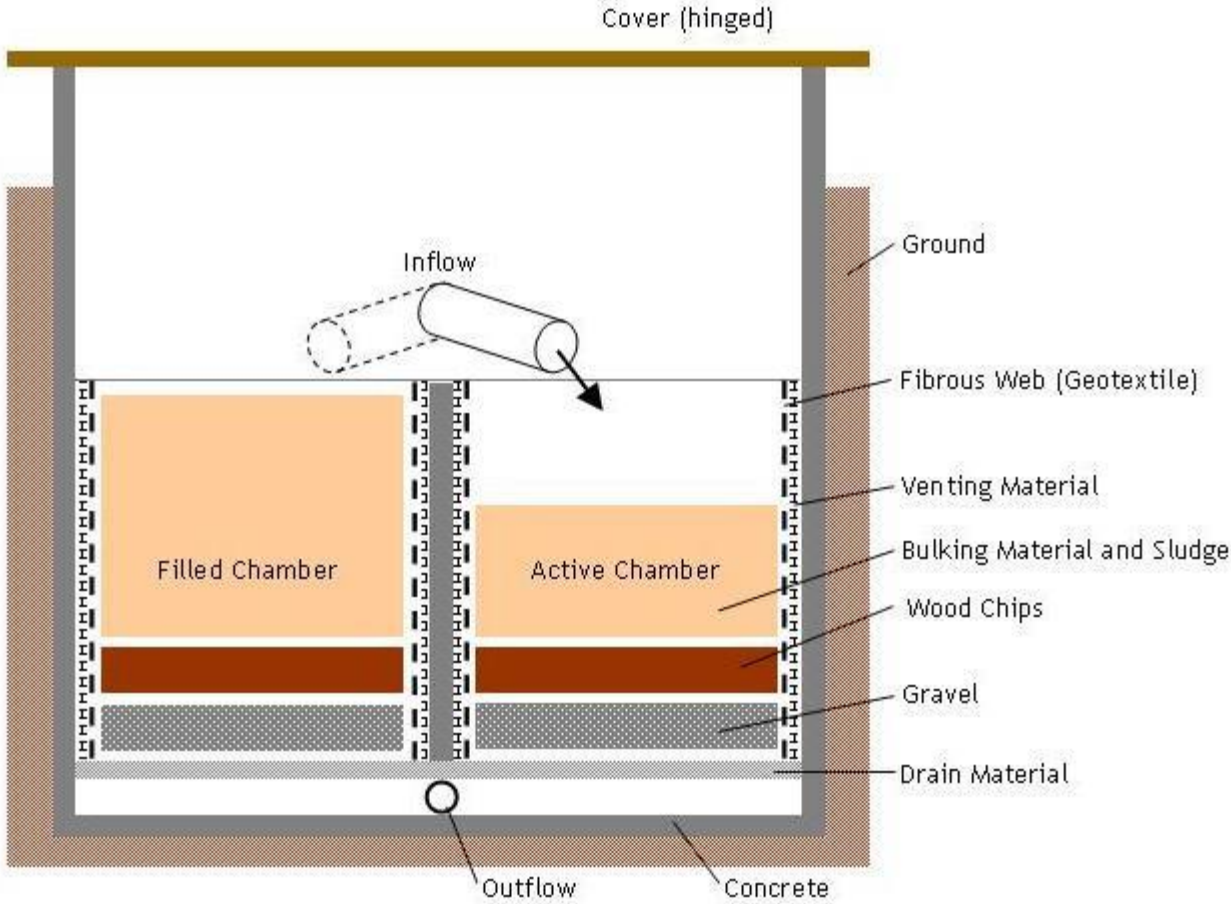


COMBINATION OF WATER AND COMPOST TOILET TO USE ADVANTAGES OF BOTH APPROACHES

PRINCIPLE OF THE COMPOST FILTER

- TWO IDENTICAL SWAPPING CHAMBERS. ACTIVE AND RESTING
- THE ACTIVE CHAMBER RECEIVES BLACK WATER FROM FLUSH TOILET TOGETHER WITH ADDED BULK FILTERING MATERIAL
- FECAL MATERIAL AND TOILET PAPER ACCUMULATED IN THE ACTIVE CHAMBER AND GO THROUGH THE PROCESS OF DEWATERING AND AEROBIC COMPOSTING
- THE FILTERED LEACHATE FROM ACTIVE CHAMBER GOES TO INFILTRATION SYSTEM (SUB SOIL INFILTRATION, CONSTRUCTED WETLAND, EVAPOTRANSPIRATION BED)
- WHEN FULL THE ACTIVE CHAMBER SWITCHES TO RESTING MODE AND ACCUMULATED MATERIAL GOES THROUGH THE FINAL AEROBIC COMPOSTING PROCESS. THE EFFLUENT FROM WATER TOILET DIRECTED TO THE OTHER CHAMBER
- AFTER 1 YEAR THE RESTING CHAMBER IS EMPTIED AND BECOMES READY FOR THE NEXT ACTIVE/RESTING CYCLE. THE COMPOST IS USED FOR PLANTS GROWING

PRINCIPLE OF THE COMPOST FILTER



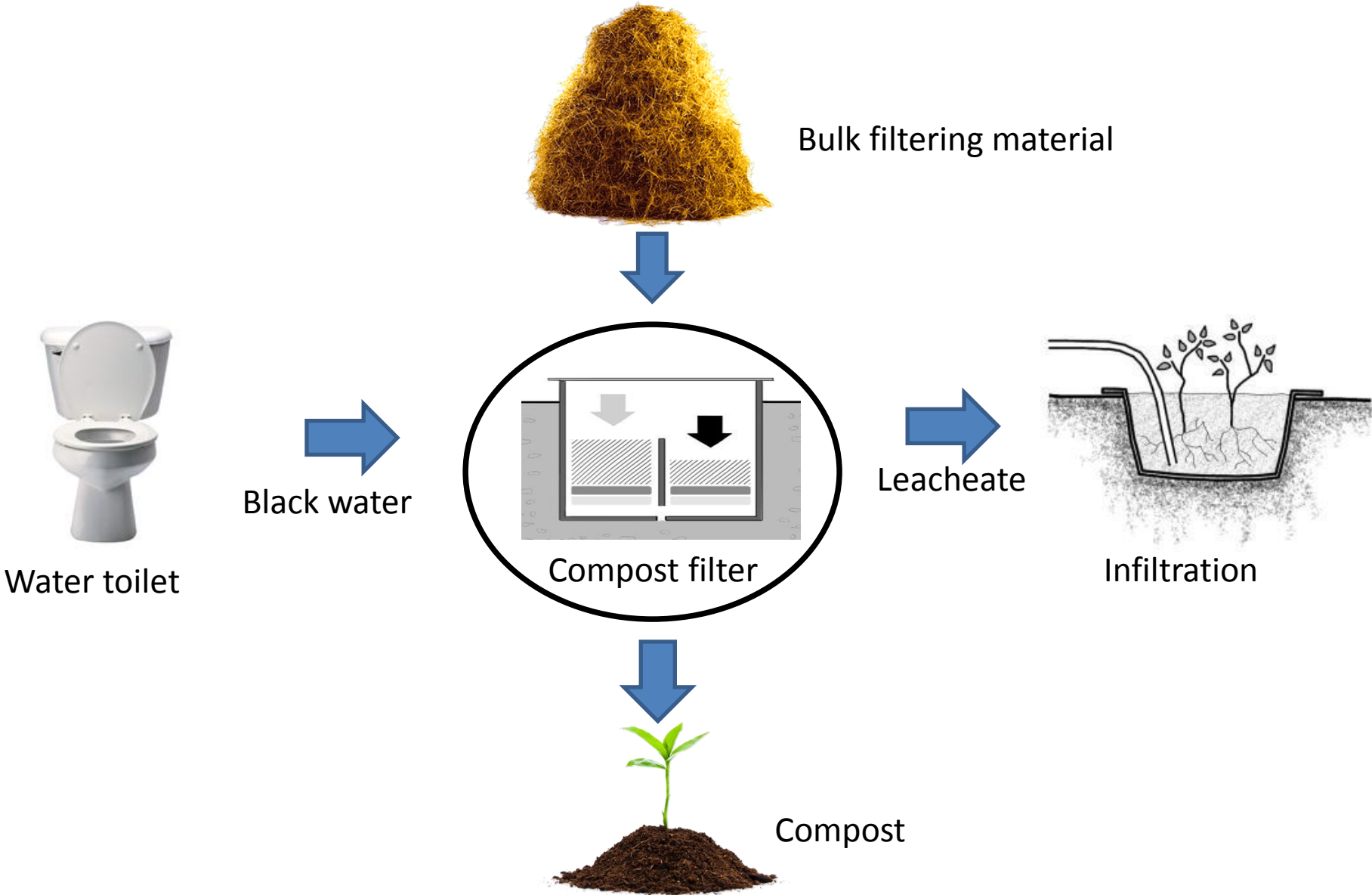
COMPOST FILTER



COMPOST FILTER AT WORK



MATERIALS FLOW THROUGH COMPOST FILTER SYSTEM



EFFICIENCY

- WELL TESTED FOR UP TO 40 PEOPLE
- THE **BOD** OF EFFLUENT (LEACHATE) FROM THE COMPOST FILTER IS LESS THAN 100 MG PER LITER (BETTER THAN SEPTIC TANK)
- WORKS WELL AT TEMPERATURES AS LOW AS - 10 DUE TO ENERGY RELEASED DURING COMPOSTING PROCESS

ADVANTAGES

- CAN BE CONSTRUCTED ON SITE FROM LOCAL MATERIALS (STONES) AT REMOTE PLACES
- MINOR EARTH WORKS NEEDED COMPARED TO SEPTIC TANK
- CAN BE OPERATED AND MAINTAINED BY OWNERS WITHOUT SPECIAL EQUIPMENT
- THE PRODUCTS (COMPOST AND LEACHEATE) CAN BE USED AS FERTILIZER ON SITE
- GOOD FOR COLD CLIMATE
- NO ENERGY USED UNLESS FOR PUMPING WHERE NO GRAVITY FLOW IS POSSIBLE
- HEAVILY GREASED EFFLUENT FROM KITCHEN CAN BE EASILY PROCESSED THROUGH COMPOST FILTER

DISADVANTAGES

- NEEDS MORE MAINTAINENCE THAN SEPTIC TANK (REGULAR ADDITION OF BULK MATERIAL)
- NUMBER OF PEOPLE SERVED IS LIMITED
- THE SYSTEM MAY CLOG IF PROPER MAINTANENCE IS NOT PROVIDED