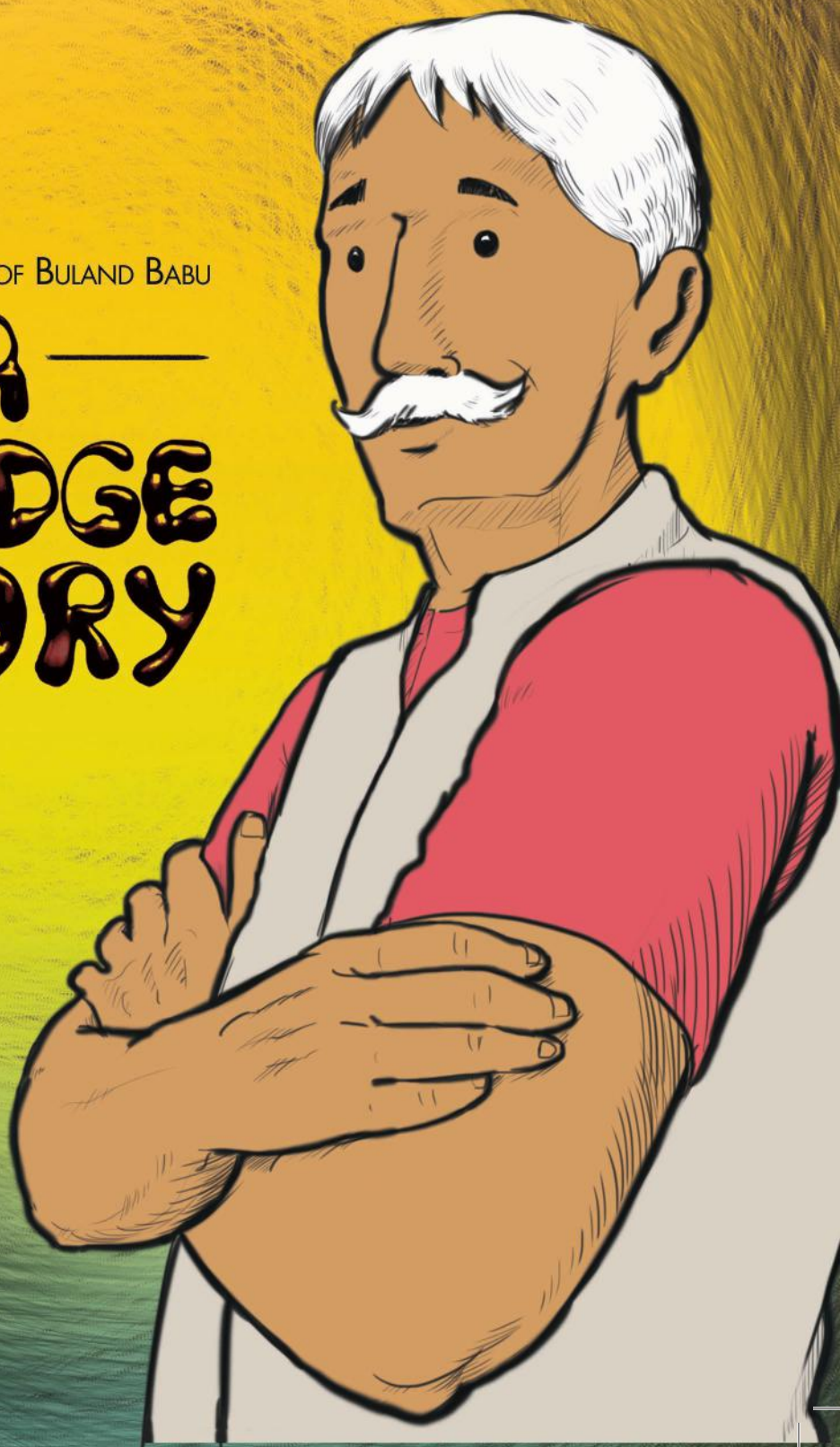


THE ADVENTURES OF BULAND BABU

— A —  
**SLUDGE  
STORY**





THE ADVENTURES OF BULAND BABU

— A —  
SLUDGE  
STORY

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STORY, LAYOUT AND ILLUSTRATIONS BY TWIST OPEN INNOVATIONS

## THE SANITATION STAR CAST



**BULAND BABU**  
AN ORDINARY MAN,  
HE HAS THE  
EXTRAORDINARY  
DETERMINATION TO  
DO THE BEST FOR  
HIS CITY AND  
FELLOW CITIZENS...  
AN EVERYDAY HERO!



**RAHUL**  
AN ENGINEER, HE  
HELPS THE SANITATION  
DEPARTMENT DESIGN  
AND BUILD THE BEST  
POSSIBLE SOLUTION  
FOR YOUR WASTE!



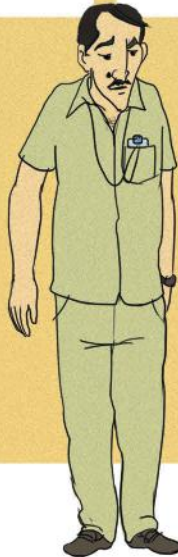
**MRS. SWATI**  
THE LOCAL  
CORPORATOR, SHE  
MUST KEEP THE  
PEOPLE HAPPY AND  
HELP THE CITY GROW!



**MR. GOKHALE**  
A JOURNALIST, HE  
BELIEVES THE MEDIA  
MUST BE THE VOICE  
OF THE PEOPLE, A  
MIRROR TO SOCIETY  
AND THE CONSCIENCE  
OF THE GOVERNMENT!



**MR. RAO**  
THE MUNICIPAL  
COMMISSIONER, HE  
BEARS THE BURDEN  
AND THE PRAISE OF A  
WELL-PLANNED CITY!



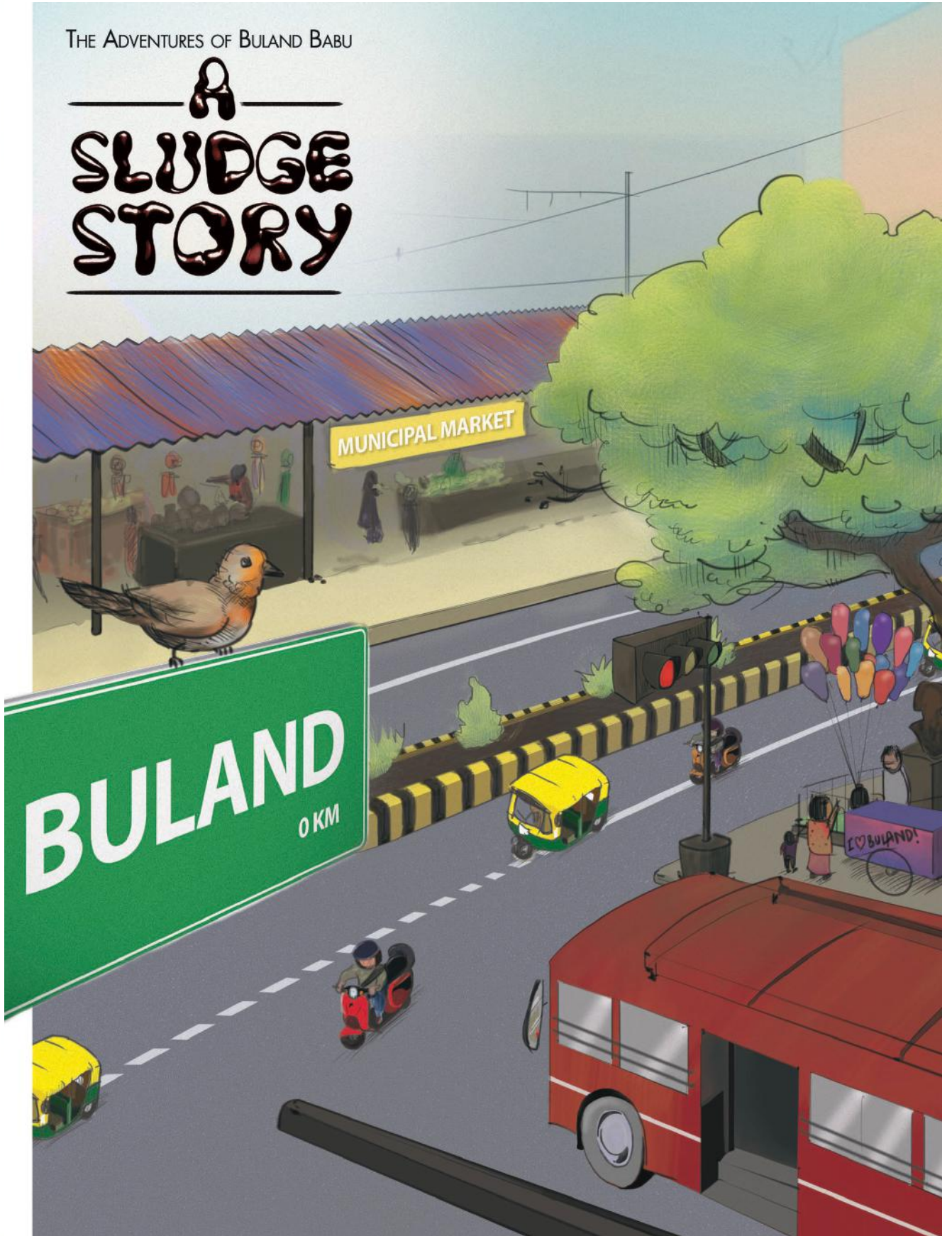
**MR. SHARMA**  
THE LOCAL SANITARY  
INSPECTOR, HE MANAGES  
THE TRICKY AND OFTEN  
SMELLY, SOLUTIONS!

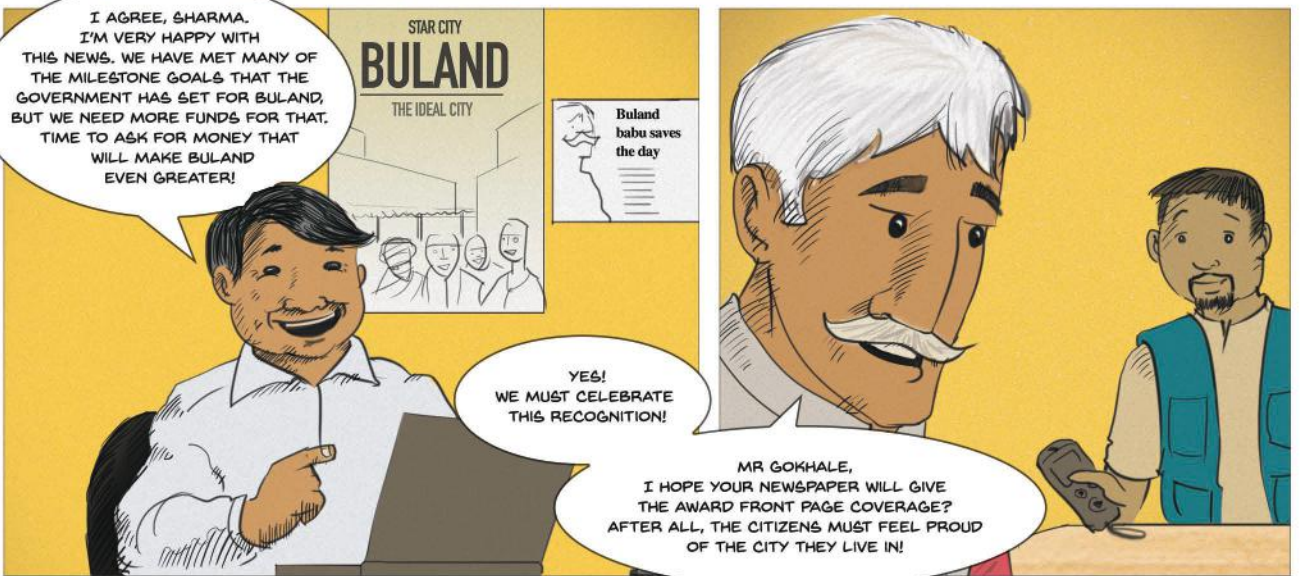


**MR. PATEL**  
THE OWNER AND  
OPERATOR OF A  
HONEYBUCKER TRUCK,  
HE GETS YOUR WASTE  
OUT OF THE WAY!

THE ADVENTURES OF BULAND BABU

# A SLUDGE STORY







OF COURSE, SIR.  
THE PUBLIC IS VERY CONCERNED  
ABOUT THE ONGOING DIARRHEA  
EPIDEMIC, BUT THIS IS A MOMENT OF  
PRIDE FOR ALL OF US.



MR GOKHALE,  
REALLY, YOU  
PRESS PEOPLE ARE  
ALWAYS SO NEGATIVE.

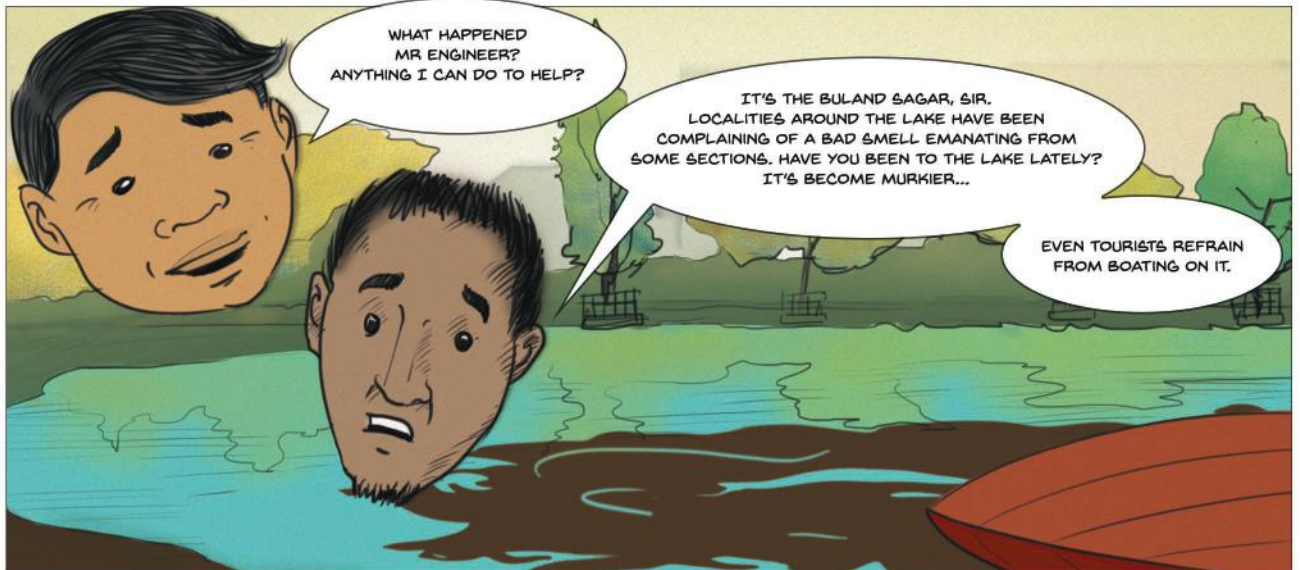


RAHUL, WHAT HAPPENED?  
WHY ARE YOU SO QUIET?  
AREN'T YOU HAPPY  
BULAND IS GROWING WITH  
LEAPS AND BOUNDS?

I AM HAPPY, BUT SOME  
WORK-RELATED STUFF  
IS WORRYING ME.



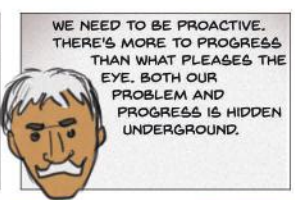
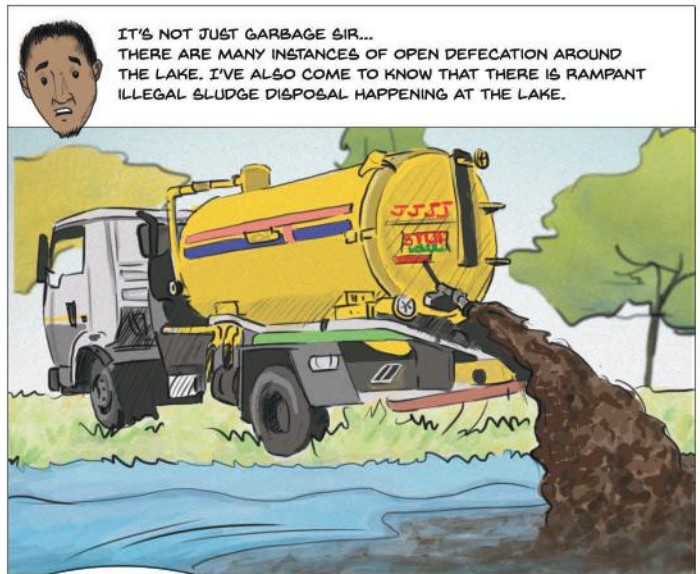
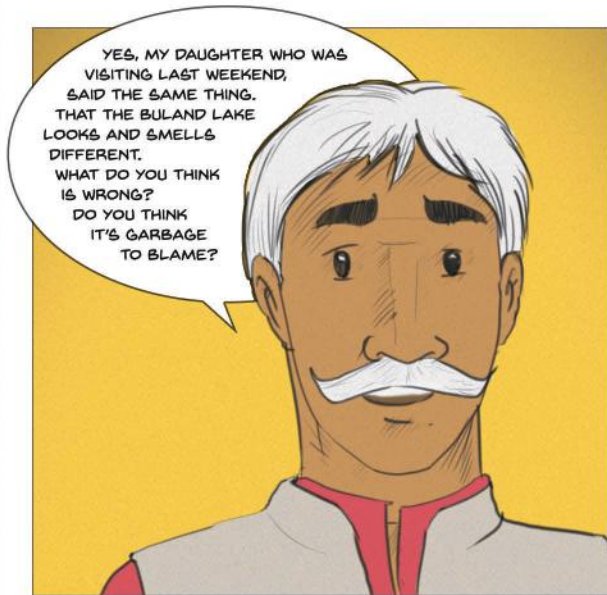
?



WHAT HAPPENED  
MR ENGINEER?  
ANYTHING I CAN DO TO HELP?

IT'S THE BULAND SAGAR, SIR.  
LOCALITIES AROUND THE LAKE HAVE BEEN  
COMPLAINING OF A BAD SMELL EMANATING FROM  
SOME SECTIONS. HAVE YOU BEEN TO THE LAKE LATELY?  
IT'S BECOME MURKIER...

EVEN TOURISTS REFRAIN  
FROM BOATING ON IT.





PEOPLE OF BULAND,  
THANK YOU FOR COMING HERE.  
TODAY, WE ALL HAVE A BIG  
PROBLEM IN FRONT OF US -  
**A PROBLEM THAT IS  
THREATENING BULAND'S  
HEALTH AND GROWTH.**



MR SHARMA,  
AS BULAND'S SANITATION OFFICER,  
CAN YOU PLEASE EXPLAIN  
WHY BULAND IS REELING UNDER  
INEFFICIENT SANITATION  
MANAGEMENT?



THERE IS NOTHING INEFFICIENT  
ABOUT OUR SANITATION PLAN.  
WHAT CAN I DO IF THE  
POPULATION OF BULAND HAS  
INCREASED SO MUCH?

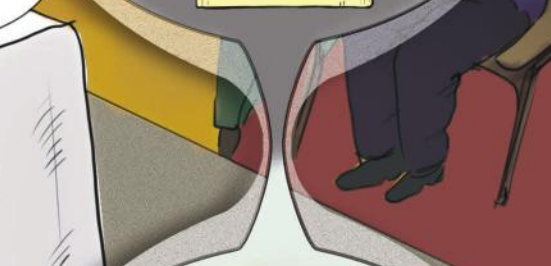


LOOK AROUND YOU. WAS  
THERE A SINGLE  
SKYSCRAPER IN BULAND  
10 YEARS AGO?



BULAND 1985

WHAT WAS ONCE  
THE CITY'S OUTSKIRTS,  
IS NOW ITS HEART!



WE HAVE BARELY  
MANAGED TO KEEP UP  
WITH DEMAND  
ABOVE GROUND

**SEWERAGE IS A  
FAR FETCHED  
GOAL.**



BULAND 2017



BUT BULAND HAS BUILT SO MANY NEW PUBLIC TOILETS. EVERY WHERE ONE GOES, WE SEE AND HEAR TALK OF BUILDING TOILETS AND PREVENTING OPEN DEFECACTION.



YOU'RE RIGHT, MA'AM. BUT HAVE YOU WONDERED WHAT HAPPENS UNDER THE TOILET? WHERE YOUR AND MY WASTE IS GOING?



THAT IS NOT OUR PROBLEM. THERE ARE PEOPLE WHO ARE RESPONSIBLE FOR CLEANING OUR GUTTERS AND SEWAGE PITS. THIS HAS ALWAYS BEEN OUR TRADITION. WE HAVE BETTER THINGS TO DO THAN WORRY ABOUT SHIT.



THAT'S WHERE SO MANY OF US ARE WRONG. NOT ONLY IS MANUAL SCAVENGING NOW BANNED BY THE GOVERNMENT OF INDIA, IT IS ABSOLUTELY INEFFECTIVE IN DEALING WITH OUR PROBLEM OF FAECAL SLUDGE AND SEWERAGE.

SO TELL US HOW DOES BULAND CURRENTLY DISPOSE OF ITS WASTE?



AS YOU KNOW, BULAND DOES NOT HAVE A SEWAGE TREATMENT PLANT BIG ENOUGH TO HANDLE ALL OUR WASTE.



UNFORTUNATELY EVEN WITH THE DRAINAGE NETWORK, MUCH OF THE WASTE FAILS TO REACH THE WASTEWATER TREATMENT PLANT BECAUSE OF POOR MAINTENANCE.



YES, YES, GO ON AND COMPLAIN ALL YOU WANT. DO YOU EVEN KNOW HOW MUCH IT COSTS TO MAINTAIN SUCH A SYSTEM?



I DON'T UNDERSTAND. WHY CAN'T WE HAVE A CENTRAL PLANT THAT CONNECTS ALL AREAS OF THE CITY?

WITH SO MUCH GROWTH,  
WHERE IS THE SPACE TO PUT UP SUCH A PLANT?



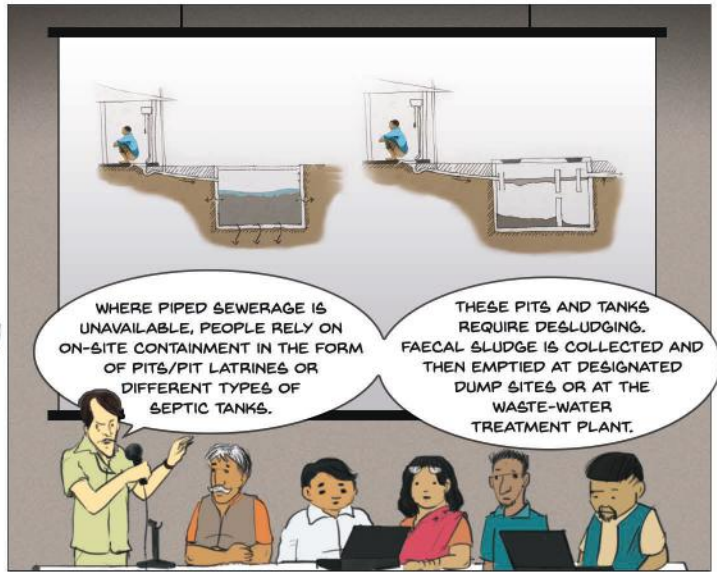
WE CAN'T EVEN TALK ABOUT IT WITHOUT A GRIMACE;  
**HOW MANY PEOPLE WILL WILLINGLY LIVE  
NEXT TO IT?**

**PLUS THERE ARE BIG FINANCIAL IMPLICATIONS.**

DO YOU KNOW THAT BULAND WOULD HAVE TO SPEND  
BETWEEN R66,000 TO R68,000 PER PERSON ON  
THE DEVELOPMENT OF A SEWERAGE NETWORK  
THAT CONNECTS TO A CENTRALIZED SYSTEM?



BUT SIR, WE HAVE OTHER SYSTEMS IN PLACE ALSO.  
MOST HOUSEHOLDS AND LOCALITIES IN THE  
SUBURBS HAVE THEIR OWN SEPTIC TANKS



WHERE PIPED SEWERAGE IS  
UNAVAILABLE, PEOPLE RELY ON  
ON-SITE CONTAINMENT IN THE FORM  
OF PITS/PIT LATRINES OR  
DIFFERENT TYPES OF  
SEPTIC TANKS.

THESE PITS AND TANKS  
REQUIRE DESLUDGING.  
FAECAL SLUDGE IS COLLECTED AND  
THEN EMPTIED AT DESIGNATED  
DUMP SITES OR AT THE  
WASTE-WATER  
TREATMENT PLANT.

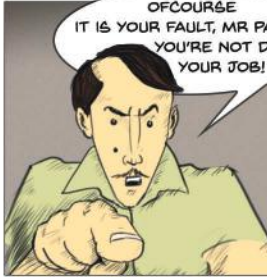
AND THAT'S WHERE  
PRIVATE DESLUDGING  
OPERATORS COME INTO PLAY.  
THESE GUYS ARE COMPLETELY  
IRRESPONSIBLE.  
THEY'RE TO  
BLAME FOR  
THE MESS  
THAT WE  
ARE IN.



PLEASE, SIR,  
DON'T ONLY  
BLAME US PRIVATE  
OPERATORS.



OFCOURSE  
IT IS YOUR FAULT, MR PATEL.  
YOU'RE NOT DOING  
YOUR JOB!



MR SHARMA,  
AND DEAR BULAND CITIZENS,  
WE HAVE ONE OF THE TOUGHEST JOBS  
POSSIBLE. WE ARE ASKED TO WORK  
ONLY AT NIGHT. WE WORK IN SMELLY  
AND DIFFICULT CONDITIONS...



SO MANY NEW AREAS OF BULAND ARE HAPHAZARDLY BUILT...  
LOW-INCOME HOUSING AREAS ARE SO CONGESTED, THAT WE ARE UNABLE TO  
BRING IN OUR TRUCKS. A SMALL SIZED TRUCK IS NOT ECONOMICALLY VIABLE TO  
MOST PRIVATE OPERATORS.



THE SLUDGE THAT IS ACCESSIBLE THROUGH THE TRUCK PUMPS IS DIFFICULT TO  
REMOVE: IT HAS BEEN LYING IN THE TANK FOR A VERY LONG TIME AND HAS  
BECOME VERY HARD.



BUT THE BIGGEST PROBLEM IS THAT IN MOST AREAS, WE HAVE NOT EVEN BEEN GIVEN A PLACE TO DUMP THE SLUDGE. THIS FORCES US TO DUMP INDISCRIMINATELY, AND THEN WE ARE FINED FOR DOING SO! FINED AND HARASSED BY THE LOCAL POLICE FOR HELPING KEEP SOCIETY CLEAN! HOW IRONIC!



OK, SO WHY ARE YOU DUMPING IN THE CITY LAKE? GO OUTSIDE OF THE CITY AND DUMP!

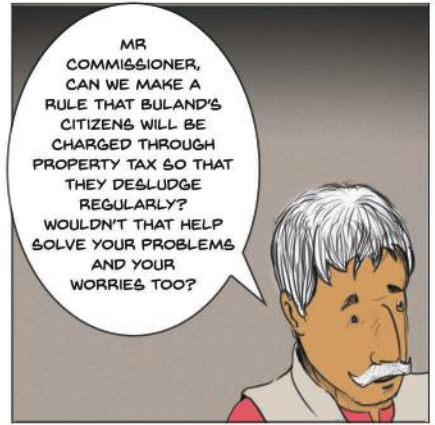
THAT WILL COST ME A LOT TO GO SO FAR. THE CONSUMER DOES NOT PAY ME TO COVER THOSE COSTS AS WELL.

SO WHY DON'T YOU DESLUDGE MORE OFTEN? YOU'LL GET ENOUGH MONEY THEN!

PEOPLE DON'T CALL US UNTIL THE PIT IS FULL, SIR.

WHY SHOULD I CALL YOU TO DESLUDGE FREQUENTLY? THAT WILL COST ME MORE!

IT WILL NOT COST YOU MORE MA'AM. ON THE CONTRARY, IF YOU DESLUDGE MORE OFTEN, IT WILL TURN OUT TO BE EVEN CHEAPER.



MR. COMMISSIONER, CAN WE MAKE A RULE THAT BULAND'S CITIZENS WILL BE CHARGED THROUGH PROPERTY TAX SO THAT THEY DESLUDGE REGULARLY? WOULDN'T THAT HELP SOLVE YOUR PROBLEMS AND YOUR WORRIES TOO?



WAIT A MINUTE- BEFORE WE OFFER IDEAS, WE NEED TO GET TO THE ROOT OF THE PROBLEM.

I'VE INVITED SOME EXPERTS ...

...WHO CAN HELP US GET TO A SOLUTION.



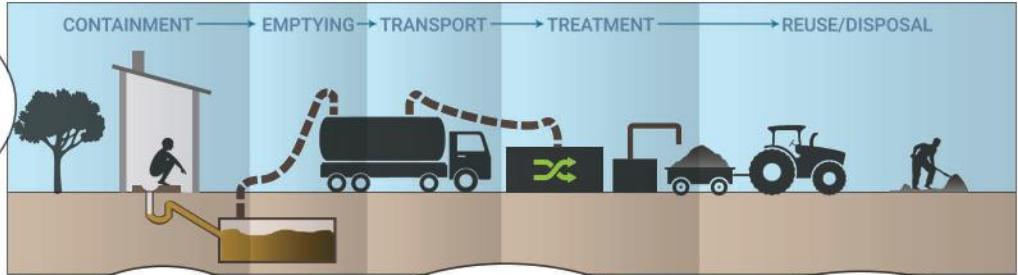
LIKE MOST CITIES AND RURAL AREAS ACROSS INDIA, BULAND HAS VERY LITTLE UNDERGROUND SEWERS AND TREATMENT PLANTS. WHICH MEANS THE MAJORITY OF SHIT IS TRANSPORTED BY TRUCKS. THERE IS AN URGENT NEED TO PROVIDE SAFE DUMPING SPOTS. THIS CAN BE DONE BY CREATING F&M CENTRES ACROSS THE CITY. THIS, I FEEL, WOULD SERVE BULAND'S NEEDS BEST.



I'M CONFUSED: WHAT IS F&M?



F&M, OR FAECAL SLUDGE MANAGEMENT, IS A SET OF PRACTICES THAT ENSURE THAT SLUDGE FROM PITS AND SEPTIC TANKS IS COLLECTED, TRANSPORTED, TREATED AND DISPOSED SAFELY.



ALL THIS SOUNDS VERY EXPENSIVE, MR CONSULTANT.



ACTUALLY SIR, IF BULAND FOLLOWS THE F&M WAY, THE COST OF SLUDGE TREATMENT WILL BE AS LITTLE AS RS400 TO RS700 PER CITIZEN.



THE COSTS SOUND GOOD, SO WHAT SHOULD WE DO TO ENSURE GOOD F&M?



THE FIRST STEP BEGINS IN THE HOMES OF EACH BULAND CITIZEN.



HAVE YOU ASKED YOURSELF WHERE THE WASTE GOES FROM YOUR TOILET? IF YOUR TOILETS ARE LINKED TO A CESS PIT, ENSURE THAT THE CESS PIT IS CONSTRUCTED ACCORDING TO GOVERNMENT REGULATIONS TO PREVENT WASTE FROM POLLUTING THE SOIL OR GROUND WATER...



STEP TWO IS WHERE HONEYSUCKER TRUCKS COME INTO PLAY. MR PATEL, PRIVATE OPERATORS SUCH AS YOU SHOULD BE APPRECIATED FOR GETTING RID OF MANUAL SCAVENGING. SLUDGE COLLECTED BY THE TRUCKS MUST BE TAKEN TO THE REGULATED DISPOSAL AREA, NOT DUMPED IN ANY OPEN ENVIRONMENT OR GIVEN DIRECTLY TO FARMERS...



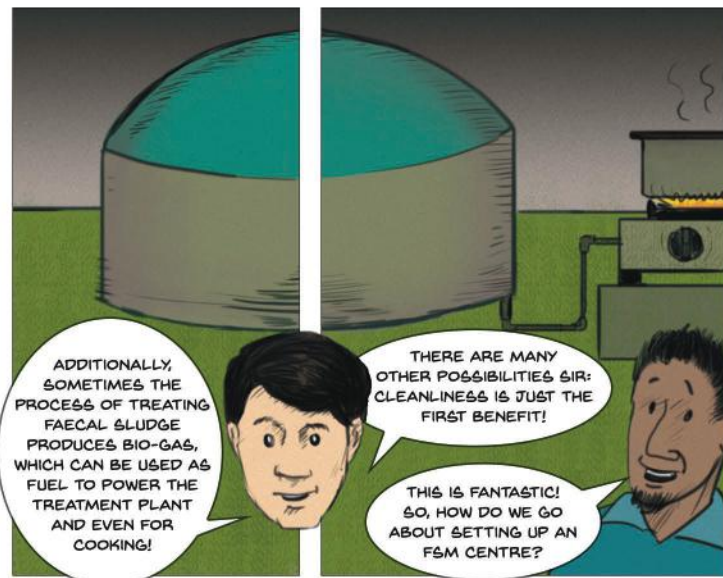


...NEXT IS THE RESPONSIBILITY OF MUNICIPALITIES. IN PLACES WHERE THERE IS NO SEWERAGE NETWORK, FAECAL SLUDGE TREATMENT PLANTS SHOULD BE BUILT. THESE PLANTS CAN TREAT THE SLUDGE SO THAT IT IS SAFE AND CAN ALSO ACTUALLY CREATE VALUE.

WHAT DO YOU MEAN BY CREATING VALUE?



WELL, THE FAECAL SLUDGE ONCE TREATED CAN BE USED OR SOLD AS AGRICULTURAL MANURE. WITHOUT TREATMENT, IT IS EXTREMELY HARMFUL: NOT ONLY TO THE FARMER BUT ALSO TO THE CONSUMER OF THE FOOD.

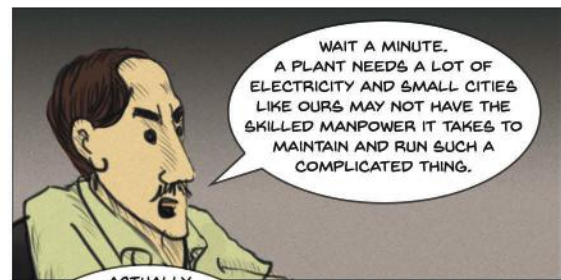


ADDITIONALLY, SOMETIMES THE PROCESS OF TREATING FAECAL SLUDGE PRODUCES BIO-GAS, WHICH CAN BE USED AS FUEL TO POWER THE TREATMENT PLANT AND EVEN FOR COOKING!



THERE ARE MANY OTHER POSSIBILITIES SIR: CLEANLINESS IS JUST THE FIRST BENEFIT!

THIS IS FANTASTIC! SO, HOW DO WE GO ABOUT SETTING UP AN FSM CENTRE?



WAIT A MINUTE. A PLANT NEEDS A LOT OF ELECTRICITY AND SMALL CITIES LIKE OURS MAY NOT HAVE THE SKILLED MANPOWER IT TAKES TO MAINTAIN AND RUN SUCH A COMPLICATED THING.



ACTUALLY, TREATMENT PLANTS ARE OF ALL KINDS. AN FSM CONSULTANT CAN HELP YOU CHOOSE A FAECAL SLUDGE TREATMENT METHOD THAT WORKS BEST FOR BULAND.



THIS IS TRUE RECYCLING OF WASTE PRODUCTS! LET'S PLAN TO BUILD SUCH CENTRES RIGHT AWAY!



I WISH IT WERE THAT EASY, MA'AM. UNFORTUNATELY, SUCH CENTRES DO TEND TO FACE SOCIAL ROADBLOCKS: PEOPLE MISTAKENLY ASSUME THAT A FAECAL SLUDGE MANAGEMENT CENTRE MEANS THAT THE AREA WILL BE UNATTRACTIVE AND STINK. SO THEY WILL PROTEST. THAT IS WHY IT IS UP TO CORPORATORS SUCH AS YOURSELF TO GUIDE YOUR VOTERS SO THAT AN AREA FOR THE PLANT CAN BE FOUND SOON.



NOT ONLY CAN TREATMENT PLANTS BE AESTHETICALLY APPEALING, THEY APPLY VARIOUS TREATMENT STAGES THAT ENSURE THAT THERE IS NO ODOR OR CONTAMINATION ANYWHERE.

THAT IS AMAZING! HOW DO WE GET STARTED?

IT'S A SIMPLE  
4 STEP PROCESS!

1

## The Right set of Regulations



Containment systems should be made a part of building permission process



Provide for subsidies for refurbishments of containment systems



Municipality owns & runs the honeysucker trucks directly, or outsources the work to one/more reliable contractor who satisfies the selection criteria



Block existing black water outlets to drains



Desludging of all the containment units happen at proper intervals via scheduled system as well as on-demand

2

## The Right Incentives



To ensure desludging services are priced in a judicious manner for all citizens the pricing must include the charges for desludging as well as operation and management of treatment plant



The Price paid to the truck operator can be dependent on the volume of the truck filled or on the distance from the fecal sludge treatment plant or both



Alternatively, the price can depend on the building footprint, as decided by & paid at the municipality



If desludging is on demand, there can be dynamic pricing fixed upon mutual agreements of the truck operator & customer





## 4 The Right Plant



Does not require highly skilled human resources



Requires minimal number of operation and management staff



Consumes less energy

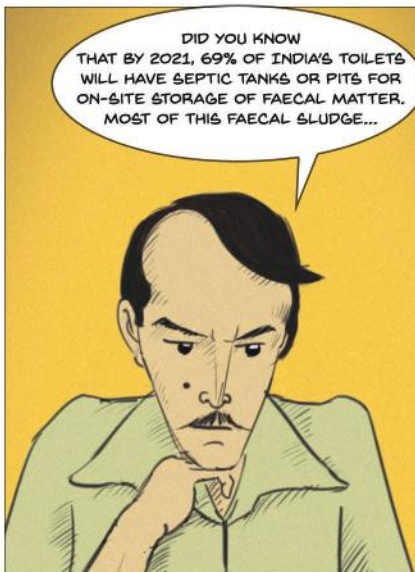
## 3 The Right Monitoring



To ensure the trucks deliver their service and dispose the faecal sludge at the plant check systems should be in place. For example, manual signature sheets at every interface, or coupons system or real time tracking of trucks on its routing & timing via GPS.



For the FSTP's optimal efficiency, records must be maintained, regular assessments to be done by third parties, or there can be online monitoring via sensors





END!

**COMING  
SOON!**

**MORE ADVENTURES  
OF BULAND BABU...**



Consortium for  
DEWATS  
Dissemination  
Society



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