

**A Simple Lifestyle Change That Must Become A Habit**



The one and only answer to the  
Garbage issue

**Zero Garbage**  
No... Ultimate Cleanliness!

Kaustubh Tamhankar



## Use It!

The system that turns  
our own “living” garbage  
into useful soil...

The system that runs  
on the energy of sheer willpower...  
“Aviratpatra” –  
**Perpetual Composting Basket**  
(With Earthworms)



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## We Will Buy

We will buy your plastic if you answer “yes”  
to the following four questions:

- 1) Has this plastic been used?
- 2) Is this plastic clean and dry?
- 3) Is this plastic soft?
- 4) Does this plastic have no value in the market?

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# Zero Garbage



**Kaustubh Tamhankar**

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## Preface

Zero garbage - ultimate cleanliness – the very meaning of these phrases is the proper management of used or unwanted things. I wrote the system of managing the garbage, the way me and my family practise at our home. I used to give my writings to anyone who came to see my garbage management or to enquire about it. People would read the papers eagerly, and few even began to follow my instructions. In this way, by word-of-mouth and from hand-to-hand, this writing has reached some magazines and newspapers, and has ultimately been published.

Constantly making photocopies became troublesome, as well as costly. To put an end to this 'double trouble', I decided finally to create this book.

Those who proceed to putting into practice the guidelines in this book should bear in mind one crucial point – that this is nothing short of a 'vow'. If this vow is followed with diligence, your very tendencies will change. Cleanliness will become your natural behaviour. Lead by example and become the first to follow this path – others in your house will start to follow you.

Even in my own home Mrs. Sharayu Tamhankar is very fond of cleanliness and all of us acknowledge it. In fact, the concept of "Zero Garbage" was born as a result of our efforts to keep up with her.

How this book should be priced was a big dilemma for me. If the book goes unused, its pages will be as valuable as the garbage. But if indeed it is used, its value would be invaluable. This is why, I have written, **"Whatever You Feel Appropriate" as the price. One should give whatever amount one feels like giving. The money received will be used for printing and further distribution of this book, that much I guarantee.**

To whom I should dedicate this book was yet another dilemma. Whomever I dedicate it to would sarcastically say, "Oh great! you dedicated your 'Garbage Book' to me!". After some thought, I decided to dedicate this book to those who love seeing garbage everywhere. In other words, I dedicate this book to people who like to use things and then recklessly throw them away wherever the heck they feel like!

During the creation of this book, Mr. Arun Phadake and Mrs. Shruti Namjoshi was kind enough to lend her grammatical

eye to clean up the writing. I would like to count on her contribution and heartfelt enthusiasm again and again, so I will not formally thank her here just yet! I would, however, like to thank Mr. Deepak Phadake and Mr. Vikas Phadke for giving this ‘trash’ book a ‘treasure’ of a homepage. I wish to thank Mr. Rajendra Phadke of Rajmudra Printers for the timeliness with which he was able to print this book.

## **An Appeal**

Dear Readers,

Like others, I also used to think that zero garbage is an idealistic, but impossible goal. However, in my experience, a little thoughtfulness and ‘right’ behaviour can make this impossible possible. It requires just 10-15 minutes a day. This became a type of quest for me and I started to behave accordingly. I placed a sign on my door as follows:

“No Garbage Is Made Here!”

For the last 12 years, we have not thrown out our trash in the usual manner. I felt compelled to tell you how this came to be hence all the fuss of this book. To that end, I have included here some of my articles on the subject :

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I am also including for you the sign displayed on my door. I hope that the number of homes displaying such signs will continue to grow.

Please don’t keep this book in a cupboard or throw it in the trash. Instead, let all your friends read it.

Yours,

**Kaustubh Tamhankar**

# 1. Management Of Used items (MOU)

Zero Garbage means extreme cleanliness, or technically, the proper disposal of waste.

Instead of “zero garbage”, what if we say, “extreme cleanliness?” People will not get it because in our society there is no zeal for cleanliness. However, people seem to take notice of a phrase like “zero garbage”. Is this because garbage is much more familiar to us than cleanliness?!

Until about the fourth standard, children are taught about cleanliness in school. After the fourth standard, cleanliness is abandoned (much like the children!). Today, if we stand in a classroom and look up at the ceiling, we are bound to see cobwebs – the real truth behind garbage creation is hidden in this observation. If we inject the medicine of cleanliness into their minds, our children would come to know the true meaning of garbage. First and foremost, let’s change the word “garbage”, because to all of us, garbage tends to imply vile, dirty, stinky stuff.

Instead of calling a car “old”, today we prefer to say that it is “pre-owned”! Instead of calling someone by name, attaching a “Sir” or “Saheb” adds an air of respect to the person. Similarly, what if we change the word “garbage” to “Wov” (वापरलेल्या वस्तू = वाव Wov) (Management of used items). Once the name is changed, our inner feelings about its meaning will also change slowly. The same way that we keep our pre-owned cars sparkling and shiny today, we will also learn to keep our other used things clean and well-maintained.

After we finish consuming something, its ‘left-over’ parts become unwanted. However, as long as that thing is still useful to us, we are less bothered by those same parts. The best examples are food items: consider potato or banana peels, or the bag that your pav-bhaji comes in! We value the peels or bags while transporting the bananas or the pav-bhaji. However, the very moment when the peels or bags are separated from their tasty food items, they get the

reputation of garbage, or in other words, they become Wovs (वापरलेल्या वस्तू). Then, after some further mistreatment or other 'improperly performed rites' these same Wovs take the form of foul and unsightly trash. We, the users, are wholly and completely responsible for giving this new foul form to these Wovs.

Once we are done using something, the habit of thoughtlessly throwing it as garbage has become so ingrained in our mindset that we don't even realize that we are doing something wrong. We need to give some thought to this habit. A tragic example of this 'use and throw' behaviour has gone wild in our treatment to grandma and grandpa today. We have finished using them! What should we do with them now? We cannot abandon them, so we just ignore them. When we look at the parents that these children have "thrown out" after using, we wonder if this is the morbid fruit of not teaching these children how to manage their garbage and other used items properly.

Today, we often hear terms like Kaizen, Six Sigma, Zero Defects, ISO 9000, Just in Time, etc. But what do these terms mean? They are nothing but particular systems of behaviour, conduct, and thought. In fact, the main concept behind ISO 9000 is that of the great Sant Tukaram Maharaj. His words (translated into English) were, "Hold the feet of (i.e. salute) the person whose actions are exactly in accordance with his/her words." People outside of India understood this teaching, put it into the ISO 9000 framework, and sold it right back to us! Perhaps tomorrow someone will try to sell us the MOU System (Management of Used Items)! Then, high-class buildings and societies will spend much money to display proudly at their gates the sign, "Our Society is MOU Certified"!

So then, instead of someone importing this MOU System from Japan or the U.S. and selling it to us, why don't we make the MOU (Management of Used Items) System and sell it to the world?



Now, what should we do in order to manage our 'USED items' properly? This will be the first question that pops into your mind. The answer is that you first need to make the following resolution or vow:

**“I will handle and manage my used items and trash properly. I have decided this firmly. And I believe that this is my duty and responsibility.”**

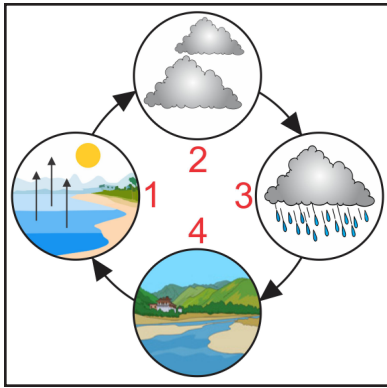
What is the first action you need to take? You need to make an announcement that, “From this day forward, I will not throw my used items into the garbage.” And what better way to make the announcement than to place that sign on your door – **‘Zero Garbage’ - ‘No Garbage Is Made Here’**

A thought may creep into your mind that perhaps you should do the work and make the change first, and only then announce your resolution to the world. But remember that this is not just a simple, ordinary sign. This sign is also a way for you to enforce the guidelines onto yourself.

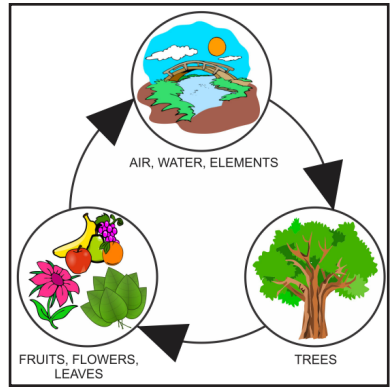
Our wedding rings indicate that we are connected to another person by marriage. Our prayer beads say that we are devoted to God. Even our many politicians wear white clothes to show that they are public servants. Just like our wedding rings, prayer beads and white clothing that sign on our door – “Zero Garbage – No Garbage Is Made Here” – is our communication to the world.

Once we announce such a resolution, then that very announcement helps keep us alert and aware. If today you place the Zero Garbage sign on your door, then tomorrow, when you go outside to give your garbage to the society's garbage collector, that same sign will speak to you and you will turn right back around.

Nothing new is ever created, and we cannot truly destroy anything in this world. We can only transform something from one form to another. We all know this law of indestructibility. And we should all consciously look at the different cycles in nature. For example, the water cycle:



←  
Water  
circle



→  
Nature  
circle

Look also at the trees around us – they too contain a natural cycle inside them. Trees are made from elements and nutrients found in air, water and land. Trees then make leaves, flowers, and fruits. These have all been on this Earth long before we humans. For millennia, these countless trees, leaves, fruits, and flowers have taken birth and died. Have you ever given thought to where they all went? They all became dirt and soil, for this too is but another cycle of nature.

We too are a part of nature's cycle. Quite possibly our souls too are undergoing cyclical transformations! Certainly, our physical bodies are continually revolving in the carbon cycle of nature.

In other words, the scientific fact is that everything in nature is used or 'pre-owned'! Hence, through its various cycles, nature has already made proper arrangements for the management of used things. Our job is to learn to live without hindering or slowing down these cycles of nature. In fact, by managing garbage or used things properly, we can even succeed in speeding up these natural cycles.

I am constantly preaching about proper management of used things. Naturally, you want to know what exactly you are supposed to do? From now on, whenever you are ready to throw something into the trash, look at the object with awareness. Let your mind realize and appreciate that this object has been of some service to you. How can you think

about throwing out such an object so casually? What should you do instead?

Truthfully speaking, today we don't yet have an easy answer to that question. We need to search a little for the solution.

Let's take the example of pouches of gutka (chewing tobacco). Those pouches come in handy for bringing us a pinch or two of gutka. People open the pouch and throw the contents into their mouths but then what about that tiny little empty pouch? We don't have a convenient way to dispose of this pouch. Hence, it gets thrown out right onto our streets.

The same is true of garbage that accumulates on our city streets. Our citizens don't know what to do with their garbage so they chuck it onto the streets. Our city workers or municipality then collects that garbage and dumps it outside the city limits. In terms of proper trash management, the municipality is no better than the citizen who thoughtlessly dumped it onto the streets to begin with. But, instead of playing the blame game, we should realize and accept that there is only one viable, lasting solution to this garbage dilemma. Each person and institution should stop committing the act of 'throwing out' something in the first place.

To summarise the guidelines and process thus far, the concept of proper garbage management stands on three foundational pillars:

### **Three Pillers of Garbage Management**

1) With your new door sign, you have announced that your garbage will not just be thrown out thoughtlessly.

2) After you are finished using something, you are going to think about that thing (with awareness) for a moment.

3) You are going to form the habit of keeping and reusing everything instead of throwing it out into the garbage.

This way, garbage simply will not get created in the first place, since keeping something instead of throwing it out means that you will of course need to keep that thing clean.

Now, used things will start accumulating in your home. You already sell your newspapers and magazines to the person who collects these things for recycling. You can add other used paper items to that recycling bin.

You already know that many of your used metals have good resale value. However, the metal items that you cannot sell, or which may sell, but only for a minimal amount, usually get dumped into the garbage. There are even people who can make a living by taking all your leftover, 'pre-owned' items. So give these things to them; think of it as a deposit into your 'good karma' account!

In general, the items that no one will take are 'biodegradable', or 'live' garbage. It is each citizen's responsibility to return these items back into the Earth in the form of soil. In fact, these items are easily and naturally absorbed into a simple mixture of dirt and Earthworms which you can maintain. For this purpose, the 'Perpetual composting basket' (Aviratpatra), with Earthworms included, is at your service! The worms and other natural organisms thriving in this mixture will convert your 'live' garbage into rich soil.

Even this essay will become a used item when you are done reading it. So, before throwing it into the recycling bin, give some thought to the concepts we just discussed. Slowly and steadily, popularize this concept of "Zero Garbage" in the society. One day will come, you will create beauty around you.



## 2. Zero Garbage : My Research

How do we get rid of all the garbage? Most municipalities are having to fight a tough battle against this seemingly unsolvable problem created by their own citizens.

Big plans are made and huge money is spent. Still, the trash bins on street corners keep overflowing.

They say that any disease should be treated at its root – and I did just that. I started studying with keen interest the three full buckets of garbage that we used to produce daily at my home. I literally started to peek into these buckets each day to try to figure out how this garbage is being generated in the first place.

I realized that, of the three trash bins at my home, one was being used solely by me – this was the dustbin sitting next to my desk where I do office work. I used to crumple up unwanted paper items and toss them into this bin. While I was using these papers, they were good and clean and well maintained. However, the moment I tore them up or crumpled them, they immediately turned into garbage. Most of the garbage in that dustbin was being generated by this type of ‘paperwork’ – but the question was, why did I commit that action of tearing and crumpling? And the most truthful answer was just because! I had no real reason or need to be creating this garbage. Some people may retort that we must tear up paperwork which contains our private information – but honestly, how many pages in our dustbins actually contain such secret information?

I knew that, if only I could stop my habit of tearing and crumpling up paper, then this garbage would never get created. Of course, at first I thought that this was an impossible goal. Then, I simply made a vow not to crumple or tear up paper any more, and wow! My dustbin became a barren wasteland! My unwanted papers started to turn into neat little stacks which I could sell or give away for recycling.

I even started to save small, odd-sized papers like receipts, bills, little daily notes etc., and kept them aside instead of throwing them into the bin.

I get mail every day. This mail often contains envelopes which I also used to throw away carelessly. If you open envelopes with a little care and thought, they will keep their shape and continue to be useful as envelopes in the future. Or, if you gather enough of them, they too may be given for recycling.

In short, stopping my casual habit of tearing or crumpling up paper items was completely going to eliminate the garbage creation from at least one full dustbin!

Now my excitement began to grow!

I aimed my attack front toward the trash bin in the kitchen. Unfortunately, I did not succeed in getting my hand into that bin because the moment I opened it, my hand was needed to pinch my nose so that the foul odors would not enter! Instead, I decided to keep a watchful eye on that bin the entire next day to see what was going into it.

As usual, in the morning I went out and bought a bag of milk. I snipped off a small corner of the bag and poured the milk into a pot for heating. I started to reach for another pot in order to make tea, when I noticed the little piece of plastic on the countertop – the corner piece, I had just snipped off from the bag of milk. For a moment, I felt like it was staring back at me with sadness and sorrow! As long as that little piece was part of the original plastic bag, it had value. But the moment I separated it from the bag, it became yes, garbage! Perhaps my method of cutting the milk bag was incorrect. Instead of cutting off the corner into a separate piece, if I had just made a small slice in the bag with a blade and poured out the milk, then this trash would not have been created.

Now, if I had let the empty bag of milk sit in the sink for a couple of hours, then I would have surely been nauseated when I went to clean it later. In fact, feeling disgusted about cleaning something is a good sign that this thing has started

to take the form of garbage. I quickly turned the used milk bag inside out, thoroughly cleaned it with soap, and wiped it dry. The bag no longer smelled of spoilt milk. And all this was done during my tea making, and before the tea even showed its first sign of boiling – how quick! Besides, what would I have done during that time anyway? Finally, I apologized to the little corner piece of plastic bag and sat down to read the newspaper.

However, my Zero Garbage morning wasn't quite done yet. It was a holiday – so naturally the newspaper was full of useless advertisements, inserts, handbills, leaflets and other junk! On any other day, I would have shown these advertisements the shortest path to the dustbin, but the philosophy and lifestyle of Zero Garbage was slowly beginning to unravel before me. I took all those unwanted pages and neatly stacked them in the recycling bin instead.

By drinking my tea and reading the paper, my Sunday morning was going well. Then I noticed the wet chunk of used tea powder that was left over in the strainer. Now it was the powder that seemed to talk to me, “The tea is made. But what about me? I am just garbage now, right?”

“Yes, you are garbage now” I replied, “But I'm not going to let you go that easily now. First, I'm going to make you less sweet so that the ants will not bite you.” I imagined the tea powder smiling back at me as I ran water over it to drain the sugar out. How much water I should drain through the used powder depends, of course, on how sweet I make my tea. Having washed the tea powder, I threw it into the garbage bin and washed the tea pot.

Now the empty pot in which I heated up the milk was waiting for its bath. But there was some cream stuck to the pot, which I could not fully scrape off with a spoon. Not wanting to let any cream get lost and wasted down the drain, I sought a solution. As always, if you truly want an answer and are ready to make a little effort, you will invariably succeed. I remembered that there was one roti left over from yesterday. So I crumpled it up and used it to scrape off all the

cream from the milk pot. I added a bit of sugar and rolled the mixture into a ball. In the end, not only was my pot clean without any wastage of cream, but I also had a tasty new ladoo for myself!

I had some serious plans for breakfast – plus, since it was a Sunday and the children were at home, there was a full force present in the kitchen. The executive decision was made to make ‘kanda batata pohe’ or ‘aloo poha’ (a light breakfast food consisting of onion, potato, flattened rice flakes and a few spices). We laid out all the ingredients on the kitchen table. After peeling, cutting and separating all that was needed for the perfect recipe, what remained was a mount of peels from the onions and potatoes, stems from the coriander and chilli peppers, and one used up coconut shell. This mount was not garbage while it was sitting on our table; it only acquired the ‘garbage’ label after we thought of dumping it into the trash bin.

Truthfully speaking, our potatoes remained fresh and edible only because of their protective peels; the same was true of the stems of the chilli peppers, the hard shell of the coconut etc. But we were still about to shove all these right into the bin – this was inevitable. However, I thought that perhaps we could expedite their biodegradation by speeding up their decomposition cycle; in other words, chopping up everything into tiny pieces. So, wielding some sharp kitchen instruments, I made quick work of these leftover items and finally dumped the tiny pieces into the trash. At least I could take some satisfaction from the fact that I helped Mother Nature a little bit.

In this manner the morning went, and by the end of breakfast that day, out of the three trash bins in our home, only one showed any accumulated garbage – and even that bin looked mostly empty since we had cut the leftover food items into tiny pieces before dumping them.

That day, for some reason, all kinds of stuff kept coming into my home; all wrapped in some kind of packaging or other (envelopes, parcels, etc.). Once the contents were removed,



no doubt the dustbin would have been the final fate of the packaging. An alarm went off inside me and I became alert. I separated out all the paper found in the packaging and washed and hung the plastic bags to dry. Even when my clothes came back washed and ironed from the laundry, I placed into the recycling bin the paper in which they were wrapped, and rolled up the string with which they were tied, for later use.

We did some wild shopping that evening, which of course brought lots of cardboard boxes and plastic bags into the home. Normally, I would have chucked these into the trash and given it to my society's garbage collector in the morning. He, in turn, would have shoved the boxes and bags into a larger bin and dumped it. God knows where! The boxes that looked so tidy and pretty in my recycling area would have become totally defaced and disfigured in an instant the next morning.

We all loved the idea of ordering our dinner that night from a restaurant for home delivery. Of course, all the food came in plastic containers and bags, and had to be taken out and put into our own pots first. Our hunger was unbearable, and the wonderful smells were driving us mad! This meant that no one was keen on trying to untie the knots in the plastic bags – instead, everyone was thinking of cutting off the knots and, of course, creating yet another snipping of garbage. But not me; not today! I took it upon myself to untie the knots properly without cutting the bags into two pieces, and to my surprise, they all came loose in no time at all. I later realized that a knot in a plastic bag cannot really be too tight, and that it is usually easy to undo if you take just a few more seconds.

The old me would have taken out the food and tossed the bags into the trash. But today, without even giving it much thought, I simply turned the bags inside out, washed them with soap, and hung them to dry all before dinner was even laid out on the table! In fact, believe it or not, they were even dry by the time we had finished eating.

As is usually the case on Sundays, the day was over before I even knew it. By the end of the day we had only created maybe three or four inches of trash. However, since it was wet trash, it would start to attract flies, gnats and other unwanted critters not to mention the smell! Even if I covered the bin, the smell would rush out when it was next uncovered. I needed something that would permanently ‘cover’ my gnat and odor problem. And that ‘cover’, I realized, could only be a cover of dirt! I ran out to the yard and scooped up a couple of handfuls of dirt. I spread the dirt onto the wet trash in my bin until I could no longer see any of the garbage. This garbage that was sleeping under its blanket of dirt would gradually be transformed into rich soil!

+ + +

### 3. No Garbage Is Made Here!

***“Zero Garbage – No Garbage Is Made Here!” This is the sign proudly displayed on my door. It is my hope that people passing by will become curious and ask me about the project I have undertaken. Unfortunately, thus far the sign has not inspired the curiosity of too many people, but I remain optimistic.***

Whenever the subject of garbage disposal comes up, we always talk about what others could be doing better, instead of how we ourselves should change. There ought to be more people who say, “I have taken on the Zero Garbage project, and you should too.”

Now, I realized that if I chop my wet garbage into smaller pieces, it will get reabsorbed into the soil quicker. Of course, chopping up trash does take some work, but I was always thinking about how I can work this task into my natural routine instead of making it seem like a chore. To that end, I went to see a friend of mine who had installed a type of electric mixer/grinder in his kitchen sink. It was exactly the type I wanted to install in my own kitchen. Basically, you can put wet garbage into the drain along with some water, and it would grind up the trash and send it down the drainage pipe. This is basically the same as the ‘kitchen garbage disposer’ or ‘food waste disposer’ that is available in stores.

However, there was one problem – I did not want the chopped up garbage to go down the drain. So I purchased a similar unit, installed it on my wall, and because the grinder needs water to function properly, I made provision for a water source. Now I had my very own wet garbage chopper that could make the perfect soil.

I started using the mixer. Within a month it stopped twice. I spent large amount for its repair. People used to come to see my "Zero Garbage" Project. When they heard the mixer story and the amount I spent on it, they used to conclude "We can't

spend such a large amount on garbage. Hence, unable to accept zero garbage concept." I realized that the mixer is spreading wrong message in the society.

I immediately removed the mixer. After this experience, I came to know that our regular kitchen scissor and knife are sufficient to chop up the wet garbage.

After hearing that I was making soil from garbage, the factory owner (manufacturer) for that mixer came to see me! He said that he was asked to provide a large mixer for a society of 35 flats. This society wanted to install this large, centralized garbage disposer for their residents. The maid from each residence would then bring wet trash to that mixer every day. Then, the watchman would inspect that trash and feed it into the machine. The machine would then grind up the garbage and send it down a drainage pipe. The factory owner for the mixer asked me, "Is there any organization which could take the chopped up garbage from this society? Or could you perhaps advise this society to transform their garbage into soil right there on the society premises?"

I responded by saying that, while this society's garbage disposal plans sound wonderful, their actual implementation would be rather difficult because these residents are again making the mistake of prescribing what the maid, the watchman should do instead of taking action themselves.

Besides, why should the maid be required to take the residents' wet garbage to the disposer? Sticking your hand in your own garbage is one thing, but a stranger's garbage is quite another – we usually cannot bear even to stand near someone's open trash bin, let alone reaching our hand inside one! To the maid and the watchman, all this garbage would be a stranger's garbage. Will the society compensate this staff well enough for this dirty work? The very first thing we need to change is our mindset that it is not okay to make someone else clean up the garbage that we ourselves create.

Whenever an Indian goes to live in another country, they proudly announce that they do all the work themselves. However, when that same person returns to India, then all of a sudden they cannot seem to live without a maid! Actually, some may consider it a social injustice to create professions like the 'kamwali' in the first place – the same may be said of any profession that is created only to clean up personal garbage created by lazy people having money. Of course, silly people are quick to retort, "Well, what are these people to do then? How will they make a living?" In any case, perhaps the biggest reason why it is unjust to make people do these jobs is the minimal, almost negligible salaries they are paid. It truly shows the low value we place on cleanliness in our society today.

We are always eager to take on big projects and do things on a grand scale. However, the bigger the project, the more difficult its management becomes. In addition, if the project is continuous and ongoing, it is all the more challenging to ensure reliability and discipline from all who are involved with the undertaking. Finally, large projects can usually only succeed where there are equally large funds available – and most society funds are always struggling to keep up. Besides, why turn this into such a protracted issue? Why do we need all this talk of big projects and big funding for something that can be accomplished so easily by one person, all while requiring no funding at all? All we need is a plastic basket of a mesh or net measuring about 15" x 11" x 9", and 15 to 20 minutes of time.

Of course, the factory owner finally said, "But Sir, I really want to sell my mixer/grinder machine." To which I replied, "Now you're finally being honest about things!"

We have been taught from the third or fourth standard the intended functions of municipalities and local governments. Keeping the town clean is one among their many responsibilities. But this brings up an interesting question – if cleanliness is the government's duty, the dirtiness must be

someone's duty too! We have grown up believing that garbage is going to get made and there is nothing we can do about it. But who makes garbage. Why is it made? And how is it made? We never look into these questions. And the reason we ignore these questions is that the answer is always the same – we create garbage – we ourselves and no one else.

Of all the methods to dispose of garbage, one seems to have been successful – that method is our drainage system. We used to have toilets that gathered up our waste into trenches. I have personally seen people whose job it was to carry away this flowing 'sludge' out of the trenches. This type of social injustice has been all but eliminated by our modern drainage systems, and the main reason for the success of these systems is gravity – which aids in moving our waste from one place to another; usually rivers, oceans etc. So in a sense, drainage systems have not been truly successful at properly disposing of waste; they have been successful at merely moving waste. Instead, if we make rich, useful soil out of this waste, then we could call it proper disposal. Unfortunately, all our garbage handling methods simply take our garbage from one place and dump it into another.

Today, an initiative is usually only successful if it generates profit for someone. If we just look at our own homes, we can see that we keep our newspapers and magazines properly stacked aside, even after we are done with them. In fact, these things are garbage once we read them, but still we do not give these items to the society's garbage person. The reason for this behaviour is that we can make money from recycling these paper items. On the other hand, we cannot make money selling last night's leftover vegetables, banana peels, or used plastic bags. This is why we carelessly dump this type of garbage and then, of course, the garbage dilemma is created.

If our local governments and municipalities announced that they would purchase our soil, then people would certainly be ready to turn their garbage into money-making soil! Of

course, in reality our government would not buy our soil – what price would they set for buying our soil? How much money would they generate from such a program? And to whom would they sell that soil? Since the soil would not generate much money for the government, they would naturally pay us only a negligible amount for our soil. But perhaps this concept is not so far-fetched. After all, today we employ huge and complicated machinery, as well as countless workers, to install and maintain our drainage systems – all this requires enormous amounts of money. This money can be thought of as the cost of managing our garbage. Could this money not be used instead to buy our soil?

We have to start somewhere. It is difficult to convince the government's political machinery to change its views. However, if volunteer organizations come forward and take charge, maybe we can achieve this seemingly impossible goal. Today, we can collect and distribute quality milk through co-operative movements and organizations – so why not quality soil?! If 'soil projects' are created in every home, then maybe one day we can shut down our pollution-creating, industrial, chemical-factory-based soil projects.

The same way that every home has a dev-ghar or devara (household shrine), every home also ought to have a flower pot or planter full of Earthworms for soil creation. In fact, at my home I worship the basket full of worms that are constantly making soil as if they were sent by God! In my opinion, true pooja would be to spend as much time on our soil and worms as we do on our prayers, aarti etc.

We are always giving plastic a bad name by saying things like, "Plastic makes so much garbage", "Plastic is not biodegradable" etc. We preach to each other that we should minimize its use. But perhaps we should not think of the non-biodegradability of plastic as a fault, but should rather use it to our advantage, by reusing it again and again. People long for everlasting life; well, in a sense, plastic has achieved this

goal. If plastic worries us because it does not ‘die’, then perhaps it is best for us not to seek everlasting life for ourselves, since obviously we would not know what to do with it if we achieved it!

“Zero Garbage – No Garbage Is Made Here!” This is the sign proudly displayed on my door. This is not to ‘toot my own horn’, but rather it is my hope that people passing by will become curious and ask me about the project I have undertaken. Alas, thus far the sign has not inspired the curiosity of too many people, but I remain optimistic.

When it comes to big ideas and real advancement, we often think that humans are mostly just walking around half asleep and unaware. But humans are intelligent, living creatures – an advanced form of life. Our inner minds are always awake. One day or another “Zero Garbage” will make its impact on us.

One day or another, we are sure to enter the beautiful world we idealize.





## 4. Use and Reuse - Think About It

Newton saw the now-famous apple falling from the tree. Darwin thought that humans evolved over time. If we think about it, today these ideas seem to be basic, simple and obvious. But Newton relentlessly pursued the root cause of that apple's falling. And Darwin spent almost his whole life understanding and studying living organisms. Only after such efforts did these seemingly commonplace discoveries become well-established in our society.

Zero Garbage. In nature, nothing is truly garbage. This too is an obvious and simple fact, but we do not readily recognize it.

If we make a list of all the things that become unwanted after use, that list will contain thousands and thousands of items. However, if we study this list acutely, we would see that these items fall predominantly into three categories:

- 1) Things that can be sold for immediate cash.
- 2) Things that cannot be sold, or which can be sold only for a negligible amount of money.
- 3) 'Living' things which could naturally transform into soil.

The first category above has caused the growth of the junk buying/selling industry for years i.e., the 'bhangarwala' who comes to your door to buy your junk or scrap goods.

Our real fight is with the second and third category, where items with little or no resale value get carelessly dumped into the garbage.

Human beings are intelligent animals – they understand very quickly the things that bring personal profit. The way water always flows easily downhill, humans naturally flow in the direction that is personally advantageous. This tendency is deep-rooted in us. Once we stop seeing this tendency as a flaw, and accept that it is a natural and reliable quality in us, many goals become much easier to achieve. Then the question becomes one of coming up with an environment-friendly habit pattern that is also profitable to people – since

nothing drives change like the promise of profit. Once we accept this fact, we can see clearly why people toss out used items into the streets. It is because these items have no use and they cannot be sold. If a person is 'educated', then he or she will use a garbage bin; otherwise he/she will use the street. However, the underlying principle is the same; people throw out used things that cannot be sold.

We should look into why someone would throw something away. Blaming our wasteful tendencies and fretting over our careless nature will only lead to discussions and arguments, but not much else. We need to create good habit patterns of non-wastefulness.

The other day, I was standing next to a typical roadside 'paanwala'. Pouches of tobacco and other such goods were hanging off the roof of the stand like garlands and necklaces on a bride. A customer approached and snatched a pouch as if picking a piece of fruit off a tree. He then tore open the pouch with his teeth, poured the contents into his mouth, and threw the pouch right onto the street. I gently brought it to the man's attention that the pouch which he had paid good money for just a minute ago was now sitting on the street. The man just kept staring at me, either in wonderment or disbelief as if he could not even fathom what could possibly be wrong with throwing the pouch onto the street. He asked me "Tell me what should I do to this used pouch?" Yes, he was right. **Nobody answers this question.**

His mindset could not allow even the thought that he may have erred. He must have been wondering what he could possibly have done with that pouch, other than dumping it where he stood. Of course, what he should have done was throw the pouch into the trash bin which was right next to him. Many used and useless things had been collecting in that trash bin all day, which at the end of the day the paanwala would surely dump into the bigger trash bin on the corner, or maybe onto another pile of garbage somewhere else. The point is that the man throwing out the pouch onto the street and the

paanwala dumping his garbage into the bigger bin are both helpless due to the same dilemma – “What else am I supposed to do with this garbage? What alternative do I have?”

The big question is – how to stop this habit chain? One way is to keep nagging people about changing their improper garbage dumping habits; but this is a slow path. Although telling people to change will no doubt do some good, what we need is a fast-track approach, because we are living in a fast-track world. We need to dispose of garbage, properly, as fast as it is being generated.

My family recently went to a dairy to purchase some ‘kharwas’ i.e., a sweet custard made with milk and nuts. When we asked for the price, the store owner said that the kharwas was Rs. 50 and the container was an additional Rs. 35. When we said that we did not want the container, the owner told us to purchase the container now and pay Rs. 35. Then, he said he would refund our Rs. 35 when we return the empty container back to him. What a great way to solve the plastic bag problem! Normally, he would have given the kharwas to his customers in plastic bags, which they would have taken home and carelessly dumped into the trash.

Let us imagine for a minute that we go to buy vegetables in the market and ask the bhajiwali for a bag. But, instead of the usual thin plastic bag, she says she will give you a nice bag. She then says that she will charge you Rs. 15 for the vegetables, plus Rs. 15 for the bag, but if you return the bag, she will refund Rs. 15 you paid for the bag. What would we do if every vegetable vendor told us this?

We can see that the ‘use and throw away’ concept is responsible for the creation of much garbage. Every advertiser and vendor is trying to use the most attractive, yet cheapest packaging possible. Instead, they ought to use expensive, quality packaging that has good resale value. When people realize that these packaging materials, boxes,

and bags can be sold for money, they will automatically stop throwing these items into the garbage and onto our streets.

Instead of using pretty, plastic wrappers for expensive chocolates, why not sell them in quality, permanent containers? “You return the container, we return your money!” Or, even if the container can be sold to the bhangar (junk buyer), then this will also prevent the garbage usually created by plastic wrappers.

Likewise, why make the plastic that is used for bottled water so thin and cheap? If it were a long lasting and quality bottle, then people would not throw these bottles just anywhere. Besides, people who are willing to pay good money for water (which should be free to begin with) will not bicker over a few extra rupees for the better quality bottle. And if you get your money back for returning the bottle, then the question of rising prices does not arise.

If we look carefully at the plastic trash in our streets, we will realize that most of it was discarded by well-to-do or even wealthy people. Therefore, if the higher quality packaging leads to slightly higher product prices, there certainly will not be any protest.

Some big companies advertise that they are trying to make biodegradable packaging. Their actual goal, however, is only to make less costly packaging. Do the companies that proudly make these announcements ever actually make the advertised revolutionary changes? Will they voluntarily make the changes that the little dairy/kharwas vendor made when he charged us refundable Rs. 35 for his quality container? Of course not! For this to happen, we need to make the appropriate laws.

Instead of shutting down the factories that make thin, cheap plastic bags, they should be made to produce thick, quality bags. Manufacturers take great care to ensure that their products stay fresh, last long and look attractive; but they do not take equally great care about the quality of their packaging materials. The motto and goal of ‘superior packaging at lowest

cost' should be changed. Cheap packaging will never have resale value after usage. And the packaging that ensures the quality of the very things we purchase should not be thought of as so worthless. After all, we have all seen firsthand the pollution and other ill effects of throwing these things so thoughtlessly into the garbage or onto our streets.

The concept of 'Use and Throw' should be discarded! Instead, we should all embrace the concept of 'Use and Reuse'.

The state of the world was different when 'Use and Throw' came into fashion. The population density was much lower. Plastic was a relatively new discovery and we were all attracted by the utility of plastic. However, we have now seen the flip side of that attraction, and have experienced just, how horrendous the effects of misused plastic can be. Even a child knows not to go near a hot stove after getting burnt just once. But we have been getting the plastic 'burn' again and again. If children can wise up and learn from experience, why wouldn't we? After all, we are grown adults!



## **“Will You Take The Challenge?”**

They say that there are some countries in Europe where citizens are required to spend at least two years of their lives in the military serving their country. This military experience brings a sense of discipline to their habits, and they seem to understand what it means to defend and protect their country. This short dose of military life is the cause of their apparently inherent patriotism and loyalty.

Soldiers protect a country's outer borders. But what about inside our borders? We have many enemies that attack us from within. Along with criminals, smugglers and selfish politicians; the general public is also an enemy to our country. Constantly dumping garbage all over our country makes our country a constant dump. Garbage creation is a type of attack on our country.

Our garbage collection and sanitation workers die a little each day as a result of their war with the garbage that our citizens create. These workers should rightly be called sanitation 'soldiers' and should be given proper military grades like our country's soldiers. Suppose we accept these grades then we would not need to go to our far borders to serve our country. We can enlist into our garbage or sanitation 'army' and fight against the enemies that come in the form of our daily garbage.

Will you take on the challenge of working for one day on a garbage collection truck, i.e., 'ghanta-gadi'? You must accept this challenge, or as an alternative, you must incorporate the “Zero Garbage” concept into your habits. Which do you find easier?

## 5. Quality Garbage - Can You Make It?

On top of the hustle-bustle of our daily lives, we still need to struggle constantly with the dilemma of proper garbage disposal. If we eliminate garbage as soon as it is created, then this dilemma will quickly dissolve. Garbage disposal is another name for cleanliness. If we all long for cleanliness, then garbage disposal will become automatic. Once this cleanliness gets into our blood, then positive thoughts will naturally start coming to our mind. And with positive thoughts, prosperity is bound to follow.

The truth is that there is no such thing really as 'garbage'. Our habit of irresponsibly and thoughtlessly throwing things away creates this garbage. Since we ourselves create this trash, we ourselves must be responsible for its management and proper disposal – this simple fact we consciously and knowingly forget.

Waste management seminars are always full of, "This should be done and that should be done" – always talking about what other people should do. Few people actually make speeches that say, "This is what I myself have done to combat the garbage problem." Is it possible to speak of any such self accomplishment in the field of garbage? This question gave birth to the concept of Zero Garbage in my mind. I started to behave in accordance with my beliefs.

I too, used to think that Zero Garbage could only work in theory, but not in practice. However, once I aligned my thoughts and ideas with my behaviours, I saw that the theory easily became the practice. For this, we only need 10 to 15 minutes per day.

Garbage, or rather, 'used or unwanted things' should be cleaned after usage, categorized as appropriate, reused or recycled, and in the case of 'live garbage', should be transformed into rich soil with the help of earthworms and dirt. If everyone follows these guidelines, then our everyday household garbage creation will come to an end, and we will

no longer have to see overflowing garbage bins all across our cities. These days, whenever I hear the bell of the ghanta-gadi (garbage truck) going through town, I think instead that it is beating the drum of our mistakes again and again.

We are always complaining about the use of plastic. The incorrect understanding that plastic causes garbage is being spread in our society. In actuality, there are few materials that can boast the many wonderful qualities of plastic. Plastic is practically indestructible – or at least, non-biodegradable. In a sense, it has been blessed with the boon of everlasting life. However, we are looking at this blessing as a flaw – so silly is our whole mindset. In our society today, the small-business plastic manufacturer that employs and supports maybe 10 or 15 families pays the highest fines. We blame the store owner who provides plastic bags for the convenience of his or her customers. However, individual citizens who habitually and thoughtlessly dump their used plastic bags anywhere they want to can still roam openly in society with their heads held high. Should we chastise the pouch manufacturer, or should we blame the common citizen that pours the contents of the pouch into his mouth and flings the empty pouch onto our streets. We cannot seem to decide.

Just look at how strange our behaviour is – we sound the garbage bell every morning as the ghanta gadi (garbage truck) roams through town picking up little bits of trash from everywhere. Then, we sit in front of the heaps of garbage we collected and say, “Oh!, what a big problem – how should we dispose off all this?” Then we hold discussions and meetings to solve this problem. Can we not eliminate garbage at the very place where it is created? Of course we can!

What if a local government declares, “It is no longer our responsibility to take your dirty garbage away. We will only take items that are used or unwanted, and only if those items have been properly cleaned and neatly categorized and sorted.” What will happen if our government really declares this?



— A person in clean clothing will ring your doorbell and say, “Ma’am, I am here to take your used but clean plastic bags.”

— Another will come to your door and say, “I will take your cleaned plastic bottles, metal pins, pens, refills, etc. etc.”

— Still a third will say, “Last night for dinner, you ordered some vegetable curry ‘to go’ in an aluminium container. I am here to take away that cleaned container.”

If we carefully inspect the garbage that goes into our bins, we will find a few items that always seem to get thrown away. We will not find yesterday’s used newspaper. Similarly, we will rarely find any steel or other metal items. We also will not see many beer, wine and alcohol bottles. And of course we will not find any of our used, old clothing. We do not throw out these items into our garbage trucks. Why would this be? The answer is easy and straightforward – these items have resale value in the market.

Newspapers can be sold for recycling, metal and bottles can be sold to the bhangar (junk buyer), and a lady even comes to your door to give you pots and utensils in exchange for your old clothes! From this, it can be concluded that the common citizen will follow proper garbage disposal guidelines only if he or she can make money from that behaviour. They say, “money talks” – that is not far from the truth. No one in the government needs special convincing of this truth! So if the ‘little guy’ – the poor or even the blue-collar worker – thinks only about where his next rupee is coming from, then can he really be blamed for this mindset?

The three main methods of solving problems in our society are: saam, daam, and danda (negotiation/conciliation, money/profit and punishment/fine). Of these, daam is usually associated with the taking of money. However, problems can also be solved by giving money – as in, giving money to citizens who managed their used items efficiently.

Let’s imagine for a moment that a particular municipality decides to implement this type of ‘giving’ daam instead of ‘taking’ daam. Then, they could open up collection centres in

their town that would buy various used items from us. And we will see the staff at that collection centre giving money instead of taking it.

Once we have dealt with our unwanted items, the remaining question will be about how to dispose of our unwanted 'live' garbage. This question is not really a difficult one, because nature has been doing this work all along. Whether we do it or not, nature has been doing the work of transforming living garbage into dirt and soil since time immemorial. Our job is simply to help nature along – and even this is a rather laughable and presumptuous concept, since we are but a tiny piece of the overall magic and machinery of nature. So instead, let's say that our job is simply to make a habit of walking with nature, not against it. Dirt is literally the final resting place of all living things. Living garbage is truly garbage that is alive... alive because there is tremendous energy stored up in it. When living garbage is converted into dirt, that inner energy helps turn that dirt into rich, life-giving soil.

Every home has a dev-ghar or devara (household shrine). Similarly, every home could have a simple plastic basket with holes all around, and measuring about 15" x 11" x 9". This basket can efficiently transform all the living garbage from a five-member family into superior 'earthworm' soil. If each home in a city were to create rich soil like this, then this very dirt would add to the wealth of that city. Millions of rupees are spent to build and manage the chemical factories that create soil today. If even a small fraction of that money were given to households for implementing earthworm-soil projects, then the general public, attracted by the lure of money, would launch earthworm-soil projects in their own homes with great enthusiasm.

If we cannot envision starting an earthworm-soil project in each home, then can we not at least gather up some high-quality, wholesome living garbage in every home? The general public is always screaming about grain vendors that

put cheap fillers and impurities in their grain and flour – why can't these same people take on the responsibility for delivering wholesome, living garbage to their municipalities with no fillers!?

The funny thing is it seems that we cannot even make high-quality garbage! Even our garbage is impure. And who makes our garbage impure? The same people who are against impurities and fillers in the market, i.e., US!! † † †

### **“We Can Do This Easily”**

We often see ladies in the street carrying big, heavy sacks on their backs and picking through garbage bins in search of plastic, cardboard, paper etc. They have to work in such dirty and smelly conditions. Can we improve their lives somehow? Yes. if we decide to, then most certainly we can.

If we change our thinking and our behaviour just a little, then this can be easily achieved.

The plastic that ends up in the city's big garbage dumps originates in our own home. We can clean and sort this plastic before it leaves our home, and we can keep it aside for these same ladies who would otherwise be forced to labour in the streets with heavy sacks to find the same plastic which we carelessly threw into the trash. Imagine how good they would feel if you were to invite them to your home one day, show them some respect, and give them your used, but clean plastic. The smiles on their faces would be enough to make you happy and content for the rest of the day.

Today, we are living in a 'shortcut' world. Why not take the short cut by putting our unwanted plastic directly into the sacks of the ladies that want it? Why take the longer path of throwing it into the garbage bins and from there into the sacks?

If you realize, understand and accept what I have said, then it is really not all that difficult to form this habit.

At least give it a try!

## 6. Zero Garbage – Step By Step Guide

- 1) In nature, nothing is ever born as garbage.
- 2) Complete cleanliness – that is Zero Garbage – is one of the paths to prosperity.

By now, I assume that you have already accepted the above as givens. By analysing where and how garbage gets made, we will understand the solutions for eliminating it. The garbage that is made at home – meaning, the garbage that civilised citizens create – and the garbage for which local governments need to maintain large cleaning funds – this is the very garbage that we have all been contemplating here thus far.

**In order to stop the creation of garbage in our homes, we will need the following items:**

1. Knife – 1/2” wide X 2” long
2. Basket with open sides (i.e., netted basket) with four legs – approximately 15” X 11” X 9” – also called “Aviratpatra” or Perpetual composting basket (see photo).
3. Four used plastic containers that camera film rolls are sold in – photo roll containers (see photo).
4. Plastic tray – approximately 19” X 12” X 4” (see photo).



*Netted plastic basket mounted on four photo roll containers, placed inside plastic tray – referred to as the “Aviratpatra” or Perpetual composting basket.*

5. Scissors

6. Two large plastic bags (see photo).

The above items should be set up as follows:



*Bag for coconut shells on the left and bag for unwanted small items on the right.*

1. If the netted plastic basket does not already have holes at the bottom, then make a few holes at the bottom.
2. Attach the four empty film rolls to the bottom of the basket at its four corners.
3. Place the basket (with the four newly attached 'legs') into the plastic tray.
4. Spread some coconut husk into the basket – these are the brown, dry, hair-like strands found on the outside of the coconut shell. Also, spread a few pieces of crushed sugarcane called 'chipad' – this is the wood-like stuff left over after all the juice from the sugarcane has been squeezed out. Next, sprinkle some dried cow/buffalo soil (cow/buffalo manure) onto the mixture, along with some earthworm soil. Very lightly, spray a little water on top and

release a few earthworms (maybe four or five) into the basket. Now, this plastic basket is ready to process, or more accurately, 'digest', all the living garbage in your home. Now, you can start putting your living garbage into this plastic basket. When you do, try to mix your chopped up pieces of living garbage into the dirt that is in the basket. The worms will begin to transform this mixture into soil. This process will be continuous – which is why we call this unit an 'Aviratpatra' or Perpetual composting basket.

5. Chop up your living garbage before putting it into the Aviratpatra by using your usual kitchen utensils like knives, scissors or any other tool used for cutting and chopping – if you use a mixer/blender or food processor, even better.
6. We have chopped up our living garbage into little pieces and have placed it in the basket. Now, every week or two, simply spread some earthworm soil or cow/buffalo manure soil into the basket – just a light layer will do.
7. Hang the two plastic bags in a corner of your home as shown in the photo. You will place used plastics (recycleable) in one bag and coconut shells in the other.
8. **If you find it difficult to make the Aviratpatra as outlined above, then I would be happy to make one for you – of course, I would require adequate payment.**
9. The first photo shows the inner workings of the type of Aviratpatra that I typically make. Note that the 'tray' or netting below has a conical shape, which helps the newly made soil falling from the basket to gather neatly in the pot below (see second photo). Exactly how the newly created soil comes out of the basket can be seen in the third photo. Finally, the fourth photo shows how to clean the basket from the outside every week or two (see photographs on next page).

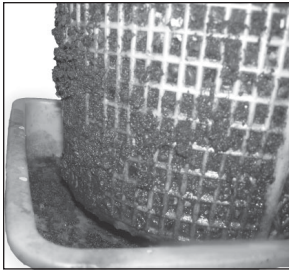
Now, let's see where and how our unwanted items are being created:



*Aviratpatra and its stand*



*Soil falling in the tray below the basket*



*Soft soil coming out from the basket*



*Clean the basket from outside on weekly basis*

## **A. Paper trash**

Paper items start coming into our homes from the morning. First comes the newspaper, then maybe some advertisements, leaflets or handbills, then the mail comes in the afternoon, followed by packages and parcels. In the evening when we sit down to pay the bills, a few notes and receipts may come out of our own pockets. All these things become unwanted the moment we are done looking through them. Only the newspapers can bring us some money from recycling, so we keep those aside, and we dump the rest into our dustbins. However, we make an incorrect assumption

that the recycling guy will not take our packing boxes, scraps of paper etc. He will take anything that can be recycled!

Now, let's see just how we throw these items into the trash:

We tear or crumple up the handbills or advertisements. We tear open the envelopes like wild animals. We tear the cheques, bills, reports etc., at their perforated edges and dump the scraps. But why? Why do we rip, tear and crumple up our paper items like a pack of dogs? The answer is simple 'just because'. In other words, there is no rhyme or reason behind this behaviour.

If we change our habits just a little, then at least we will stop creating paper garbage. If we keep our unwanted papers clean and neat, we can sell them to recycling. The recycling guy will certainly take even the tiniest piece of paper!

### **B. Trash created in the kitchen**

Garbage is created in the kitchen in predominantly three situations:

- 1) Before cooking
- 2) After meals
- 3) When food is brought from outside

#### 1) Before cooking

The pre-cooking garbage is primarily created by washing, sorting and cutting vegetables. If the remains from these activities are chopped into small pieces, then first, they take up less space, and second, they take less time to be transformed into earthworm soil. Just use the usual kitchen utensils to chop up these remains.

#### 2) After meals

Truthfully speaking, this type of garbage is created by our greed. If we cook only what is needed and serve only what we can eat onto our plates, then the trash created from the remaining food in our pots, or from food that is left over on our plates, would simply never get made. But this does not occur in practice. We throw away some of our remaining food, and this act creates garbage. Instead, if we throw that



excess into our Aviratpatra, then at least the garbage will turn into soil. Also, before our pots and dishes are washed with soap, if we first just rinse them with plain water, then our left over food will not go down the drain. We can run our rinsed water through a strainer. Then, the water from the rinsing can be used to water plants and trees, and the food items caught in the strainer can go into our Aviratpatra.

3) When food is brought from outside

This type of food generally comes into our homes in plastic bags or aluminium containers. If we wash these wrappers and containers the moment we empty their contents, very little effort will be needed to get them clean – and then, naturally they will not end up in the trash.

If we open our daily bag of milk by making a slice into the bag with a knife (instead of snipping off a corner), and if we then wash the bag promptly, then it will not become garbage. If we leave it without washing, the bag will soon smell like spoiled milk – and once that smell starts, washing the bag will make us nauseated with disgust. Also, any plastic bag may be cut on its sides with a knife to make a flat piece of plastic. Instead of washing the plastic bag, washing this flat plastic sheet is often easier and more effective.

### **C. Trash created by the little things**

If the following items are separated in a timely manner and gathered up in the large plastic bag which we have already set up in a corner (see photo), then they will not become garbage. If we then give these items to our garbage collector, then he/she will make a little income from it, and we will get some 'good karma' from our generous deed.

#### **Things you can put in this bag :**

The cap from the tube of toothpaste, glass and plastic bottles and their lids, razors, aluminium boxes, disposable plastic cups, styrofoam (thermocool) glasses, plastic wrappers and other packaging material from newly purchased clothes, plastic pins, shaving cream, little parts from used or broken machines, pen refills, pens, batteries (cells), computer disks,

CDs/DVDs, cassettes, camera film roll containers, nametags given to you at conferences and seminars, light bulbs and tubes, plastic dish sponge/scrubber, empty plastic strip used to contain pills, plastic spoons, plastic pots, and the list goes on and on

**Things with little or no resale value :**

All the items above bring some value on the resale market. Things that bring no value whatsoever are: thin, cheap plastic bags; tobacco pouches; little plastic shampoo pouches; broken rubber bands; wrappers from potato chips, cookies/biscuits, and popcorn; chocolate and candy wrappers etc., etc. However, if we give it some thought, we can even get some use out of these 'value-less' things. Chapter Eight will show you how.

You should keep a separate bag (as mentioned before) for used, empty coconut shells. These shells should not be thrown into the Aviratpatra, because it takes quite a long time for these to be converted into soil. Plus, these shells are useful for burning – a few coconut shells will happily keep a fire going.

Maybe a particular home creates a type of garbage not mentioned here. However, if we sincerely decide not to create garbage, then we will surely find a way to reuse or properly dispose of even that type of garbage and we will end up not throwing that garbage thoughtlessly into the bin.

+ + +

## **Full use of pastes and their tubes!**

We always struggle and fight to get every bit of paste out of the tube it came in. Still, we never succeed in getting every last morsel and drop from the tube. In order to get all the contents out of a tube, cut off its head! Then, open up the remaining, headless tube by cutting the side and bottom with a knife. Now, you can scoop out every last bit with a spoon or spatula, or simply with your fingers. Finally, clean the tube. This is especially useful in the case of toothpaste – just add the newly recovered toothpaste into the container of dishwashing liquid, powder or bar that is already sitting near your kitchen sink. The paste will then get used automatically without no further effort. Also, whoever buys your recycling or junk/scrap materials will be happier that the tube is now flat and clean, and you will be happier that this used item has been managed properly.

## **7. An impossible ratio**

The population of the city of Thane is currently 18,18,872. In order to keep the city clean, Thane employs 2,359 solid waste management workers, 925 road cleaning workers, 404 garbage truck workers, and 344 garbage sorters. Together, these 4,032 people are going to manage all of Thane's garbage! If we do the math, we get an answer of 451 (i.e.,  $18,18,872 / 4,032 = 451.11$ ). In other words, for every 451 people that create garbage, there is one person to manage it!

### **How is it possible to get Thane cleaned up?**

This problem will only get solved when, instead of 451, we get an answer of 1. He who gives birth to garbage, that same 'he' should be the guardian or 'parent' of that garbage. How can a parent avoid taking responsibility for the child (in the form of garbage) that he himself created? This is precisely why every person should manage and properly dispose of his or her own garbage. This is the duty of each upstanding citizen. Only if this is accepted, it will be possible to get the city of Thane cleaned up.

## 8. Aviratpatra

### (Running on the Energy of Willpower)



First, congratulations on your determination to transform your live, wet garbage into rich soil right in your home.

The Aviratpatra is ready to help you in your task. Live garbage decomposes by two methods:

- 1) Vermi-composting – with the aid of worms
- 2) Bio-composting – with the aid of micro-organisms

**When the transformation of garbage into soil is accomplished solely with the help of micro-organisms:**

- (a) The live garbage needs to be mixed and ‘stirred’ once in a while in order to give the mixture the needed exposure to air (aeration).
- (b) When the basket is full, the soil created by decomposition needs to be separated out and new, ‘living’ dirt and activators need to be added to the mixture.

However, when composting is done with micro-organisms and worms together, then the worms do the job of aeration. Our Aviratpatra contains both micro-organisms as well as worms. Therefore, they work synergistically to produce rich soil.

In addition, since newly made soil is constantly falling through the gaps (netting) in our basket, more room is always made inside the basket for new garbage that we are constantly creating – and magically, our basket never gets full!

In short, once your Aviratpatra begins its work, it will truly be a ‘Perpetual composting basket’ as the name suggests.

All you need to do is chop up your live garbage as much as you can, and every day sprinkle one or two small glasses of water over the basket.

In order to keep your Aviratpatra efficient and in good working condition, keep these things in mind:

- 1) Respect the micro-organisms and worms that are working for you the same way you would respect your pets.
- 2) Every day, sprinkle one or two small glasses of water over the basket.

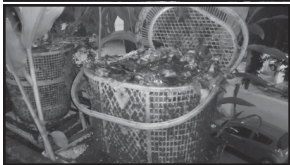


3) Your Aviratpatra requires airy atmosphere. For this purpose, you can keep a small fan blowing over the basket. This fan will also help keep the gnats, other tiny flying insects and fruit flies away from your Aviratpatra.

4) Don't keep your Aviratpatra in direct afternoon sunlight. If it is not possible to keep it in a shaded area, then you can place a sack or gunney bag over the basket and sprinkle water over the sack.



5) From the time you 'install' your Aviratpatra, it may take a month or two before you can see newly made soil falling out of the netting in the basket.



6) To operate the Aviratpatra efficiently and to have a pleasant look after putting biodegradable items, spray water and then spread a layer of soil. 50% earthworm soil + 23% cocopit + 25% sugarcane powder will be an ideal mixture.



- 7) Always spray the water on Aviratpatra, do not pour. Pouring water may remove the soil spread on biodegradable items.
- 8) Once the newly made soil starts to squeeze out from the holes in the basket, you can help it fall by hitting it with a quick spray of water. Do this maybe once a week.
- 9) The new soil will fall into the cone-shaped stand below the basket and into the open pot below. You can use this soil for your plants and trees, give it as a gift to your guests, or put it right back into the Aviratpatra.
- 10) The new soil falling from the Aviratpatra will be wet, so if you want to give it as a gift to someone, you will need to go through the effort of drying it; but your guests will be happy for sure.
- 11) Because of your daily 'watering', some water will sink through the basket and into the open pot below. This is nothing but sort of a liquid manure – so use it to water your plants and trees.
- 12) If you feel that your Aviratpatra is working too slowly, you can add a layer of coconut husks, dried sugarcane pieces, and cow/buffalo manure soil.
- 13) Keep in mind that living micro-organisms and worms are at work in this Aviratpatra – so some adjustments may be needed from time to time. However, if you just give it some calm thought, you will easily be able to find the answer to any question that arises.

I am confident that you will not break your determination and do not accept defeat!



## 9. Eradication of Garbage - A War

In nature, whenever something is decomposing, a type of chemical 'burning' is taking place inside. The same is true of garbage – it too decomposes through this slow burning.

When this slow burning happens without air (or aeration), we call it 'rotting'. The main indicator of rotting is the familiar malodour that we can smell. But where does this odour come from? It comes from the hydrogen sulfide, carbon monoxide, methane, ammonia, and phosphine escaping from the garbage pile. In addition, the rotting process promotes disease-causing micro-organisms, which thrive in that environment. As with other types of burning, carbon dioxide is also released.

The rotting process is harmful for our health, so we should avoid letting our garbage rot. Getting your garbage to decompose instead of rot, requires a little water and plenty of air. Adding these two ingredients first and foremost, eliminates the foul odour. Once the odour is diminished, we may assume that rotting has been successfully converted to aerobic decomposing. And in addition, your neighbours will once again find it bearable to live near you!

In addition to water and open air, there are a few other things we can do to speed up the decomposition process, and to help people that might be nearby. Carbon dioxide and disease-causing micro-organisms are being created and promoted even during aerobic decomposition. However, the bad micro-organism population is minimized.

So we have nearly diminished the foul odour with the help of water and open air. Now our battle is with the bad micro-organisms. For this, we will need the help of 'good' bacteria and fungi whose by-products are not harmful to humans, and whose favourite food is the bad micro-organisms! These good guys are called: photosynthetic bacteria, actinomycetes, lactic acid bacteria, and yeast (which is actually a type of fungus). These bacteria and fungi will eat the bad micro-organisms in



our garbage and will produce amino acids, sugar, phosphate and sulfate as by-products. These by-products are beneficial to the worms present in our basket, and will ensure their wholesome growth.

Once we understand this, one big question arises – where do we get these bacteria and fungi? Well, we can purchase bio-cultures in the market, which contain high quantities of these micro-organisms. We can dilute these bio-cultures in water and sprinkle them over our live garbage every day. Slowly but surely, they will mount their attack against the bad micro-organisms.

In fact, when we ferment our foods, we are predominantly growing some of these same bacteria. With water and a little warmth, these bacteria begin to flourish. Now, it follows naturally that the fermentation process we use on our foods cannot possibly allow the bad micro-organisms to flourish, otherwise we would not eat those foods! Fermentation will predominantly breed only bacteria that are good for us. But what types of fermentation processes are we referring to? If we give this some thought, the following points will quickly come to mind:

1) milk, 2) yeast, 3) idly flour, 4) anarsa flour, 5) beer, 6) coconut water – in fact, the beverages ‘Nira’, ‘Taadi’, ‘Maadi’ all contain bio-cultures. If we throw these products onto our garbage pile, they will have the desired effect.

Many times, we see gnats, fruit flies and other insects gathering in garbage. They are attracted to the malodour; hence, they mainly gather on garbage that we would find ‘disgusting’. Therefore, if you see these type of insects, it is a sign of rot. So if you see them near your soil making basket, then you should sprinkle some of your diluted bio-culture onto the garbage. This way, good micro-organisms will begin to flourish in that garbage, and they will immediately attack the disease-causing micro-organisms. Their by-product will serve as wholesome food for the worms that are already in your soil basket, so they will grow in size and number, and

finally the rotting will turn into good decomposition. This will certainly take a little time. Until then, if you want to attack the gnat problem, then just fight fire with fire, or rather, fight smell with smell!

How? Well, gnats and such insects are attracted to certain strong smells, so we can use the weapon of other strong smells to repel them. In our day to day lives, we have access to many strong smelling products. If we had to list them, then 1) Marigold flowers, 2) Grass ('Gawati') tea, 3) Used tea powder (if the tea was made without sugar), 4) Mehendi leaves, 5) Neem, 6) Ajwain leaves, 7) Custard apple leaves, 8) Custard apple peel, 9) Onion juice, 10) Lemon peel powder, 11) Bitter gourd, 12) Diluted salt water, 13) Papadkhar, 14) Vekhand powder, 15) Single super phosphate, 16) Potassium phosphate etc.



If gnats and other tiny flying insects are gathering, then just sprinkle these things onto the garbage. If they don't respond to these treatments, then just go out and buy a little exhaust fan or cabin fan, install it, and aim it directly at your Aviratpatra (see photo). Even if you keep it on for only a little while each day, your flying pests will stay away. Of course, how you use the fan (what speed, how long to use, when to use) will depend on what is in your Aviratpatra.

These days our homes have become smaller and smaller. If used properly, your Aviratpatra can be used even in a small home. Still, some people wonder, "Will the worms start to roam around in our home?", "What if we start to get gnats and fleas?", "Will my home have a foul smell?" These are the usual fears associated with maintaining a composting basket, and they discourage some from using the Aviratpatra. What can these people do? Throw their living garbage in the bins

or onto the streets? Certainly not! Even for these people, there is another way.

Another type of living garbage is the type of waste we create in our bodies. In other words, we eat our food, digest what we can, and send the rest out into our toilets as waste. This waste can be very much called 'living' garbage. So why not throw the living garbage from your kitchen into the same toilet where your other living waste goes? Of course, you will want to make sure your bathroom drainage line does not get clogged up, so your living garbage will need to be grinded almost into a pulp or paste – dedicate a mixer/blender just for this purpose.

We say that our food is a gift from God and should be treated with respect. So naturally, some of our most reluctant readers will wonder about flushing this God-given gift down the toilet. But the gift from God are the useful elements within these food items, and you will have taken these elements out of the living garbage before disposing off the rest. So how can the remaining, unwanted, used food items – those which you are going to throw into the trash bin anyway – be considered gifts from God? Those remains are ungodly, at least to us. So there is no harm in grinding these remains into a pulp or paste and sending them down your drain. There is just one disadvantage to this method – we will not get the free, rich soil that the Aviratpatra can produce but at least it will be an eco-friendly disposal of your living garbage.

The concepts of proper garbage disposal and “Zero Garbage” are nothing short of wars we need to fight, because in these concepts we are always dealing with living things. Wars require two sides. When one side attacks, the other has to respond and create its own strategy. The same is true here. If we attack our pesky flies with marigold flowers, then in a few days, that weapon stops working as the flies become resistant to the smell and adjust their strategy. This is, of course, one of the basic laws of nature. Therefore, in order to reclaim our victory over this enemy, we will need to attack

them by releasing a different odour-bomb from our arsenal. This is an ongoing cycle – and there is no end to this war.

Garbage disposal will not happen just by filling our garbage bin. We will need to keep a continual, watchful eye on that bin for any ‘enemy’ flies gathering. Only then can we hold fast to the hope of victory. Otherwise, we will be forced to accept a shameful defeat and surrender to these flying pests.

So beware! The enemy is at our borders – prepare for victory!

**Obstacles will arrive,**

**Questions will arise,**

**A little thought, and they will subside.**

**The question is, will you take this mandate,**

**That garbage you will not create?**

+ + +

## 10. Plastic – The Great Sinner

What crime has this everlasting plastic committed that it should we called the great sinner? Only after tireless efforts from mankind has plastic become so magnificent and multifaceted. However, its wonderfully indestructible quality began to be looked upon as a flaw. Who is responsible for this bad publicity – the plastic or us?

Let's look at that thin plastic bag from another angle for a minute. This bag is so inexpensive to make, so light to carry, and takes up so little space – yet it can carry kilos and kilos of our stuff, and we can keep reusing it again and again.

Unfortunately, we don't use these bags again and again. Why? Because this bag is so inexpensive that it is essentially free. And it is true what they say, no one treats free things with much value or respect.

When you're done using something, you throw it away – this idea has become our deep-rooted nature. We do not think respectfully even for a moment about how that plastic bag, or any plastic packaging, has allowed the goods inside to reach us in such good condition. Why do educated humans behave like this? Because this has become our casual habit and our natural tendency, and also because we wonder, "What else can we do with this used plastic?" We don't know the answer to this question. Perhaps more importantly, this thin plastic cannot make us any money! If tomorrow this plastic begins to have good resale value in the market, then it would certainly never get thrown out into the trash.

Our current situation is such that, if we casually pass our glance over our streets, we are bound to see this thin plastic somewhere. Today, it may only seem like a visual nuisance, but this ever-present plastic may one day make it hard for us just to live in this world, or at least make it very costly just to lead a simple life.

People have suggested many solutions to the problem of plastic, and we should certainly incorporate those

suggestions into our behaviours and habit patterns. However, if each of us thinks about doing something with used plastic, or at least decides not to throw it away; even that would be one step forward.

Once we decide that we will not throw away these bags, we will naturally start to bring our own plastic bag with us from our home whenever we go out to shop. We will not ask the store owner for a bag – by doing this, we will have already used one less plastic bag. Still, every day plastic is entering our homes through various routes. What do we do about that plastic?

By now, we have already decided that we will not throw away this plastic, and that we will keep it in our home. Of course, this means that we now have to clean the bag or wrapper or packet. If we cut any plastic bag with a knife on its sides, it will become a flat piece of plastic, which is easier to clean and dry. This plastic can now be used to make a new product.

Below are photos of a product called ‘Packing Pouch’. It is written on the package as :

Packing Pouch -  
Contains Used & Cleaned Plastic  
Do Not Open - Use Again & Again



This packing pouch cannot be opened easily, since it is made from a different type of thick plastic. And since the pouch is sealed from all sides, the used plastic inside stays inside.

In order to pack the goods leaving our factories today; grass, 'paper wool', styrofoam i.e., thermocol, etc., are used as packaging materials. Once the packaging is opened, the question of what to do with this material arises. Since we do not have an answer for this question, we end up just throwing out the material in the garbage, or onto our streets.

Instead of the current packing materials, if we use the type of pouches you see in the photos, then we could reuse them again and again. These pouches are not so small that they would be tossed into the garbage thoughtlessly, and not so large that they would take up too much space to store in our homes. And if someone were to throw them away, at least they will not make our streets look dirty and unsightly.

Even after reading all this, you may want to know for sure exactly what types of plastics are acceptable for stuffing these pouches. You will get the answer by asking four questions about the piece of plastic in front of you:

1. Has this plastic been used?
2. Is this plastic clean and dry?
3. Is this plastic soft?
4. Does this plastic have no value in the market?

You should assume that the plastic in question is fit to become stuffing for the packing pouch, if you answered "yes" to the above four questions:

If we pick up the plastic thrown away by people, clean it, and then make these pouches, they would become too expensive. Factory owners would not buy them.

If we clean and dry our used plastics, we could reuse them again and again. The guy who buys our newspapers will not buy these cheap, thin plastics. But, if we clean and dry the plastic and make the packing pouches you see in the photos,

then any factory owner would happily purchase them at a handsome price.

Of course, you need to be a little business-minded to make and sell these pouches. Everyone cannot have such mind set, but about everyone does use thin plastic bags.?? If you sincerely decide to reuse your plastics, then instead of making packing pouches, you can use them to stuff your pillows. If you really generate a lot of used plastic, you may even be able to make mattresses or thick blankets (quilts) out of it.

Used and carelessly discarded plastics have become uncontrollable beasts. If we capture all these beasts and imprison them inside these packing pouches, then they will be ready to serve us endlessly. Doing so will certainly help clean our environment – what a great benefit that alone would be.





## 11. In Short

- 1) Look at your garbage from a different angle.
- 2) No, it's not garbage – all these objects are really just pre-owned things!
- 3) We are the creators of these pre-owned things.
- 4) We need to manage our creations ourselves.
- 5) Simply decide that you will not throw things away thoughtlessly.
- 6) Transform your living garbage into rich, earthworm soil right in your own home.
- 7) Do not crumple or tear up your paper garbage. All paper can be sold to recycling.
- 8) Thick, hard and heavy plastic items, as well as metals can be sold to the bhangarwala (junk/scrap buyer).
- 9) Cut your plastic bags on their sides with a knife. Now, they will be easy to wash and clean.
- 10) Give your cleaned plastics to the people who normally pick through garbage looking for these items with heavy sacks on their backs. The plastics which they will not take – thin, clean, soft plastics – may be used to make packing pouches. You can give these pouches to various factories as packing material or bring them to me. Alternatively, you can just send your used plastic back to the company that manufactured it in the first place! When these companies start getting their own wrappers and packaging back, then one day these companies will start to make packaging which they can reuse ('Gandhigiri').
- 11) If you do these things, you will not have anything left to throw away.
- 12) If you are going to continue your old, wasteful habit patterns even after reading all this, then you will no longer have the right to criticise other people!

**Place This Sign on Your Door!**

**\* शून्य कचरा \*  
शेथे कचरा तयार होत नाही**

**\* Zero Garbage \*  
No Garbage Is Made Here**

## 12. 'Aviratpatra' – 'The Garbage Composter'- for Housing Societies

After reading my complete book on 'Zero Garbage Concept' and understanding my own conceptualization of Zero Garbage, some people start thinking of implementing this concept at Society level. To be frank, I am myself against the notion of initiating Zero Garbage program at Society level. This is because Garbage can be handled in cheapest, easiest and best mechanism at its source of creation. But, somehow in our country people love to take up every initiative on a bigger scale, involve large groups and make a huge announcement programme. However, people need to understand the problems in trying to attain 'Zero Garbage' at community or society level. Some of these facts from my experience are listed below -

1. The most important and preliminary requirement in the Garbage Composting Project is the co-operation between all the members, which is very rarely seen in our co-operative societies. Most of co-operative societies are co-operative for namesake only.
2. 'Aviratpatra' which readily serves the purpose for a family will have to be customized to suit the needs of a Society depending upon the number of flats or families residing therein. It would occupy minimum space of 100 sq.ft. and call for much higher monetary investment.
3. Let us consider, that certain Housing Societies have the space and the money for setting up this infrastructure for garbage processing, but the first objection will be raised by the Society member whose flat is in the proximity of this unit. The good initiative will fail even before it begins.
4. Let us presume that some societies overcome the first objection in their new found zest for doing a social good. Yet the question of 'Who will manage & monitor the Garbage mechanism daily?' still will arise. That's when

people readily agree, “Our society garbage collector or watchman would take up the responsibility.” The entire society will create the garbage and hire one watchman or one garbage collector to manage their filth. To expect any man to take up a dirty job is completely unfair. It is this attitude of ours that has resulted in creation of Indian Caste System.

5. In future, manpower for undertaking garbage collection jobs are going to become scarce or expensive. With that, Societies will either have to spend more on the remuneration of these workers and let society members absorb the high costs or see the ‘Project Zero Garbage’ fail.
6. Again to make any project a success, one needs to appoint a manager and an operator. Initially, some Society members may volunteer to become the ‘Manager’, but then how long will he continue on the role? Will any other society member volunteer to take up the role in future? Usually, there is no ready solution to such questions in societies. Invariably, the existing ‘Manager’ will feel ‘Why should it be only me taking the responsibility?’. Then if the Society appoints an outsider, it will again be a costly affair and ‘Project Zero Garbage’ fails.
7. Consider, if a Housing Society has 30 families/members and they initiate this project within sufficient space, money and man power. In all likelihood, if for any of the above reasons, the ‘Project Zero Garbage’ fails, then the success rate is 0%. Whereas, if these 30 families were to begin the same project with their own ‘Aviratpatra’ at home, with 20 families discontinuing the use of ‘Aviratpatra’, even then the success rate would be 33%. So you can decide as to which one is a better option, 0% success rate or 33%?

## SUCCESS STORY

### Ameya Palak Sanghatana's 'Project Gharkul'

Overcoming all the seven hurdles listed above, Mumbai Suburb - Dombivli based Ameya Palak Sanghatana's 'Gharkul' - a home for mentally challenged people has made a successful 'Community Aviratpatra'. Everyday this home, which is housed outside village premises, prepares meals for 50 people. There is nothing beyond the compound walls of 'Gharkul'. They could have easily thrown the garbage outside of their compound walls, however this was not acceptable to **Mr. Avinash Barve - Managing Trustee & Consultant of Ameya Palak Sanghatana**. He approached me and together we built an Aviratpatra of the dimensions 6 ft x 4 ft x 3 ft, trained their staff members on managing the garbage. Today, the 'Community Aviratpatra' is running smoothly and successfully at 'Gharkul'.

The Societies housed by the educated and wealthy people need to think, "**The mentally challenged can overcome the challenges easily, can we?**"





**Composter Managing Team**



## 13. In Retrospect

When I ask myself, “What has been achieved over these 12 years?” I realize that it has become my second nature not to throw used items away simply because their original use has come to an end. My family has also begun thinking this way naturally... even my little grand-daughter Swara!

When an action becomes second nature, we carry it out as naturally as brushing our teeth when we wake up, or combing our hair and powdering our face before going out. We don't have to think about it and it becomes totally painless.

“Don't throw it out” is the mantra of Zero Garbage. To date, the book “Zero Garbage” has been distributed in multiple languages in order to spread the concept of zero trash (Marathi -10,000 copies, Hindi - 1,000 copies, Gujrati - 1,000 copies). The tenth Marathi edition and this first English edition has been published. The Marathi e-book is already available and has been sent to many. I have also made an Aviratpatra for a couple of hundred people who wanted them. I have given many talks on the zero garbage concept, including on TV (interview on e tv, Z 24 Taas, Z news etc.), on Radio (Vanita Mandal), and my articles have been featured in many magazines and newsletters. Perhaps more importantly, I have been able to use 45,000 pouches filled with used plastic as packing material in my factory. Without this reuse, this unsightly plastic waste would have continued to float around destroying our environment.

Even Sunita Choudhari-maoshi (our cook) has been changed by seeing my plastic packing pouches, and by constantly hearing about zero garbage. From the 10 or so homes where she cooks, every day she brings me used, clean, soft plastic which would otherwise have no market value. What do I give her in return? Absolutely nothing. Just like Sunita-maoshi, a lady named Sapna Bagul brings me plastic, and an elderly woman from Mumbai (Ranjana Ingale)



brings me plastic in her Mercedes! There are others who save their plastic and give it to me whenever we meet. They are : my children's in-laws the Kelkars and the Karandikars from Dapoli, Neha Dalvi from Mittal Towers, Mrs. Bhave, Prachi Bhide, Ashwini Joglekar, Lata-maoshi, Madhav and Rekha from Pune, Seema-wahini, and my friends Sumukh Joshi, Anand Oak, Devendra Nimkar. There are some whose names I don't even know, who leave plastic for me in the watchman's cabin in our society. Then, there are others like Smt. Nenebai from Kalwa, Mrs. Karmarkar from Ratnagiri, Dr. Khursale of Ambajogai, Mrs. Vijaya Joshi of Pune, and Mr. Sukhad Rane and his wife Mrs. Samruddhi Rane spread the idea of zero garbage by distributing my book during a bicycle trip from Indor to Nasik. Many people have also provided indirect financial support by paying whatever amount they felt appropriate for my book. Mumbai Mahanagar Palika also used this book in their curriculum for their workers' exams for a year. Mrs. Gore of Pune even gave out copies of the book for Sankrant!

Who are all these people? They are just regular people. None of them are famous celebrities, politicians, or government officials. This change is occurring in 'the common man'. This means that it is from the heart, and not for some publicity or fame.

This is how behavior should change. The resolution, "Don't throw away used stuff" should become as natural as drawing breath.

But is this really feasible? Looking back after 12 years dedicated to this cause, I certainly believe that it is indeed possible. And this faith which I have gained is the fruit of my years of devotion to this cause. What else could one hope for?

✦ ✦ ✦

## 14. The Real Issue of Waste and its Solution

We have been practicing the concept of 'zero garbage' for the last fourteen years. We do not discard anything as waste or garbage. We do not call it as waste; we call such things as 'Used Materials' i.e. UM. We proudly call ourselves 'garbage-free people'. There is a billboard on our front door that reads 'we do not generate any waste'. The billboard is the showcase of our behavior. The idea that the implementation of the concept of zero garbage needs a lot of time and is time-consuming is false. The way we have been handling waste is the only and 100% answer to the problem. I believe that every citizen should adopt to this practice. Hence, I utilize every opportunity that I get to promote the concept. I talk to people. This journey has offered me a couple of experiences which speak volumes about our society.

**First experience :** Once I was talking about zero garbage with a friend. Near his shop, a waste worker on the premises was standing there. He was keenly listening to our conversation since he realized that I was talking about garbage. It was a topic close to his heart. The next day my friend called me. He said "Mr. Tamhankar, do you know what our waste worker said after listening to our conversation yesterday? He said 'this man is going to make life difficult for us.; - if people start following his advice, there would be no work for us to do; we will have a tough time feeding ourselves.'"

**Second experience :** Once I went to a friends' get together. We were meeting after a lot of time and everyone had something worth sharing. I also shared and told everyone about my concept of zero garbage. I like to promote the concept. It has become my mission. Immediately after listening to what I said; a successful, educated and rich friend said "If we adopt your way, the waste labourers would die. People who cannot do anything else, do these jobs!"

Based on both the experiences and comments, one can draw the following conclusions -

1) The sanitation worker is completely unaware of the fact that his job is filthy one. It may cause a serious threat to his life; even some addictions and illnesses.

2) The educated, wealthy, literate Indian citizen is unaware of the fact that one of his countrymen is doing a non-desirable job and that he is also instrumental for making the man work in filth. He seems unaware of the fact that it is because he enjoys the benefits of the creamy layer of the society, the labourer must work in the waste. The elite is meant to produce the waste, while the less intelligent class is to manage the waste. This is a social injustice that the elite is inducing but they do not even have the faintest idea of it.

Both the experiences tell us that if we want to uproot the cause of waste or garbage; the waste workers should make it loud and clear that 'we will not pick the trash that you citizens make. We will only pick the segregated, cleaned garbage that does not harm our health'.

Every citizen should practise the concept of zero waste. The first hurdle in materializing this to reality is the lack of training for waste segregation. We are constantly urged to segregate solid and liquid waste, but there are no facilities for training on how to segregate. To be able to train, one must study garbage and get his hand dirty by handling dustbins. If we pay keen attention to our garbage, we will find out that our homes are sources of just 10 different types of the waste materials -

1) Bio-Degradable Waste 2) Paper 3) Glass  
4) Coconut Shells 5) Materials Made from China Clay or Ceramic 6) Thick Plastic 7) Bones 8) Thin Plastic 9) Sanitary Napkins 10) E-Waste.

Let us see how to understand this waste and then manage it.

**1) Biodegradable Waste :** This category is not too problematic because irrespective of what you do, mother nature turns it into the soil. It does not wait for you, which eventually brings up the question of whether we should pay

attention to the management of such waste or not. The reason being you should keep your surroundings clean and as such waste can provide biogas and fertilizers. Now you must be thinking why not a single gas project or a fertilizer factory is being built for such waste disposal is not functional? The reason is we gather all the waste without segregation from various places.

A lot of money needs to be spent on its transportation. The gas projects or the fertilizer factories cannot afford this amount of money. The financial feasibility calculations soon collapse, and such projects cease to function. If we want to do away the cost of transportation of waste, then we must convert it into manure right at the place it is created. This can be done very easily. For such disposal, I have designed equipment called the 'Aviratpatra'. With the help of this device, you can convert the biodegradable waste into fertilizer at your home.

**2) Paper :** The issue of the paper is resolved when we study how we discard or dump paper after use. We often crumple it, make a ball and throw it into the bin. Why do we need to perform two actions - make a ball of paper or tear it? The answer to this is 'just like that', and the paper is thrown into the bin because the bin is there. If we want to make zero garbage of paper a success, then we should give away the habit of making its ball or tearing it into small pieces; and to give away this habit we will have to give away bins. The absence of bins will give way to a situation where you will struggle where to dump the crumpled paper as well as the torn pieces. In such a situation we should keep the paper as it is. There is always a place in our house to keep old newspapers. If you sell this pile of papers along with the pile of old newspapers; you will not only achieve the zero garbage of paper but also earn a tidy sum!

**3) Glass :** Every household has some glassware and they sometimes break. We keep wondering what to do with broken glass. We carefully pick up the pieces, so they would not harm the family members. Then we wrap it in the paper and

dump it into the bin. The next day the dustbin is emptied in a bigger trash-container containing the waste from your housing society. The shattered glass pieces can harm the hands of the waste-handler. The current management of the glass waste is improper. Then what should be done? The way the paper reaches from scrap to the factory, the same way the broken glass is needed in the factories as the first charge of the furnace. If we reach out to the scrap dealer with the pieces of broken glass, he may not perhaps pay us, but will take it for disposal for sure.

A vehicle comes to the scrapper at definite intervals to collect the glass and takes it away. In this manner, glass can also be included in zero garbage mission. Our task is to find such a scrap dealer in town who accepts glass, and then we can deliver the broken or unwanted glass materials to him.

**4) Thick plastic :** We cannot live without plastic. There are innumerable things that keep coming to our houses. We casually dump them after use. Usually, we do not have a bin for such obsolete or broken thick plastic articles, but we need to keep it somewhere anyway. There is a simple solution to this problem. Hang a big carry-bag somewhere in the house and put such things into it. Once the bag is full, give the bag to the scrapper. He pays for such things for sure. These materials are used for remoulding. You have earned money and the thick plastic has reached its rightful place. Thick plastic is zero garbage now.

**5) China clay/ ceramic/ porcelain things :** These chiefly include cups and saucers, tiles and different kinds of containers. These things are as breakable as glass. The name itself suggests the way these need to be managed. These things are primarily nothing but heated clay. Under-construction sites need stones and clay for filling the pits, and our task is to just ensure that broken cups reach the construction sites. The cup and saucers that served your hot cuppa will not be turning into the trash if we help it reach its kin.

**6) Coconut shells :** Though these are biodegradable, its decomposition takes a lot of time. The best way is to use them as wood stock for burning. In our society, we still have people using firewood for heating. We should give these coconut shells to such people.

**7) Bones :** Non-vegetarian food is the source of bone waste. The smaller bones can be converted into fertilizers in the Aviratapatra (continuous processing equipment). The large bones are calciumlike in stones. They should also be discarded into a pile of soil as the china clay material.

**8) Thin Plastic (Polythene) :** This kind of plastic is the most dangerous of all. Nobody knows a solution to this. One answer is never to create such, which is nothing but a half-truth. It is nearly impossible. Some enthusiasts have tried using it for manufacturing oil, but they could not turn it into a commercial success.

The hurdle is the same; the cost of transportation. I have tried my best by recycling plastic waste and making it zero garbage. I use the thin plastic to make packing pouches of 5\*9. I use them in our factory. The aware citizens in our neighbourhood deposit the thin plastic at my place. The trouble caused by this plastic, which is like a troublesome kid who aimlessly wanders, has been minimalized after putting it to work. We can also use this soft, thin and worthless plastic to make mattresses and soft toys. The least one can do is to store it in our homes. It needs a minimum place to store. There is no harm in taking a trial run. Maybe when this thin plastic will gather in one place, it might trigger new ideas into you.

**9) Sanitary Napkins :** These should be destroyed by incineration, but we do not have such facility here. So, what we can do is we can take some sand into a shallow pot like head pan and burn the used napkins into it on the terrace. It's not a fullproof method but a far better one than leaving it into the drainage line or trash can.

**10) E-Waste :** This is the trash of the new era. Discarding it randomly is quite harmful. The government has

appointed certain officials to collect e-waste. We should make it a precondition to the provider from whom we buy electronic gadgets and personal computers, that he should accept the e-waste in return or at least find from him someone who accepts e-waste.

If you put this into practice, you would be immune to the problem of waste. You would just not know what to do even when you are permitted to create waste. The first condition is we should accept that our garbage is our responsibility.

\* \* \*

## 15. *Nirmalya* (Offered Flowers) – A Grace

Let me share a recent experience with you. I go for a morning walk every day. On my way back, I pay a visit to the temple of Lord Datta. Around three months ago, I met the worshipman of the temple. He was gathering *Nirmalya* (offered flowers) in a barrel and it was almost full so he was pressing and pushing the waste to store more into it.

I asked him “What do you do with this *Nirmalya*?”

“What can I possibly do? I tell the sweeper to dump it somewhere.”

“And where does he dump?”

“I do not know. He takes it with him for sure.”

Co-incidentally the sweeper was standing nearby.

The priest asked “Brother, where do you dump this?”

He was not ready to tell the truth, as he thought I was some kind of government official. When the priest reassured him, he said “I just pick it as it is and dump it somewhere in the creek.”

Both stood helpless.

I asked “Why don’t you turn it into manure?”

“The owners are against it. The *Nirmalya* consists of innumerable kinds of things.”

“And which are these kinds?”

“It has flowers, garlands. Besides it has jaggary, coconut, wicks, cotton clothes, dough balls, incense sticks, candles, burnt matches, paper, ghee packed in plastic and paper bags, aromatic powders such as abir, gulal, turmeric, and vermilion. Sometimes the garlands have shining plastic balls. The bouquets have tiny balls of thermocol. People dump all these things into *nirmalya*.”

“O’lord!”

“Now if you want to make a manure of this, firstly someone has to segregate everything. Who will do that?”

“So, the real question is who will segregate?”

“Yes!”



“But tell me, why do you mix everything? And why do you keep it in a plastic bag and tie it tightly?”

“Then it’s easy to dump!”

I paid my homage to Lord Datta and left the temple. The hip of flower waste was not ready to leave my mind. I started feeling as if I owe something to Lord Datta. The helpless lord was bothering me.

The next day I carried a polythene bag with me on the walk.

The priest was taking down the flowers and garland from the idol. I said to him, “Stop, do not dump the flowers and garlands into the *Nirmalya* with other stuff, instead keep them in this polythene bag, so the flowers will automatically separate.”

The priest listened to me. But he had a question – what to do with the flowers and garlands in the bag?

I immediately cleared his doubt.

“I will take the flowers and garlands in this bag home.”

The priest kept looking at me.

I carried the bag home, took out flowers and garlands. I separated the flowers from the garlands. I separated the petals from flowers too. The thread decomposes slower than the petals, so I wanted to separate the thread as well. I took a basket and filled it with petals. The pile of flowers in front of me was almost invisible in ten minutes.

The priest thought my enthusiasm will wane in a couple of days, but I served the Lord regularly for a week.

Now the priest was separating the garland and flowers from other stuff for me.

Whenever I used to separate the flowers from the garland, I would find a folded leaf behind every 10 flowers. I would often think that why such leaves are woven into a garland? Obviously, leaves cost less than flowers and the garland looks beautiful too. We cannot deny the commercial view hidden behind inclusion of such leaves.

The truth is leaves are not to be plucked. The leaf is the nose of the tree. But who will tell this to whom? And who will listen? I came up with a trick. I could convince the worshipman that it is wrong to weave leaves into a garland. I told him to tell the devotees of Datta that this Datta is allergic to leaves!

Will the priest really tell the devotees? Even if he would not, nature-lovers should be known this for sure.

It will be three months now, I am working on the flowers offered to Lord Datta. I am blessed with spiritual, inward happiness doing this. The flowers and garlands every day weigh around 1kg to 5 kg. If we consider the average garbage to be 2.5 kg each day, then I have sorted approximately 225 kg of *Nirmalya* in 90 days by spending 10 to 15 minutes each day. Now I have two baskets. One for petals and the other just for flowers. I dump them near the roots of the Jamun tree in our society. Our housing society has only one tree, but I have experienced that the flowers dumped in the tree bed decompose speedily. Then I dump just petals. The basket with whole flowers takes a lot of time to decompose than petals. There is no bad odour in this entire process for all the three types of flower waste.

During festivals, the civic authorities keep big containers (*ghata*) for collection. What do we really achieve by dumping all the *Nirmalya* into a single big vessel? It is amusing to know that our society is unknown to the fact that gathering all the *Nirmalya* in one place is fundamentally wrong. Instead, everyone should take it home as the grace of God and should manage it. The Almighty will definitely be happy and bless you too.

Will the self-proclaimed nature-lovers show the courage to take home the offered flowers as a grace of God instead of taking home sweets like pedhas, burfi, sugar balls, coconut and laddus? Will the ones who worked in Swacchha Bharat Abhiyan (Clean India Movement) be able to show the same courage? Will they themselves at least take an initiative to convince people for the same?

Do we want to keep the surroundings clean? If yes, we should take home the offered flowers as a grace of God or we should give up the habit of offering flowers and garlands to the idol on our own. The choice is yours.

\* \* \*



**Now, after reading this whole book,  
certainly your mind must have been  
motivated at least a little.**

**To make this effect steady and lasting,  
let's take the following oath :**

### **My Oath**

**Wherever my mind goes as it may,  
There, this garbage gathers each day.  
We ourselves have made this waste,  
So now, our guru has left us in haste.  
Thinking of Him I take this oath.**

**I will not dump trash anywhere,  
Even packaging I will not tear,  
Things coming from here and there,  
I will save them with gentle care,  
And make sure they are clean and fair.**

**The answer found, we begin to feel,  
The garbage disease will quickly heal,  
And a new, clean beauty will Nature reveal.  
So I bow to that future of sparkle and shine,  
And vow not to dump things I once called mine.**





**It is more important to think about what you yourself are doing, rather than what someone else is doing.**

**Through every action, we are creating something or other; so why not create cleanliness itself from our actions?**

**If we analyse our habits, we will realise the faults within; and only if the faults are realised can the habits be changed.**

**Any lasting progress becomes well established only through small changes here and there.**

# **Maher**

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**(MTDC Approved)**

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