



# International Journal of Engineering Sciences & Management Research

## SOLUTION FOR PLASTIC WASTAGES

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### ABSTRACT

According to mine opinion plastic, in one hand is eco friendly and in other hand plastic is also very harmful. Plastic wastages are very hazardously increases, but we are also know that without plastic our coming days and now days also, as for population growth is not comfortable (as limited natural resources like limited iron and other metallic resources). As example, in ago days (before eighteen and nineteen century ) we are uses wooden make or metallic made chairs but as in present days as our population growth as well as our needs are also growth so we are turned towards to making synthetically made material plastic chairs ( and other plastic made product). So in one hands we are cut the trees , so our natural disasters problem is also increases as well as we uses synthetically made plastic in very huge amount , so our natural recycling process is damaged (here both thoughts are very serious)..

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### INTRODUCTION

So let's come to the point, as above title described plastic is very serious and dual thoughtable problem (let's first understand and then got the solution on it) .....

As in one hand plastic is eco friendly because our population growth need is very serious (as our limited natural resources) to full fill our need. As it's have special isolation property (heat, electricity, water etc.) as well as for its special light weight, chemical resistance property , we can used it positively as in defence sector , automobile sector, in aircraft system, in sport sector etc.

But in another hand plastic wastages is increases hazardously and created more serious problem like global warming due to burning of plastic ( as after burning many hazardous gases increases towards our natural habitat and damaged our natural recycling processes) , in many ways water or other ways of pipe blockage , as in our daily routine plastic packaging packets wastages (these are very hazardous as they are the have very lower micron thickness, only once recycling problem , and heat, water soluble plastic), as in our daily routine plastic bottle , plastic plates ,plastic storage tank ( in water pipe line and storage tanks ,water soluble plastic , by sun light degradable plastic ) , earth isolating problem ( as we know experimentally that , if a very thinnest plastic polythene mingle in soil then water passing ability from one layer soil to another layer soil is impossible , rain water are cannot gone into the earth depth as rain water cannot passes through the soil layers, as water recycling process is damaged in our earth system and it's a very serious problem so we got the plastic pollute water from the earth depth) as well as plastic pollute soil from where our farmer grow up our fooding grains then our produced grains are hazardous to our health as well as decreases our farmer grain production and also damaged our soil grain production capability.

As after consulting above I concluding that plastic is AS A KNIFE WITHOUT ITS USE WE CAN NOT FULLFILL OUR HUMANITY POPULATION GROWTH NEED, BECAUSE IT IS AS ALSO A KNIFE SO IT'S ALSO HAZARDOUS TO OUR NATURAL HABITAT.

BUT WHEN WE ARE USED IT SINCEARLY THEN WE HAVE NOT PROBLEM FROM KNIFE LIKE PLASTIC. SO FOR ITS USE OF KNIFE LIKE PLASTIC LET'S TURN TO SOCIAL AWEARNESS WITH MINE BELOW GIVEN SOLUTION (IN NORMAL WAY AS WELL AS TECHNICAL/ENGINEERING WAY ) WITH CRYABLE SOCIAL MEDIA AND ALSO WITH GOVERNMENT INVOLVEMENT.

**I**nternational **J**ournal of **E**ngineering **S**ciences & **M**anagement **R**esearch  
RESEARCH DATA ON PLASTIC WASTAGES

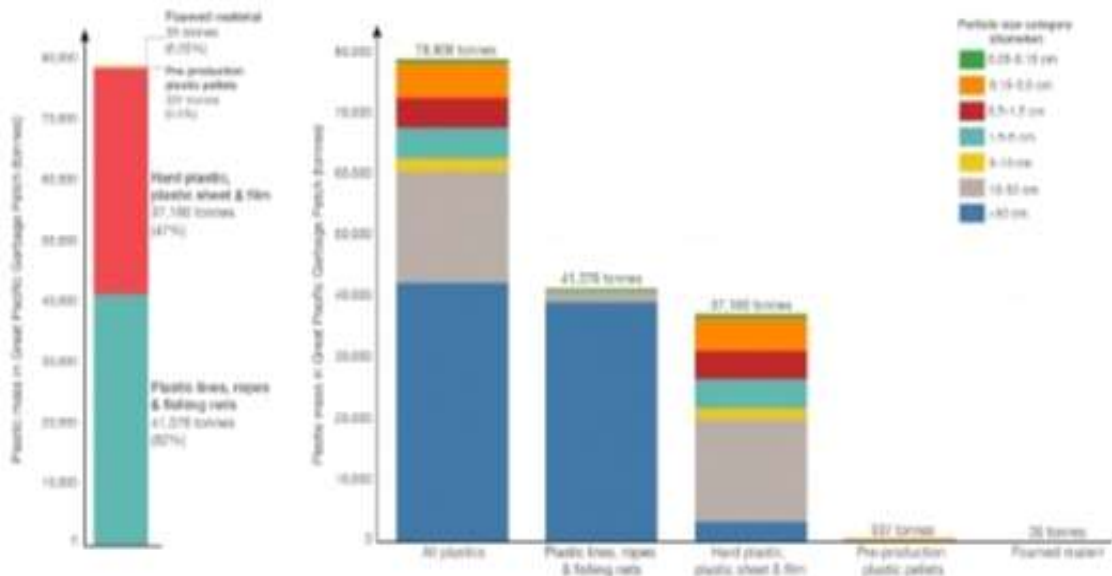
Particle category	Diameter range (mm = millimetres)
Nanoplastics	< 0.0001 mm (0.1 $\mu$ m)
Small microplastics	0.00001 – 1 mm
Large microplastics	1 – 4.75 mm
Mesoplastics	4.76 – 200 mm
Macroplastics	>200 mm

As above chart mentioned, according plastic thickness they are very thinner but, a very thinnest plastic life is approximately 150 years or above. So when plastic wastages are mingled in soil they are very hazardous and also plastic wastages burning is very danger towards our natural habitat.



### Great Pacific Garbage Patch (GPGP) plastic sources

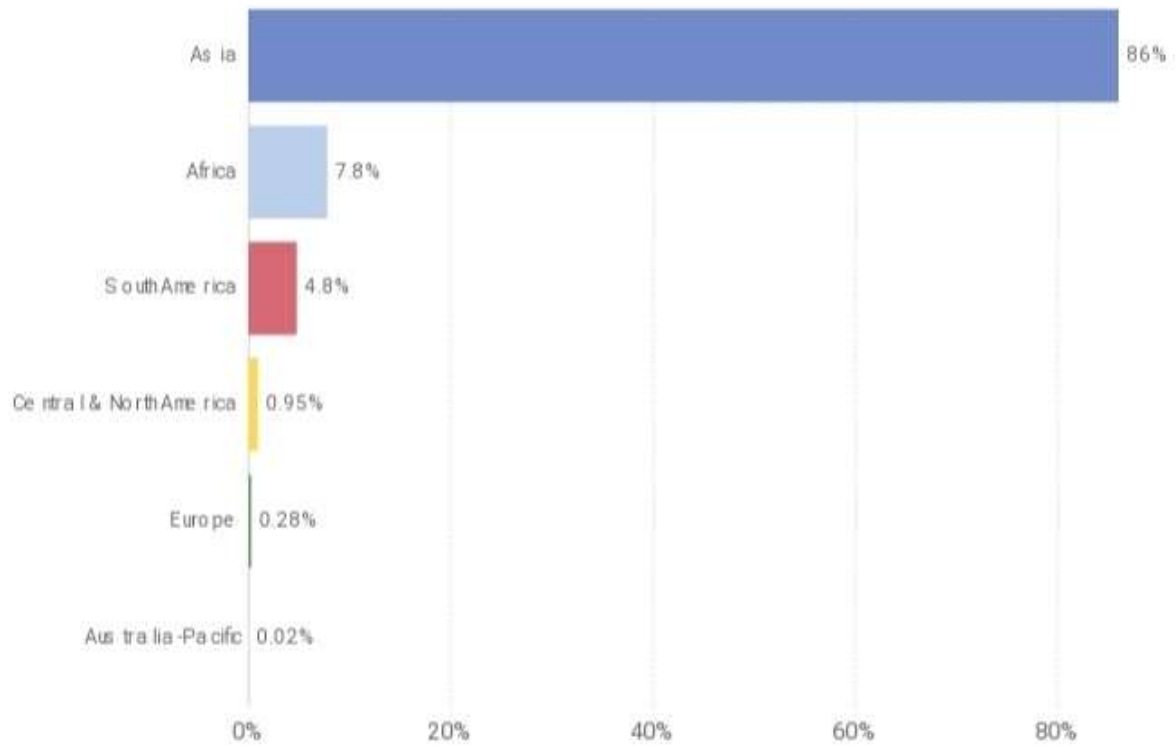
Sources of plastics to the Great Pacific Garbage Patch (GPGP), differentiated by plastic use and particle size. Plastic sources are measured by mass in tonnes. Data is based on collections of GPGP plastics in the year 2013.



Source: based on Larson et al. (2010). Evidence that the Great Pacific Garbage Patch is mostly accumulating plastic. This is a re-publication from OurWorldInData.org, where you can find data and research on just about anything.

### Global river plastic input to the ocean by region, 2015

Share of annual global plastic inputs from rivers into the ocean, differentiated by region.



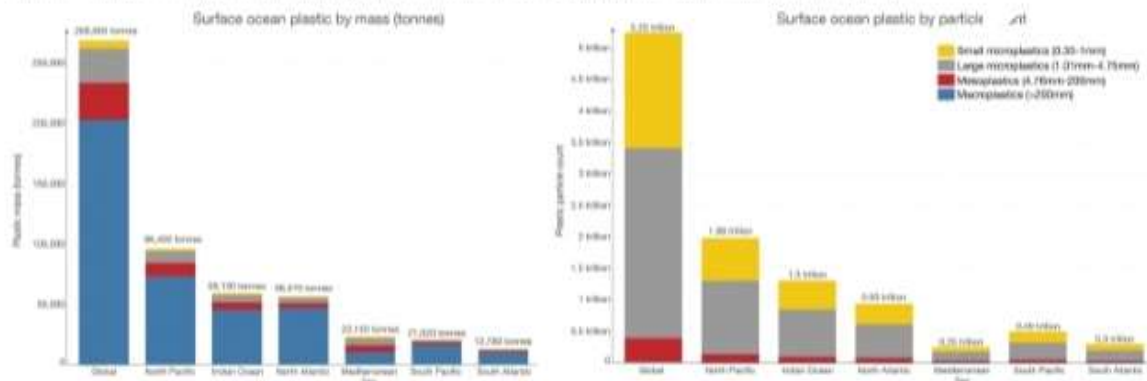
Source: Lebreton et al. (2017)

### Plastic mass and particles across the world's surface oceans

Estimates of global plastic across the world's surface ocean waters. This is differentiated by ocean basin, with breakdown by ocean particle size.

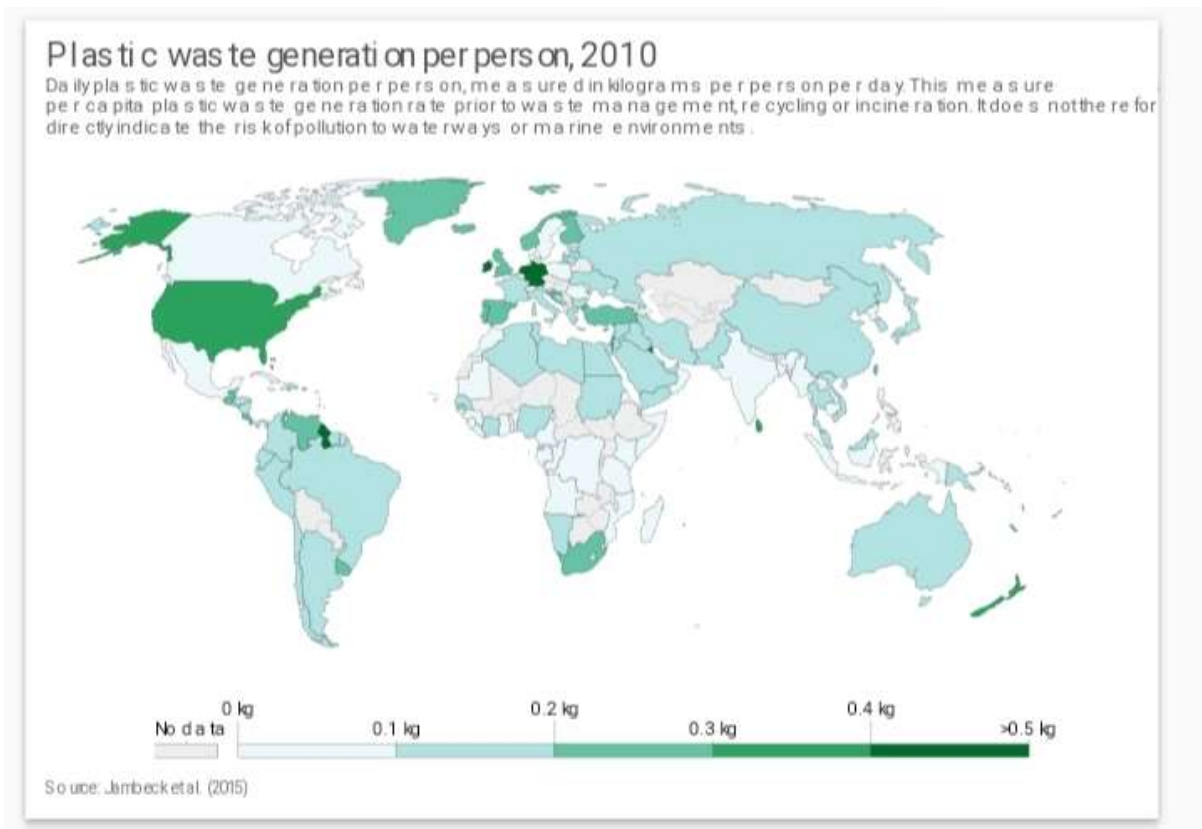
Figures are presented by mass (left) and total particle count (right).

Plastic mass in surface ocean waters are dominated by large plastics (macroplastics), but by particle count are dominated by microplastics.



Source: based on Truesdel et al. (2014), Plastic Pollution in the World's Oceans: More than 5 Trillion Plastic Pieces Floating on Our Oceans. Policy Report #10. The Pew Charitable Trusts. <http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2014/06/plastic-pollution-in-the-worlds-oceans>

Legend: Small microplastics (0.33-5mm), Large microplastics (5.01mm-4.75mm), Mesoplastics (4.75mm-200mm), Macroplastics (>200mm)

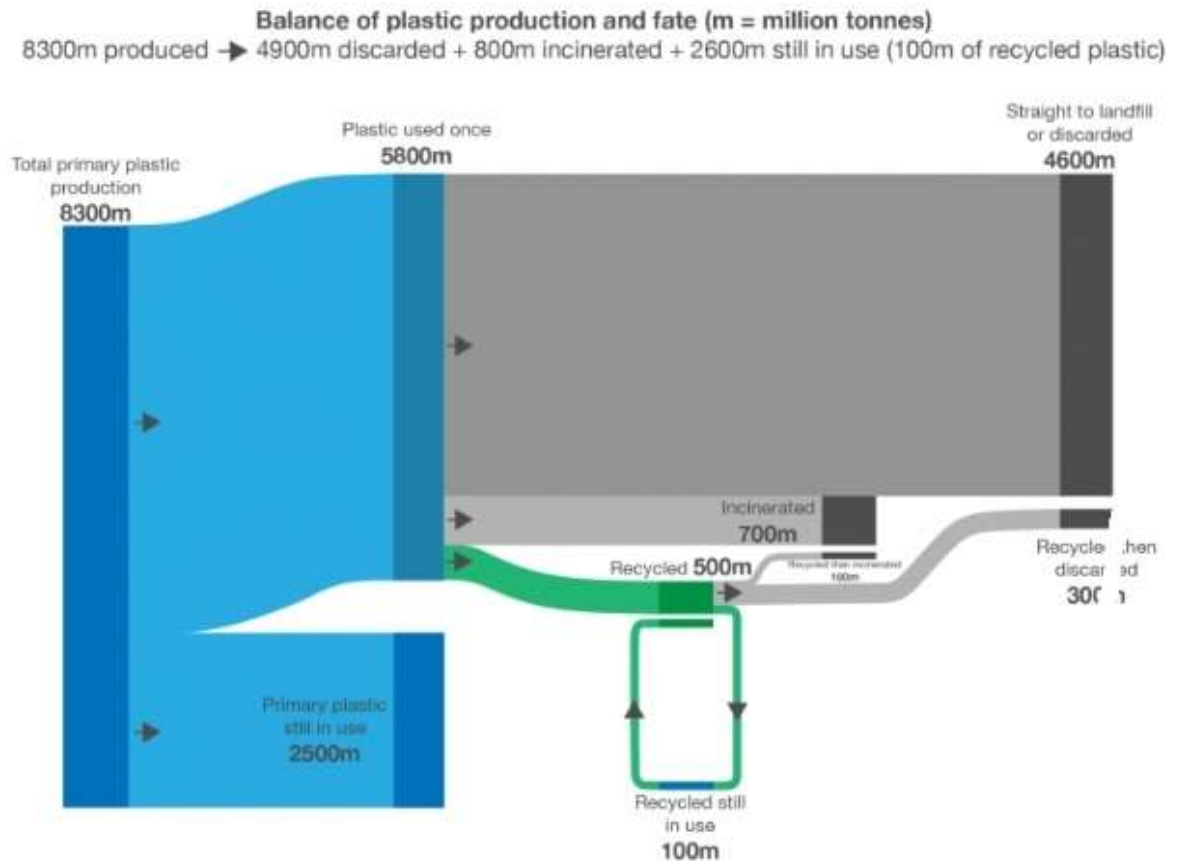




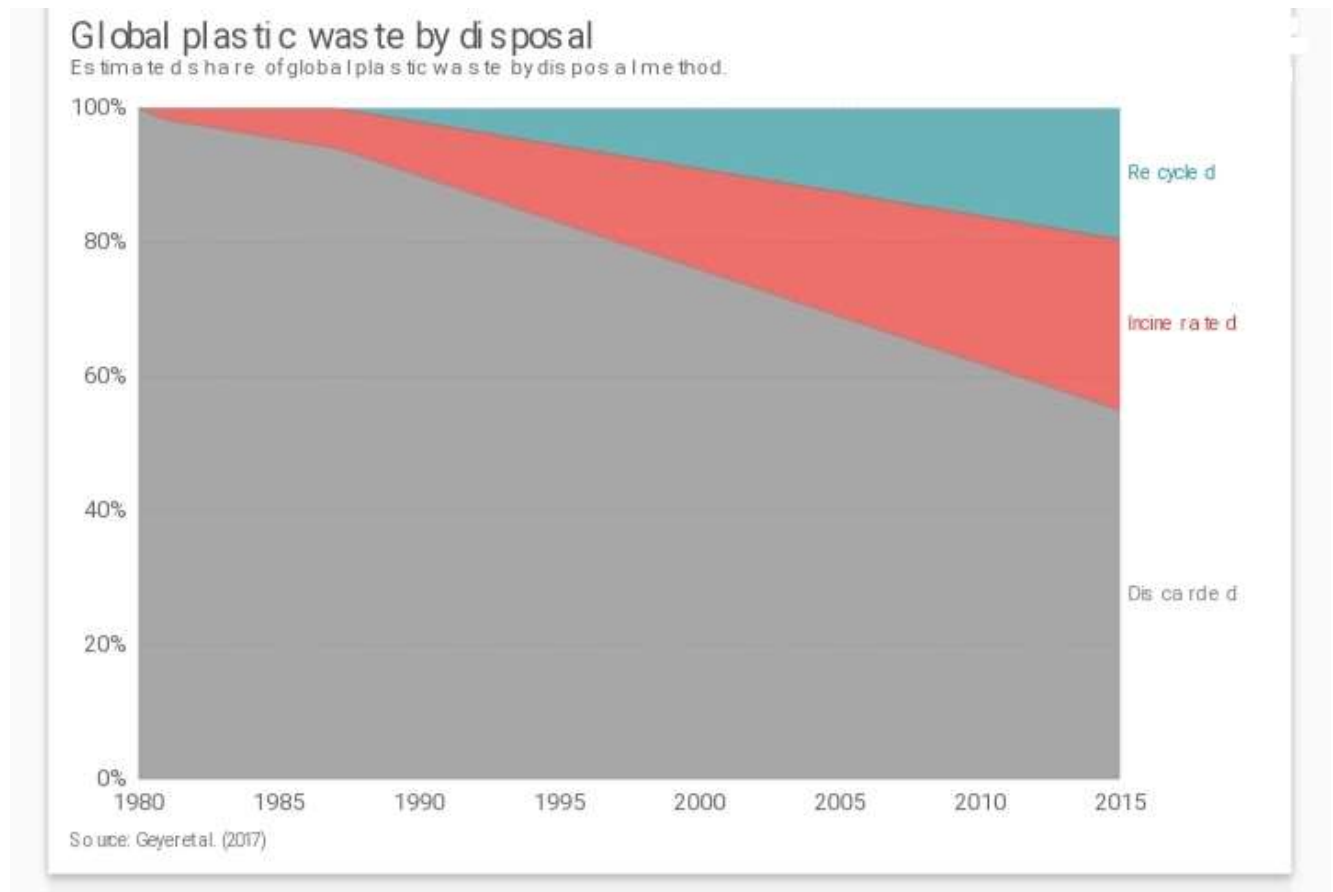
## Global plastic production and its fate (1950-2015)

Global production of polymer resins, synthetic fibres and additives, and its journey through to its ultimate fate (still in use, recycled, incinerated or discarded).

Figures below represent the cumulative mass of plastics over the period 1950-2015, measured in million tonnes.



Source: based on Geyer et al. (2017), Production, use, and fate of all plastics ever made. This is a visualization from OurWorldInData.org, where you find data and research on how the world is changing.



### **ACCORDING MINE VIEW SOLUTION OF PLASTIC WASTAGES IN NORMAL WAY**

So now the time to take the action for use the knife like plastic,

1. Neither can we burn the plastic wastages.
2. Neither we can wastage of plastic gathered anywhere as on farming soil, we can't dispose the plastic packets etc. anywhere.
3. Neither can we stable the plastic product manufacturing company near about human habitats.
4. Neither can we serve the hot food in plastic cup and plate.
5. Hard restriction for plastic made toys for under the 10 years old child.

### **But how we can use the plastic wastages efficiently?**

According to engineering /technical view,

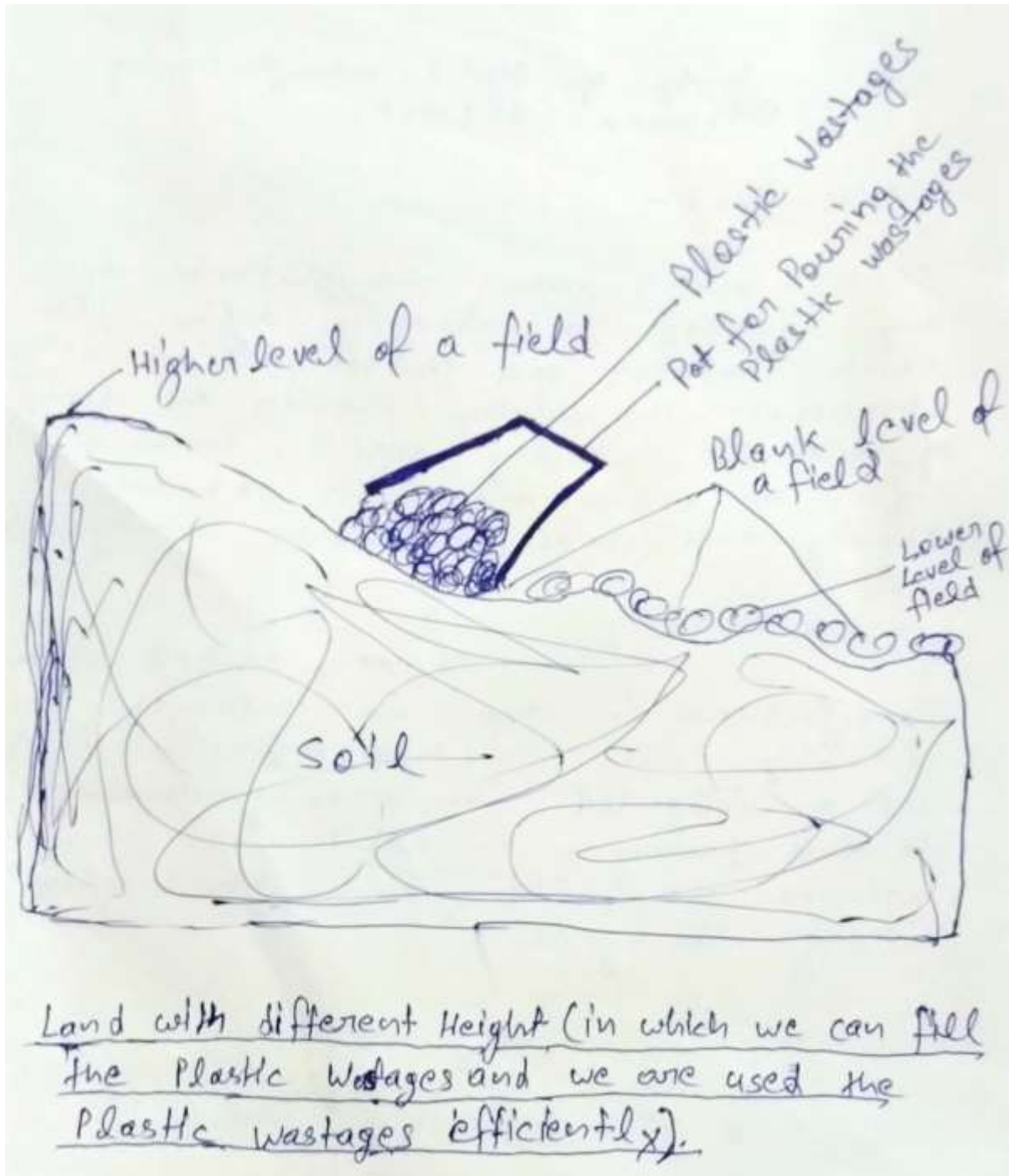
Solution.....

### **AFTER LEARN ABOUT Plastic IN ENGINEERING WAY I CONCLUDING THAT, PLASTIC DEFORMATION ON STRESS STRAIN CURVE IS**

**A. PLASTIC HAVE lower or negligible elastic property and it's have higher plasticity property than its own negligible (zero) elasticity property.**

SO NOW I HAVE THREE BEST AND SOLID IDEA FOR USE OF THE KNIFE LIKE PLASTIC,

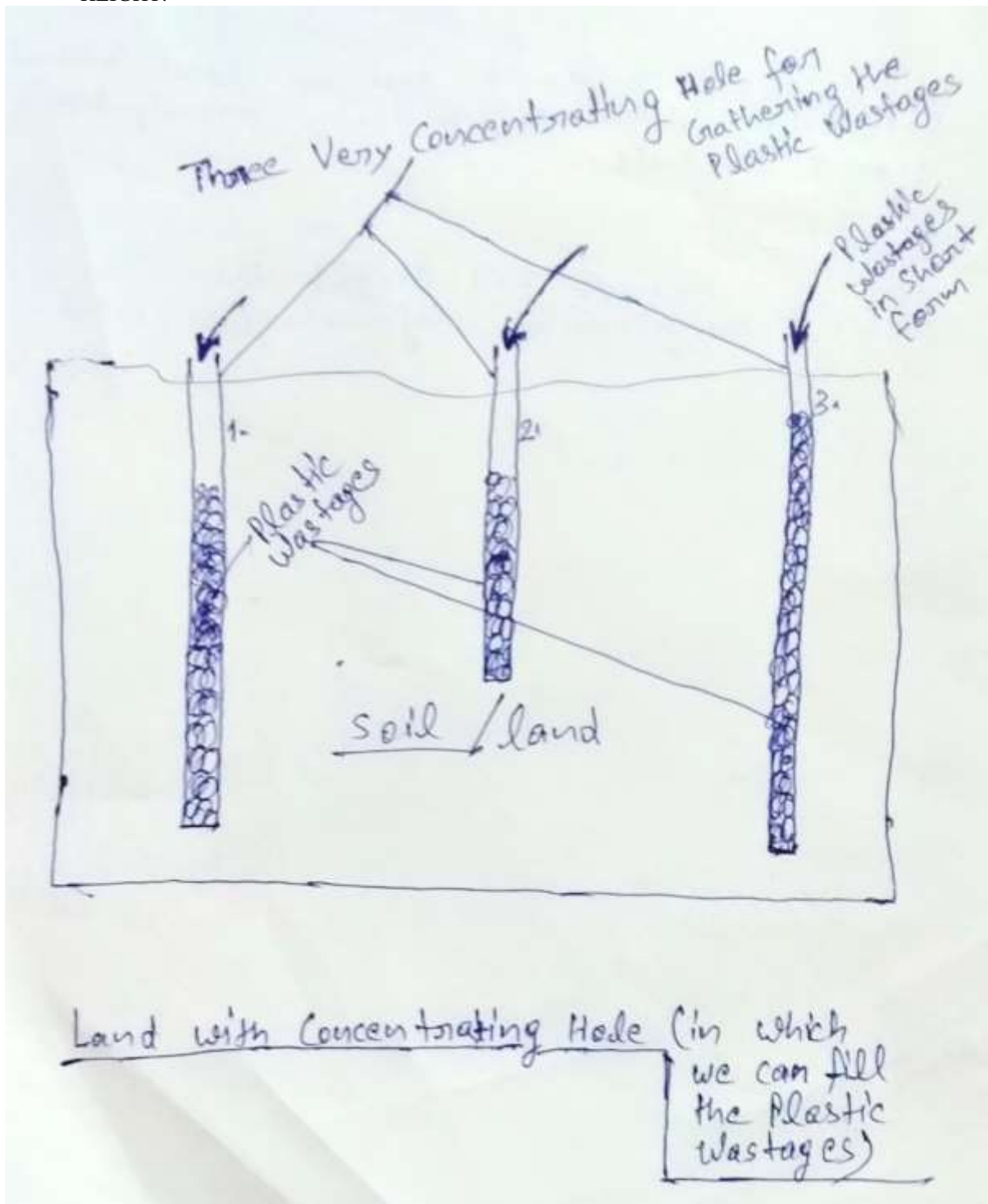
- 1. AFTER THE USE OF ONE TIME RECYCLABLE PLASTIC WE CAN DISPOSE IN A VERY NARROWER OR CONCENTRATING AREA IN EARTH SOIL WITHOUT BURNING IT.





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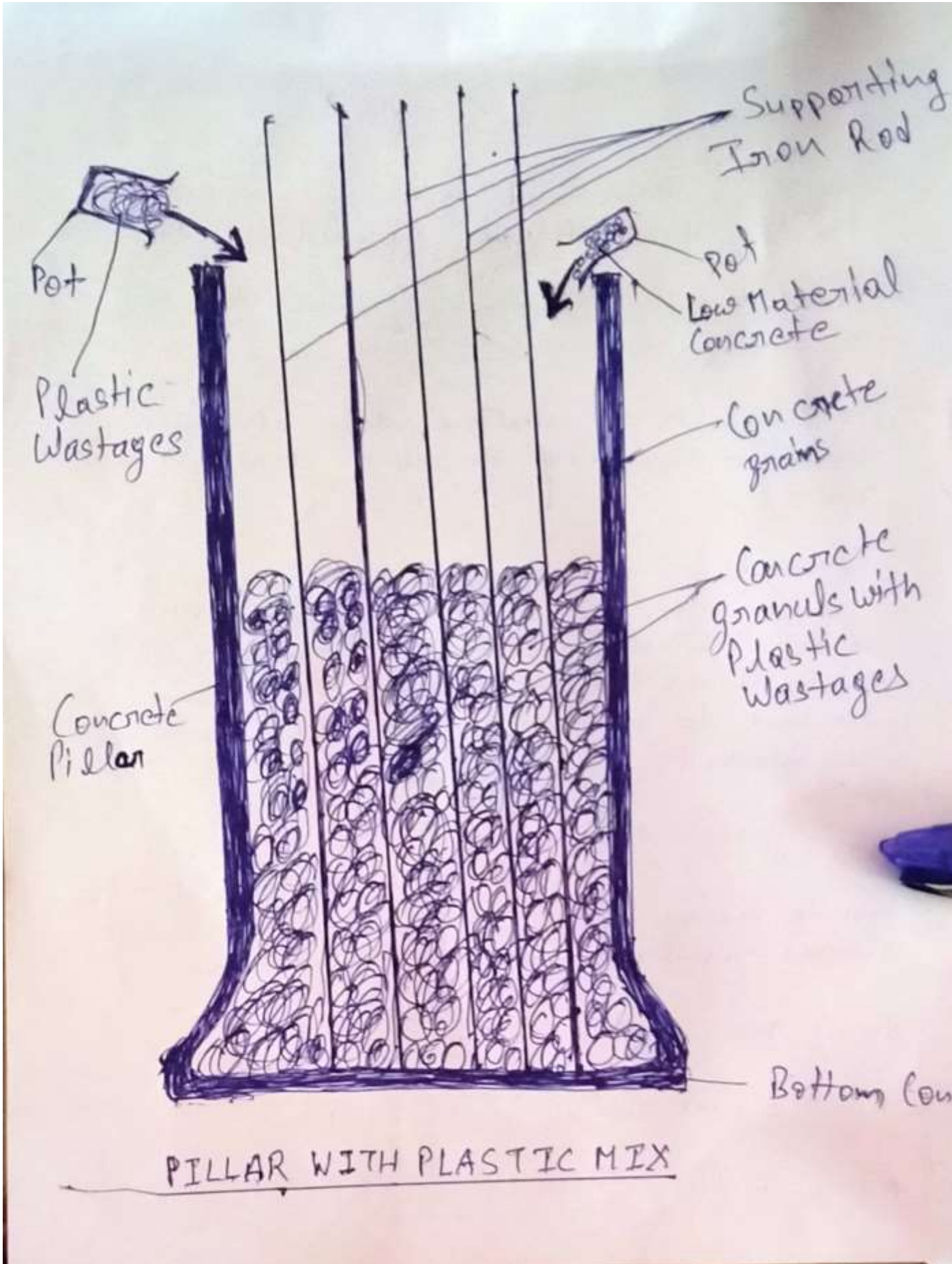
- 2. AS WELL AS WE ARE ALSO USE IT AS IN ADJUSTING THE LOWER OR BLANK FIELD HEIGHT.

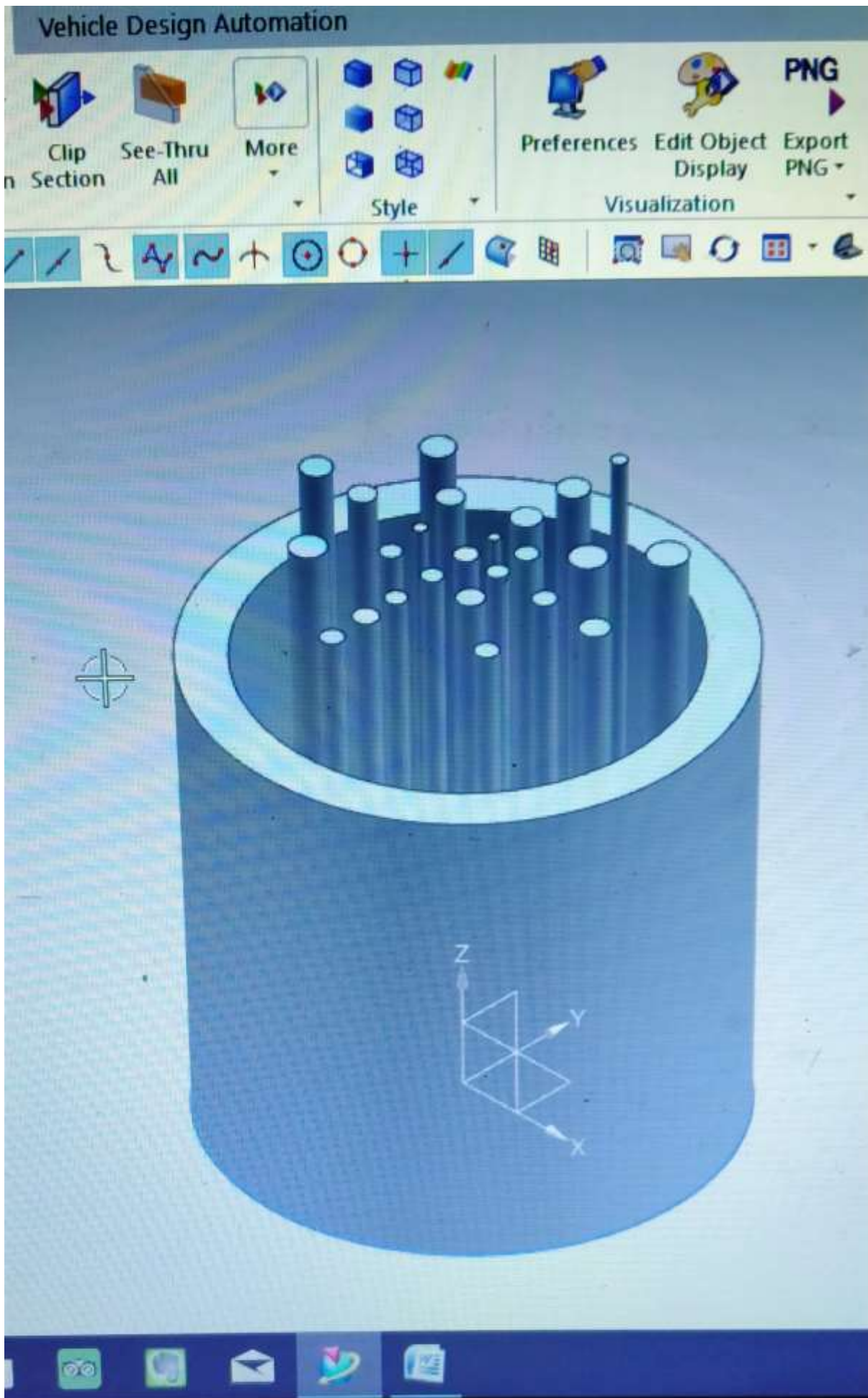


FOR ADJUSTING THE BIG WASTAGES PART OF PLASTIC PRODUCT WE CAN CRUSH THAT IN CRUSHER MACHINE (in short granule form), WITHOUT BURNING OR HEATING THAT WASTAGES OF PLASTIC PRODUCT.

- 3. WE CAN ALSO USE IT (PLASTIC WASTAGES) IN THE MIDDLE OF CONCRETE PILLER (PILLAR WITH PLASTIC MIX) WITH FULL AROUND CONCRETE.

As according to engineering apparatus plastics have lower or negligible elasticity property as well as it's have higher plasticity property so when we are dispose it in the middle of pillar making then due to its have higher plasticity property they are compressed or stretched and retain their molecular structure (when we are applied a specific load as from various types of plastic wastages we select the most heaviest specific density full able type of plastic and applied the pre decided specific density equal able load for that most specific density full able type of plastic) and they are set in that pillar, as well as due to it have lower or negligible elasticity property they are negligible regain its own molecular structure and set in that pillar. FOR THE STRENGTHENING OF THAT PILLER (PILLAR WITH PLASTIC MIX) WE CAN USE THE IRON ROD IN THE MIDDLE OF PLASTIC WASTAGE WITH FULL AROUND CONCRETE COVER AS IN BELLOW PICTURE SHOWN (So, according to mine opinion this is the best way to the use of plastic wastages without creating any hazardous effect towards our natural habitat).





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As above picture we can see that, a pillar (PILLAR WITH PLASTIC MIX) is made of concrete and also in the middle space of pillar some iron rod with fill in the blank spaces are also given, so when we are plastic wastages also filled in that blank spaces then they (plastic wastages) are due to its own plasticity and negligible elasticity property plastic wastages molecules are retain and regain its own shape and they are sated in that fill in the blanks within that concrete pillar (here we can use the crusher machine for crushing/shorting the big part of plastic wastages or product).

But here when we are noticed that, which type (like PE, PET, PP, ABS, PVC or thermosetting plastic etc.) Plastic wastages are when permanently regain and retain their molecular structure and they are sated in that pillar permanently?

For that we are search the most or heavier, specific density full able or maximum specific gravity full able plastic within that plastic wastage and then apply the load for that heavier plastic and when (means within that time) that plastic molecules permanently sated own molecules structure, that time is the maximum applicable time for sated the plastic wastages in that pillar (PILLAR WITH PLASTIC MIX).

Or between the various types of plastic wastages, we are search the heavier or most specific gravity full able plastic material and apply the maximum load carrying capacity.

(According to, more than that specific plastic load carrying capacity chart for that specific most heavier plastic material) specific load for that most heavier plastic wastage( always apply some more load according to specific load carrying chart for that specific plastic material).

This type pillar (PILLER WITH PLASTIC MIX) we can use in over bridges construction, in building construction etc. with successful use without creating any hazardous effect.

### DECLARATION

As above described that mine above given solution for plastic wastages is not only applicable for single use plastic, thermosetting plastic, it is also used for two, three, four, five, six, seven time recyclable plastic wastages as well as very thinnest plastic or daily routine plastic packaging wastages.

### CONCLUSION

So at the last time, I am very request fully to say all of you, humanity that please stop the plastic burning and if possible minimum time recyclable plastics are used (as if possible minimum time processed plastic used, because when plastic burnt in processing machine, then also very hazardous gases are increases), use the dustbin for daily routine plastic packages disposal and government involvement for on this matter is very serious. Plastic wastages not dispose in the farming soil (its most and important restriction action).

And my above given solution (according to engineering / technical view, solution for plastic wastages) is the best, solid and very effective for current and for also coming generation plastic wastages hazardousness.

Because this present time is very serious time for taken the action against the plastic use without failing this current serious time, we are very responsible for our own healthy natural habitat, as we are know if we are not take the serious action on this problem for use the plastic/plastic wastages, our coming life is in very danger situation.

### REFERENCE

1. [ourworldindata.org](http://ourworldindata.org)