

# Effective Management of Construction & Demolition Waste with Non-Degradable Waste<sup>2</sup>

M.Pradeep , Dr.G.Saravanan

<sup>1</sup> Assistant Professor, St.Joseph's College of Engineering and Technology,  
Thanjavur

<sup>2</sup> HoD, St.Joseph's College of Engineering and Technology, Thanjavur

## Introduction:

The most widely used construction material in the world is concrete using waste from various material are mixed concrete for the fabrication of blocks, bricks, paver blocks etc., Which leads to increasing demand and importance to manage and treat both solid wastes generated from industry and municipal waste.

Here we focused towards the fabrication of Bricks, Blocks, Aggregates using construction and demolition waste mixed with the non-degradable (Domestic waste) waste through experimental process.

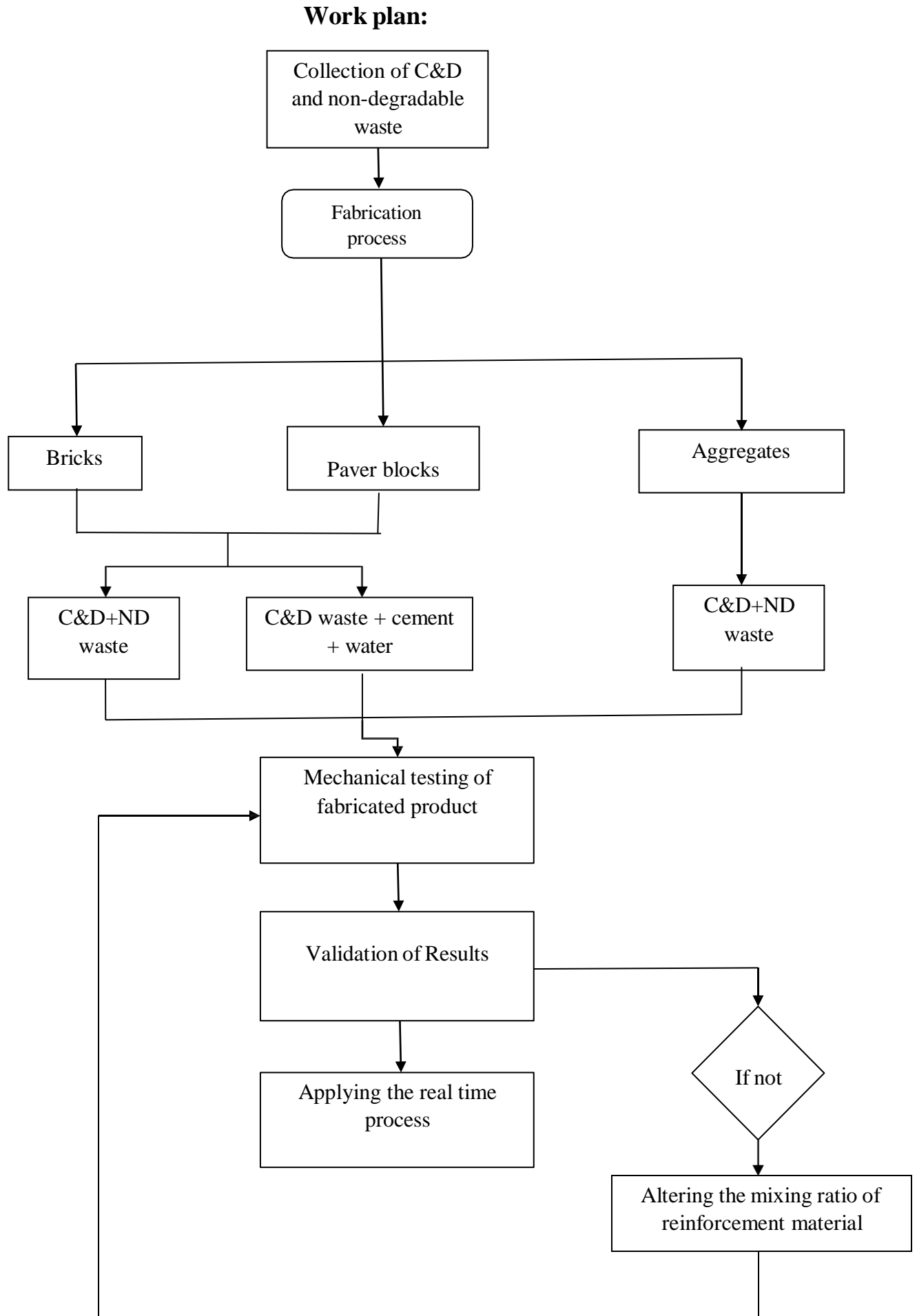
The concrete was prepared with four different categories by mixing the waste with varying proportion of reinforcing materials such as cements, water.

**Objectives:** The following are the main objectives of our research work which was highlighted below

- Utilization of construction and demolition waste and industrial waste in an effective manner.
- Reducing the construction and fabrication costs.
- Minimizing the utilization of higher cost resources by replacing with the Industrial and Municipal waste.



**Fig 1: C&D and Non-Degradable waste**



## Methodology:

Collection of construction & Demolition waste and Non-Degradable waste to separate these two types of wastes and to make different type of product like aggregates, bricks and blocks. We make different type of product with different manner. The bricks, blocks and aggregates were fabricated by the following experimental process as listed blow

- TYPE 1: Construction and demolition waste (C&D) combined with non-degradable waste in the form of AGGREGATE.
- TYPE 2: BRICKS and BLOCKS are made from Construction and demolition waste (C&D), cement, and water.
- TYPE 3: BRICKS, BLOCKS and PAVER BLOCKS are made from non-degradable waste with construction and demolition waste.

This material is used for the TYPE 1 process, in construction & demolition (C&D) waste a crusher dust obtained by breaking the beams, pillars etc., combined with non-degradable waste. We fabricate aggregate, these aggregates are used in divider blocks in highways.

This material is used for the TYPE 2 process, in construction & demolition waste We make cement and water mix using crusher dust and aggregates available from breaking beams.

This material is used for the TYPE 3 process, in construction & demolition (C&D) waste a crusher dust, aggregates obtained by breaking the beams, pillars etc., combined with non-degradable waste. We fabricate bricks, blocks and paver blocks, these are used in partition walls, paver blocks are used in pathway etc.,

We are going to undergo mechanical testing of the product and after passing it we will undergo real time process. Otherwise, we will change the mixing ratio and re-test it.

## Benefits:

- Environmentally friendly where the C&D and Non-Degradable waste should be minimum and the waste should be regenerated.
- Recycled waste material uses in the form of raw material for construction.
- Environmentally sustainable ecosystem.
- Reducing the housing cost.
- Huge positive environmental impact.
- Promoting green buildings.

**Estimation:**

S.No.	Requirements	Quantity	Price in market
1	Extraction of non-degradable waste	500Kg	500
2	Extraction C&D waste	500Kg	1000
3	Approximate cost of using equipment required for sampling	-	3000
4	Testing charges	-	2000
5	Laboure charges	-	1000
<b>Total estimation amount</b>			<b>7500</b>

**Conclusion**

Fabricated bricks and blocks using different C&D and Non-Degradable waste concluded with the mechanical testing in the real time applications process. The bricks, blocks and aggregates fabricated in our research work was highly applied in the divider on highways roads, the pathway, partition walls, midrange level construction.

Let India can adopt those models and learn from international examples. This is the right time for India to adopted a comprehensive plan in order to manage C&D and Non-Degradable waste. Because we are going to rapid face of urbanization and also the county is on the process of development. So, we will need more and more infrastructure to be constructed and effective management of waste.

**References.**

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