

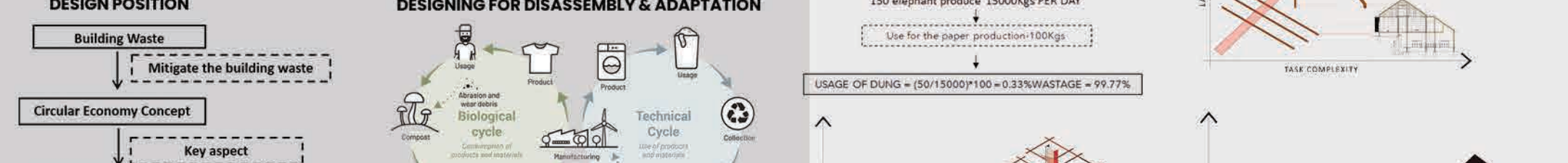
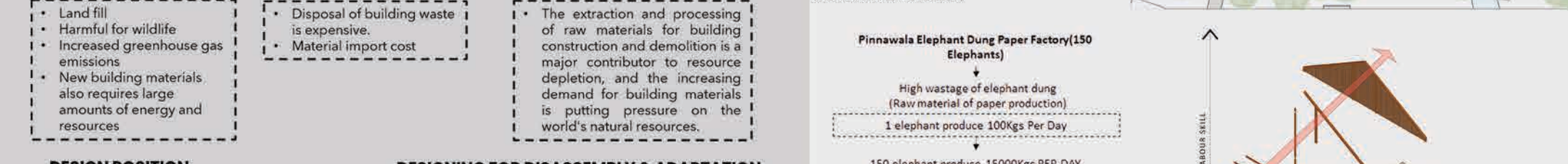
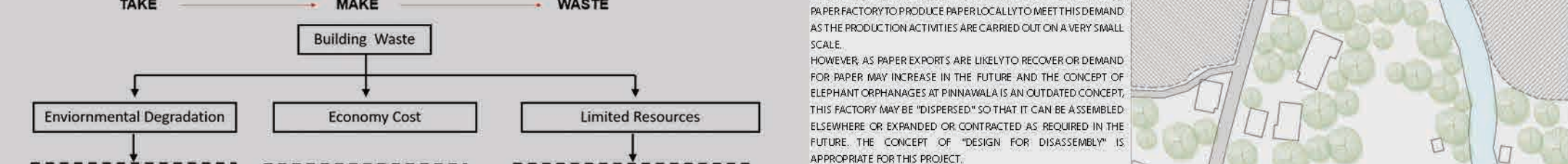


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THE PROBLEM
"DESPIITE THE FACT THAT OUR PLANET EARTH HAS A LIMITED AND FINITE NUMBER OF RESOURCES, THE VOLUME OF CONSTRUCTION WASTE GENERATED WORLDWIDE EVERY YEAR" - ACCORDING TO A REPORT FROM THE TRANSPARENCY MARKET RESEARCH.

"THE WORST ENEMY OF A BUILDING IS ITS OBSOLETE SCIENCE, BECAUSE IT LEADS TO DEMOLITION OR ABANDONED, EVEN WHEN BUILDINGS STILL HAVE PLUNTY OF REMAINING SERVICE LIFE AHEAD" (BOSS 2016).

THE CONSTRUCTION INDUSTRY - AS WELL AS MANY OTHER INDUSTRIES - HAS BECOME STUCK WITH A LINEAR ECONOMY OF TAKING, USING, CONSTRUCTING, AND DISPOSING OF MATERIALS. THIS RESEARCH WILL LOOK TO DEVELOP A NEW MODEL FOR THE SUSTAINABLE DEVELOPMENT OF CONSTRUCTION SYSTEMS BY MERGING THEM WITH AN ORGANIC WASTE-BASED CYCLE WHERE WASTE CAN BE CONSUMED NATURALLY.



POSITION: ADVANCING THE CONCEPT OF DESIGN FOR DISASSEMBLY WITH INNOVATIVE MATERIAL SOLUTIONS: A SUSTAINABLE APPROACH FOR ARCHITECTURAL DESIGN.

WHAT IS DESIGNING FOR DISASSEMBLY?
DESIGNING FOR DISASSEMBLY - OR DFD - IS AN ENVIRONMENTALLY RESPONSIBLE ALTERNATIVE TO DEMOLITION. IT RELIES ON THE IDEA THAT BUILDINGS HAVE TO BE FLEXIBLE IN THEIR LIFECYCLE BUT ALSO RESILIENT TO A FUTURE WHERE THE BUILDING WILL NO LONGER BE NEEDED.

DESIGN PRINCIPLES DESIGN FOR DFD
MODULARITY: PRODUCTS SHOULD BE DESIGNED AS MODULAR UNITS THAT CAN BE EASILY SEPARATED AND RECOMBINED.
STANDARDIZATION: COMPONENTS SHOULD BE STANDARDIZED TO REDUCE THE COMPLEXITY OF DISASSEMBLY AND IMPROVE THE RECYCLABILITY OF MATERIALS.
ACCESSIBILITY: PRODUCTS SHOULD BE DESIGNED TO BE ACCESSIBLE FOR DISASSEMBLY, WITHOUT THE NEED FOR SPECIALIZED TOOLS OR EXCESSIVE FORCE.
MATERIAL EFFICIENCY: PRODUCTS SHOULD BE DESIGNED TO MINIMIZE THE USE OF MATERIALS WHILE MAXIMIZING THE USE OF RECYCLABLE AND BIODEGRADABLE MATERIALS.
EASE OF REASSEMBLY: PRODUCTS SHOULD BE DESIGNED TO ALLOW FOR EASY REASSEMBLY, INCREASING THEIR POTENTIAL FOR REUSE AND REDUCING WASTE.

