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City By The Sea

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An aerial photograph of a coastal city. The foreground is dominated by a large body of water, likely a harbor or bay, filled with numerous small boats and larger vessels. The water reflects the sky and the surrounding buildings. In the middle ground, a dense urban area is visible, with many buildings and structures. The background shows a hazy, mountainous landscape. The overall scene is a mix of natural and urban elements.

CITY ON THE SEA

An aerial photograph of a traditional village with thatched-roof houses and a large wooden boat on the water. The image is faded and serves as a background for the text.

THIS FINAL PROJECT IS PRESENTED TO
THE FACULTY OF THE SCHOOL OF ARCHITECTURE

BY

IZUCHUKWU OJUKWU

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
BACHELOR OF ARCHITECTURE
KENNESAW STATE UNIVERSITY

BACHELOR OF ARCHITECTURE THESIS 2017
DEPARTMENT OF ARCHITECTURE
KENNESAW STATE UNIVERSITY

REQUEST FOR APPROVAL OF THESIS PROJECT BOOK

STUDENT'S FULL NAME: _____

THESIS TITLE: _____

STUDENT'S SIGNATURE

DATE

ABSTRACT: THIS THESIS INVESTIGATES THE CURRENT STATE OF SLUMS GLOBALLY. THE THESIS ARGUES THAT MANY OF THE HAZARDOUS ENVIRONMENTS OF SLUMS ESTABLISHED IS A PRODUCT OF THE NEGATIVE OUTPUT DEvised BY THE CURRENT HOUSING SITUATION IN SAID SLUM. THE LIVING QUARTERS OF RESIDENTS WITHIN MOST SLUMS EXEMPLIFY HOW MUCH THE CITIZENS ARE NOT ABLE/WILLING TO TREAT THE AREA AS A HOME. THE LACK OF CARE AND DEVICES TO HELP REDUCE THE AMOUNT OF POLLUTION, RESOURCE SCARCITY, AND OVERALL DAMAGE TO THE ENVIRONMENT CAN ARGUABLY BE SOLVED SIMPLY BY REDESIGNING THE RESIDENTIAL UNITS WITHIN THE REGION. BY DESIGNING A NEW LIVING UNIT FOR A PARTICULAR SLUM, THE GOAL IS TO DEMONSTRATE HOW THE NEW IMPLEMENTED STRATAGEM WILL NOT ONLY PROVIDE BETTER CONDITIONS FOR THE RESIDENTS OF A HOUSEHOLD, BUT TO ALSO HAVE THE MAXIMUM IMPACT ON THE ENVIRONMENT THAT GIVE THE SLUM ITS IGNOMINY. WITH THE NEW DESIGN, I WOULD DEVISE A METHODOLOGY IN WHICH TO FIRST ACTUALLY PRODUCE THE DESIGN, AND IMPLEMENT IT INTO THE AREA THAT WOULD SEEM MOST BENEFICIAL AT THE TIME TO BENEFIT THE REGION IN SOME WAY. THIS MAY INCLUDE BEING ABLE TO RAISE FUNDS WITHIN THE AREA, PROVIDE JOBS, ETC. THEN, PROVIDED IT SUCCEEDS, USE THE TEST SCENARIO AS A SHOWCASE TO EVERYWHERE ALIKE.

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IN ARCHITECTURE AND DESIGN, THE TOPIC OF EFFICIENCY IS CONSTANTLY BROUGHT UP. WHEN DESIGNING ANY STRUCTURE, THE ILLUSION THAT THE PRICE AND VALUE MUST INCREASE ALONG WITH THE CLIENT'S HOPES AND DESIRES IS ALWAYS PRESENT. TODAY, BEING ABLE TO OWN A HOME OR BUILDING WITH COMPLETE STRUCTURAL SAFETY, EMBELLISHED LAYOUTS AND SUSTAINABLE DESIGNS SEEM ALL BUT AFFORDABLE, NO MATTER THE AREA THAT ONE RESIDES IN. WHILE THIS OCCURS IN MOST LOW-INCOME AREAS, A MAJOR PERPETRATOR OF THIS IS THE SLUMS. ACCORDING TO RECENT RESEARCH, THERE ARE FIVE BILLION PEOPLE THAT LIVE WITHIN CITY ENVIRONMENTS. OF THOSE FIVE BILLION, TWO BILLION PEOPLE LIVE IN POVERTY, UNABLE TO PROVIDE MUCH FOR THEMSELVES, THEIR FAMILY, OR THEIR HOME. IT IS OFTEN PEOPLE LIKE THESE WHO END UP LIVING IN SLUMS. SO LOOKING AT THESE NUMBERS, WHAT CAN WE, AS ARCHITECTS, DO TO HELP PROVIDE THESE LESS FORTUNATE WITH COMFORTABLE, DESIRABLE HOMES THAT CAN OFFER ALL THAT IS NEEDED FOR THEM, AND THE ENVIRONMENT? I BELIEVE THAT WITH ENOUGH RESEARCH, THERE CAN BE DESIGNED A SERIES OF HOMES THAT CONTAIN MORE ELEMENTS THAN THAT OF A MIDDLE CLASS HOME, WHILE STAYING WITHIN THE BUDGET OF THE AFOREMENTIONED FAMILIES IN POVERTY. THE "ELEMENTS" REFERRED TO VARIES BASED ON THE TYPOLOGY, THE LOCATION, AND THE DESIRES OF THE CLIENT PROVIDED THERE IS ONE. FOR EXAMPLE, SUSTAINABILITY VARIES DUE TO GEOGRAPHICAL FEATURES, SUCH AS SUNLIGHT, WIND AND PLANTS OR GREENERY. IT WOULD ALSO BE FAIRLY COMFORTABLE TO INHABIT AND BE ABLE TO WITHHOLD AT LEAST A SINGLE FAMILY. IT SHOULD ALSO BE STRUCTURALLY STABLE AND TO WITHSTAND ANY DISASTER, REGARDLESS OF THE LOCATION OF THE PROJECT. THIS SERIES IS INTENDED TO CORRESPOND TO ANY AND EVERY ENVIRONMENT, WITH MINIMAL AMOUNT OF TWEAKING AND MINIMAL COST. WHEREVER THE SITE OF THE RESIDENTIAL UNIT MAY BE, WITH A FEW CHANGES IN MATERIAL, STYLE, AND LAYOUT, A FORMULA CAN BE FORGED TO PROVIDE INEXPENSIVE AND ENVIRONMENTALLY IMPACTFUL HOMES AND BUILDINGS ANYWHERE. THE ARGUMENT IS THAT THE KEY PROBLEM WITHIN MOST SLUMS/ LOW-INCOME AREAS ARE THE HOMES THEMSELVES. THE OVERALL GOAL OF THE PROJECT IS TO BE ABLE TO CREATE A FORMULA TO MINIMIZE THE COST AND SPACE OF A HOME, ALLOWING LOW INCOME FOLKS TO BE ABLE TO OWN A HOME AND BE ABLE TO EXPAND AT THEIR OWN LEISURE. HOWEVER, THE IDEA IS TO DO THIS WITHOUT REDUCING THE INTEGRITY, NOR THE QUALITY OF THE HOME. WITH THE RESEARCH, THE DESIRED ACCOMPLISHMENT IS FOR THE OPTIMIZED HOME TO BE ABLE TO BE IMPLEMENTED IN ANY SITE. BUT FOR NOW, TO FIND THE STEPS AND METHODOLOGY NEEDED TO CREATE THIS HOME, IT IS REQUIRED TO START WITH A SINGLE SITE. IF, BY USING THE LOCATION, MATERIALS, AND CULTURE ALONG WITH OTHER SITE ANALYSIS, AN OPTIMAL RESIDENTIAL UNIT UNDER THE DESIRED PRICING RANGE FOR A LOW-INCOME FAMILY CAN BE DESIGNED, THEN IT IS SIMPLY A MATTER OF TAKING THAT SAID METHODOLOGY AND APPLYING THOSE SAME STEPS TO ANY AND EVERY CASE IN THE WORLD, RESULTING IN A QUICKER SOLUTION OF MAPPING OUT THE PLANS, MATERIALS, AND PROGRAMS NEEDED TO RECREATE THE DESIGN IN A DIFFERENT AREA.

[DESIGN HYPOTHESIS]

CHAPTER I

WITH THIS PROJECT, INSTEAD OF JUST DESIGNING THE RESIDENTIAL UNIT WHOLLY AND PLACING IT MODULARLY AND BLINDLY ON ANY AND EVERY SITE AVAILABLE, THE APPROACH I AM GOING TO TAKE IS TO CHOOSE THE SITE FIRST, ANALYZE IT AND UNDERSTAND IT IN AN INCREMENTAL PROGRESSIVE MANNER. BY GOING ALONG WITH THIS PROCESS, IT ALLOWS THE DISCOVERY AND CONSTRUCTION OF A SCIENTIFIC METHOD WHICH CAN ACT AS A SORT OF FORMULA THAT WE COULD THEN USE TO DETERMINE ALL THE DIFFERENT FACTORS THAT SHAPE THE DESIGN OF THE HOME (SUCH AS MATERIAL, LAYOUT, SIZE, ENVIRONMENTAL HAZARDS, AND POTENTIAL BENEFICIAL IMPACTS). AFTER WOULD JUST BE A MATTER OF RE-ENACTING THE ANALYSIS OF THE SITE TO UNDERSTAND THE VERNACULAR IN ALMOST THE EXACT SAME FASHION, AND BEYOND THAT, CREATING A NEW RESIDENTIAL UNIT THAT RESPONDS TO THE OTHER SITES, BUT STILL FALLS UNDER THE THESIS OF OPTIMIZING ARCHITECTURE. UNDERSTANDING THE BASIC NECESSITIES, FUNCTIONS, AND SIZES OF A HOME CAN HELP PROVIDE ANYONE THAT IS SUBJECT TO THE GROWING CITY WITH A HOME THAT THEY CAN COMFORTABLY LIVE IN, WITHIN AN AFFORDABLE PRICE. OF COURSE, ONE MODEL CANNOT FIT ALL HOMES, BUT WITH EXTREMELY MINOR TWEAKS, A LAYOUT CAN BE DETERMINED TO CREATE A MOLD. I WILL INVESTIGATE THE BASIC TYPICAL NECESSITIES AND FUNCTIONS OF A SINGLE FAMILY WITHIN AN AREA THAT HAS BEEN HEAVILY AFFECTED BY THIS PROCESS, AND DESIGN A HOME THAT MINIMIZES ALL IN COST AND SIZE TO PROVIDE THEM WITH A LUXURIOUS HOME, ALL WHILST KEEPING IT INDIGENOUS TO THE AREA. FIRST WOULD BE TO UNDERSTAND THE ACCEPTABLE STANDARDS FOR A FAMILY. TO UNDERSTAND THE PROGRAM AND FIND SIMILARITIES TO OPTIMIZE THE SPACE NEEDED IN CONJUNCTION WITH THE COST. THIS PROVIDES US WITH A BASIC STARTING POINT IN TERMS OF THE PHYSICAL DESIGN AND LAYOUT. THEN, WE STUDY SPECIFICS OF THE AREA & UNDERSTANDING HOW CLIMATE/TERRAIN WILL AFFECT THE HOME SUCH AS THROUGH MATERIALITY. LAST WOULD BE THE REAL SPECIFICS SUCH AS CULTURE, WHICH PROVIDES THE REAL VARIETY WITHIN A HOME. BEYOND THAT IS TAKING AND REPLICATING THE HOMES AND ORGANIZING IT IN A WAY THAT RECREATES THE COMMUNAL ENVIRONMENT IT CURRENTLY HAS. TAKING ALL THIS INTO CONSIDERATION WILL PROVIDE A SOLUTION TO CREATE A HOME THAT IS SUITABLE FOR THE ONES WHO HAD TO LEAVE THEIR HOME. A PLACE THAT WILL MAKE IT SEEM LIKE THEY NEVER LEFT. A PLACE THAT THEY COULD CALL HOME.

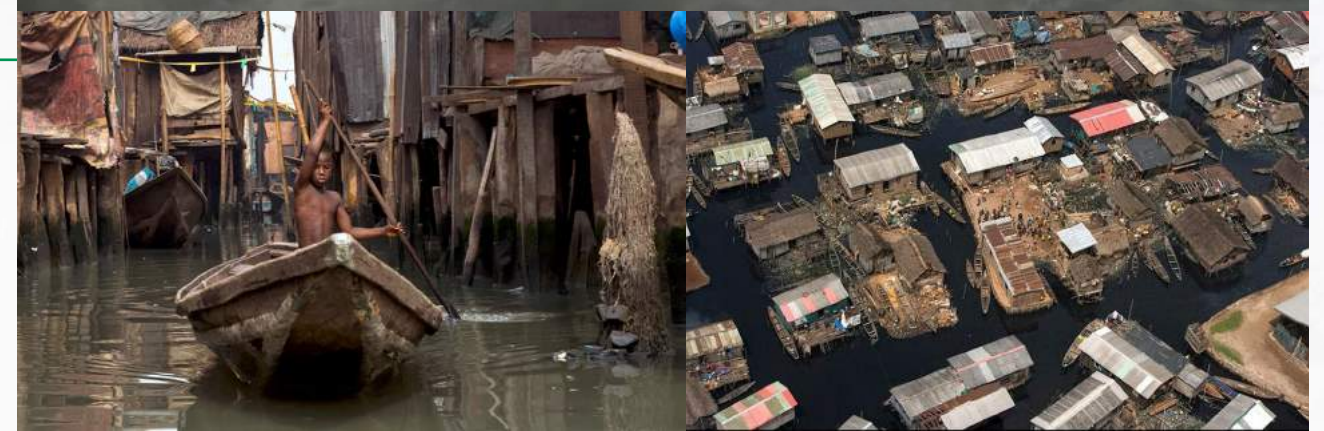
UNIVERSAL CONSTRAINTS TO CONSIDER

- COST: IT IS DIFFICULT TO DETERMINE THE APPROPRIATE COST OF A RESIDENTIAL UNIT, AS BEING "LOW-INCOME" CAN MEAN SOMETHING COMPLETELY DIFFERENT WITH EVERY REGION. PEW RESEARCH CENTER DETERMINED THAT BEING "POOR" IS TO LIVE OFF OF LESS THAN \$2 A DAY, WHILE BEING CLASSIFIED AS "LOW-INCOME" IS TO LIVE ON \$2-\$10 A DAY. THE REALITY OF IT IS, HOWEVER, THAT THE STATE OF BEING "POOR" AND "LOW-INCOME" JUST VARIES TOO WILDLY TO BE ABLE TO CONSIDER A PROPER BASELINE PRICE. A SOLUTION THAT CAN BE USED IS TO TAKE A LOOK AT SIMILAR PROJECTS DONE, AND UNDERSTAND HOW THEY CAME TO THE PRICE. FOR THE TIME BEING, THE BASELINE PRICE WOULD BE SET TO AROUND \$5,000 DOLLARS.
- MATERIALITY: SIMILAR TO WAGES AND INCOME, MATERIALS ARE GOING TO NEED TO BE ADJUSTED TO THE SITE AND REGION TO REACH MAXIMUM EFFICIENCY. UNFORTUNATELY, NOT MANY MATERIALS HAVE THE "ONE BENEFITS ALL" PROPERTIES, SO SOMETHING TO BE INCLUDED WITHIN THE METHODOLOGY OF THE THESIS IS A WAY TO DETERMINE WHICH MATERIALS WOULD BE MOST USEFUL IN THE SITUATION

[DESIGN HYPOTHESIS]

WHEN THINKING ABOUT OPTIMIZING ARCHITECTURE AND WHO WOULD BENEFIT MOST FROM IT, WHAT SITUATION COMES TO MIND? THE END GOAL OF THE THESIS IS TO MINIMIZE THE AMOUNT OF SPACE WITHIN A HOME, WHILE MAXIMIZING THE QUALITY OF HOMES. THIS WOULD INCLUDE MINIMIZING THE MATERIALS USED, TO ALLOW RESIDENTS TO BUILD THE HOME THEMSELVES, WHILE ALSO MINIMIZING THE COSTS FOR THE SAME REASON. IN ADDITION, THE NEW PROPOSED RESIDENTIAL UNITS INTEND TO BE BENEFICIAL TO THE ENVIRONMENT ITSELF. AS SLUMS ARE OFTEN SEEN AS HOMES LIVING WITHIN AN ENVIRONMENTAL HAZARDOUS AREA, I ALSO AIM TO SOLVE A MAJORITY OF THOSE PROBLEMS BY REDESIGNING THE HOMES THEMSELVES. SIMILAR TO THE ELEMENTAL HALF HOMES, THIS PROJECT WOULD MOST BENEFIT THE LOW INCOME CITIZENS. SPECIFICALLY, THE ONES THAT RESIDE AROUND MAJOR CITIES ARE VICTIM TO ITS EVER-GROWING NATURE, SUCH AS URBANIZATION VICTIMS. URBANIZATION IS A CONSTANT EVER-GROWING PROCESS CURRENTLY TAKING PLACE IN NIGERIA. AND WITH IT, COMES A MULTITUDE OF PROBLEMS THAT NEGATIVELY IMPACT ITS CITIZENS, SPECIFICALLY THE FAMILIES THAT CANNOT PROVIDE MUCH. THIS LEADS TO PUSHING OUT THE AFOREMENTIONED PEOPLE IN POVERTY FROM THE MAINLANDS OF LAGOS BECAUSE THEY DO NOT HAVE THE MEANS TO PROVIDE FOR THEMSELVES WITHIN THE NEW ENVIRONMENT BEING BUILT, AS IT IS MADE FOR THE MORE AFFLUENT RESIDENTS. AS A RESULT, THE LOWER-INCOME FAMILIES AND BUSINESSES GET DISPLACED AND MOVED INTO LOW AREAS THAT THEY CAN AFFORD. MANY OF THESE AREAS ARE LOOKED AT AND DEEMED NOT SUITABLE LIVING CONDITIONS BY A MASS AMOUNT OF THE PUBLIC. UNDERSTAND THIS IS NOT TO SAY THAT THEIR LIVING QUARTERS ARE COMPLETELY UNINHABITABLE, BUT IT DOES, HOWEVER, LEAVE MUCH OF THE BASIC NECESSITIES TO BE DESIRED. PROPER SANITATION, EXTREMELY SMALL SPACES, PROPER MATERIALITY THAT CAN KEEP THE RESIDENTS COMFORTABLE, AND MORE. ENTER, MAKOKO

APPLYING THE THESIS QUESTION TO A SITE. GIVING A CANVAS TO THE INQUIRY



MAKOKO



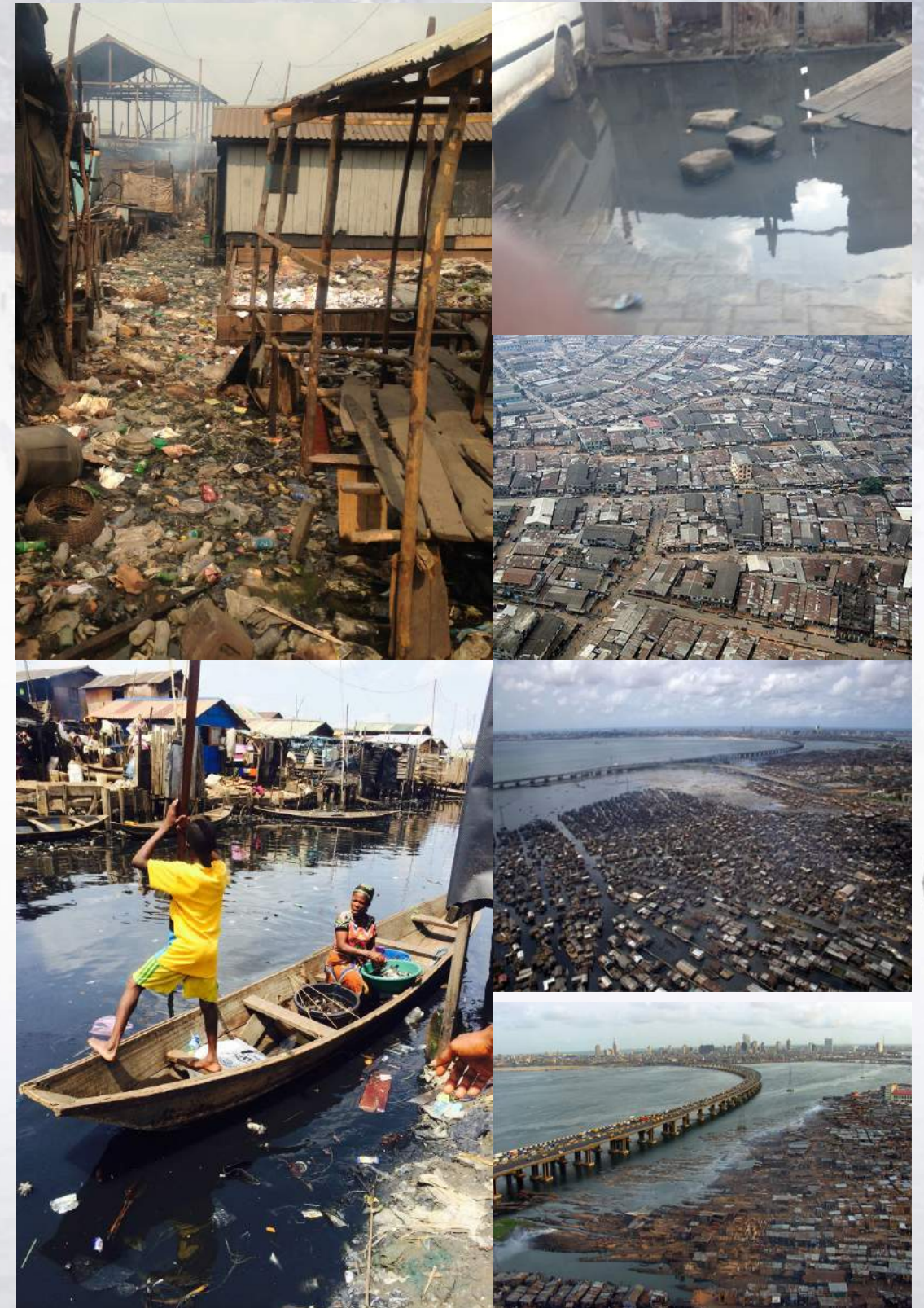
[DESIGN ANALYSIS]

CHAPTER 2

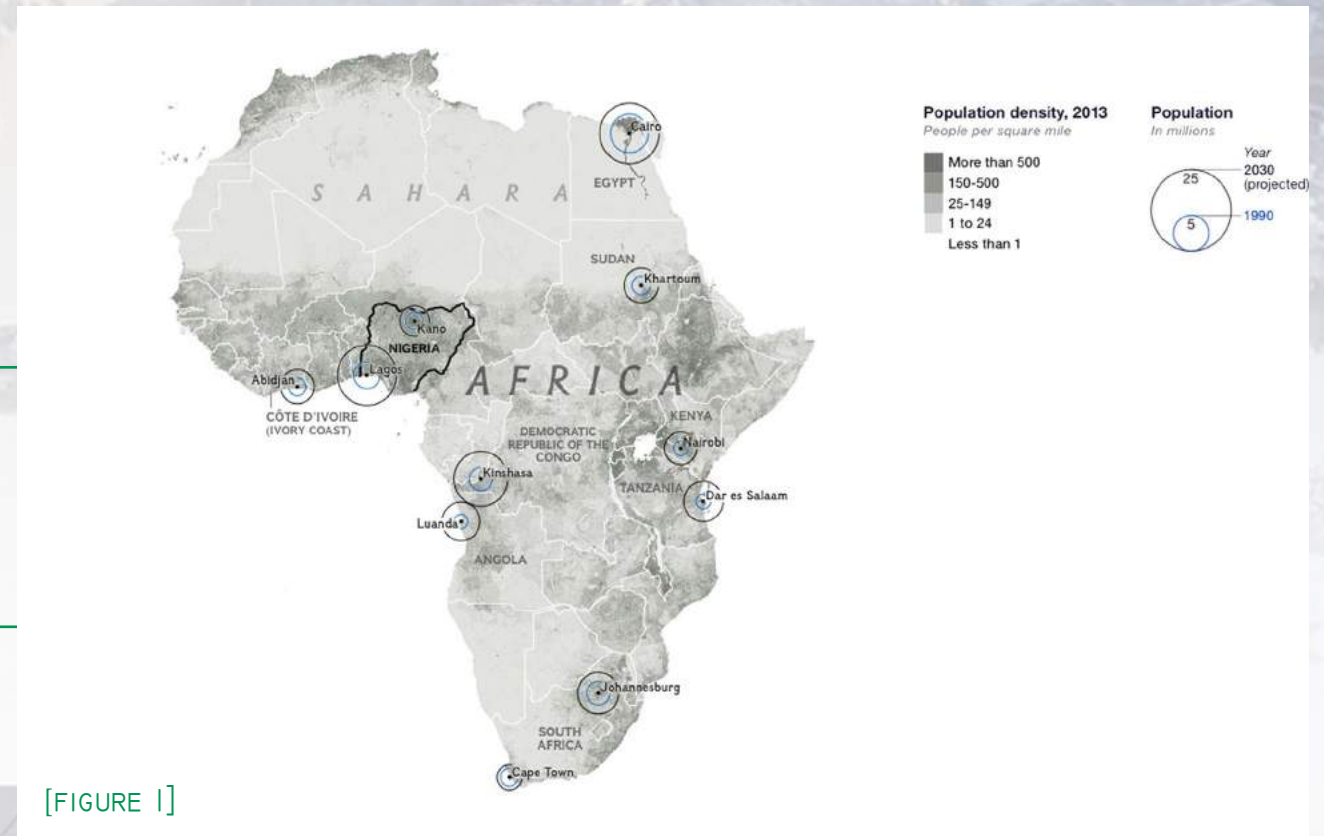
MAKOKO WAS ESTABLISHED IN THE 18TH CENTURY PRIMARILY AS A FISHING VILLAGE, RESTING ABOVE THE LAGOS LAGOON. OVER THE MANY YEARS, THOUSANDS OF PEOPLE HAVE MADE THIS PLACE THEIR HOME. THE BAALE (CHIEF OF THE VILLAGE) ESTIMATES 400,000 PEOPLE LIVING IN MAKOKO, WHICH DIFFERS FROM THE CENSUS 85,000 - 90,000 PEOPLE. THERE IS NOT AN OFFICIAL POPULATION COUNT ON WATER BECAUSE THE SETTLEMENT WAS DECLARED NON-EXISTENT AND ILLEGAL. THE MAJORITY OF THE RESIDENTS COME FROM THE EGUN TRIBE OF BENIN REPUBLIC AND BADAGRY, A COASTAL TOWN IN LAGOS STATE THAT BORDERS THE NEIGHBORING COUNTRY, BENIN. THE PLACE IS FILLED WITH MANY UNFORTUNATE CITIZENS WHO WERE PUSHED OUT OF THEIR VILLAGES FROM OTHER AREAS AND PRACTICALLY FORCED TO LIVE WITHIN THIS AREA. THE SLUMS ARE IN A CLUSTERED AREA ON THE OUTSKIRTS OF THE TOWN, BORDERING LAGOS LAGOON. THE HOUSES THERE ARE PUT ON STILTS WHILE WATER FLOWS THROUGHOUT THE CITY, HENCE IT BEING KNOWN AS ONE OF THE LARGEST WATER CITIES IN THE WORLD. AS THE GROUND MOVES AWAY FROM THE WATER, THE GROUND SLOWLY TURNS BACK INTO DIRT AND MUD. THERE, THE HOUSES ARE MADE OF CEMENT AND IS SLOWLY SINKING INTO THE GROUND. THERE ARE SMALL BUT STEADY WATER TRAILS RUNNING THROUGHOUT THESE STREETS TO THE OCEAN, CONSTANTLY KEEPING THE GROUND DAMP. THE LOW INCOME HOUSING IS PACKED INTO A SEMI-ORGANIC GRID, ESPECIALLY WHEN IT ACTUALLY IS MOVED AWAY FROM THE WATER. HERE, TRAVELING BECOMES LESS OF A HASSLE DUE TO THERE ARE NO LONGER ANY MUDDY WATERS THROUGHOUT THE MAIN STREETS.

WHILE THE STREET CONDITIONS MAY HAVE IMPROVED, THE HOUSING CONDITIONS HAVE NOT. THE HOUSING CONDITIONS SHOWS SIGNS OF THE EVOLUTION OF THE SITE CONDITIONS THEMSELVES. THE HOUSING DEEP INTO THE LAGOON CONTAINS HOUSING THAT IS STABILIZED ON WOODEN STILTS ABOUT 6 FEET OFF OF THE GROUND. THE HOUSING UNITS ON LAND ARE COMPRISED OF CONCRETE/CMU BLOCKS BUILT ON THE SOLID GROUND. NEARING THE SHORELINE OF THE LAGOS LAGOON AND THE NEW MAKOKO, THERE IS A BLEND BETWEEN THE MATERIALITY: BOTH CONCRETE AND WOODEN HOUSING INTERMINGLE TOGETHER TO CREATE AN AWKWARDLY SMOOTH BLEND OF CONSTRUCTION THAT CREATES A NEW SHORE OF THE LARGE MASS OF WATER.

[SITE CONDITIONS: HISTORY]



THE POPULATION DENSITY IN NIGERIA IS MUCH HIGHER THAN IT IS IN OTHER COUNTRIES WITHIN AFRICA. WITH THE GROWTH RATE AT WHAT IT IS NOW, THE ESTIMATED POPULATION IS EXPECTED TO GROW EXPONENTIALLY WITHIN THE NEXT TWO DECADES. THE CITY OF LAGOS IS EXPECTED TO GROW THE FASTEST AMONG ALL THE OTHER MAJOR CITIES IN AFRICA. AS THE MOST POPULOUS CITY IN AFRICA GROWS, SO DOES ITS CONSTRUCTION AND THEIR PROCESS OF EXPANDING THE URBAN ENVIRONMENT OF LAGOS. LAGOS, NIGERIA S LARGEST CITY AND ITS COMMERCIAL CENTER, LIES ON THE ATLANTIC OCEAN AND HUGS LAGOS LAGOON. THE MAIN BUSINESS DISTRICTS ARE ON LAGOS AND VICTORIA ISLANDS. JUST SOUTH OF MAKOKO IS VICTORIA ISLAND. THIS IS HOME TO THE DEVELOPMENT OF A PROJECT TITLED "EKO ATLANTIC" OR "NIGERIA INTERNATIONAL COMMERCE CITY". IT IS A PLANNED CITY OF LAGOS STATE, NIGERIA, BEING CONSTRUCTED ON THE ATLANTIC OCEAN. THIS DEVELOPMENT HAS THE POTENTIAL TO EVENTUALLY EXTEND CLOSE INTO THE MAKOKO AREA. ALONG WITH THE INTENDED EKO ATLANTIC CITY, VICTORIA ISLAND IS ALSO PART OF THE NEW RAPIDLY GROWING POPULATION (IT IS STILL A PART OF LAGOS). LAGOS POPULATION HAS GROWN OUTWARDS STARTING WITH AREAS LIKE VICTORIA ISLAND AND MAKOKO. IT EXPANDS MILES OUTWARDS.



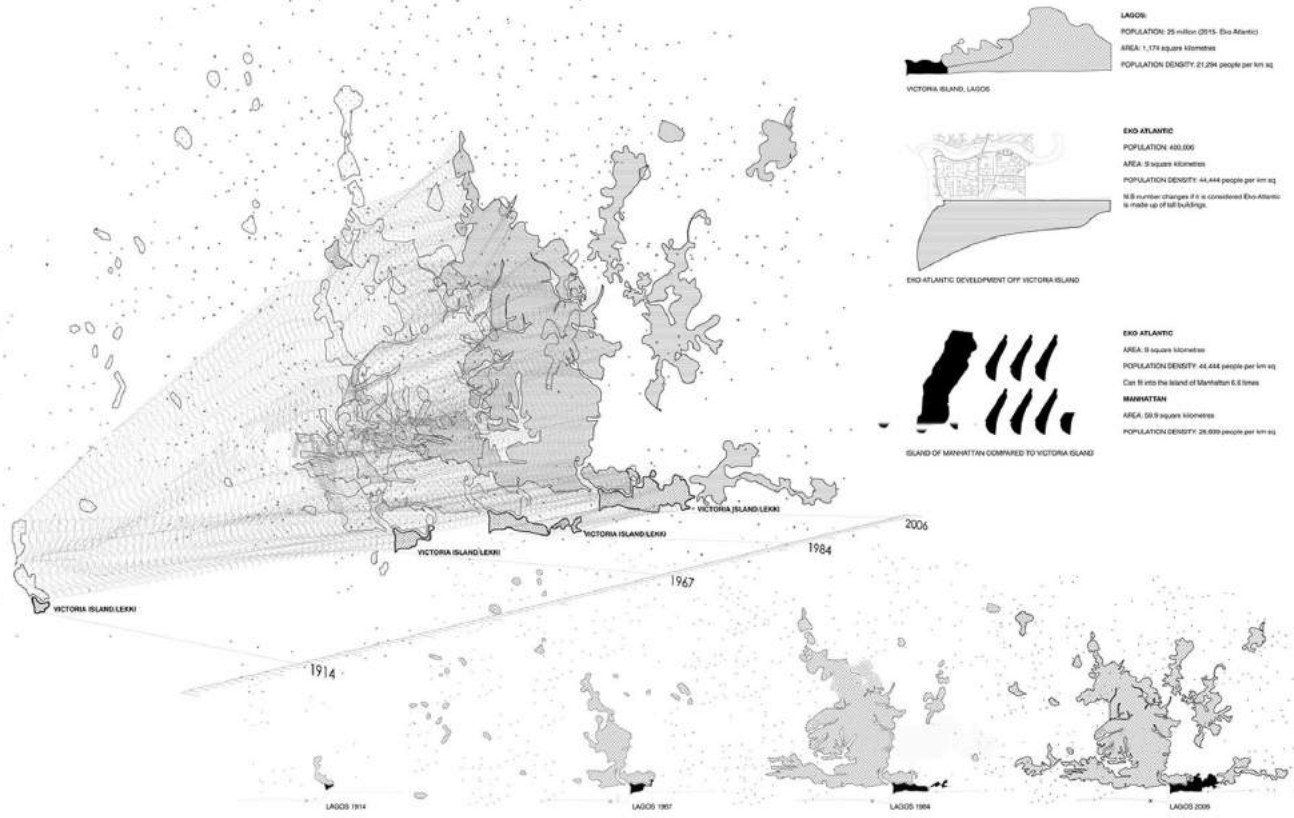
[FIGURE 1]



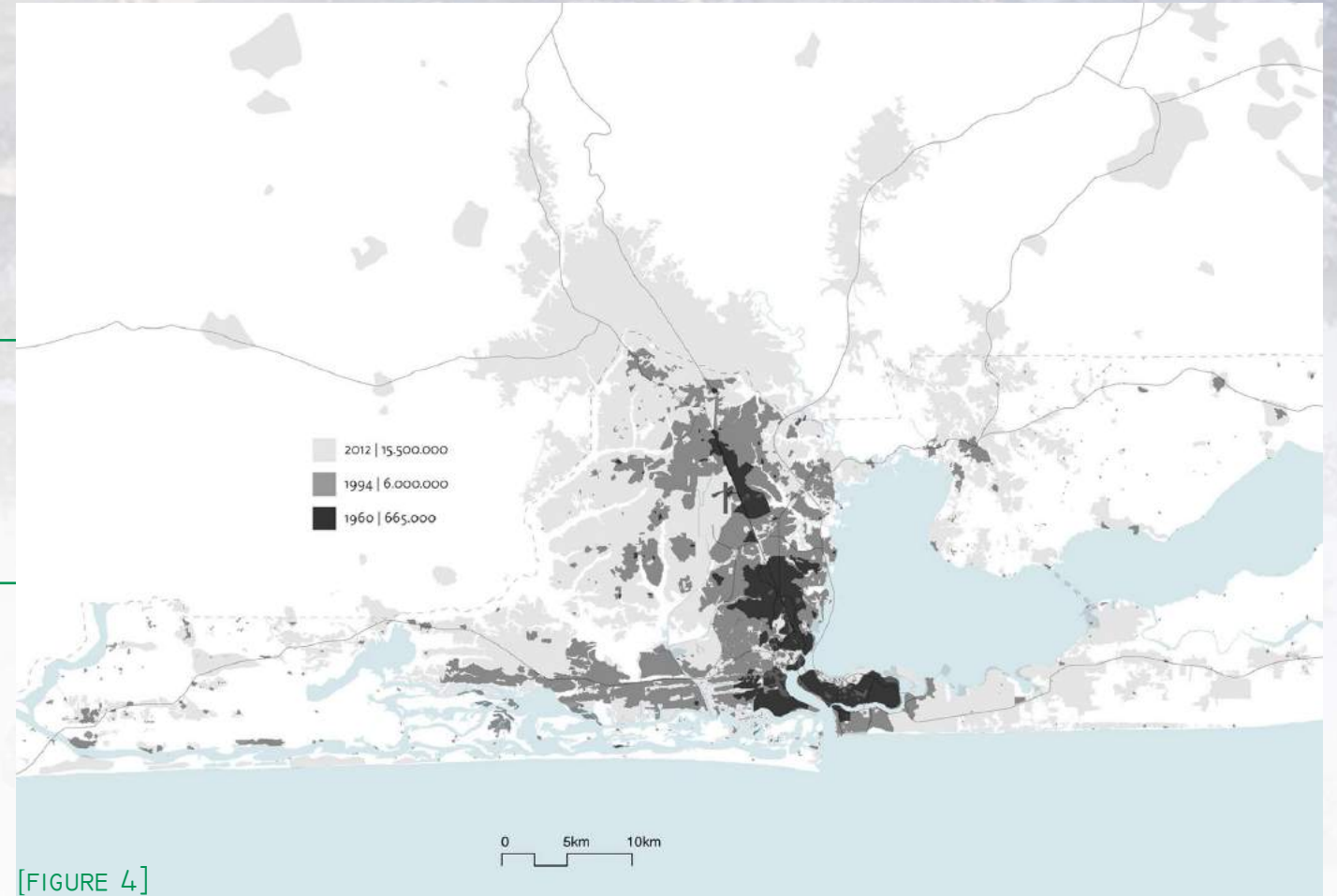
[FIGURE 2]

[SITECONDITIONS: POPULATION DENSITY]

PROJECTED GROWTH OF LAGOS BETWEEN 1914 to 2006



[FIGURE 3]



[FIGURE 4]

[SITECONDITIONS: POTENTIAL EXPANSIONS]

THE SETTLEMENT LACKS BASIC SOCIAL AMENITIES SUCH AS ELECTRICITY, SCHOOLS, AND HEALTHCARE CLINICS. THE RESIDENTS LACK SUFFICIENT SANITATION. APPROXIMATELY 15 HOUSEHOLDS SHARE LATRINES. WASTEWATER, EXCRETA, KITCHEN WASTE GO STRAIGHT INTO THE WATER. WATER IS ONLY OBTAINABLE THROUGH VENDORS AND FILLING UP CANS FROM LARGE PLASTIC TANKS THAT ARE SITUATED IN DIFFERENT POINTS IN THE SETTLEMENT. RESIDENTS REPORT THAT THE LOCAL GOVERNMENT PROVIDED SOME PLASTIC TANKS, WHILE OTHERS ARE OWNED FOR THE SALE OF WATER. THE TANKS ARE CONNECTED TO BOREHOLES OR UNDERGROUND PIPES. IN JULY 2012, MORE THAN 200 PEOPLE WERE MADE HOMELESS, DUE TO GOVERNMENT ISSUING A DEMOLITION EXERCISE OF WATERFRONT COMMUNITIES. THE REASONING GIVEN WAS THAT DUE TO THE ENVIRONMENTAL NUISANCE, SECURITY RISK, IMPEDIMENT TO ECONOMIC AND GAINFUL UTILIZATION OF THE WATERFRONT, THEY SHOULD VACATE THE AREA. BEING A HEALTH AND AN ENVIRONMENTAL HAZARD AS WELL AS BEING OUT OF LINE WITH THE LAGOS STATE S DEVELOPMENT PLANS, ENCOURAGED THE STATE TO UNDERGO THE DEMOLITION EXERCISE ON THE WATER SETTLEMENTS. THE RESIDENTS WERE UNDERSTOOD TO BE IN DANGER BECAUSE OF THE ELECTRICITY CABLES THAT RUN ALONG THE SHANTIES ON THE WATER, RISING WATER LEVELS, THUNDERSTORMS, AND HEAVY RAINFALL. THE ENVIRONMENT SEEMS TO BE DEGRADING DUE TO WASTE BEING DUMPED INTO THE LAGOON AND THE HAPHAZARDNESS OF THE SETTLEMENT. THE GOVERNMENT BELIEVES THAT MAKOKO IS AN IMPEDIMENT TO THE ECONOMIC AND GAINFUL UTILIZATION THE WATERFRONT AND IT UNDERMINES THE MEGACITY STATUS

THAT LAGOS IS TRYING TO ACHIEVE . ANOTHER POTENTIAL REASON WHICH IS NOT HIGHLIGHTED IN REPORTS BUT IS SOMETIMES MENTIONS IN ARTICLES, IS THE POTENTIAL THE LAND HAS FOR BUILDING AND EXPANDING LAGOS. BUT IT FOLLOWS THE SAME PLAN AS MAROKO. MAROKO IS A SLUM FROM 20 YEARS AGO WHICH WENT FROM BEING A LOW-INCOME, UNDER DEVELOPED AREA TO EXPENSIVE PLOTS OF LAND VIA DEMOLITION AND FORCED EVICTION.

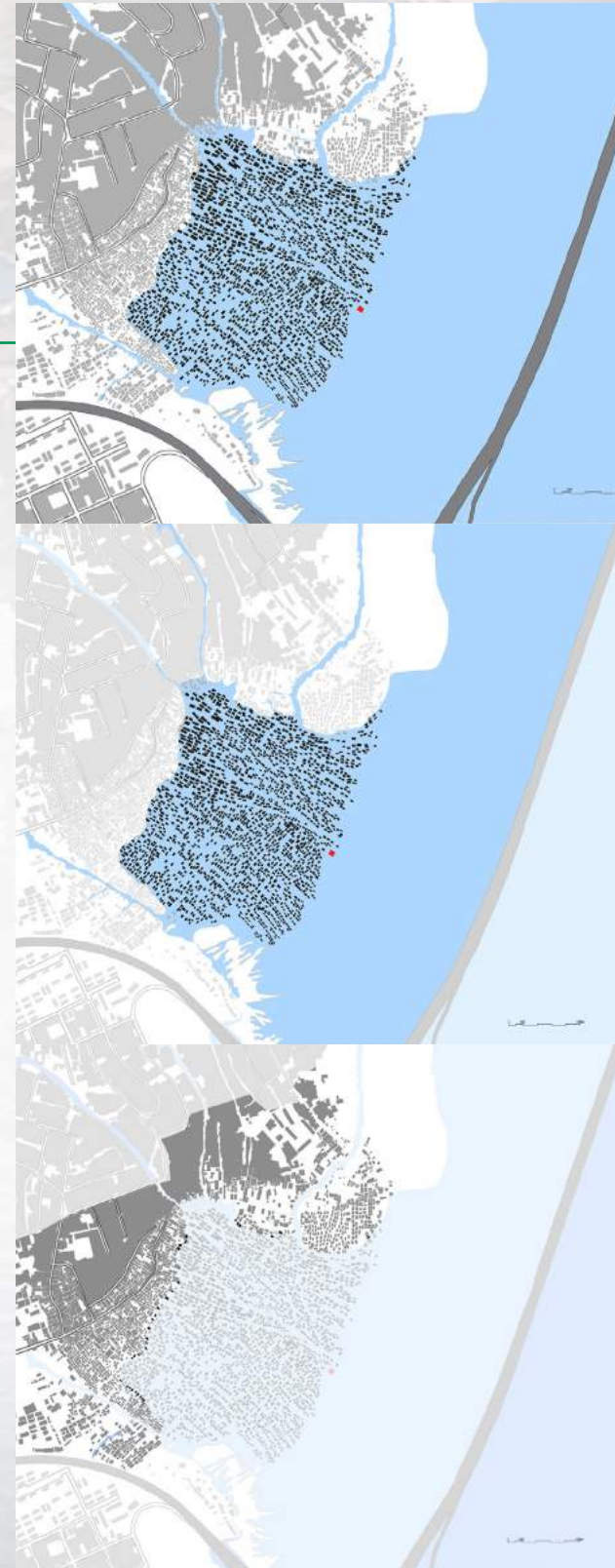
[SITECONDITIONS: SOCIOECONOMIC STATUS]



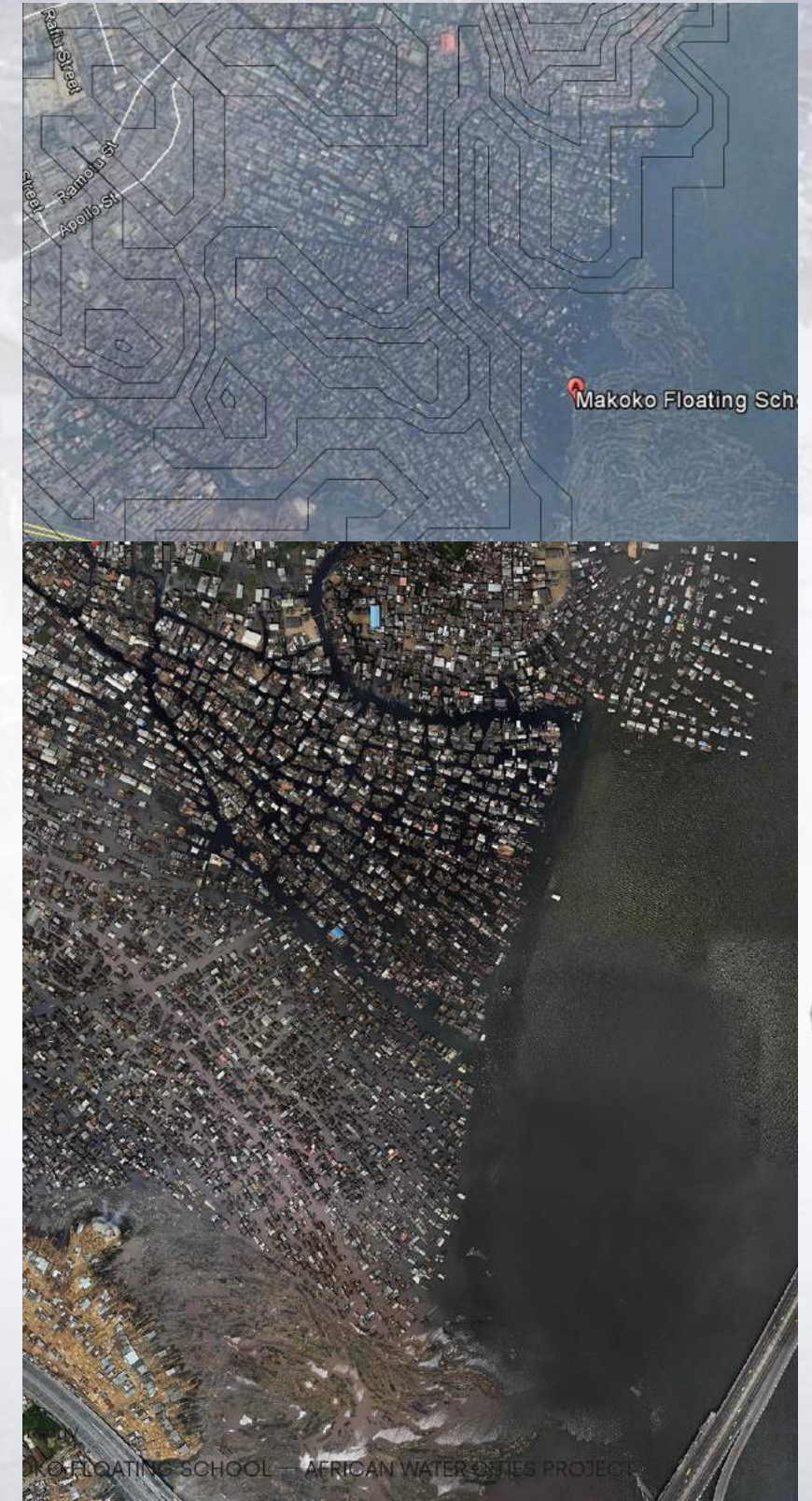
ON LAND, MAKOKO HAS AN AREA OF 1.19 METERS SQUARED. THE CONCRETE STRUCTURES THAT LOOM OVER THE SMALLER HUTS ON THE LAGOON (AND OCCASIONALLY RUNNING PARALLEL TO ONE ANOTHER) RESIDE WITHIN THIS REGION. THIS AREA IS REFERRED TO AS NEW MAKOKO DUE TO IT BEING THE AREA BUILT MOST RECENTLY. IT IS BUILT AFTER THE WATER SEEMED TO HAVE DRAINED FROM SOME OF THE MAINLAND OF LAGOS. GETTING CLOSER TO THE WATER, IT STARTS TO FILL THE STREETS BECOMING MARSH LANDS. THE WATER IS A BIT SMALLER AND HAS AN AREA OF .798 METERS SQUARED. THE HOUSES ARE NOT TOO DEEP INTO THE WATER FOR MOST OF THEM ARE AROUND 6 FEET ABOVE IT. THE WATER OF THE LAGOON GETS TO HEIGHTS NO LARGER THAN 5 FEET. IT IS NOT UNTIL YOU GET TO THE OUTSKIRTS WHERE IT BECOMES DEEP, WHICH IS WHERE BUILDING ONTO THERE IS NEAR IMPOSSIBLE. THE WATER REACHES TO 10+ FEET AND IT IS ALSO THE REGION WHERE MOST OF THE FISH THAT INHABITS THE LAGOON DWELL.

[SITE ANALYSIS: SITE]

[FIGURE 5]



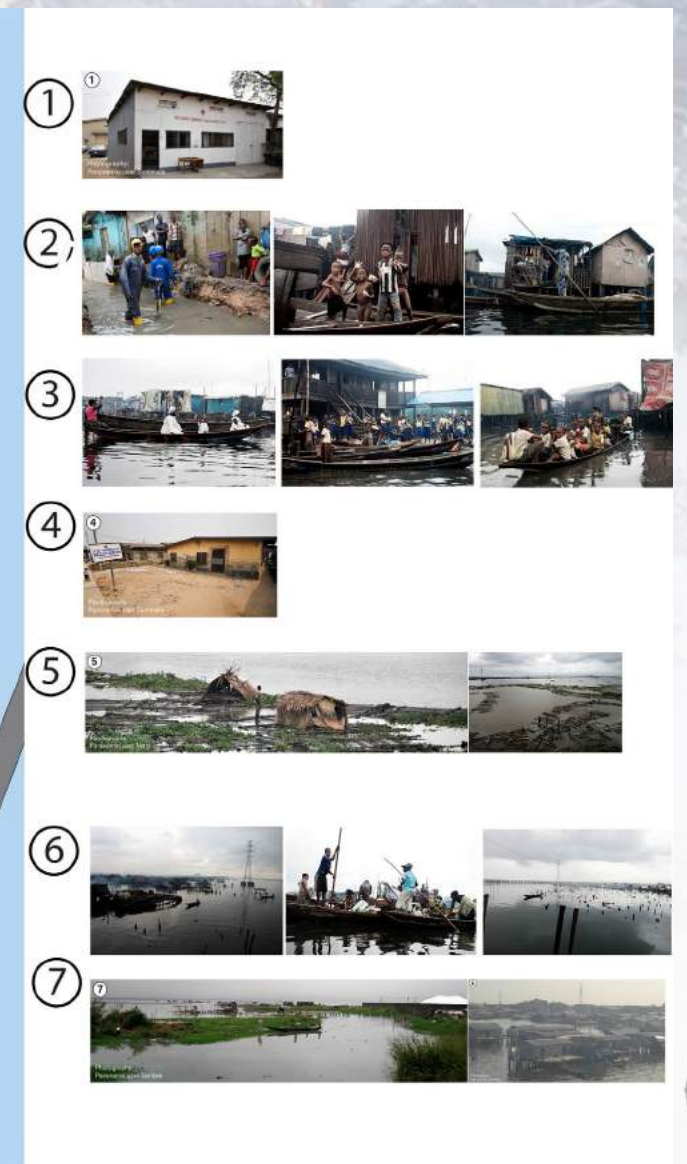
[FIGURE 6]



MAKOKO OPERATES JUST LIKE A TYPICAL CITY OR VILLAGE WITHIN NIGERIA. IT CONTAINS MANY OF THE PUBLIC SERVICES, THE DIFFERENT ZONES THAT DIVIDES THE REGION INTO SECTORS, MAINTAINED BY A SORT OF GOVERNMENT. MAKOKO CONTAINS SCHOOLS (SMALL NUMBER BUILT ON THE LAND, A SMALLER NUMBER BUILT ON THE WATER), PLACES OF WORSHIP (CHURCHES AND MOSQUES), COMMUNITY CENTERS AND A PLETHORA OF PUBLIC STORES AND SERVICES INCLUDING MARKETS, CORNER STORES, BARBER SHOPS, HAIR SALONS, ELECTRONIC STORES, GAS STATIONS, AND MANY MORE. THE AREA ITSELF IS DIVIDED INTO 10 DIFFERENT SECTIONS, ALL RUN BY DIFFERENT BAALE'S.



[FIGURE 7]



[SITE ANALYSIS: POINTS OF INTEREST]

THE TRAFFIC IN MAKOKO IS FAIRLY UNIQUE. TRAVELING BY CANOE PROVIDES/PRODUCED AN UNCANNY INFRASTRUCTURE. FROM ANALYZING THE CURRENT TRAFFIC SYSTEM ORGANIZATION, IT IS POSSIBLE TO ACTUALLY SEE THE GROWTH OF THE VILLAGE AND THE DIFFERENT METHODS USED TO FORM IT. THERE ARE CERTAIN PATTERNS THAT CAN BE SEEN WITHIN THE SYSTEM THAT SEEMS TO SHOW THE MANY POSSIBILITIES OF HOW IT COULD HAVE BEEN MADE. ONE OF THEM BEING THE CURRENTS OF THE WATER FOR EASE OF ACCESS IN TRAVEL (BUT THAT IS REVEALED LATER). THE CANALS ARE FILLED WITH PRIMARY CANALS, SECONDARY CANALS, AND TERTIARY CANALS. THE PRIMARY CANALS CONNECT TO THE MAJOR RIVERS IN LAGOS, AND SERVE AS THE MAIN ROADS BOAT TRAVEL THROUGH, DOWN THROUGH THE WATER VILLAGE. SECONDARY STREETS ARE EXTENSIONS AND BRANCHES OFF OF THE PRIMARY STREETS. WHILE NOT AS POPULATED AS PRIMARY STREETS, IT STILL IS A MAJOR ARTERY IN THE NETWORK, AS IT IS THE CONNECTION TO THE MANY HOMES AND SHOPS OF THE AREA. THE TERTIARY SEATS ARE THE EXTREMELY MINUTE CANALS THAT WEAVE IN-BETWEEN HOMES AND CONNECT THE SECONDARY CANALS TOGETHER. THESE CANALS ALL COME TOGETHER TO FORM THE INTRICATE SYSTEM THAT GUIDES THE CITIZENS TODAY AND ALSO LEADS OBSERVERS TO BREAKDOWN ITS LAYOUT AND UNDERSTAND ITS ORIGINS AND PATTERNS.



[FIGURE 8]

- Heavy Vehicular Traffic
- Light Vehicular Traffic
- Water Traffic

[SITE ANALYSIS: ROAD NETWORK & TRAFFIC]

THE EDGE IS PUSHED AND PULLED BY SOCIO-ECONOMIC FACTORS WHICH CHANGE OVER YEARS. THE URBAN FABRIC GROWS SPONTANEOUSLY IN A UNIQUE TYPOLOGY AS A MASS CONDITION WITH CERTAIN DENSITY, POROSITY, CONNECTION AND ADAPTABILITY.



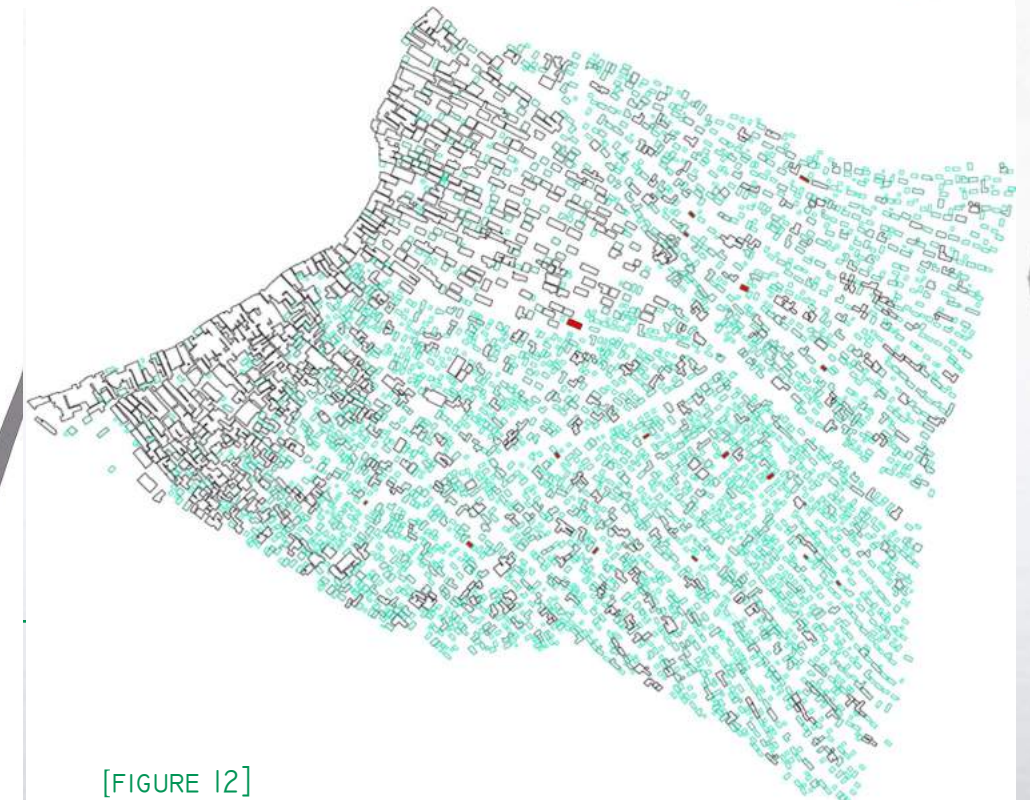
[FIGURE 9]



[FIGURE 10]



[FIGURE 11]



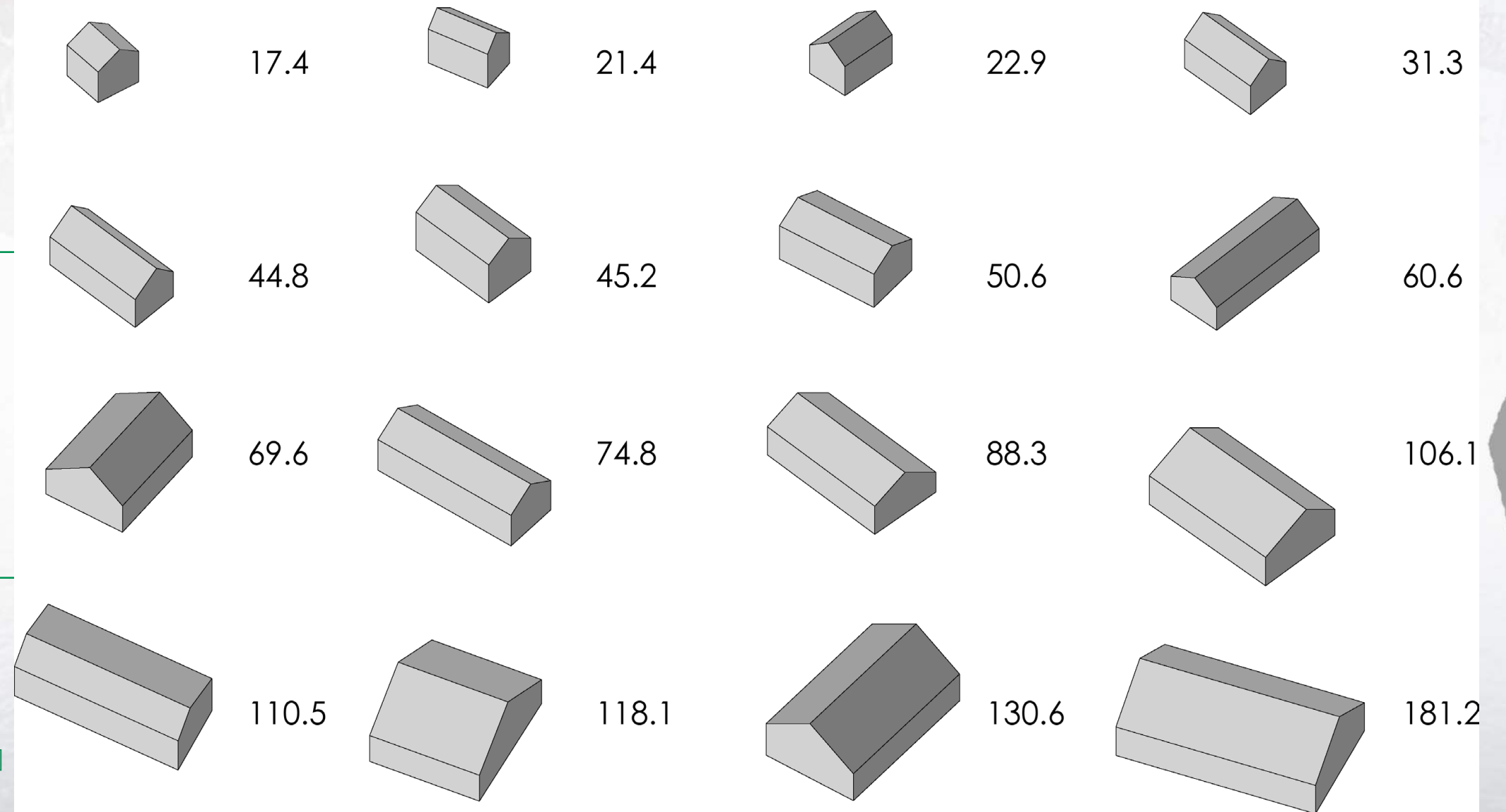
[FIGURE 12]

[HOUSINGSITUATION: HOUSING DENSITY]

THE HOUSING UNITS VARY IN SIZES. EACH RESIDENT CAN DESIGN THEIR OWN HOME AND ADJUST IT TO THEIR FAMILY SIZES, NEEDS, AND FINANCIAL AVAILABILITY. OFTEN, RESIDENTS HAVE A CARPENTER CONSTRUCT ONE OF THE SMALLER HOUSES SEEN [FIGURE 13]. THE AVERAGE SIZED HOME IS MADE TO FIT TO THE AVERAGE SIZED FAMILY (WHICH IS AROUND 6-10 CHILDREN). THE LARGER HOMES ARE OBVIOUSLY TO THE MORE WEALTHY RESIDENTS, RELATIVE TO THE SOCIOECONOMIC STATUS OF MAKOKO. THIS INCLUDES PEOPLE SUCH AS THE BAALE'S, CHIEFS, AND OTHER MAJOR GOVERNMENT MEMBERS OF THE VILLAGE.



Living Area / SQM



[FIGURE 13]

[HOUSINGSITUATION: HOUSING TYPES]

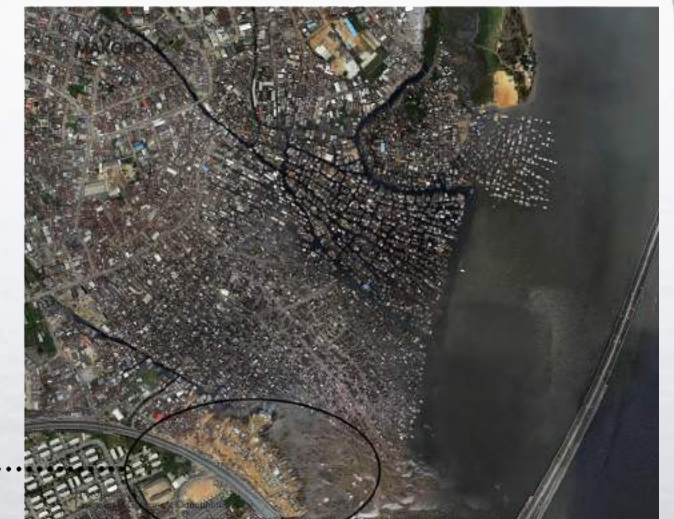
WOOD, ONE OF THE MAIN ELEMENTS IN BUILDING IN MAKOKO, IS NOT DIFFICULT TO COME BY. MOST WOOD IS OBTAINED FROM THE SAWMILL THAT HAS BEEN ESTABLISHED IN MAKOKO. BUT WHERE DOES THE MILL RETRIEVE THE WOOD? AS MENTIONED BEFORE, LAGOS IS CONTINUOUSLY EXPANDING, TAKING VILLAGES AND REMOVING THEM, ALONG WITH ITS PEOPLE AND ITS SURROUNDINGS. THEY CLEAR THE AREA OF ANY TREES, MAKING IT COMPLETELY CLEAR OF ANY GREEN SO THEY CAN BUILD. THEY CLEAR THE TREES AND A MAJORITY OF THEM ARE DISPOSED INTO THE WATERS OF THE AREA, PROBABLY TO PREVENT SPENDING OF ANY COST TO DISPOSE OF THE MESS PROPERLY. A MAJORITY OF THE WATERS AND RIVERS LEAD TO LAGOS LAGOON, WHERE THE DISPOSED WOOD SIMPLY PILES UP, PROVIDING THE CITIZENS WITH PLENTY OF WOOD TO BEGIN CONSTRUCTION OF THEIR NEW WATER HOMES.



[FIGURE 14]



[FIGURE 15]



[HOUSINGSITUATION: WOOD SOURCING]

BUILDINGS ARE CONSTRUCTED OF MATERIALS FOUND ON SITE AND AS CHEAP AS POSSIBLE. WITH THE AREA BEING A GREAT SOURCE OF WOOD BETWEEN THE DUMPING OF LOGS AND THE MULTIPLE MILLS THAT OPENED AS A RESULT. NEARLY ALL HOMES COME WITH METALLIC ROOFS, WOOD FOR PANELING, AND OCCASIONAL TARPING FOR HALES AND WALL NOT COMPLETELY FINISHED DURING THE CONSTRUCTION.



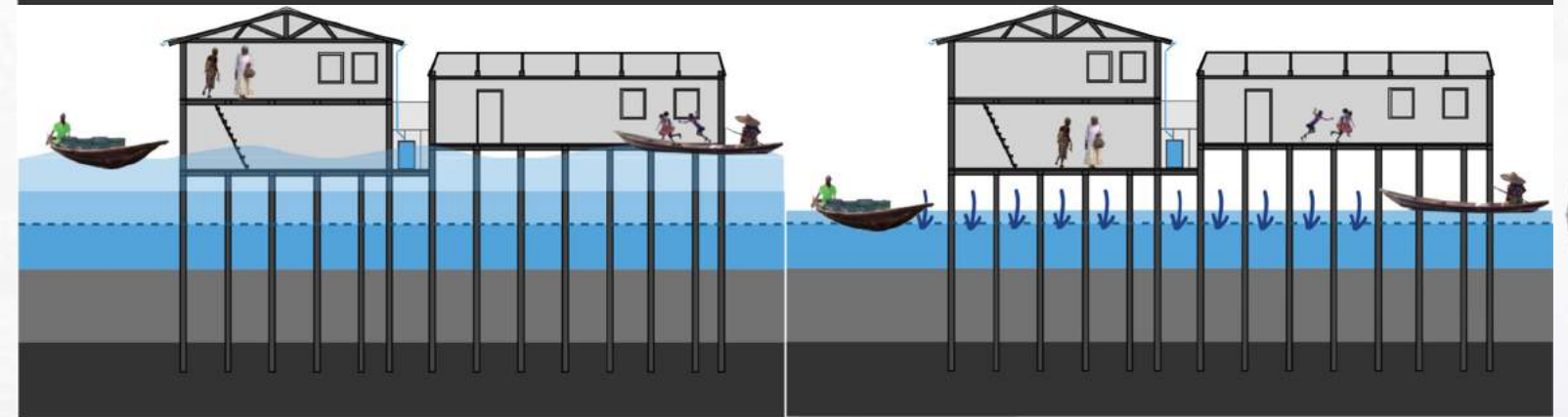
[HOUSINGSITUATION: HOUSING MATERIALITY]

THE STILTS ARE IRREGULAR, LACK THE SAME DIMENSIONS, AND ARE MADE OF DIFFERENT TYPES OF WOOD. ARRANGED SPORADICALLY AND TYPICALLY ARE NOT LONG ENOUGH TO REACH SOLID GROUND, NOT PROTECT THE HOUSE FROM THE WATER. DURING NORMAL AND DRY SEASONS, THE HOUSES THEMSELVES, TRANSPORTATION AND OTHER ELEMENTS OF INFRASTRUCTURE ARE STILL FULLY WORKING. AFTER FLOODS DURING THE RAIN SEASON, THE ROBUST CONSTRUCTION OF THE STILT ARCHITECTURE, THE LACK OF SENSITIVE INFRASTRUCTURE (NO ISOLATIONS, NO PIPES OR WIRES) AND MASSIVE ELEMENTS LET THE MAKOKO HOUSES DRY QUICKLY AFTER THE FLOODS. NO SERIOUS OR EXPENSIVE DAMAGES REMAIN AND THERE IS NO COST-INTENSE REFURBISHMENT.

[FIGURE 17]

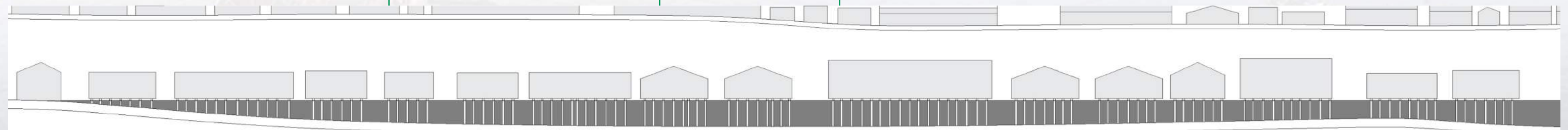


[FIGURE 18]



[FIGURE 19]

[HOUSING SITUATION: SECTIONS]



Site Section

RESIDENTS IN MAKOKO CURRENTLY PRACTICE CREATING THEIR OWN LANDFILL THROUGH THE USE OF TRASH, SAWDUST, AND SAND. SOME RESIDENTS PAY FOR TRASH TO GET DUMPED AT THEIR DOORSTEP. THEY THROW ALL THE WASTE INTO A CONTAINED AREA AND MIX/TOP IT WITH SAWDUST. THEY THEN PROCEED TO COMPRESS IT UNTIL IT IS TIGHT AND COMPACT AND ABOVE GROUND. FINALLY, SAND IS Poured ON TOP UNTIL THE NEWLY CREATED LAND UNIT IS STABLE ENOUGH TO STAND ON. IT IS THEN REPEATEDLY AND PERIODICALLY MASHED EVERY SIX MONTH DEPENDING ON IF IT HAS SETTLED PROPERLY OR NOT. THIS BROUGHT FORTH POSITIVES AND NEGATIVES. IT PROVIDED A WAY TO RE-USE THE LARGE AMOUNT OF SOLID WASTE THAT LITTER THE ENTIRETY OF MAKOKO. IT HELPED RE-SHAPE THE WAYS OF BUILDING AND HOUSING TYPOLOGIES, AND IT ALSO PRESENTED THE OPPORTUNITY FOR INTRODUCING NEW TYPES OF PROGRAM TO THE SITE. SPECIFICALLY ANYTHING THAT COULD BE PRESENTED ON FLAT GROUND RATHER THAN WATER. THE CONS HOWEVER, MAY HAVE BEEN JUST AS EFFECTIVE. OFTEN TIMES, IT WOULD NOT WORK THE FIRST TIME AND WOULD LEAVE A JUMBLE OF SAND, SAWDUST AND TRASH ALL OVER THE PLACE. THE LANDFILLS THAT WOULD WORK OBSTRUCTED THE FLOW OF THE WATER. MUCH OF THE TRASH THAT CONTAMINATES THE WATERS CANNOT FLOW ONTO THE LAGOON PAST THE HOUSING AS INTENDED. WHILE THAT ALTERNATIVE IS NOT GOOD,



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[FIGURE 20]

[HOUSINGSITUATION: LANDMASS]

CHALLENGES WITHIN THE AREA

- INAPPROPRIATE/OUTDATED MATERIAL OF STILTS, ROOF AND WALL CLADDING
- MAIN CONSTRUCTION METHOD NOT SOLID ENOUGH TO MAINTAIN HOUSING FOR AN EXTENDED PERIOD OF TIME
- ELEMENTS ARE NOT FIRMLY FIXED TOGETHER/ STRUCTURE IS NOT STABLE
- STILTS ARE NOT REGULARLY AND ACCORDINGLY DIMENSIONED AND SOMETIMES DO NOT EVEN REACH SOLID GROUND

THE STILTS ARE IRREGULAR, LACK THE SAME DIMENSIONS, AND ARE MADE OF DIFFERENT TYPES OF WOOD. ARRANGED SPORADICALLY AND TYPICALLY ARE NOT LONG ENOUGH TO REACH SOLID GROUND, NOR PROTECT THE HOUSE FROM WATER. CURRENT STATE: HOUSES ARE DEFORMED AND IRREGULARLY SHAPED WITH A LACK OF PROPER STRUCTURE.



[DESIGN CHALLENGES]

GOAL: REDESIGN THE HOME WITH REGULAR PROPERLY FORMED, STABLE, AND SOLID CONSTRUCTION.

APPROACHES

- CONSISTENT APPLICATION OF APPROPRIATE MATERIAL: (CORRUGATED METAL, HARDWOOD
- ESTABLISH A PROPER STRUCTURE IN THE HOME
- MEANS OF STAYING ABOVE WATER IMPLEMENTED PROPERLY.

- HOUSING

- BEDROOMS
- KITCHEN
- BATHROOM
- DOCKS
- PLAY AREA
- FISHING AREA
- WASTE AREA

- PROVIDE ROOM TO GROW WHEN ALLOWED

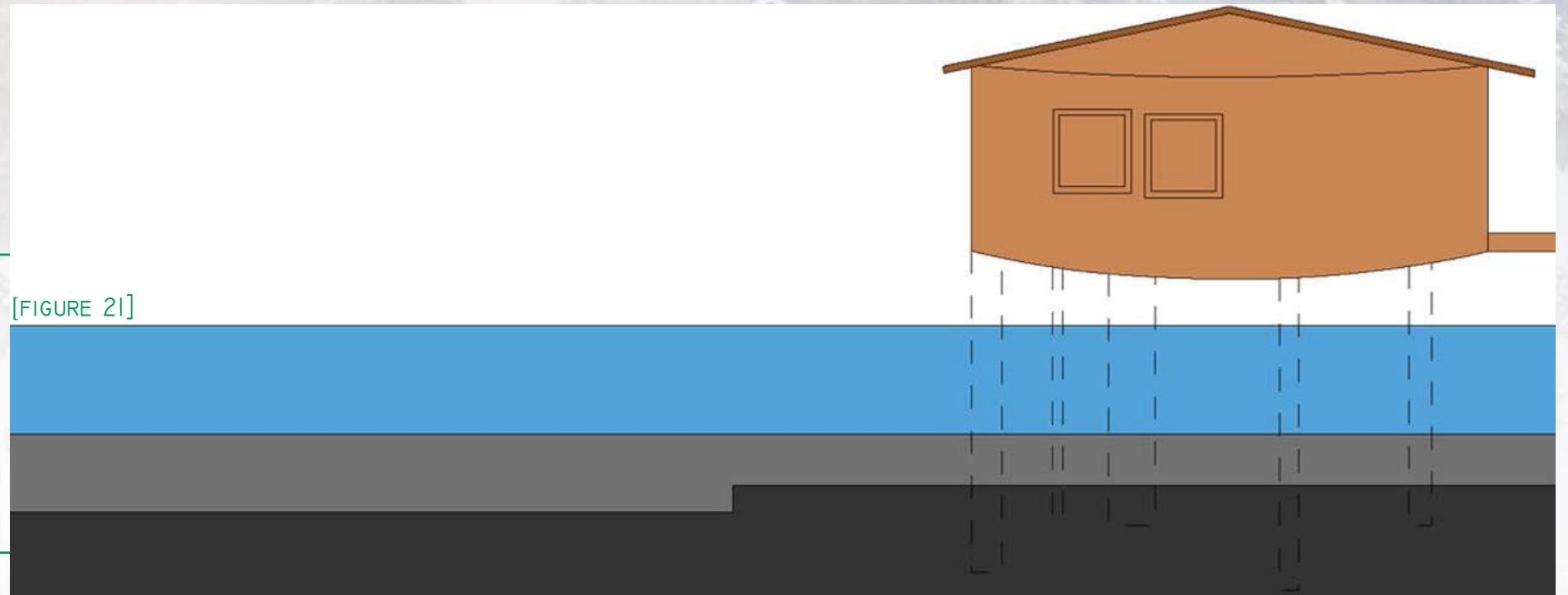
- INTIMACY/COMMUNITY

- HOUSING GROUPED INTO SMALLER COURTYARDS/COMMUNITIES/BLOCKS
- ANY SUSTAINABLE DEVICES USED SHOULD BE BENEFICIAL TO AND ABLE TO SUSTAIN THE COMMUNITY AS A WHOLE
- COMMUNITY WATER COLLECTION
- COMMUNITY SOLAR COLLECTION
- DOCKING

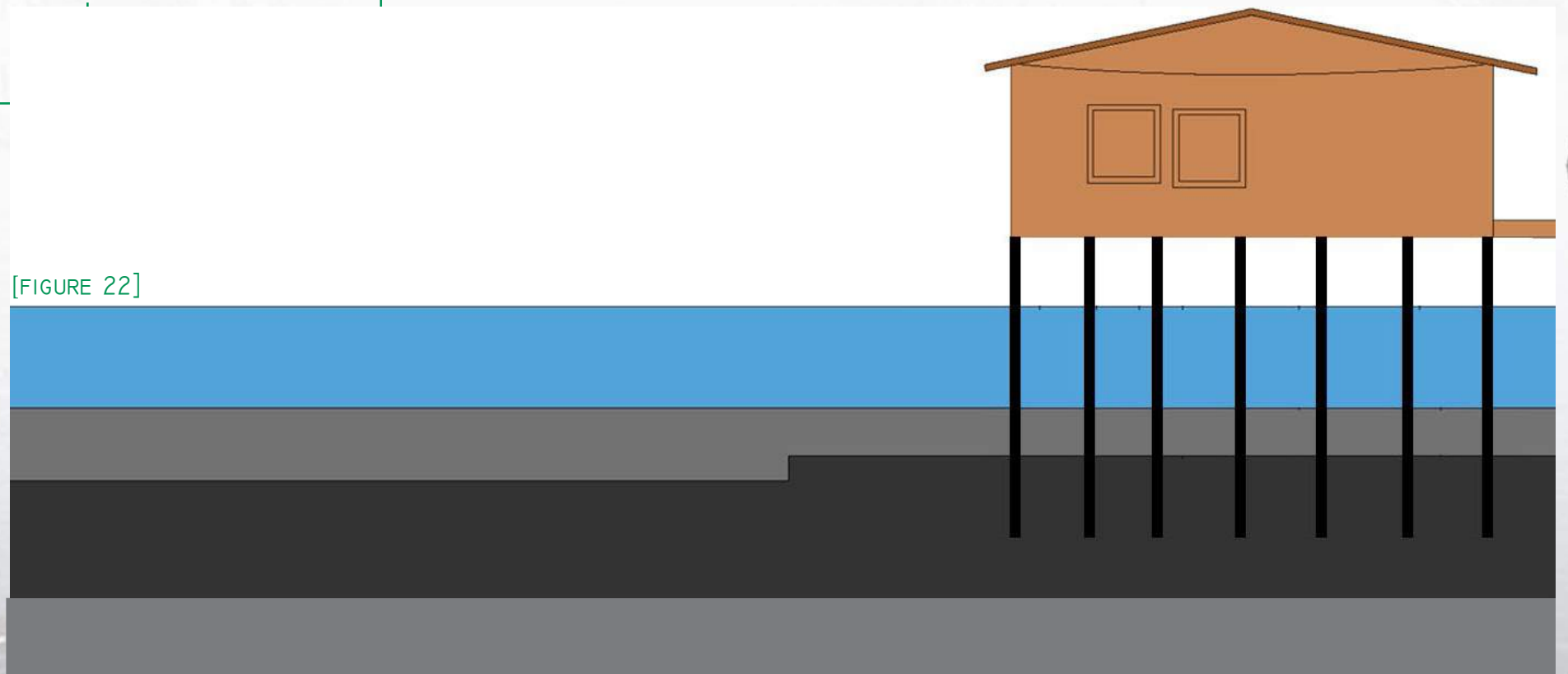
- MATERIALS

- NO/MINIMUM INTRODUCTION OF NEW MATERIALS
- MAJORITY WOOD DUE TO IT BEING THE EASIEST TO ACCESS
- DISCOVERING A USE FOR THE TRASH & WASTE THAT LITTERS THE AREA

[FIGURE 21]



[FIGURE 22]



[DESIGN CHALLENGES: APPROACHES]

ALEJANDRO ARAVENA TOOK A SIMILAR APPROACH BY ADDRESSING THE ISSUE OF CERTAIN PEOPLE NOT BEING ABLE TO AFFORD LARGE "GOOD" HOUSES, AND ARE LEFT WITH SMALLER HOMES. SO THE QUESTION ASKED IS, "INSTEAD OF GIVING SOMEONE A FINISHED SMALL HOUSE, WHY NOT GIVE THEM HALF A "GOOD" HOUSE? THE PROJECT WAS ATTEMPTING TO SOLVE THE PROBLEM OF URBAN MIGRATION, RESULTING IN SQUATTING AND HUGE HOUSING DEFICITS. THE STRUGGLE LAID IN MAKING LOW-INCOME HOUSES AFFORDABLE, AND INCREMENTAL BUILDING. ALEJANDRO ARAVENA ADDRESSSED THIS AFTER CHILE WAS HIT BY AN EARTHQUAKE, KILLING OVER 500 PEOPLE AND DESTROYING 80% OF THE BUILDINGS IN THE CITY. ELEMENTAL HAD ALREADY EXPERIMENTED WITH UNFINISHED LOW INCOME HOUSES IN CHILE, WHICH WAS TO BE BUILT AT \$7,500 PER UNIT, FOR 100 FAMILIES. IT WAS A GOOD ATTEMPT, BUT THE FUTURE INHABITANTS STILL THREATENED THE PROPOSAL OF THE DESIGN WITH A HUNGER STRIKE DUE TO IT'S COST. BUILDING INDIVIDUAL HOUSES WOULD SIMPLY JUST COST TOO MUCH. SO ELEMENTAL CHOSE TO BUILD HALF-HOUSES -- TALL RECTANGULAR UNITS SEPARATED BY EMPTY SPACE. THESE HOUSES ARE BIG ENOUGH TO MEET CHILE'S MINIMUM STANDARDS FOR LOW-INCOME HOUSING. THEN RESIDENTS ON THEIR OWN TIME WOULD EXPAND INTO THE ADJACENT EMPTY SPACE. SOME OF THE "ISSUES" BROUGHT UP: IT IS HARD TO SEE PLANS LIKE THIS TAKING OFF IN OTHER COUNTRIES DUE TO SOME BUILDING CODES.



[CASE STUDIES: ELEMENTAL HOMES]

CHAPTER 3

EVEN IN CHILE, SOME OF THE HALF-HOUSES LOOK VERY SIMILAR TO THE HOMES THAT THEY WERE DESIGNED TO REPLACE. WHILE SOME MADE VERY ELEGANT HOUSES, SOME RESIDENTS HAVE MADE ADJUSTMENTS THAT "LOOK LIKE SLUM SHACKS WEDGED BETWEEN CONCRETE HOUSES". THE HOUSES CONSISTED OF 3 FLOORS, A KITCHEN, A BATHROOM, STRUCTURAL WALLS, AND A STAIRCASE. THE REST OF THE HOUSES, ALLOTTED EMPTY SLOTS BETWEEN THE HALF-BUILDINGS, WERE LEFT TO THE RESIDENTS TO CONSTRUCT.

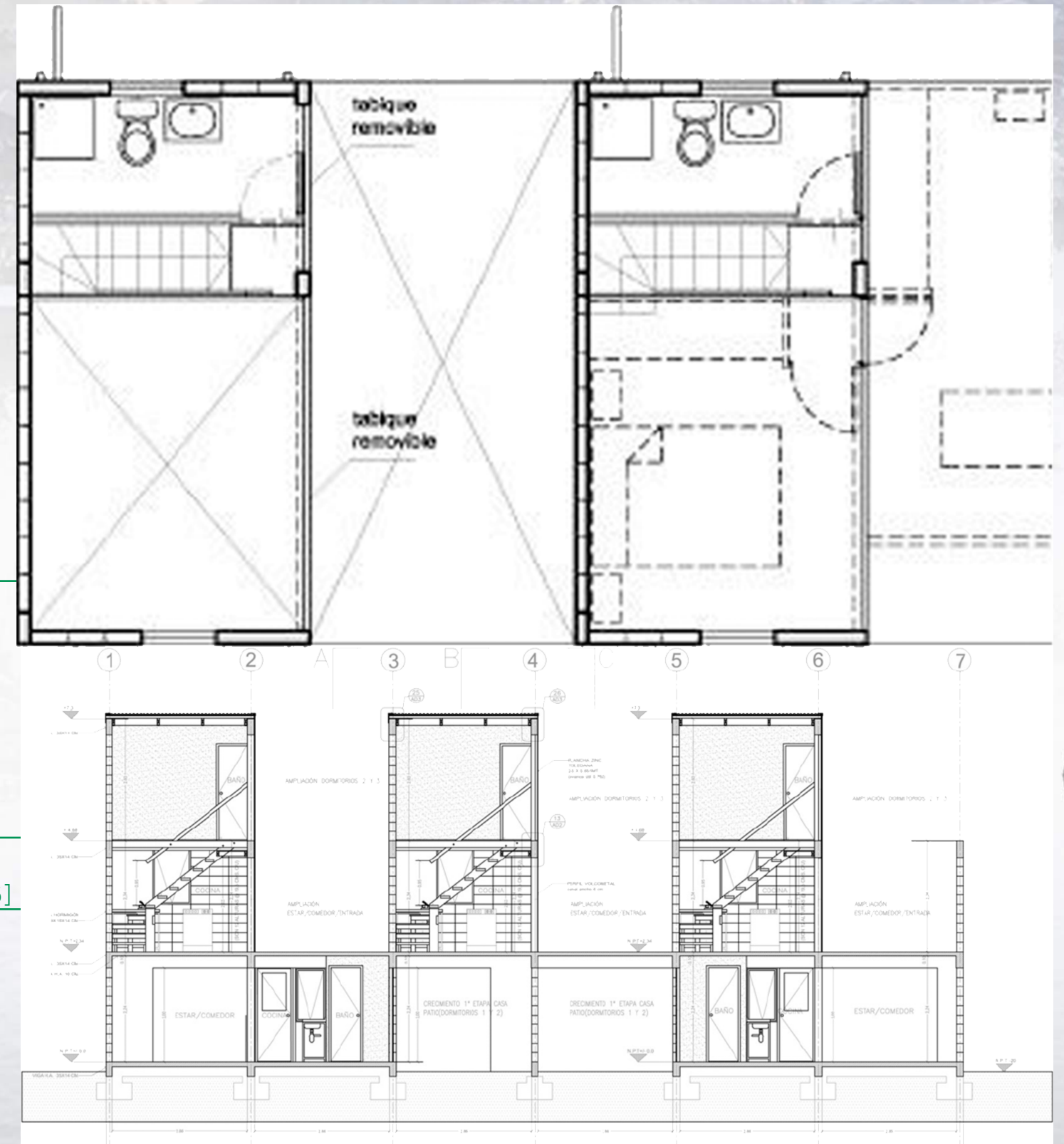


[CASE STUDIES: ELEMENTAL HOME]

INCREASE PROPERTY VALUE: ELEMENTAL IDENTIFIED A SET OF DESIGN CONDITIONS THROUGH WHICH A HOUSING UNIT CAN INCREASE ITS VALUE OVER TIME; THIS WITHOUT HAVING TO INCREASE THE AMOUNT OF MONEY OF THE CURRENT SUBSIDY. IN THE FIRST PLACE, THEY HAD TO ACHIEVE ENOUGH DENSITY, (BUT WITHOUT OVERCROWDING), IN ORDER TO BE ABLE TO PAY FOR THE SITE, WHICH BECAUSE OF ITS LOCATION WAS VERY EXPENSIVE. TO KEEP THE SITE, MEANT TO MAINTAIN THE NETWORK OF OPPORTUNITIES THAT THE CITY OFFERED AND THEREFORE TO STRENGTHEN THE FAMILY ECONOMY; ON THE OTHER HAND, GOOD LOCATION IS THE KEY TO INCREASE A PROPERTY VALUE. SECOND, THE PROVISION A PHYSICAL SPACE FOR THE EXTENSIVE FAMILY TO DEVELOP, HAS PROVED TO BE A KEY ISSUE IN THE ECONOMICAL TAKE OFF OF A POOR FAMILY. IN BETWEEN THE PRIVATE AND PUBLIC SPACE, WE INTRODUCED THE COLLECTIVE SPACE, CONFORMED BY AROUND 20 FAMILIES. THE COLLECTIVE SPACE (A COMMON PROPERTY WITH RESTRICTED ACCESS) IS AN INTERMEDIATE LEVEL OF ASSOCIATION THAT ALLOWS SURVIVING FRAGILE SOCIAL CONDITIONS. THIRD, DUE TO THE FACT THAT 50% OF EACH UNIT'S VOLUME, WILL EVENTUALLY BE SELF-BUILT, THE BUILDING HAD TO BE POROUS ENOUGH TO ALLOW EACH UNIT TO EXPAND WITHIN ITS STRUCTURE. THE INITIAL BUILDING MUST THEREFORE PROVIDE A SUPPORTING, (RATHER THAN A CONSTRAINING) FRAMEWORK IN ORDER TO AVOID ANY NEGATIVE EFFECTS OF SELF-CONSTRUCTION ON THE URBAN ENVIRONMENT OVER TIME, BUT ALSO TO FACILITATE THE EXPANSION PROCESS. FINALLY, INSTEAD A DESIGNING A SMALL HOUSE (IN 30 SQM EVERYTHING IS SMALL),

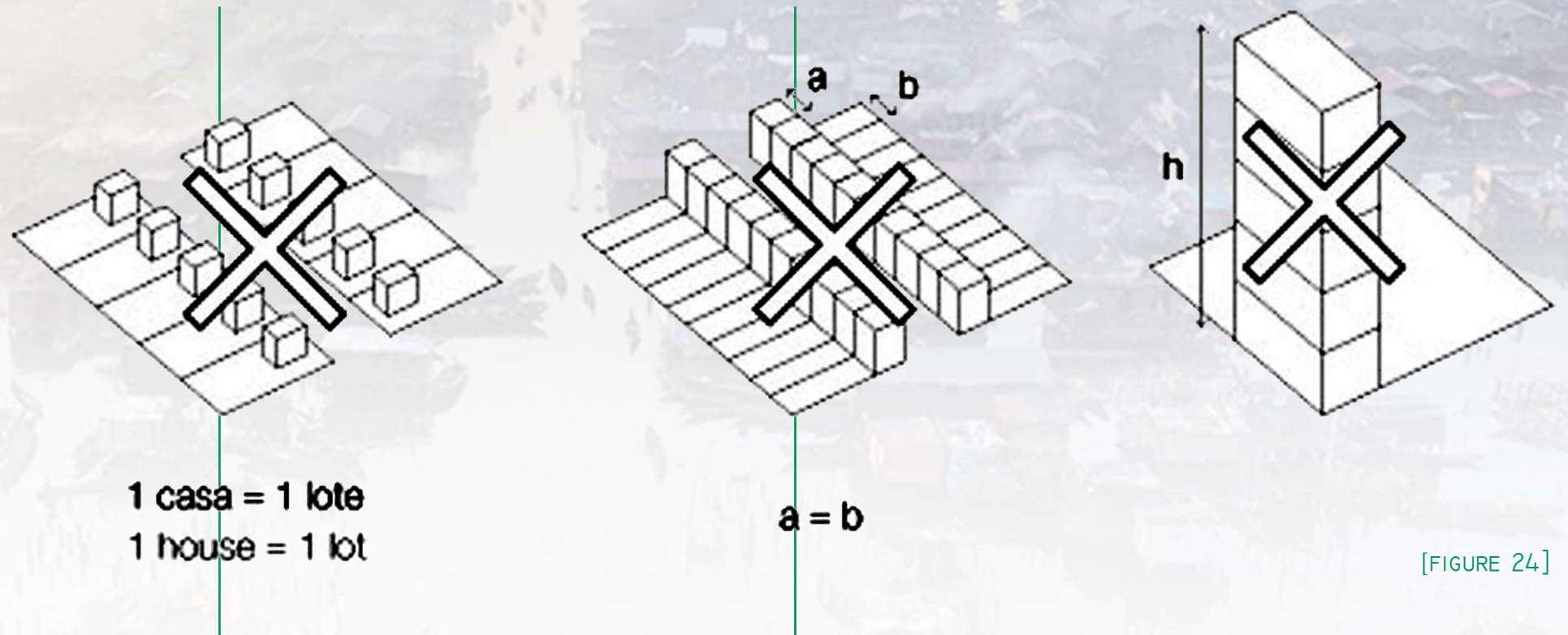
THEY PROVIDED A MIDDLE-INCOME HOUSE, OUT OF WHICH WE WERE GIVING JUST A SMALL PART NOW. THIS MEANT A CHANGE IN THE STANDARD: KITCHENS, BATHROOMS, STAIRS, PARTITION WALLS AND ALL THE DIFFICULT PARTS OF THE HOUSE HAD TO BE DESIGNED FOR FINAL SCENARIO OF A 72 SQM HOUSE.

[FIGURE 23]

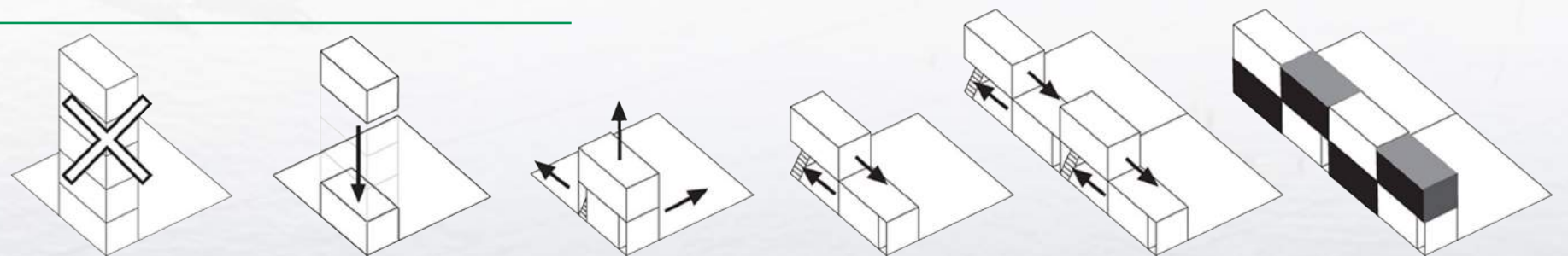


[CASE STUDIES: ELEMENTAL HOME]

IF TO ANSWER THE QUESTION, ONE STARTS ASSUMING ONE HOUSE = ONE FAMILY = ONE LOT, THEY WERE ABLE TO HOST JUST 30 FAMILIES IN THE SITE. THE PROBLEM WITH ISOLATED HOUSES IS THAT THEY ARE VERY INEFFICIENT IN TERMS OF LAND USE. THAT IS WHY SOCIAL HOUSING TENDS TO LOOK FOR LAND THAT COSTS AS LITTLE AS POSSIBLE. THAT LAND, IS NORMALLY FAR AWAY FROM THE OPPORTUNITIES OF WORK, EDUCATION, TRANSPORTATION AND HEALTH THAT CITIES OFFER. THIS WAY OF OPERATING HAS TENDED TO LOCALIZE SOCIAL HOUSING IN AN IMPOVERISHED URBAN SPRAWL, CREATING BELTS OF RESENTMENT, SOCIAL CONFLICT AND INEQUITY. IF TO TRY TO MAKE A MORE EFFICIENT USE OF THE LAND, THEY WORKED WITH ROW HOUSES, EVEN IF THEY REDUCED THE WIDTH OF THE LOT UNTIL MAKING IT COINCIDENT WITH THE WIDTH OF THE HOUSE, AND FURTHERMORE, WITH THE WIDTH OF A ROOM, THEY WERE ABLE TO HOST JUST 66 FAMILIES. THE PROBLEM WITH THIS TYPE IS THAT WHENEVER A FAMILY WANTS TO ADD A NEW ROOM, IT BLOCKS ACCESS TO LIGHT AND VENTILATION OF PREVIOUS ROOMS. MOREOVER IT COMPROMISES PRIVACY BECAUSE CIRCULATION HAS TO BE DONE THROUGH OTHER ROOMS. THIS RESULTED IN OVERCROWDING AND PROMISCUITY RATHER THAN EFFICIENCY. THEY ALSO EXPLORED HIGH-RISE BUILDING, WHICH IS EFFICIENT IN TERMS OF LAND USE, BUT IT BLOCKS EXPANSIONS AND HERE THEY NEEDED EVERY HOUSE COULD AT LEAST DOUBLE THE INITIAL BUILT SPACE.



[FIGURE 24]



[FIGURE 25]

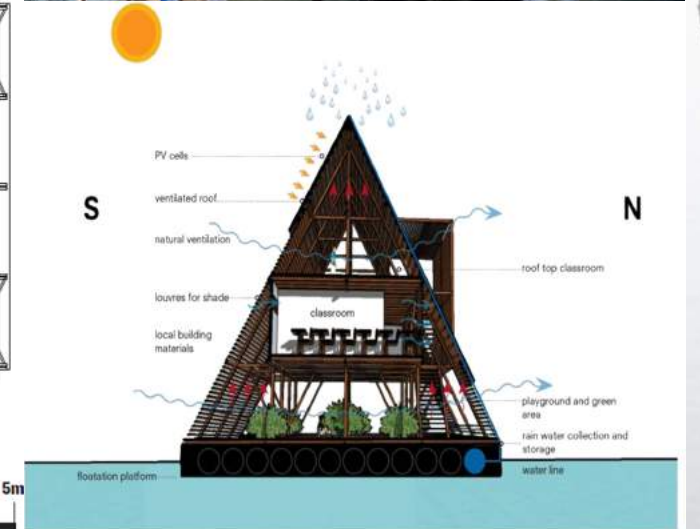
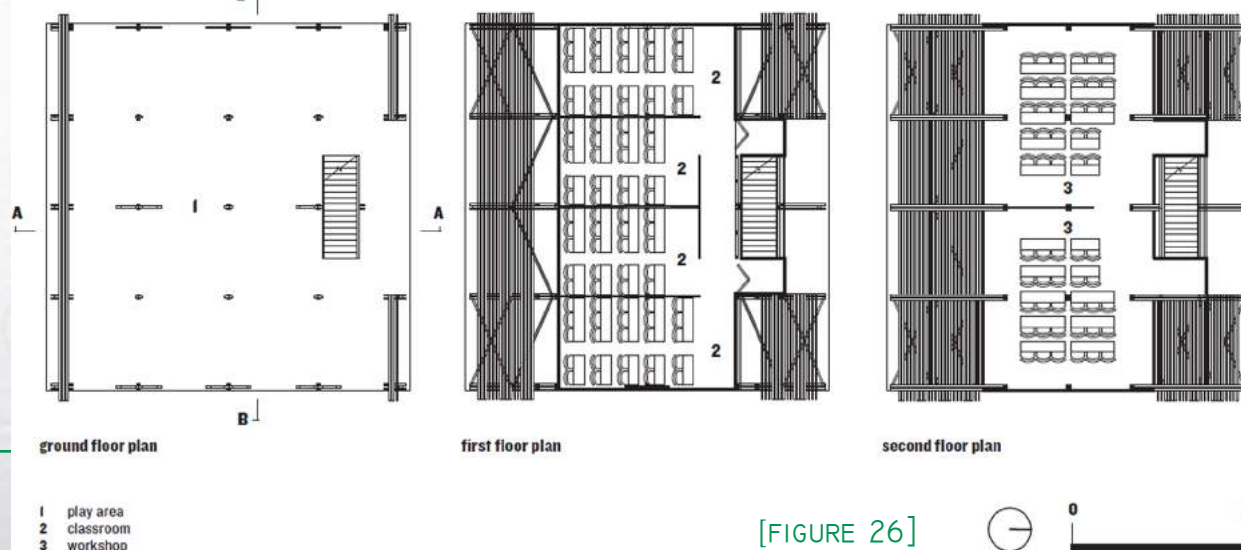
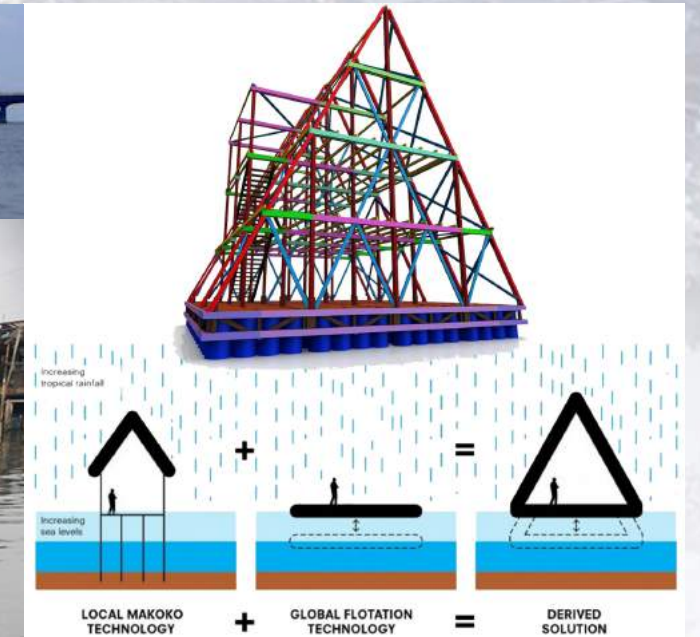
[CASE STUDIES: VILLA VERDE]

NOW, IN CONSTITUCION, THERE IS AN ENTIRE AREA POPULATED BY TWO-STORY HALF HOUSES, THE VISUAL DESIGN OF THE BUILDINGS ARE DIFFERENT, BUT THE CONCEPT IS THE SAME; HALF OF THE HOUSES ARE IDENTICAL AND THE OTHER HALVES ARE COMPLETELY UNIQUE. FIRST FLOOR OF THE FINISHED HALF IS MADE UP OF UNFINISHED CONCRETE FLOORS, AND THE SECOND IS COVERED IN UNFINISHED PLYWOOD. THE HOUSE IS CHEAP, PRACTICAL AND WELL INSULATED. EVERYTHING THAT FAMILIES WOULD NOT BE ABLE TO BUILD ALONE HAS ALREADY BEEN DONE (FOUNDATION, PLUMBING, ETC). RESIDENTS JUST HAVE TO PROVIDE THEIR TIME, LABOR AND ANY EXTRA MATERIALS. EVERY HOUSE COMES WITH A MANUAL COVERING POSSIBLE WAYS TO EXPAND USING STANDARD BUILDING MATERIALS, AVOIDING THE NEED FOR ANYONE TO BUY EXPENSIVE CUSTOM RESOURCES. THE VISION IS THAT RESIDENTS END UP WITH MUCH MORE PLEASANT HOUSE THAN WHAT THEY COULD HAVE BUILT COMPLETELY ON THEIR OWN OR RECEIVED FROM ORDINARY STATE FUNDING. TURNER AND OTHER ADVOCATES OF THIS APPROACH, CALLED "SITES AND SERVICES," BEGAN DOING BUILDING PROJECTS WHERE THEY WOULD WORK WITH GOVERNMENTS (AND/OR PRIVATE PARTNERS) TO BUILD THE PARTS OF HOUSING THAT RESIDENTS HAVE THE HARDEST TIME BUILDING ON THEIR OWN THINGS LIKE CONCRETE FOUNDATIONS, PLUMBING, AND ELECTRICAL WIRING. GOVERNMENTS WOULD ALSO PROVIDE SERVICES SUCH AS ROADS, DRAINAGE SEWERS, GARBAGE COLLECTION, AND SCHOOLS" TO THE SITE.

[CASE STUDIES: VILLA VERDE]



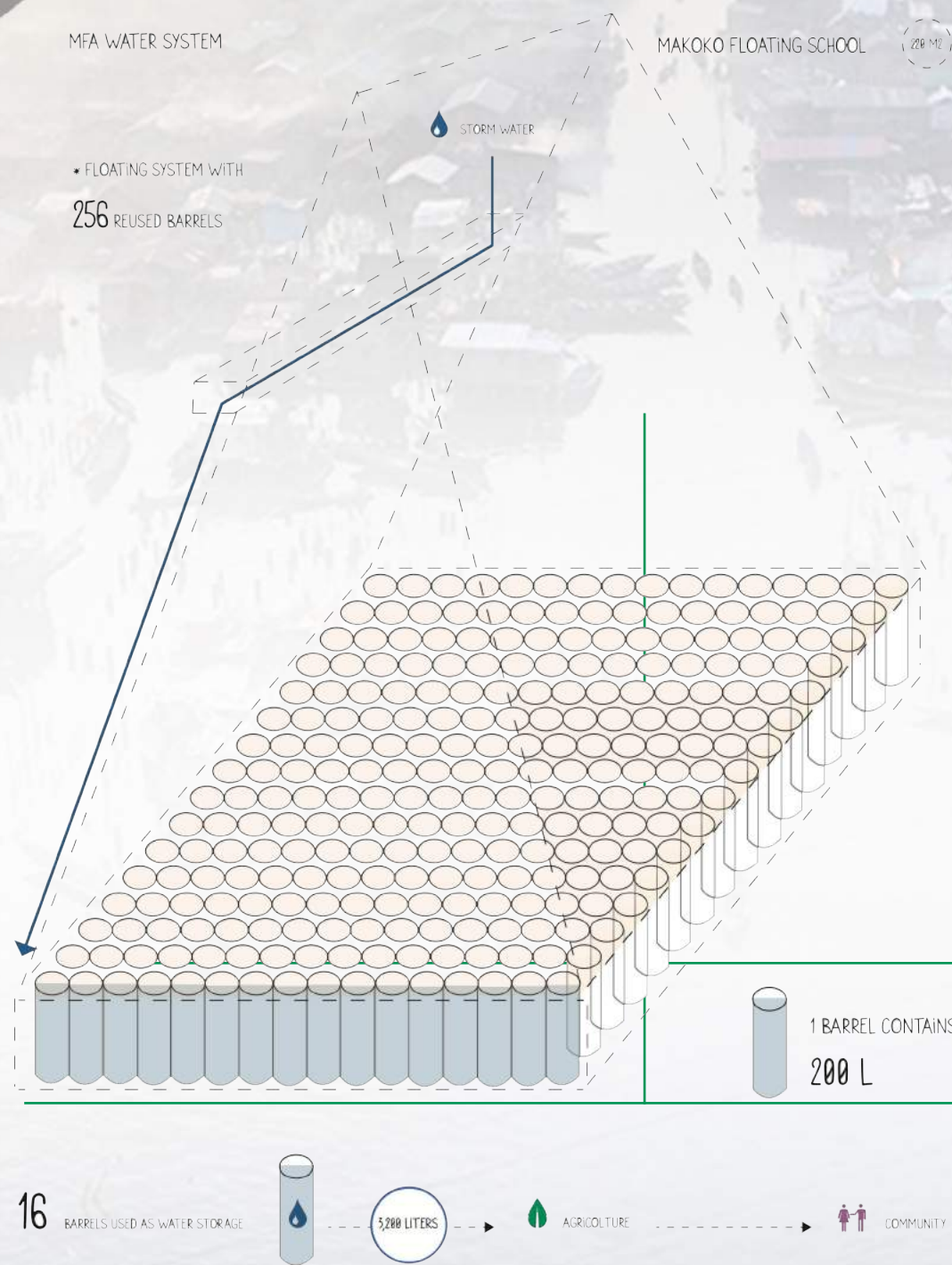
THE MAKOKO FLOATING SCHOOL MAKES USE OF LOCAL MATERIALS AND RESOURCES IN ORDER TO CONSTRUCT ARCHITECTURE THAT APPLIES TO THE NEEDS OF PEOPLE AND REFLECTS THE CULTURE OF THE COMMUNITY. WOOD IS THE MAIN STRUCTURE, SUPPORT, AND FINISHING FOR THE SCHOOL. THERE ARE THREE LEVELS OF CLASSROOMS WITHIN THE TRIANGULAR A-FRAME STRUCTURED BUILDING. IT IS ALSO NATURALLY VENTILATED AND AERATED.



[FIGURE 26]

[CASE STUDIES: MAKOKO FLOATING SCHOOL]

MAKOKO'S FLOATING SCHOOL OFFERED A MULTITUDE OF WAYS TO ACTUALLY CONSERVE AND HARNESS RESOURCES. IT CONTAINS METHODS OF COLLECTING RAINWATER FROM THE ROOFING SYSTEM AND STORES IT UNDERNEATH THE SCHOOL. IT CAN LATER BE USED AS WATER FOR THE TOILET SYSTEM. THE ROOFING IS SLOPED ALSO SO IT CAN CONTAIN SOLAR PANELS. NOT ONLY IS THAT A VERY EFFICIENT SYSTEM TO USE, BUT THE DEVICE ITSELF TAKES ADVANTAGE OF THE DESIGN ITSELF TO POWER THE THREE STORY SCHOOL. IT CONTAINS NATURAL VENTILATION THROUGH THE WAY THEY DESIGNED THE FACADE. IT IS ON OF THE FEW BUILDING THAT SETS A NEWLY CONSTRUCTED VERNACULAR FOR THE AREA OF MAKOKO, AS IT TYPICALLY CONSISTING OF WOODS BEING IMPROPERLY PLACED TO CREATE SOME SORT OF UNSECURED STRUCTURE.



DATA SOURCES (ASSUMING STANDARD OIL BARREL SIZE): [http://en.wikipedia.org/wiki/Drum_\(%26amp;container%29](http://en.wikipedia.org/wiki/Drum_(%26amp;container%29)
 • DATA SOURCES (ASSUMING FROM DESCRIPTION): <http://www.newshka.com/case/makoko-floating-school/http://3>
 (ASSUMING FROM THE PICTURES): http://www.kias.com/plate/Makoko_Floating_School_Lagos_Nigeria_NLE_Kunle_Adeyemi/p/plate/Makoko_Floating_School_NLE-6902.jpg

[FIGURE 27]

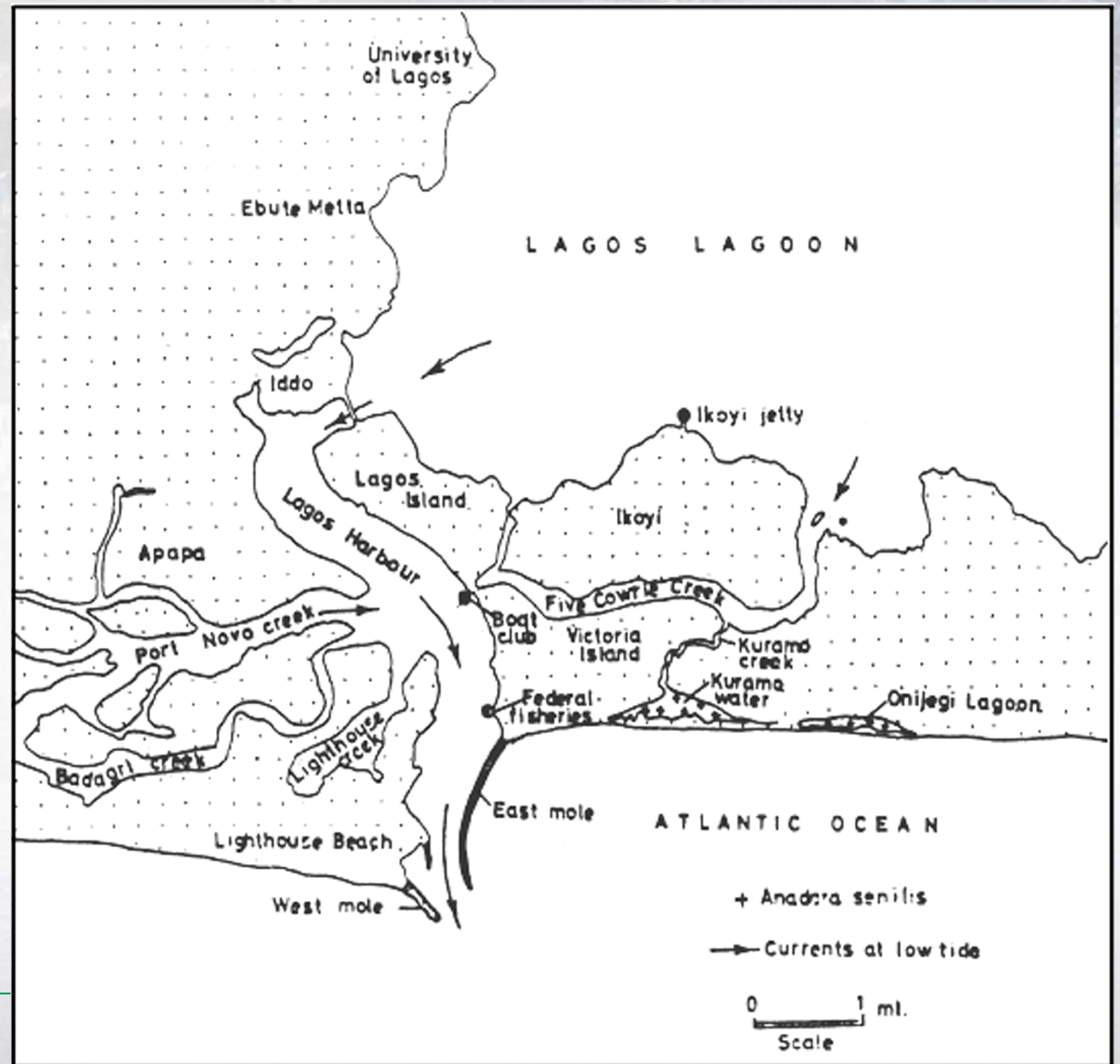
[CASE STUDIES:IMPRESSIONS]

ELEMENTAL HOUSING OFFERS THE IDEA OF STARTING A HOME NOW AND FINISHING IT IN THE FUTURE. IT HELPS THE PEOPLE OF POVERTY BECAUSE IT PROVIDES A SMALL HOME WITH MINIMAL AMOUNT OF SQUARE FOOTAGE AND BASIC NECESSITIES (WATER, TOILET) FOR A LOW COST THAT EVERYONE THERE COULD AFFORD. THEN, AS THEY ACCUMULATE MORE MONEY, THEY OFFER BEING ABLE TO ACTUALLY EXPAND THEIR HOME AT THEIR LEISURE. THE UPGRADED VERSION ALSO OFFERS WAYS THAT THE HOMEOWNERS THEMSELVES COULD ACTUALLY BUILD THE NEW ADDITION, WHICH IN TURN SAVES CONSTRUCTION COSTS AND CAN PROCEED TO PUT THAT MONEY INTO BETTERING THEIR HOME, OR OTHER BENEFICIAL USES. ON TOP OF THAT, THE VERSATILITY OF THE DESIGN OFFERS MANY WAYS THAT ONE COULD BUILD THEIR HOMES, AS LONG AS THEY CAN AFFORD IT AND BUILD IT.



[CASE STUDIES:IMPRESSIONS]

AS PREVIOUSLY STATED, MAKOKO'S WATER IS CONTAMINATED BY ORGANIC WASTE AND TRASH. DUE TO ALL THE LANDFILL ATTEMPTS AND OTHER METHODS OF BUILDING, THE LAGOON'S CURRENT WHICH WOULD TYPICALLY ALLOW WASTE TO MOVE THROUGH THE VILLAGE IS BEING BLOCKED. AS A RESULT, A PILEUP OF TRASH IS CIRCLING INSTEAD OF PASSING THROUGH. TRASH IS STOCKING UP BELOW HOUSES, AND STAYING THERE BECAUSE NOW IF IT TRIES TO MOVE FROM UNDER, THE ONCOMING TRAFFIC OF CANOES PUSHES IT BACK INTO PLACE. THIS CAUSES A MULTITUDE OF PROBLEMS FOR THE COMMUNITY. FIRST, ROADS ARE GETTING BLOCKED AS TRASH PILES UP HIGH. SECOND, IT PRODUCES A VERY PUNGENT SMELL THAT REACHES ALL CORNERS OF THE VILLAGE. THIRD, IT WAS ONE OF THE MAIN CAUSES FOR THE AQUATIC LIFEFORMS, THAT ONCE MADE MAKOKO A THRIVING FISHING VILLAGE, TO MOVE FURTHER AWAY FROM THE VILLAGE AND FURTHER INTO LAGOS LAGOON. MEANING, THAT THEIR ECONOMY TOOK A LARGE LOSS.



[FIGURE 28]

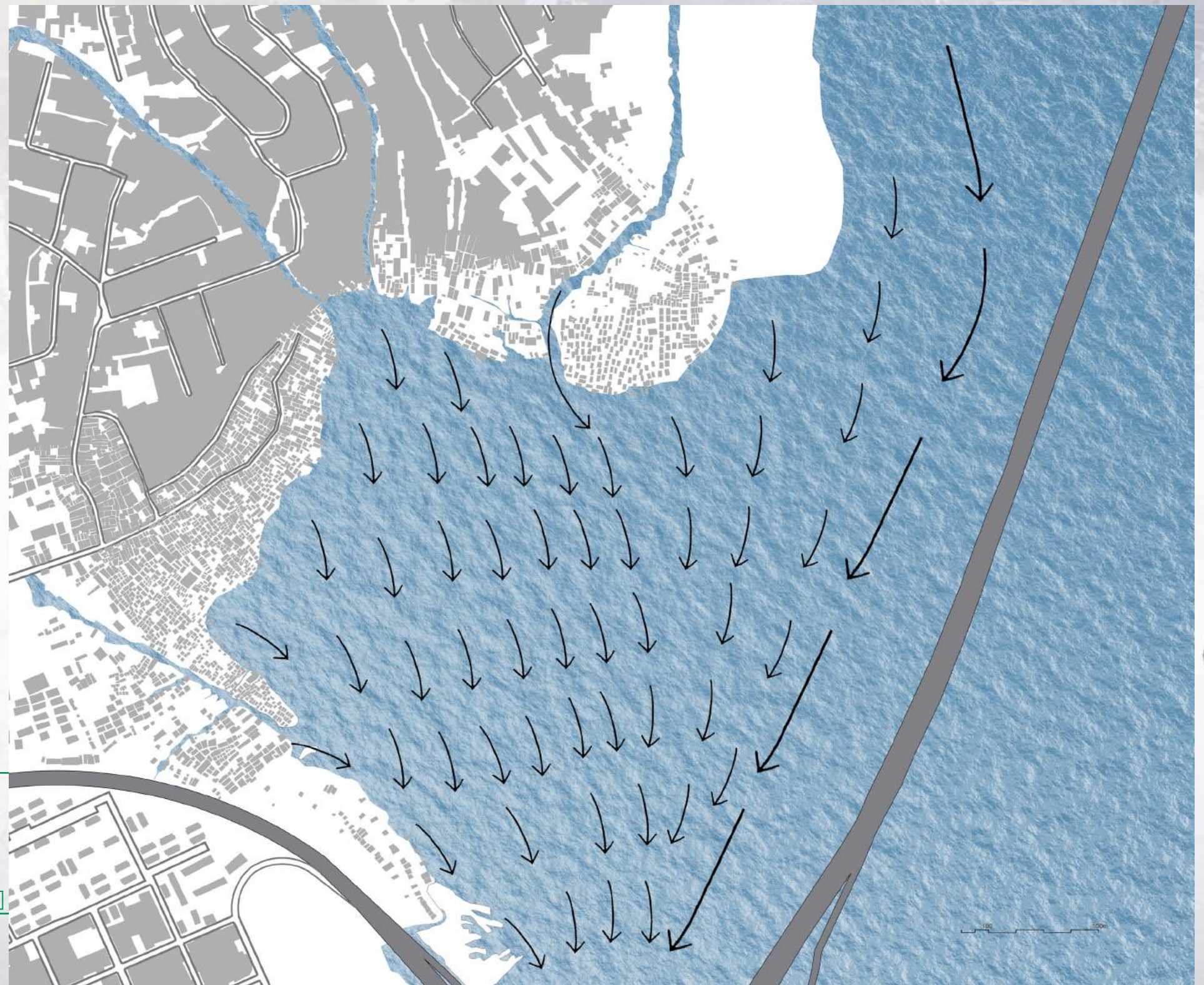
[DESIGN METHODOLOGY]

CHAPTER 4

FOR A PLACE LIKE MAKOKO, REESTABLISHING THE CURRENT IN LAGOS LAGOON CAN HAVE NUMEROUS IMPACTS ON THE AREA. SUCH BENEFITS INCLUDE:

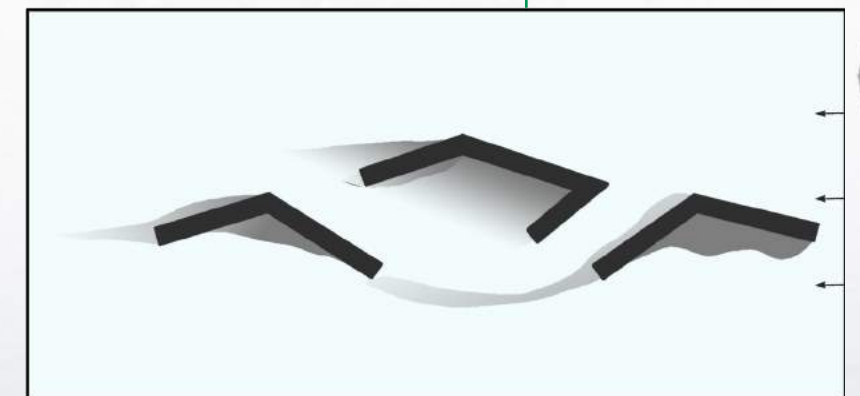
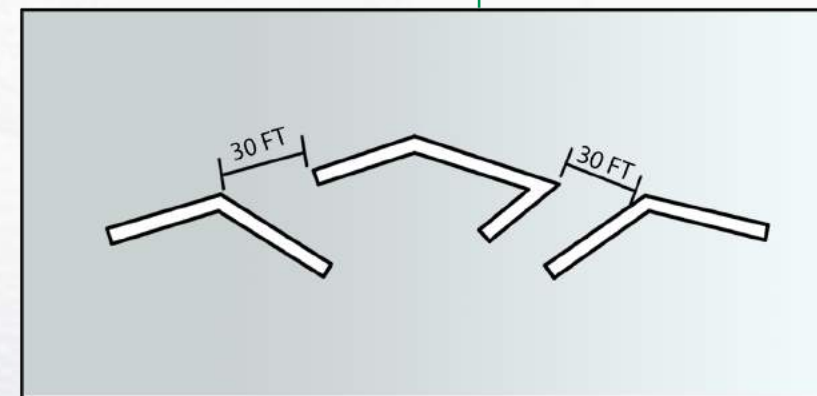
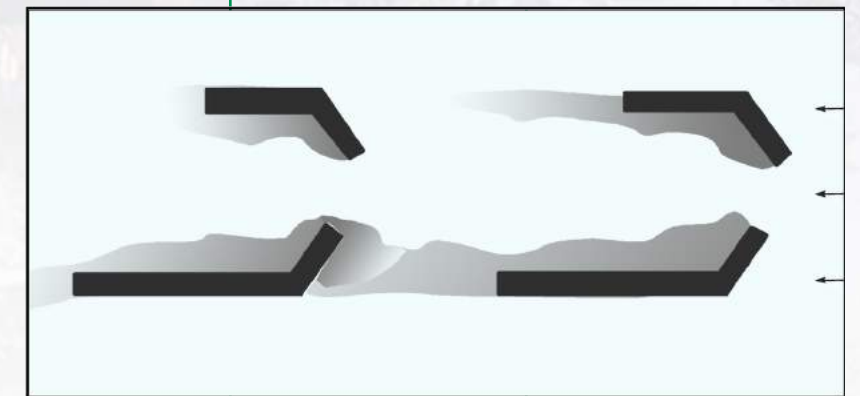
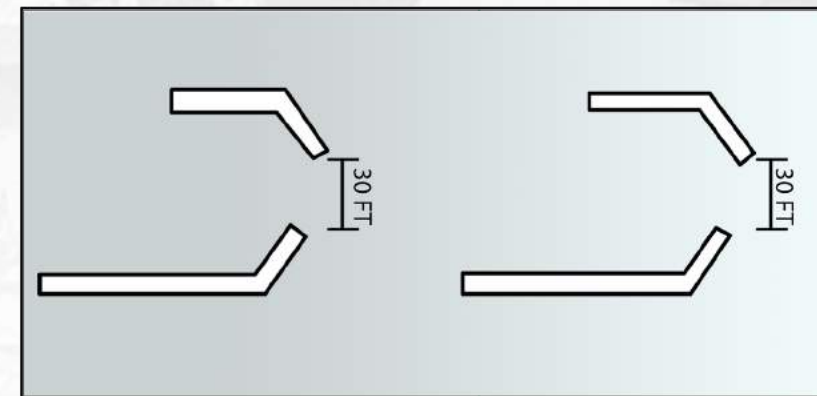
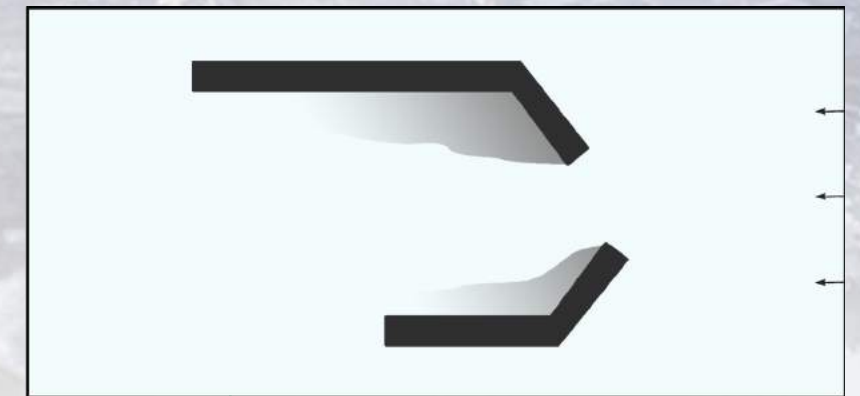
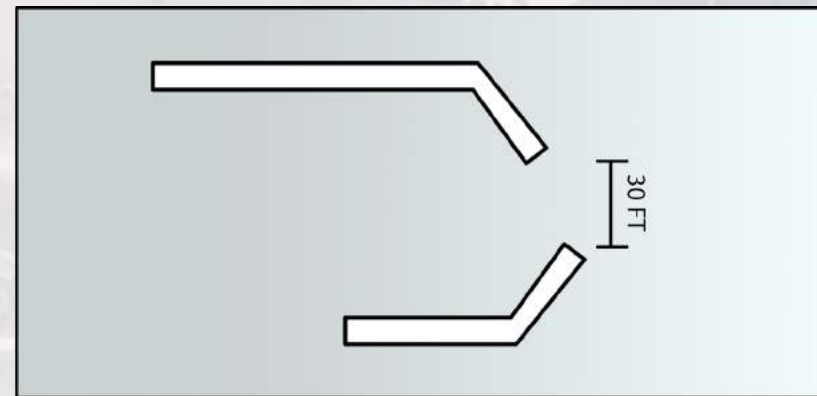
- PLENTY OF AQUATIC LIFEFORMS HAD BECOME ACCUSTOMED TO THE NATURAL RHYTHM OF FLOW. THEY DEPEND ON THE HABITATS THESE FLOWS CREATE AND THE CUES THEY PROVIDE TO TAKE SOME ACTION, SUCH AS TO MIGRATE AND SPAWN. SO RE-INTRODUCING THE CURRENT CAN HELP RETURN THE FISH THEY HELP SUPPLY THE AREA WITH THE MAJORITY OF THEIR INCOME
- IT IS ABLE TO HELP CLEAR ANY OF THE TRASH AND CHEMICALS THAT MAY HAVE BEEN DUMPED INTO THE AREA, ALLOWING FOR AN EASY FLOW THROUGH THE VICINITY
- COULD ALLOW FOR AN EASIER TRAFFIC FLOW

[FIGURE 29]



[DESIGN METHODOLOGY: CURRENTS]

WHEN THINKING OF BEING ABLE TO "CONTROL THE CURRENT" ONE OF THE METHODS USED TO CONTROL FLOW TODAY ARE RETAINING WALLS AND DAMS. THE FIRST INVESTIGATION IS UNDERSTANDING HOW PLACING DAMS IN THE WATER CAN AFFECT THE ENVIRONMENT. THIS INCLUDES THE DIRECTION OF THE WATER, THE VELOCITY AND SPEED OF IT, THE WAY IT FLOWS AND WHERE THE SEDIMENTATION OCCURS IF ANY. PROVIDING MANY DIFFERENT POTENTIAL SCENARIOS IN THE PLACEMENT OF DAMS REVEALS THE OPTIMAL DESIGN THAT WILL PROPERLY ALLOW SPACE FOR TRAVEL, AND LACK OBSTRUCTIONS THAT INTERRUPT THE FLOW OF TRAFFIC ONCE AGAIN.

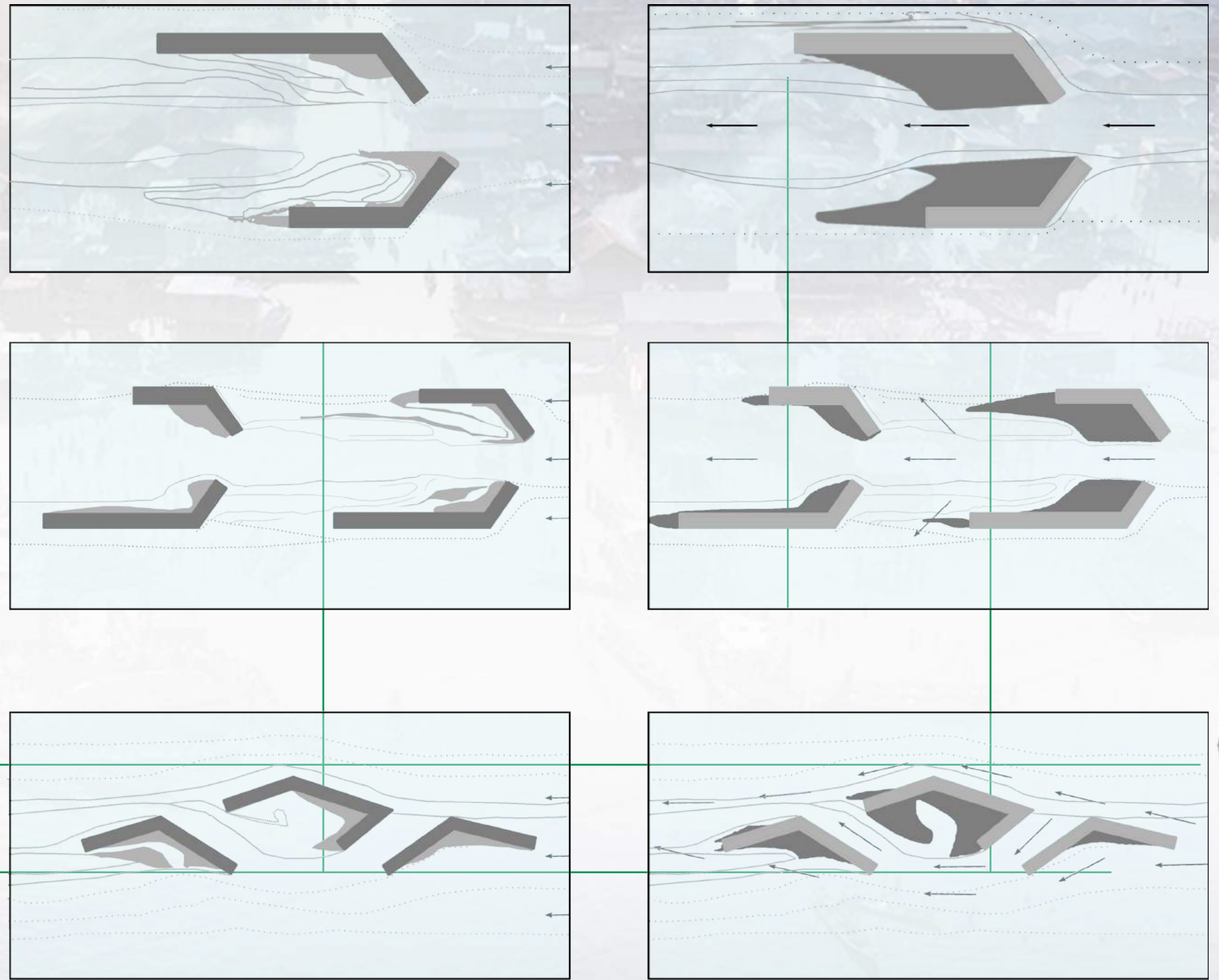


[FIGURE 30] Design & Dimension

Velocity

[DESIGN METHODOLOGY: CURRENTS]

IT IS ALSO IMPORTANT TO TAKE INTO CONSIDERATION HOW WE CAN USE THE WALL FOR THEIR BENEFIT. IT CAN BE USED TO ASSIGN PROGRAM, AS WELL AS AN ACTUAL STRUCTURAL PORTION OF THE HOME ITSELF. THE HOME CAN ACTUALLY BENEFIT IMMENSELY FROM CONCRETE WALLS. IT IS ALSO VITAL TO UNDERSTAND THE DIMENSIONS OF THE DIFFERENT WALLS WITHIN THE SCENARIO. THE WIDTH OF THE OPENINGS WITHIN THE WALL CAN ACT AS ENTRANCES TO A COURTYARD STYLE LAYOUT. PLACES AFFECTED BY SEDIMENTATION AND STILL WATERS CAN ACT AS A PARKING SPOT, WHILE THE AREA WITH THE MOST MOVEMENT CAN ACT AS THEY LAYOUT FOR SOME OF THE NEW MAIN ROADS PROPOSED.

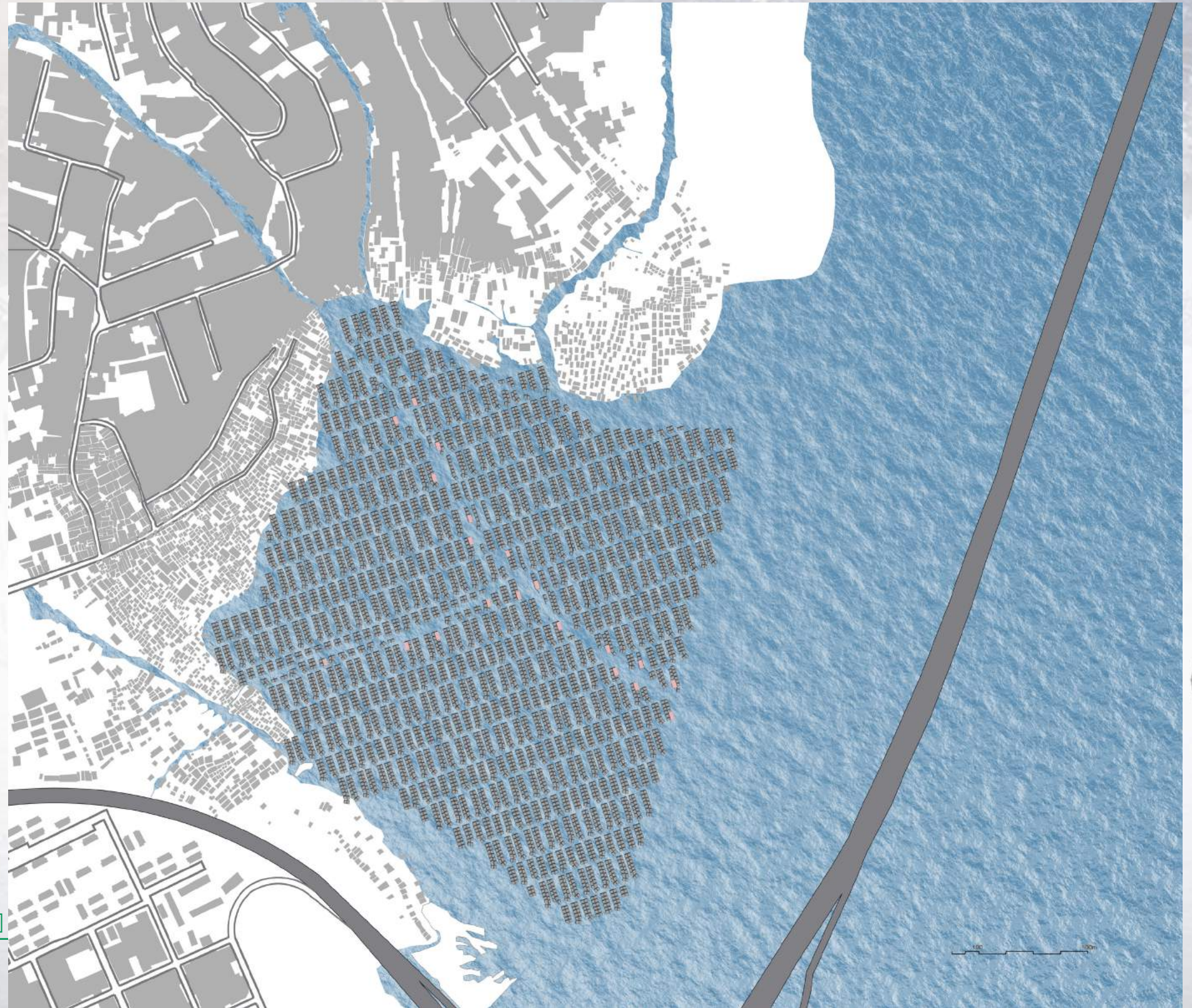


[FIGURE 31] Water Flow

Sedementation

[DESIGN METHODOLOGY: CURRENTS]

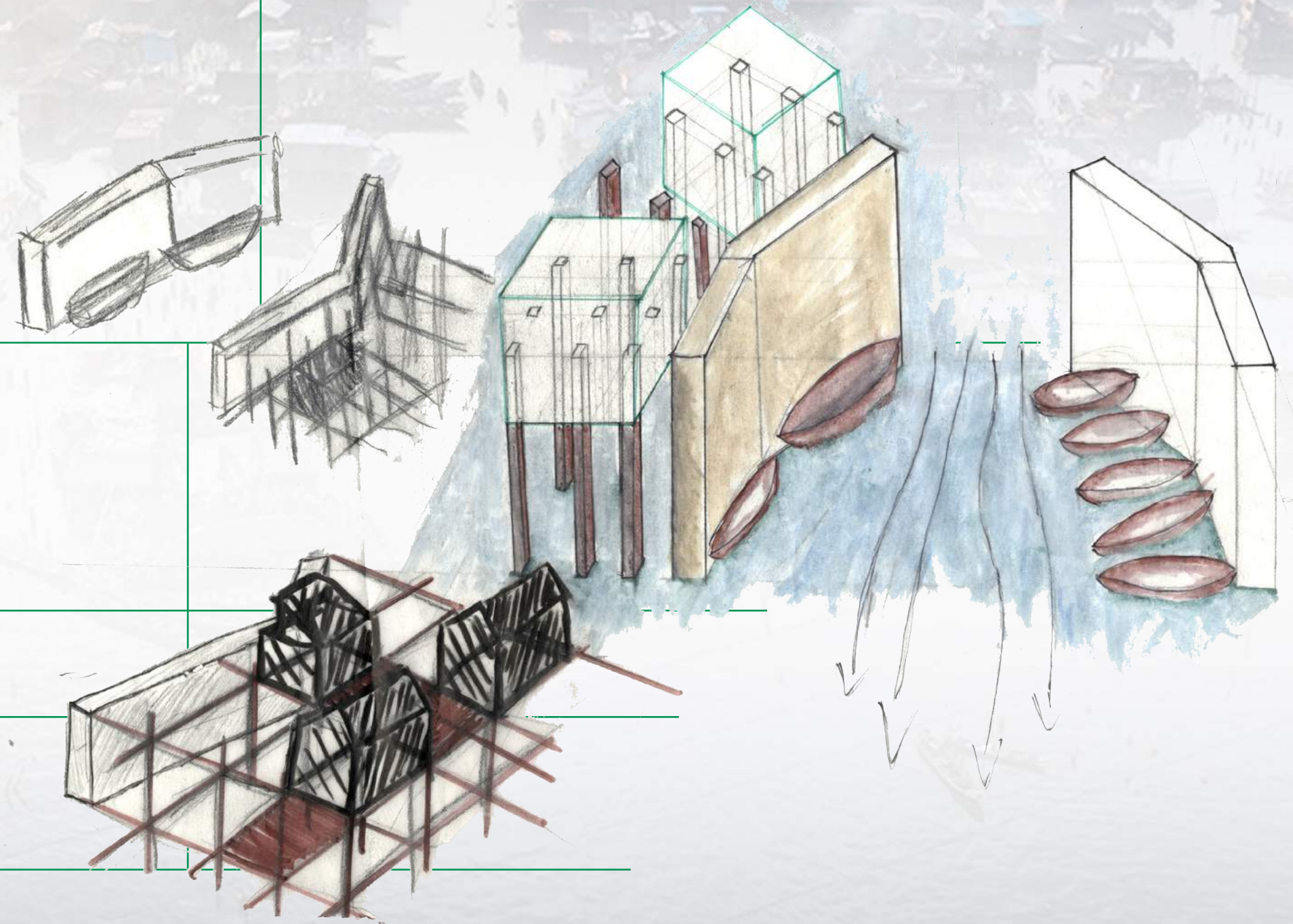
THE 1ST ITERATION OF THE NEW PLAN TOOK THE MOST BASIC OF HOUSES AND APPLIED IT ALONGSIDE A SINGLE FORM OF THE MANY DIFFERENT WALLS FABRICATED, ORGANIZED BY THE CURRENT AND FLOW OF THE MAKOKO WATERS.



[FIGURE 32]

[DESIGN METHODOLOGY: 1ST ITERATION]

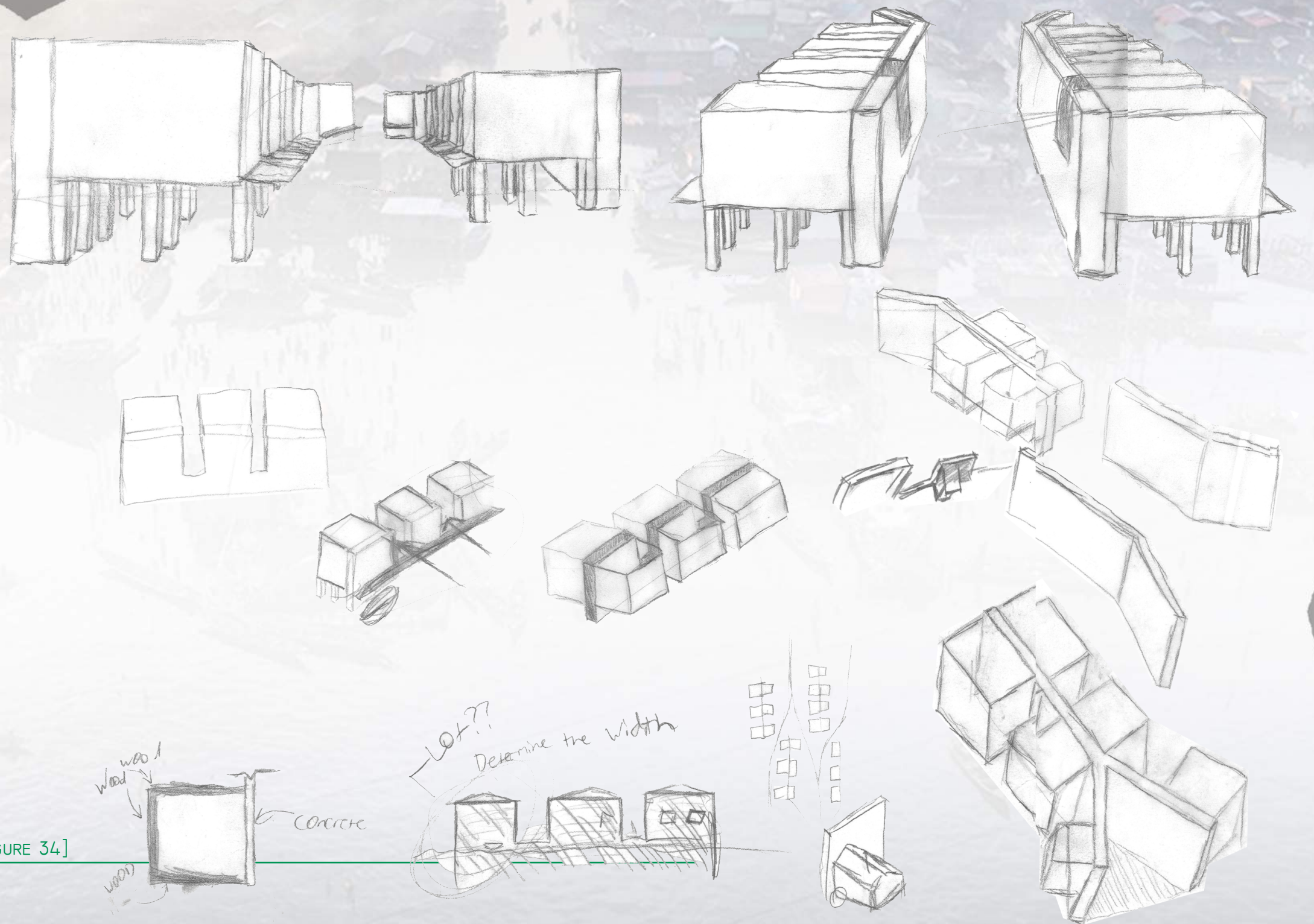
IT IS CRUCIAL TO CONSIDER AND UNDERSTAND THE SPACIAL RELATIONSHIP BETWEEN THE WALL, THE HOMES, AND THE WATER. THERE ARE DIFFERENT WAYS TO UTILIZE ALL COMPONENTS OF THE SPACE. WHAT ARE THE CONNECTIONS TO THE WALL? PROGRAM? THE SPACE? INTERACTIONS WITH THE WALL FROM THE HOUSE AND VICE-VERSA? ALL OF THESE ARE CRITICAL QUESTIONS THAT NEED TO BE ANSWERED FROM AN ARCHITECTURAL, A SOCIAL, AND OPTIMAL POINT OF VIEW.



[FIGURE 33]

[DESIGN METHODOLOGY: HOUSING EXPLORATION]

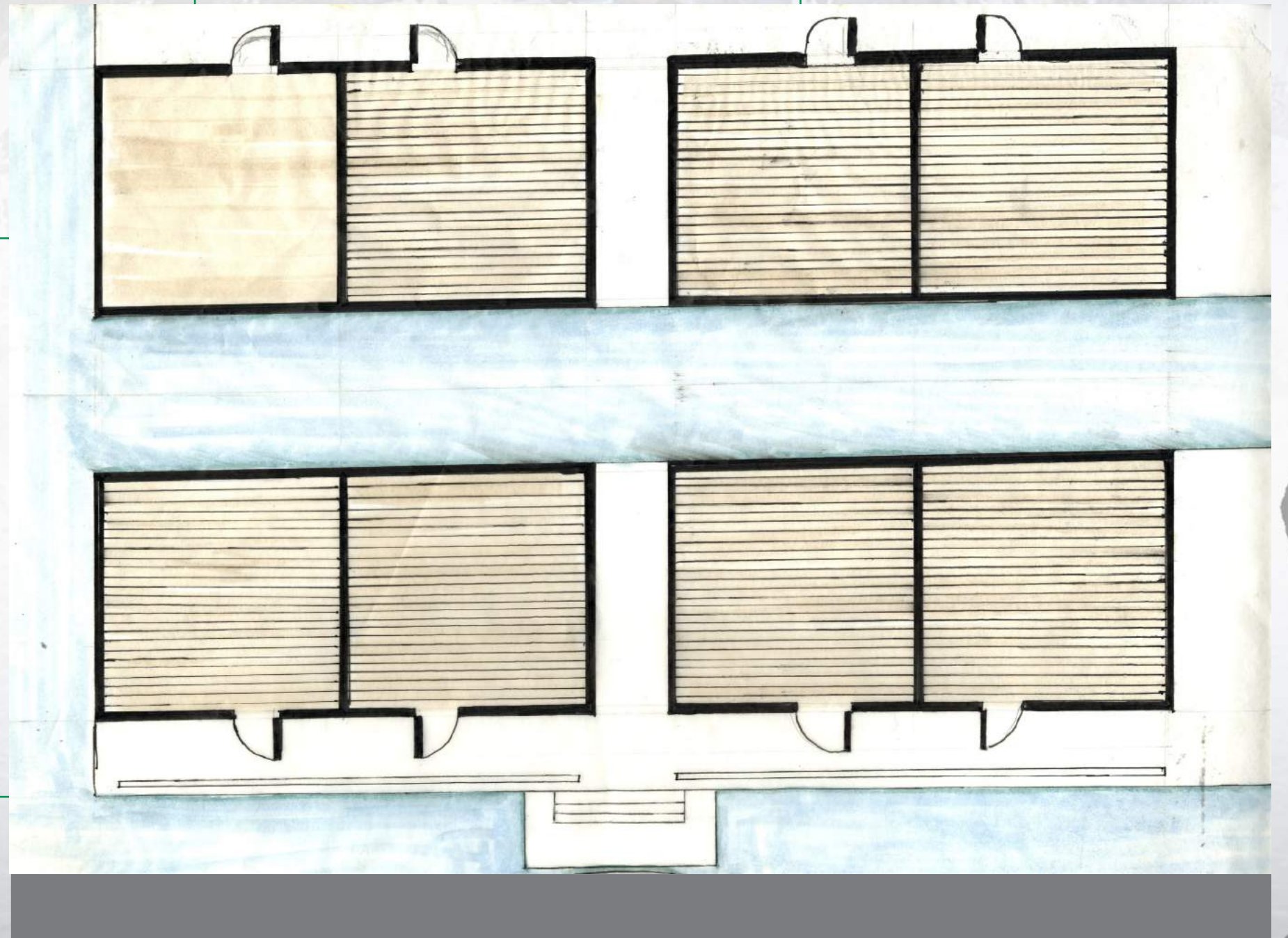
FURTHER EXPLORATIONS OFFERS DIFFERENT WALL DESIGNS AND DETAILS OF OPEN SPACES BETWEEN, UNDER AND AROUND. THE PUSHING, PULLING, INDENTING, AND DIMENSIONS OF THE WALL AND HOME ITSELF CREATES VARIETY WITHIN THE DESIGNS OF HOMES.



[FIGURE 34.]

[DESIGN METHODOLOGY: EXPLORATION]

MOCK EXPLORATION OF PLANS AND SPACE OF THE HOUSING UNITS. MADE TO SHOW SCALE AND POTENTIAL RELATIONSHIP.



[FIGURE 35]

[DESIGN METHODOLOGY: EXPLORATION]

EXPLORATION OF THE EFFECTS DIFFERENT WALLS CAN HAVE ON WATER. MAPPING OUT THE CHANGES AND ORGANIZING THEM IN A SUPERIMPOSED MANNER



[FIGURE 36]



[FIGURE 37]

[DESIGN METHODOLOGY: EXPLORATION]

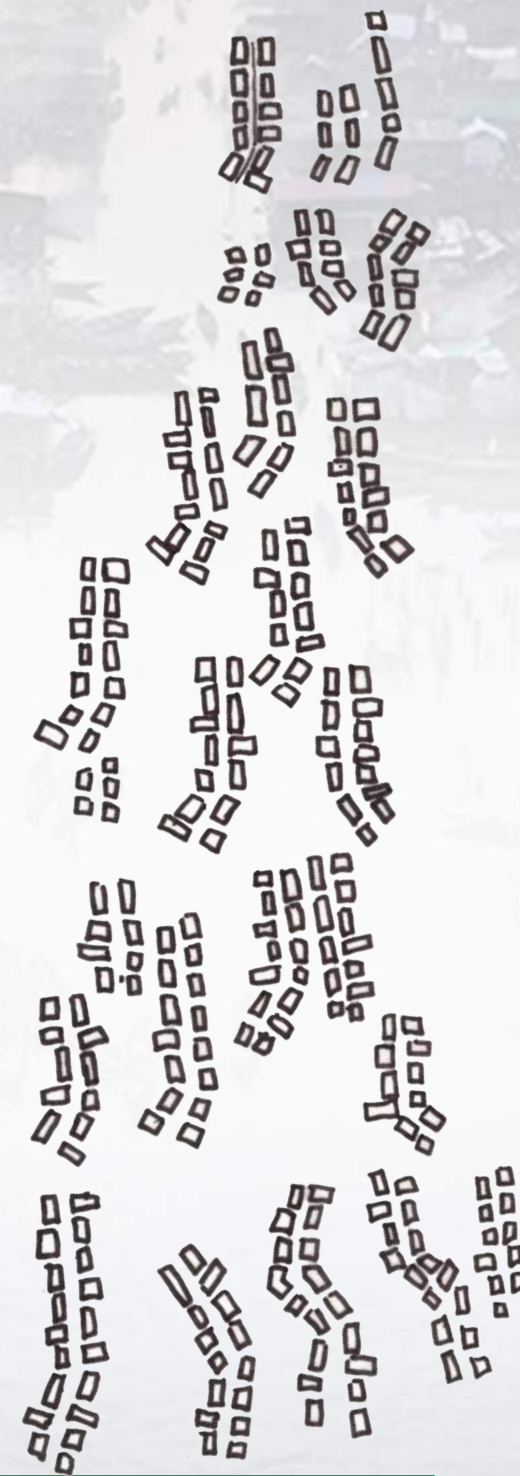
EXPLORATIONS ON PROGRAM ENSUE, WORKING TO DISCOVER THE WAYS ALL DESIRED PROGRAM THAT IS NECESSARY TO MAINTAIN DAILY LIFE WITHIN MAKOKO CAN BE PRESERVED, ALL WITHIN A 15' X 15' AREA



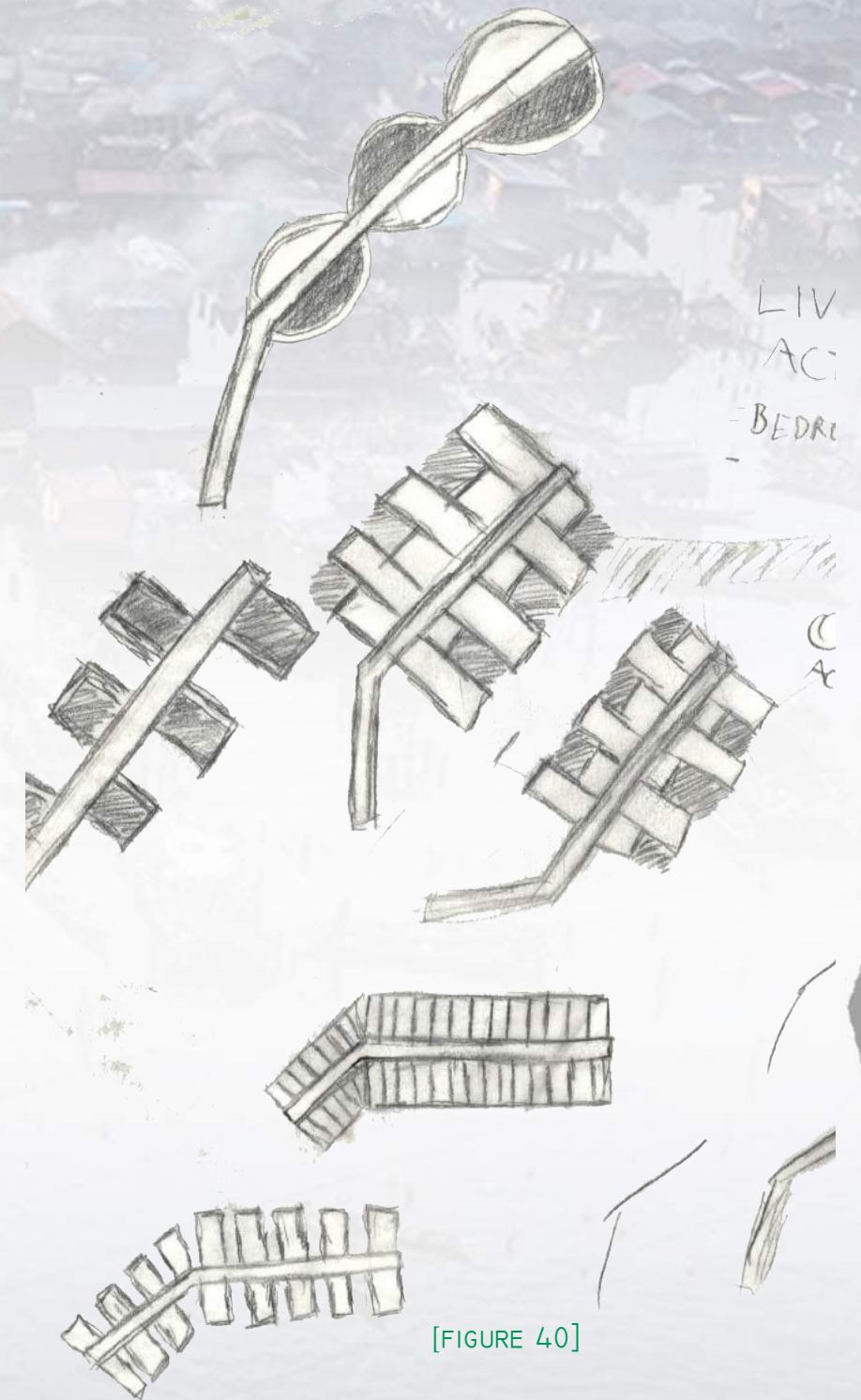
[FIGURE 38]

[DESIGN METHODOLOGY: EXPLORATION]

EXPLORATION OF THE EFFECTS DIFFERENT WALLS CAN HAVE ON WATER. MAPPING OUT THE CHANGES AND ORGANIZING THEM IN A SUPERIMPOSED MANNER



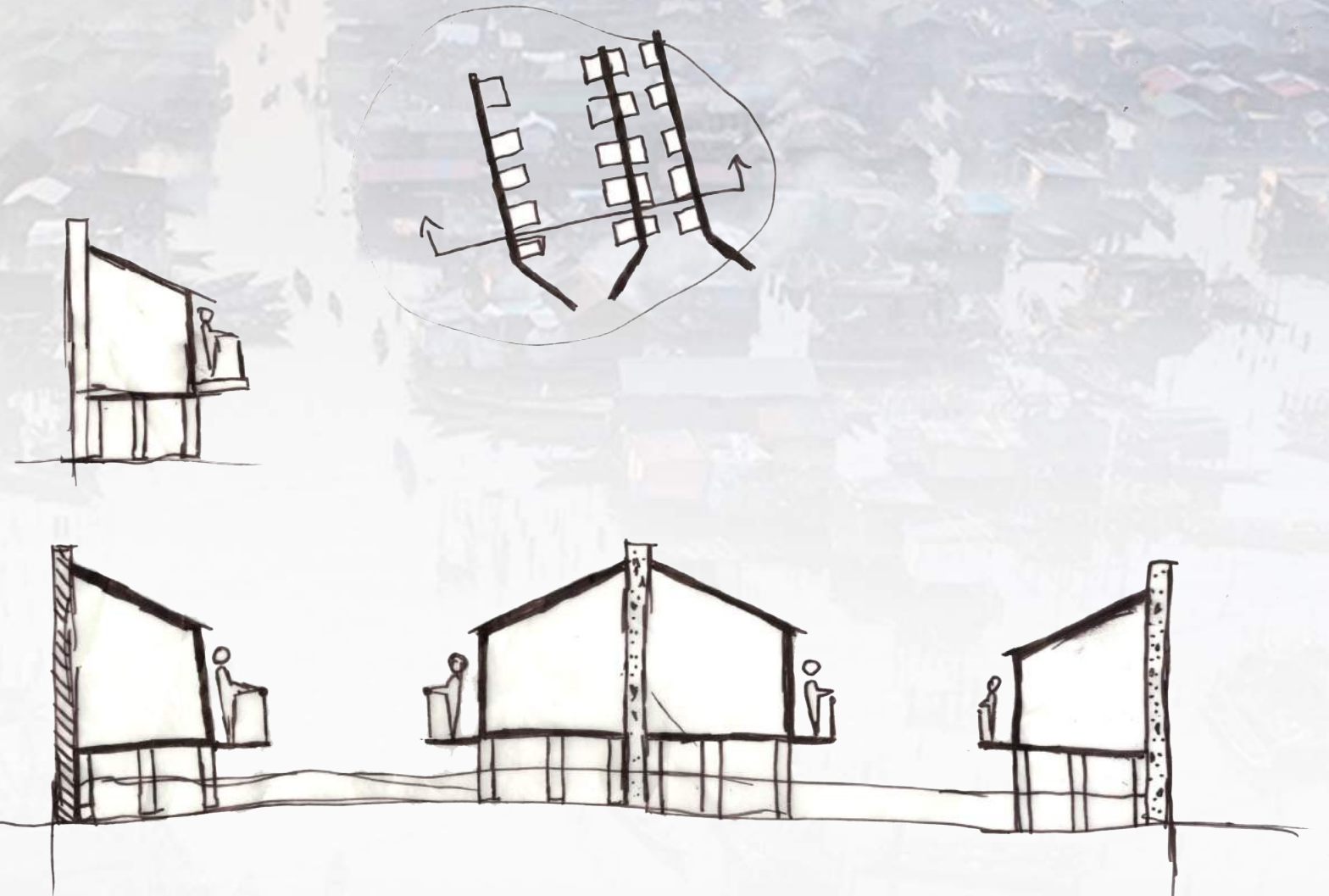
[FIGURE 39]



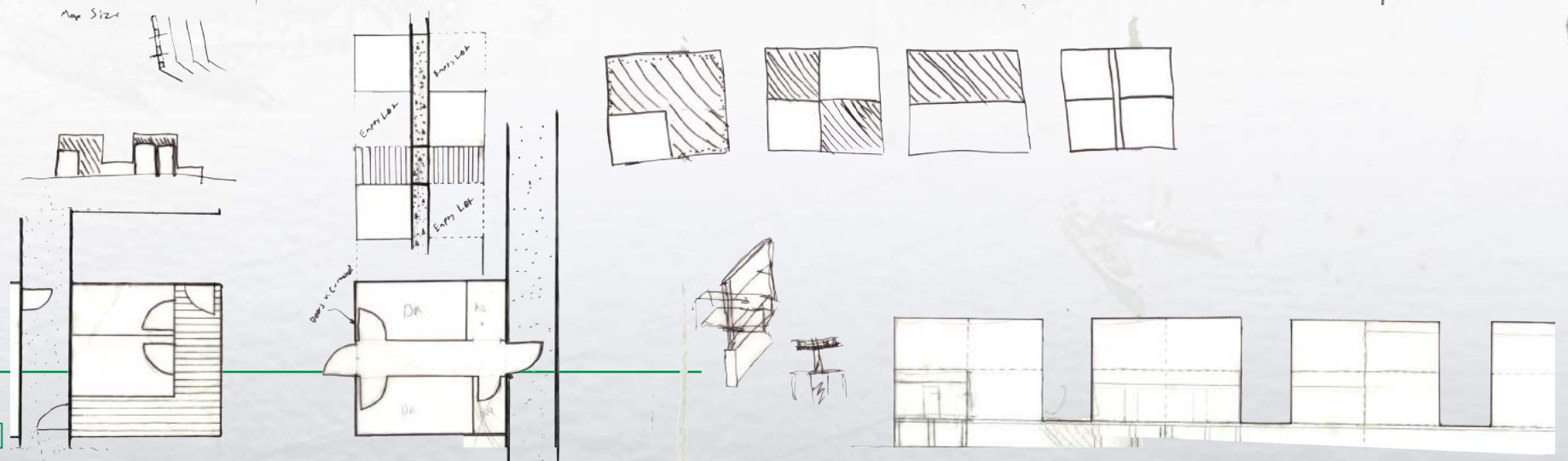
[FIGURE 40]

[DESIGN METHODOLOGY: EXPLORATION]

FURTHER EXPLORATIONS AND DETAILS INTO PROGRAM. HAVING A SMALL HOUSE USING 15 X 15 PARAMETERS, ONLY SO MUCH CAN FIT INTO THE HOUSING UNIT. THE IDEA IS TO OPTIMIZE. IN MAKOKO LIFE, RESIDENTS DO NOT SPEND MUCH TIME INSIDE. OUTSIDE OF SLEEPING AND BATHROOM USAGE, THE ACTIVITIES ALL HAPPEN OUTSIDE THE HOMES. FOR OPTIMIZATION PURPOSES, LIMITING THE INTERIOR SPACE TO BEDROOMS AND BATHROOM USAGE SEEMED MOST APPROPRIATE. THE WALL THAT GUIDES THE CURRENT OFFERS FOUR SEPARATE LOTS. THE IDEA IS TO OFFER EXPANSION FOR RESIDENTS WHEN NECESSARY AND WHEN POSSIBLE, AND TRULY CREATE A COMFORTABLE INTERIOR SPACE WHILE ALSO OPTIMIZING IT.

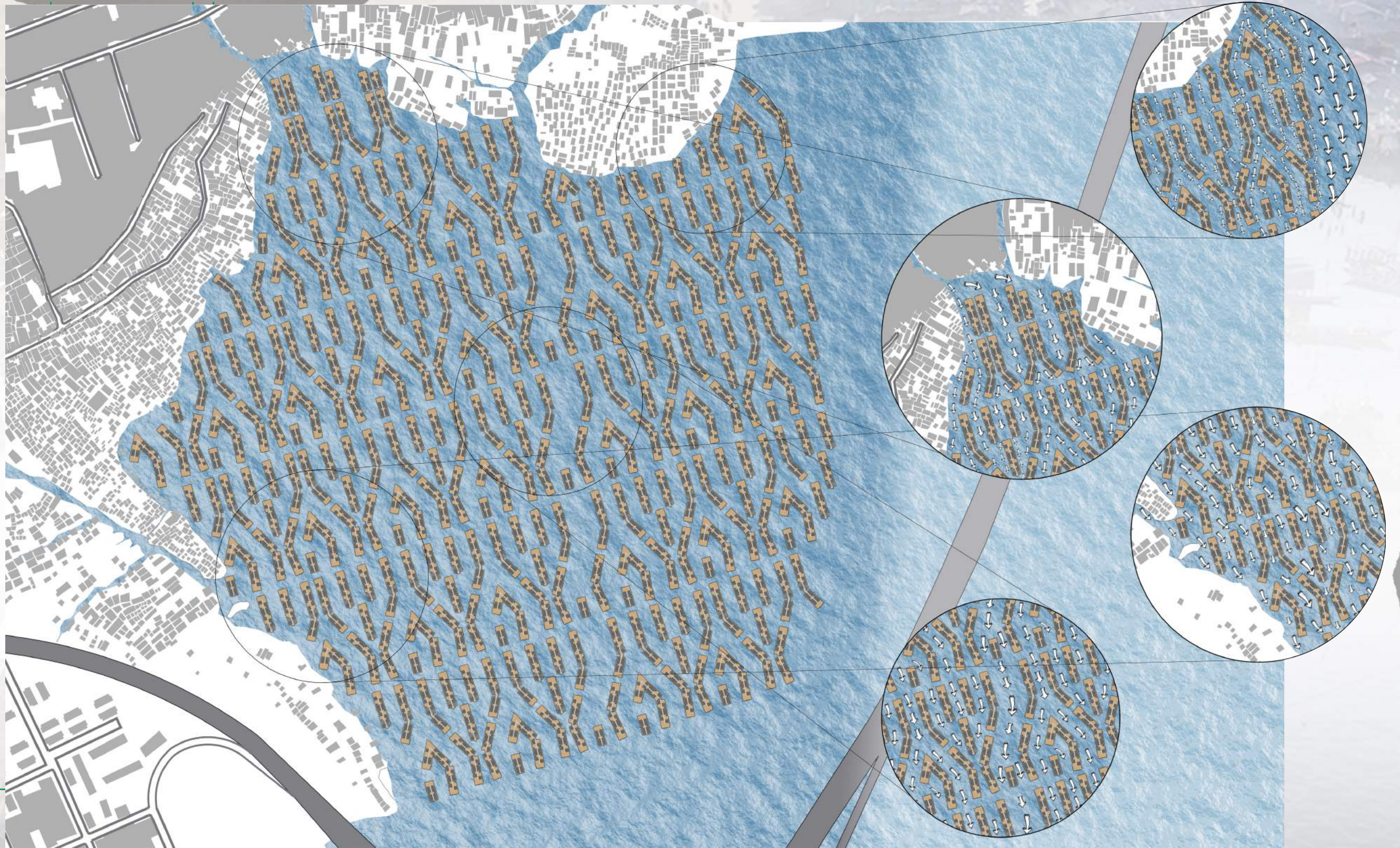


[FIGURE 41]



[FIGURE 42]

[DESIGN METHODOLOGY: EXPLORATION]



[PROPOSED SITE PLAN]

[REFINED RESULTS]

CHAPTER 5

- THE SITE IS NOW DIVIDED INTO ISLANDS WHICH DESIGN IS BASED ON THE PREVIOUS CURRENT EXAMPLES STUDIED OUT. THESE ISLANDS ARE HOME TO UP TO 48 SEPARATE FAMILY HOMES AND ALSO BUSINESSES IF DESIRED BY THE TENANT.

- THE MATERIAL CONSISTS OF A WOODEN DECK ON THE EXTERIOR BORDERING A 5 FT. CONCRETE WALL. THE DECK IS THE PRIMARY PORTION OF CIRCULATION, AS THE HOUSES AND OPEN SPACES ARE BUILT UPON THEM. THE CONCRETE WALL ACTS AS A WAY TO CONTROL THE CURRENT, OR RATHER KEEP IT FROM BEING DISTURBED SO TRASH DOES NOT GET STUCK UNDER HOMES AGAIN. IT IS AN INNER HALLWAY FOR RESIDENT ON THE FIRST FLOOR AND A MAJOR STRUCTURAL OBJECT WITHIN THE ENTIRE ISLAND.

- THE ERECTED WALLS ACT AS FOUR POTENTIAL LOTS FOR EACH RESIDENT, EIGHT FRONT AND BACK. THE HOMES ARE DEPENDANT ON EACH INDIVIDUAL FAMILY, BUT THE BASIC DEFAULT AND OPTIMAL LAYOUT IS ALREADY DESIGNED FOR THEM. THEY HAVE THE OPTION TO EXPAND HOW THEY WOULD LIKE, AS LONG AS THEY HAVE BOTH THE FUNDS AND THE SPACE TO DO SO. THEY CAN CHOOSE TO PURCHASE THE LOTS, AND THEN PAY FOR THE CONSTRUCTION LATER, OR PLAN TO BUY BOTH AT A TIME.

- EACH HOME HAS SLOPED CORRUGATED ROOFING THAT ACTS AS A RAIN WATER COLLECTION UNIT FOR EACH WALL. THIS PROVIDES THE SPACE WITH A COMMUNAL WATER COLLECTION THAT BENEFITS THE COMMUNITY AS A WHOLE.

- WITH THE REVIVAL OF THE WATER, MORE ORGANIZED AND AESTHETICALLY PLEASING HOMES, IN COMBINATION WITH THE ALREADY LIVELY COMMUNITY, THIS IS BOUND TO BRING IN MORE OUTSIDER TO THE AREA. ATTRACTING TOURISTS, ONCE AGAIN, BRINGS BOTH TOUR GUIDES (ANOTHER JOB) AND MORE REVENUE TO THE AREA AS A WHOLE.



- THE TOP OF EACH WALL CONTAINS SOLAR PANEL UNITS. BEING ABLE TO USE THE MASSIVE SOLAR EXPOSURE TO OUR ADVANTAGE CAN PROVIDE EACH ISLAND WITH AN EXCESS AMOUNT OF POWER THAT THE MAINLAND REFUSED TO GIVE TO THEM. THIS LEAVES ANY GENERATOR WORK THEY NEED SIMPLY AT LIGHT.

- THE TOP OF EACH WALL CONTAINS SOLAR PANEL UNITS. BEING ABLE TO USE THE MASSIVE SOLAR EXPOSURE TO OUR ADVANTAGE CAN PROVIDE EACH ISLAND WITH AN EXCESS AMOUNT OF POWER THAT THE MAINLAND REFUSED TO GIVE TO THEM. THIS LEAVES ANY GENERATOR WORK THEY NEED SIMPLY AT NIGHT.

-PREVIOUSLY, HUMAN WASTE AND TRASH TYPICALLY WENT INTO THE LAGOON. NOW, HUMAN WASTE GOES INTO A COLLECTION CHAMBER THAN CAN BE ACCESSED ON THE OUTSIDE OF THE HOUSE. WORKERS FROM A FACILITY WHO S JOB WOULD BE TO COLLECT THE WASTE. THE IDEA BEHIND THIS IS TO FIND A DETERRENT TO THROWING ORGANIC OR OTHER TRASH AWAY IN THE OCEAN. COLLECTING THE WASTE ALLOWS THE AREA TO RECYCLE AND PUT IT BACK INTO THE COMMUNITY FOR GOOD USE. USING THE PROCESS OF BIOGAS TO COLLECT A SOURCE OF RENEWABLE ENERGY. BEING ABLE TO USE IT AS FERTILIZER FOR GARDENS THAT SOME RESIDENTS MAINTAIN, AND EVEN ALLOW THE OPPORTUNITY TO PLANT MORE GARDENS.

- REMOVING THE POLLUTION FROM THE OCEAN REQUIRES PEOPLE. THIS INCREASES THE AMOUNT OF JOBS AND DIFFERENT TRADE THERE. IT ALSO RETURNS THE FISH POPULATION TO THE LAND, MAKING FISH EASIER TO CATCH AND MUCH MORE ABUNDANT, BOOSTING UP SALES AND REVENUE.

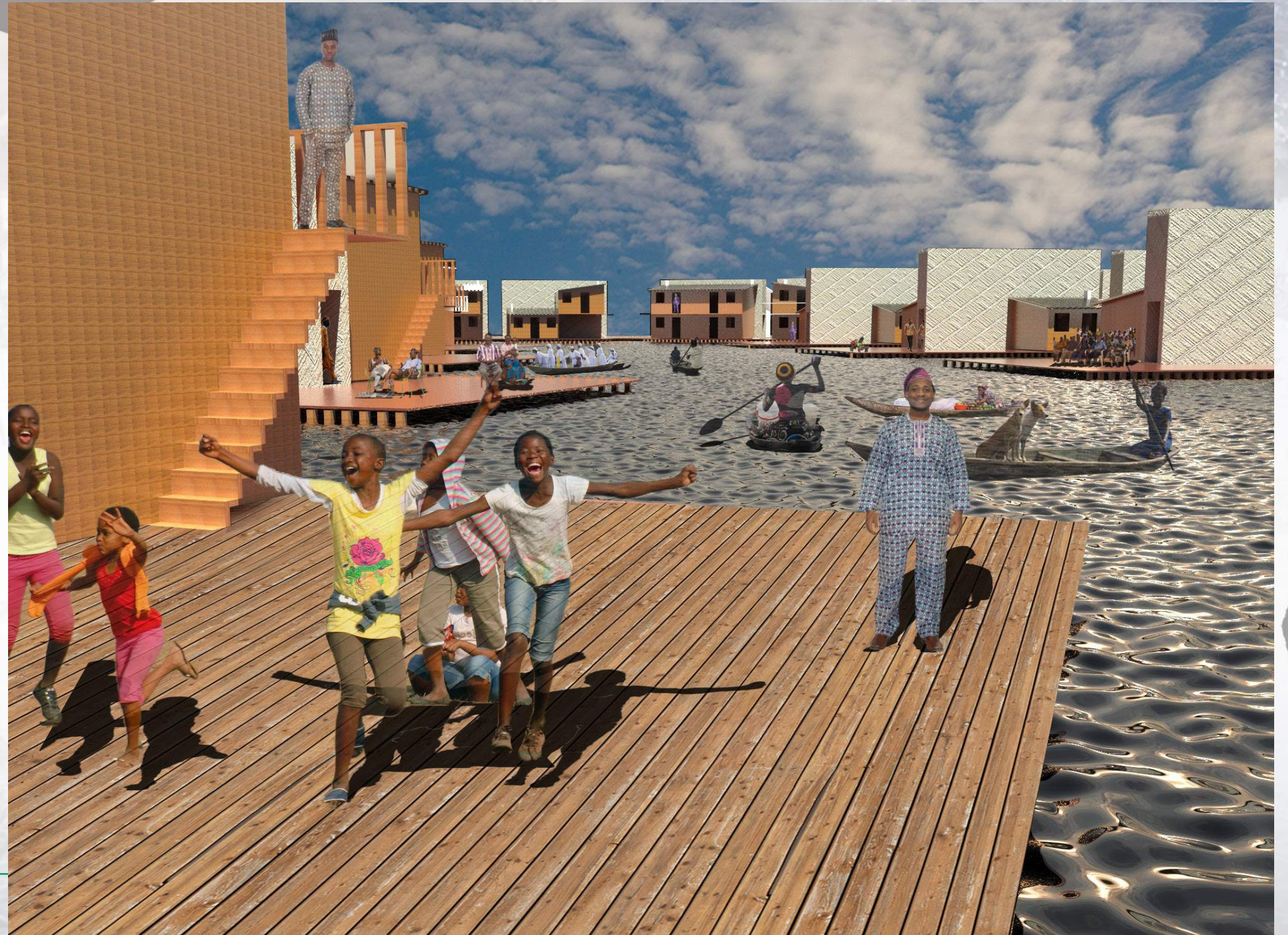
- EACH HOUSING CONTAINS TWO BEDROOMS AND A BATHROOM, ALONG WITH AN OUTDOOR AREA TO DO CERTAIN ACTIVITIES LIKE WASHING, DRYING, COOKING, ETC.

- EACH ISLAND COMES WITH TWO COMMUNITY SPOTS FOR THE ISLAND THEMSELVES. THE AREA IS A VERSATILE FUNCTION. IT CAN ACT AS A GATHERING SPACE TO HOLD COMMUNITY MEETINGS AMONG BAALE'S, OR A PLACE FOR CHILDREN TO EXERCISE, DANCE, ETC.

[PROPOSED FLOOR PLANS (EXAMPLE)]

- MULTI-USE SPACE AT THE END OF MOST HOUSING TO SUIT WHATEVER NEEDS ARE NECESSARY, WHETHER IT BE LOUNGE OR FORMAL.

- DESIGN IS MEANT TO RETAIN THE SENSE OF INTIMACY AND NEARNESS THAT THE COMMUNITY ALREADY HAS, WHICH IS A MAIN FACTOR IN WHAT KEEPS THE COMMUNITY THRIVING.



[RENDERS]

- WATER HARVESTING SYSTEM PROVIDES WATER FOR LATER RE-USE WHICH INCLUDES COOKING, SHOWERING, AND CLEANING

- NEW "ARTERY" OR WATERWAY FORMED BY THE NEW DESIGN. THE PATTERN OF THE PROPOSED SITE ALLOWS FOR IT TO TAKE FORM NATURALLY BASED ON THE CURRENT TO RELEASE ANY FLOW. SIMILAR TO HOW MAKOKO WAS CURRENTLY FORMED NOW.



[RENDERS]

- CERTAIN SPACES WITHIN THE AREA CAN ACT AS A COMMUNAL/COMMERCIAL BUILDING RATHER THAN A HOUSING UNIT. THESE SPACES VARY FROM BIOGAS FACILITIES, USED TO MAINTAIN AND FACILITATE THE PROCESS, TO MARKETS AND GARDENING SPACES TO SELL HOME GROWN/MADE PRODUCTS.



[RENDERS]

- EACH ISLAND HOLDS A COMMUNAL SPACE THAT HAS MULTIPLE PURPOSES, VARYING FROM A MEETING SPOT, TO A CHILDREN'S PLAYGROUND

- CONCRETE WALLS ALSO SERVE AS AN ULTERIOR SPACE FOR CIRCULATION. PROVIDING A MORE PRIVATE ACCESS TO AND FROM EACH INDIVIDUAL HOME AND BUILDING WHILE MAINTAINING ITS MAIN FOCUS AS THE STRUCTURE OF THE AREA



[RENDERS]

- PHOTO-VOLTAIC CELLS ATOP EACH LOT WALL PROVIDES AN EFFICIENT ENERGY SOURCE THAT THE MAINLAND DOES NOT PROVIDE; ELECTRICITY. ALLOWS THE USE OF IT BY DAY, AND THE USE OF GENERATORS BY NIGHT, WHICH IS AN ACTION THAT THE CITIZEN OF THE LAND ARE ALREADY ACCUSTOMED WITH.



[RENDERS]



[CONCLUSIONS]

THROUGHOUT THIS THESIS, THERE IS STILL THE QUESTION THAT BEGS TO BE ANSWERED: DOES REBUILDING AND REDESIGNING THE HOMES IN A SLUM WITH ADDED DEVICES ACTUALLY REMEDY THE CURRENT SLUM SITUATION? DOES THIS NEW PRACTICAL APPLICATION SUCCESSFULLY REDEFINE THE MEANS AND CONDITIONS OF BEING A "SLUM"? DOES IT DO THIS WHILE REMAINING INDIGENOUS TO THE CULTURE, FEASIBLE FOR CONSTRUCTION AND PURCHASABLE BY THE COMMUNITY TO USE? IN OTHER WORDS, DID THE THEOREM WORK IN THE PRACTICAL PORTION?

THE THESIS DID NOT ACCOMPLISH WHAT IT SET OUT TO DO ENTIRELY. WHILE THE REDESIGNING OF MAKOKO HOUSING THEORETICALLY HAD A HUGE IMPACT ON THE ENVIRONMENT AND THE LIFESTYLE OF MAKOKO ENTIRELY, IT IS SOMETHING THAT WOULD NOT BE ABLE TO BE ACCOMPLISHED BY THE HOUSING ALONE. EVEN THOUGH IT WAS WHAT WAS MOSTLY ADDRESSED, IT STILL INVOLVED AND RELIED ON PROGRAMMING OUTSIDE THE HOME IN AREAS SUCH AS BIOGAS CENTERS. SO WHILE THE HOUSING PROVIDED THE ANSWERS MAKOKO MAY HAVE NEEDED, THEY COULD NOT SOLELY RUN A CITY. OTHER BUILDINGS WITH PROGRAM ARE NEEDED TO ACCOMPLISH THE REVITALIZATION OF A SLUM.

[CONCLUSION]



CITY BY THE SEA

Restoring The Vibrance Within A Water Based Community

Site: Lagos & Africa

178 MILLION NIGERIAN CITIZENS

2.8% Growth Rate

Site: Makoko & Its Conditions

Site: Makoko's Housing Conditions

CITY BY THE SEA

Restoring The Vibrance Within A Water Based Community

Site: Program & Traffic

Site: Makoko's Housing Conditions

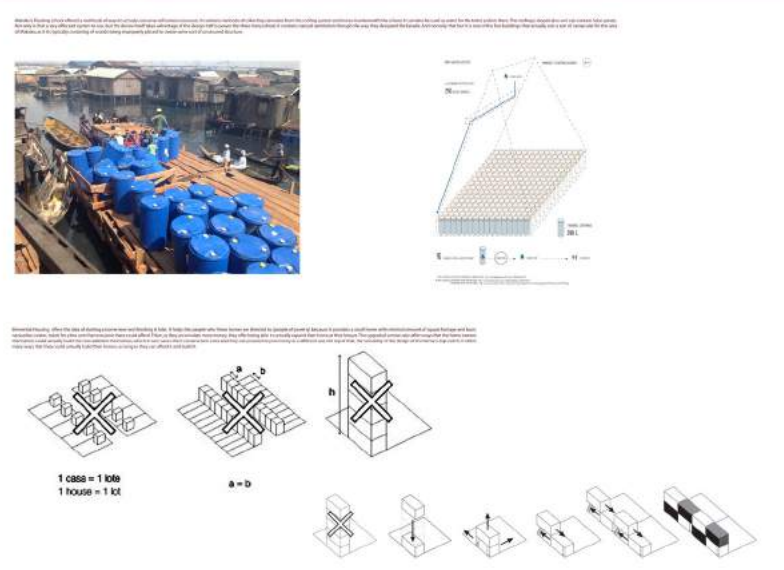
CITY BY THE SEA

Restoring The Vibrance Within A Water Based Community

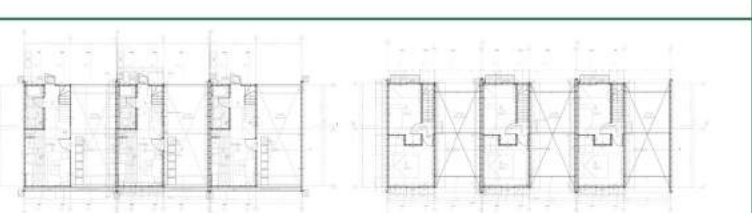
Case Study One: Elemental



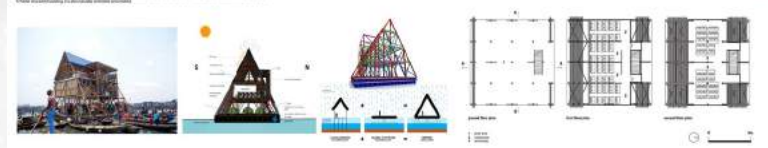
Case Study Takeaways/Applications



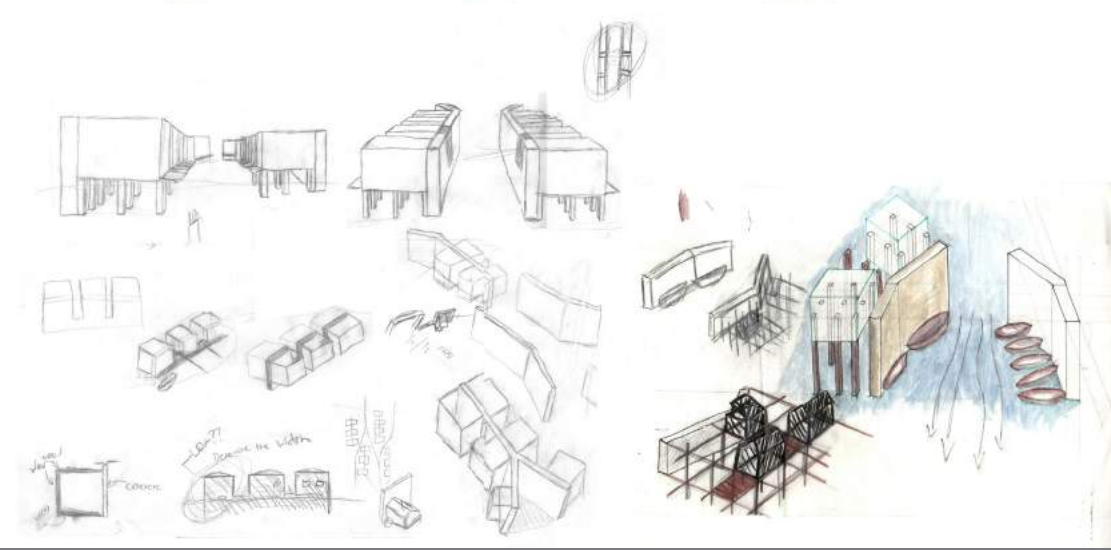
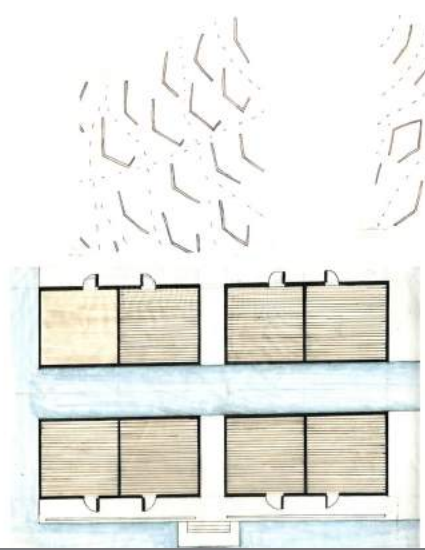
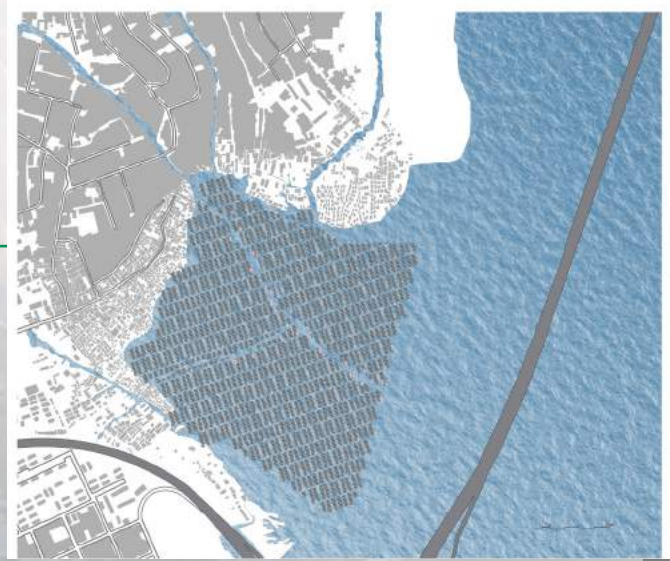
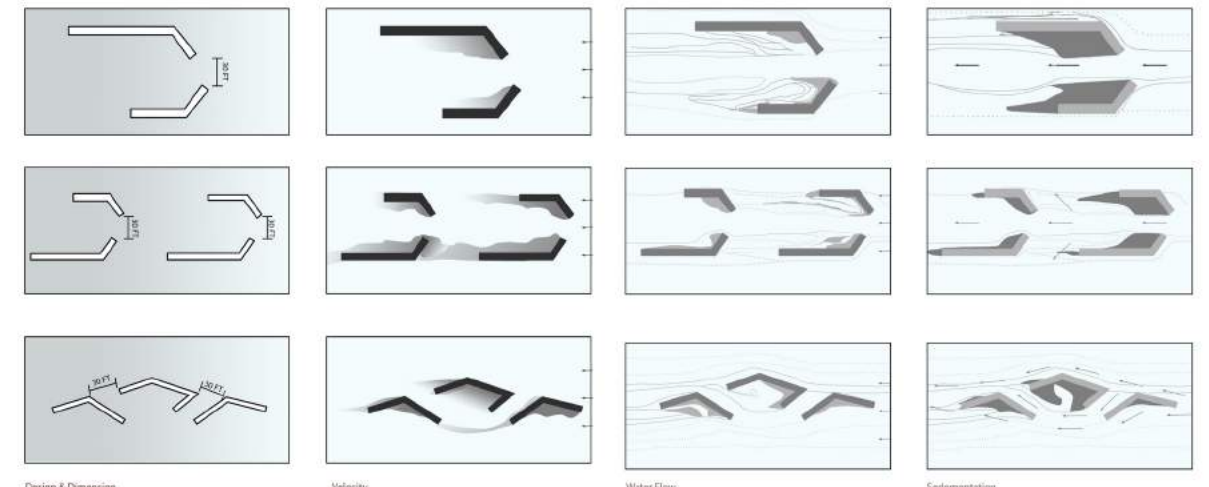
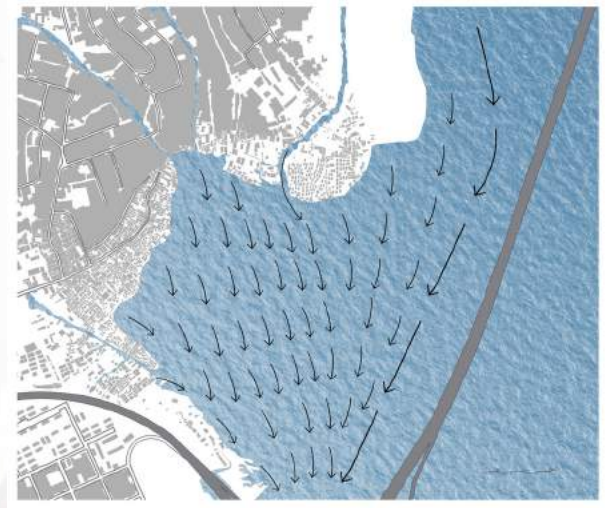
Case Study Two: Villa Verde



Case Study Three: Makoko Floating School



Design Methodology: Site Plan Layout & Wall Application (1st Iteration)



CITY BY THE SEA Restoring The Vibrance Within A Water Based Community

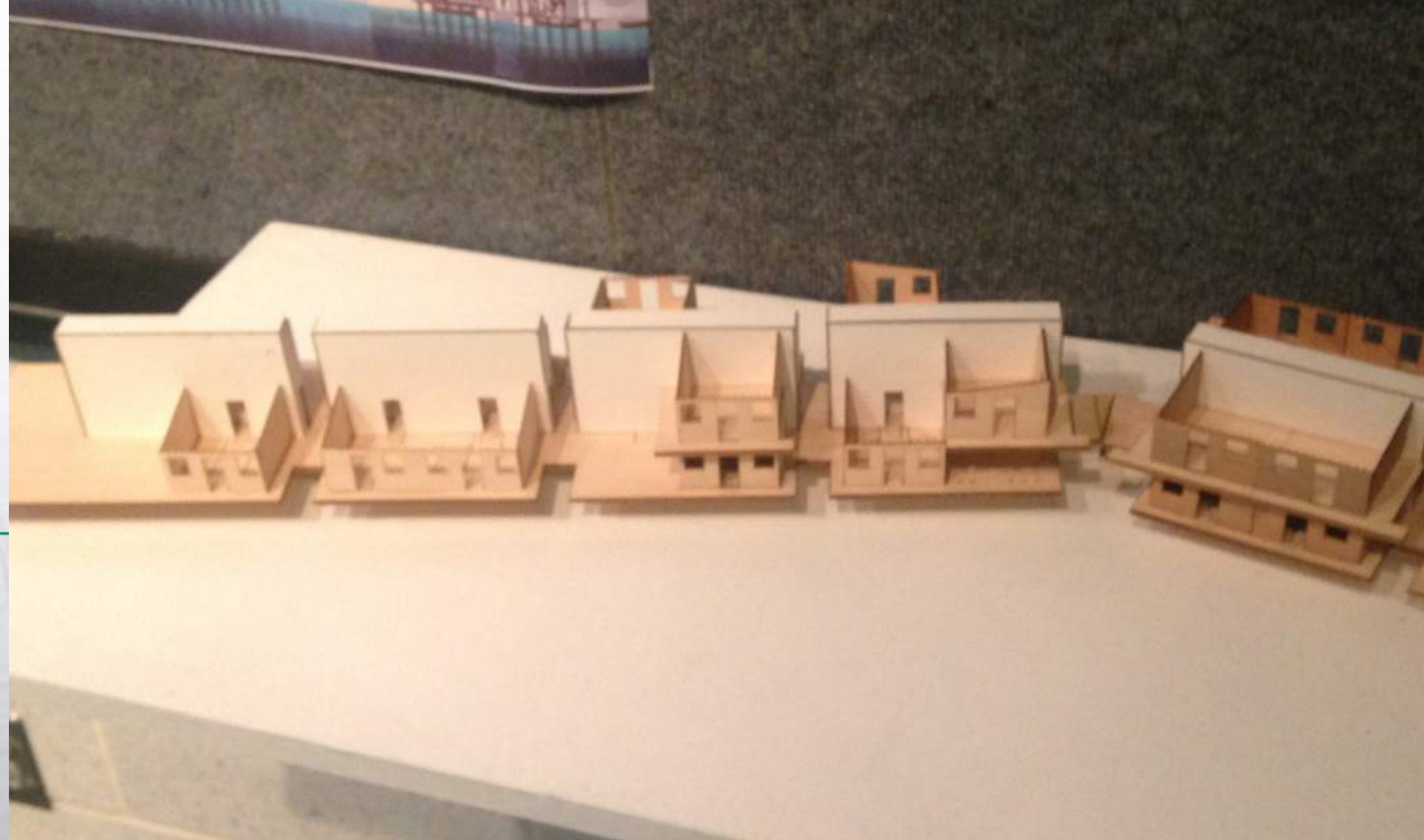
Design Conclusion

The top section of the board features five circular diagrams illustrating a water-based urban layout. Each diagram shows a cluster of buildings on stilts in a body of water, with boats and walkways. Lines connect these diagrams to photographs of a physical architectural model or digital renderings of the proposed community. The photographs show people walking on a wooden pier, a street scene with boats, a person carrying a basket, a person in a doorway, and a physical model of the buildings.

Quality of Life Cycle

The bottom section of the board features a circular diagram with 'Quality of Life Cycle' at the center. The diagram is surrounded by various icons representing different aspects of life and environment, such as a house, a person, a camera, a dollar sign, a water drop, a fish, a recycling symbol, and a leaf. Lines connect these icons to descriptive text blocks, providing a comprehensive overview of the project's goals and benefits.

[PRESENTATION BOARDS]



[MODEL PHOTOS]

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