**WORK SHEET STRATGY SOLUTION FOR THE DEVELOPMENT OF MAROU VILLAGE IN FIJI**

**1-INTRODUCTION:**

**IN OUR VISION FOR THE DEVELOPMENT OF MAROU WHICH WILL INCLUDE A STRATEGY FOR GENERATION OF ELEC . AND DISCOVER A WAY TO CREATE OR COLLECT OR SAVING WATER FOR THE WHOLE VILLAGE NOT ONLY FOR THE CURRENT SITUATION BUT ALSO FOR THE PEOPLE GROWTH IN THE FUTURE WHICH WILL NEED MORE RESOURCES TO REACH THIS DEVELOPMENT.**

**2- THE OBJECTIVE :**

**IS SUSTAINABLE DEVELOPMENT TO THE VILLAGE ALL INCLUSIVE (ENERGY, WATER, SOCIAL, URBAN,ECHONOMICAL AND ENVIRONMENTAL) IN THE FRAME OF THE VILLAGE IDENTITY IN THE NEAR AND FIJI IDENTITY IN THE FAR**

**3-THE YEAR OF THE OBJECTIVE :**

**STARTING FROM TO DAY IS JUNE 2035**

**4- THE CHALLENGES:**

**IN OUR VISION IN ORDER TO REACH A FULL AIME WHICH IS SUSTAINABLE DEVELOPMENT TO THE VILLAGE ALL INCLUSIVE (ENERGY, WATER, SOCIAL, URBAN, ECONOMICAL AND ENVIRONMENTAL) IN THE FRAME OF THE VILLAGE IDENTITY IN THE NEAR AND FIJI IDENTITY IN THE FAR**

**WE HAVE TO STUDY THE SITUATION IN THE VILLAGE AND TO DISCOVER THE OBJECTIVES AND TO DISCOVER WHAT IS THE CHALLENGES IN ORDER TO REACH OUR OBJECTIVES OR TARGETS**

**1ST OF ALL THERE IS A BIG SHORTAGE OF WATER**

**WHICH IS THE ESSENTIAL ELEMENT FOR EXISTENCE FOR THE HUMAN RACE WITH NO PLANE FOR COLLECTION AND USAGE .**

**2ND THE POWER OR THE**

**ENERGY WHICH THERE IS NO SOURCE FOR IT IN THE VILLAGE WITH A BIG SHORTAGE WHICH PREVENTS ANY ECONOMICAL OR SEMI INDUSTRIAL OR EVEN COMMERCIAL IN THE VILLAGE ALSO THE MOST IMPORTANT THING THE SUSTAINABILITY OF THE PRODUCTION OF THE ELEC . SOURCE WHICH IS EVEN MORE ESSENTIAL DUE TO THE SHORTAGE OF THE FUND FOR IT**

**3RD THE URBAN FABRIC**

**THERE IS NO CLEAR OR OBVUES URBAN FABRIC WHICH SHOWS THE VILLAGE WITH THE KNOWN HIGHRARCHY WHICH LETS THE FOLLOWING CLUSTERS THEN RESIDENTIAL GATHERING WHICH ORGANIZE THE RESIDENTS AND LET THE VILLAGE PLANS FOR THE FUTURE PLANS FOR THE EXTENSIONS ALSO WHICH PREVENTS THE DEVELOPMENT OF THE INFRASTRUCTURE DUE TO UNCLEAR STREETS .**

**4th NO CLEAR ECONOMICAL ACTIVITIES**

**ALTHOUGH THE VILLAGE HAS 2 OR 3 ACTIVITIES WHICH ARE FISHING AGRICULTURE BUT THERE IS BIG SHORTAGE IN TRADING OR DEVELOPING THIS ACTIVITIES DUE TO THE MENTIONED ABOVE POINTS WHICH NEEDS TO BE DEVELOPED OR NEEDS TO HAVE A CLEAR STRATEGY SHOWS HOW TO BE DEVELOPED AND HOW TO BE ESTABLISHED IN A MODERN SUSTAINABLE WAY WITH LESS ENERGY AND LESS CONTRIBUTION IN THE ENVIRONMENT**

**AND ACCORDING TO THE MENTIONED ABOVE POINTS WE WENT TO THE FOLLOWING CONCLUSION:**

**WE NEED A FULL DETAIL COMPREHENSIVE SUSTAINABLE PLANE IN ORDER TO DEVELOP THE VILLAGE TO BE AN EXAMPLE FOR THE OTHER VILLAGE FOR THE WHOLE DEVELOPMENT OF FIJI:**

**WE WILL WORK IN FOUR PARALLEL LINES AND PLANS WHICH ARE :**

**1ST URBAN DEVELOPMENT**

**2ND THE WATER DEVELOPMENT**

**3RD THE ENERGY DEVELOPMENT**

**4TH  THE ECONOMIC DEVELOPMENTS**

**1ST THE URBAN DEVELOPMENT**

**AS WE MENTIONED IN THE CHALLENGES CATEGORY WE STARTED WITH THE URBAN DEVELOPMENT AS THE COMPREHENSIVE DEVELOPMENT CAN’T TAKE PLACE WITHOUT A BASE DEVELOPMENT WHICH IS THE URBAN DEVELOPMENT AS WE CAN’T TAKE PLACE FOR ELECTRICITY OR WATER OR SEWAGE WITHOUT A CLEAR STREETS AND CLUSTERS WITH A MAIN HUB WHICH WILL IMPROVE THE SHAPE OF THE URBAN FABRIC WHICH WILL BE REFLECTED ON BOTH THE CITIZENS ON THE MICRO LEVEL AND THE STRATEGIC PLAN OF THE WHOLE VILLAGE WHICH WILL ALLOW THE DEVELOPMENT IN THE ECONOMICAL ACTIVITIES AS WE DEVELOPED THE EXISTING ACTIVITIES AND ADDED NEW ACTIVITIES LIKE THE TOURISTIC ACTIVITY ,WE STARTED WITH REDESIGNING THE STREETS AS WE TRIED TO GET A STREET NETWORK WHICH WILL DIVIDE THE VILLAGE INTO 8 CLUSTERS WITH A CONNECTION TO THE HARBOR FOR THE EASINESS OF THE TRANSPORTATIONS BETWEEN THE DAMES OR THE WATER SOURCES AND AGRICULTURE ACTIVITY WITH THE HARBOR WHICH REPRESENTS THE TRADE ACTIVITY WITH REFRIGERATORS WHICH ALLOW FOR ENHANCE AND REINFORCE THE TRADE ACTIVITY FOR THE PROSPERITY OF THE VILLAGERS .**

**ON THE OTHER HAND THIS WILL ENHANCE THE CITIZENS RESIDENTIAL PARAMETER ON THE LEVEL OF LIVING AND THE HUMANIZATION.**

**WE CREATED A HARBOR WHICH WILL BE FROM THE AROUND MATERIALS ALL THE FISHERS WILL BE TRANSFERRED TO PARK THERE SHIPS IN THE HARBOR IN ORDER TO BE SAVED IN THE REFRIGERATORS TO BE AN EXPORTING HUB FROM THE VILLAGE FOR THE FISH AND THE AGRICULTURE CROPS, ALSO THIS WILL BE THE CONTACT POINT FOR THE TRANSPORTATION FROM AND TO THE VILLAGE**

**ON THE OTHER HAND OF WE REINVENTED THE SHORES OF THE VILLAGE TO BE REUSED AS A TOURISTIC ACTIVITY WITH THE CREATION OF LINEAR MALDIVIC TYPOLOGY HOTELS WHICH WILL INCREASE THE INCOME AND THE JOBS FOR THE CITIZENS OF THE VILLAGE.**

**THE TOURISTS WILL COME TO THE VILLAGE THROUGH THE HARBOR EITHER BY BOATS OR AMPHIBIOUS SHIPS AND AIR CRAFTS**

**THIS HOTELS WILL BE LAYED OUT ON THE INVESTORS WITH B.O.T SYSTEM (BUILD ,OPERATE AND TRANSFER) AS A RIGHT OF USAGE AND OPERATE FOR 20 YEARS AND AFTER THAT IT WILL BE TRANSFERRED TO THE VILLAGE COUNCIL**

**2ND THE WATER DEVELOPMENT**

**IN OUR SEARCH FOR THE WATER SECURITY FOR THE VILLAGE WE WORKED IN 2 PARALLEL LINE :**

**A-WATER COLLECTION**

**B-WATER EFFICIENCY USE**

1. **WATER COLLECTION: IN THIS SECTOR WE WORKED IN 2 PARALLEL LINES**

**WHICH ARE :**

**1-RAIN WATER COLLECTION**

**2-GROUND WATER EXCAVATION**

**3-WATER PURIFICATION**

1. **RAIN WATER COLLECTION:**

**IN RAIN WATER WE FOLLOWED THE RAIN WATER PLAN ALL THE YEAR ALSO WE SEARCHED FOR THE RAIN WATER TORRENT AND ACCORDING TO THESE INFORMATIONS WE DECIDED TO HAVE A RAIN WATER RESERVOIRS (THESES RESERVOIRS WILL HAVE ANOTHER USES BY GENERATING POWERS) THROUGH BUILDING PRIMITIVE DAMS ON THE WATER TORRENT WAYS THESE DAMES AND AFTER THE LAKES WILL WORK AS A NATURAL COLLECTOR FOR WATER IN ORDER TO BE THE NATURAL RESOURCE FOR WATER IN THE WHOLE YEAR**

**2-GROUND WATER EXCAVATION**

**ACCORDING TO THE REMOTE SENSING PLANS AND TO THE PRIMITIVE WAYS AND AS FOR THE VARIOUS USES LIKE DRINKING AND AGRICULTURES WELLS WILL BE DEGED IN ORDER TO BE ADDED TO THE NATURAL RESERVOIR FOR WATER .**

**3-WATER PURIFICATION**

**THIS IS A WAY WHICH WAS DISCOVERED THROUGH THE MINISTRY OF WATER RESOURCES IN EGYPT IT IS USED TO PURIFY THE WATER FROM THE SEWAGE AND WATER DISMANTLE FROM HOUSES AND LANDS IN ORDER TO BE REUSED FOR HUMAN USES AS IT CAN RECYCLED FOR FIVE TIMES WHICH ALLOW A WISE USE FOR THE RESOURCE AND IN THE FOLLOWING WATER TREATMENT PLAN :**

**NATURAL WATER TREATMENT**

**THE WAY THAT WE WILL SHOW WAS A RESEARCH AND EXPERIMENTED AND APPROVED BY THE MINISTRY OF WATER AND IRRIGATION IN EGYPT IT’S A NATURAL WATER TREATMENT EVEN FROM THE TOXIC AND CHEMICAL COMPONENTS :**

**WE USE 2 ELEMENTS IN IT REED PLANT AND EICHHRONIA PLANT BY THE FOLLOWING WAY:**

**WE DIVIDE THE SECTOR WHICH IS USED FOR TREATMENT INTO 4 SECTORS:**

**WASTE WATER: A PLACE TO COLLECT THE WASTED WATER AND THE WANTED TREATED WATER**

**THEN A PLACE TO PUT THE REED PLANT WHICH BY IT’S LONGITUDINAL LENGTH AND DEPTH THE BACTERIA WHICH IS CREATED ACTS ON EATING AND DECOMPOSING THE TOXIC AND CHEMICAL COMPONENTS IN WATER.**

**THEN THE 3RD SECTOR IS THE EICHHRONIA PLANT SECTOR BY IT’S LONGITUDINAL LENGTH AND DEPTH THE BACTERIA WHICH IS CREATED ACTS ON EATING AND DECOMPOSING THE TOXIC AND CHEMICAL COMPONENTS IN WATER, IT WILL ACT AS A 2ND FILTRATION FOR THE WATER .**

**THE EICHHRONIA AS IT IS FLOATING OVER THE WATER IT IS SUPPORTED TO THE BOTTOM OF THE BASIN BY STEEL BARS TO HOLD IT FROM FLOATING AND SWIMMING WITH THE FLOW.**

**THE 4TH SECTOR IS THE TREATED WATER OR THE RECYCLED WATER THIS PLACE IS THE CANAL**

**THE PLACE THAT ALL THE MENTIONED ABOVE PROCESS WILL TAKE PLACE IS IN THE CIRCULAR COLLECTIVE BASIN**

**B-WATER EFFICIENCY USE**

**ON THE OTHER HAND WE WILL REDUCE THE WATER USAGE THROUGH THE REDUCING THE USAGE BY THE SMART WAYS EITHER IN HOUSE USAGE THROUGH THE FIXTURES LIKE THE DUAL FLUSH TOILETS OR THE USE OF GRAY WATER IN FLUSH TOILETS OR THE BATHTUB OF SPRAY.**

**ALSO THE USE OF WATER IN AGRICULTURE THROUGH THE MODERN TECHNOLOGIES LIKE DROPPING WATER INTO THE ROOTS OF THE PLANTS WHICH USES LESS WATER AND TO DECREASE THE PERCENTAGE OF EVAPORATION ……THIS WAYS SHOULD DECREASE THE USE OF WATER BY 50% WHICH LEEDS TO SAVE THE WATER FOR MORE TIME WHICH MEANS IF THE COLLECTED WATER ENOUGH FOR 8 MONTHS ,THIS TECHNOLOGIES KEEPS IT FOR 16 MONTHS WHICH LET TO REACH THE RAIN TIME AND MAKES A STRATEGIC RESERVE FROM WATER FOR ONE OR 2 YEARS ….ETC.**

**3RD THE ENERGY DEVELOPMENT**

**THIS WORK PLAN FOR THE ENERGY DEVELOPMENT IN THE VILLAGE HAS BEEN EXECUTED ACCORDING TO DURABILITY AND THE SUSTAINABILITY AND THE RESULTS ON THE REAL WORLD ,ALSO WE HAVE THE REASONS THAT PUSHED US TO GO IN THAT DIRECTION AND DECREASE THE RELAYING ON THE SOLAR POWER AND THE WIND POWER ALSO WE KNOW THAT WHAT WE ARE PROPOSING HERE MAY BE NOT IN THE IMAGINATION OF THE DECISION MAKER BUT THIS IS THE MOST EFFICIENT LESS IN COAST HAVE SIDE BENEFITS MENTIONED IN THE PREVIOUS SECTORS AND IN THE FOLLOWING THE PLAN:**

**A-THE ELECTRICITY GENERATION PLAN :**

**WE MENTIONED IN THE PREVIOUS SECTORS THAT WE ARE PROPOSING TO BUILD SMALL DAMES TO SAVE THE VILLAGE FROM RAIN WATER ,ALSO IT HAS ANOTHER BENEFIT WHICH IS MAKE A NATURAL WATER RESERVOIR FOR THE VILLAGE FOR THE WHOLE WEAR KEEPING THE VILLAGE FROM DEHYDRATION IN THE YEARS OF LOW PRECENT OF RAIN.**

**ONE OF THE ESSENTIAL REASONS FOR THE DAMES WHICH IS FROM PRIMITIVE MATERIAL WITH LOW HEIGHT TO JUST KEEP THE VILLAGE ,WHICH IS PRODUCING POWER ,SOME WILL SAY THIS IS INSANE OR CAN’T BE REACHED AS DAMES IS EXPENSIVE AND COMPLICATED ,BUT THE RESPOND ON THAT IS PROPORTION THOSE WHO WILL SAY THAT ARE RIGHT IF WE ARE SPEAKING ON THE SCALE OF RIVERS AND NATIONS WHICH NEEDS BIG STRUCTURE TO FACE A STRONG FLOW OF A RIVER AND STRONG POWER GENERATION TO BE CAPABLE TO SERVE THE WHOLE NATION WITH MILLIONS OF PEOPLE IN ORDER TO GET HIGHT BENEFIT AND MOST BENEFIT OF IT .**

**ON THE OTHER HAND IF TAKE A CLOSE LOOK ON THE VILLAGE AND THE SCALE OF THE CLIMATIC WATER CANAL AND VERY SMALL LAKES THAT WILL BE CREATED BEHIND IT’S TO FAR FROM THE SCALE THAT MENTIONED ABOVE BUT IT SUITS THE SMALL NO. OF CITIZENS IN THE VILLAGE WITH NO SUSTAINABLE RESOURCE OF ELEC.**

**ON THE OTHER HAND SOME WILL SAY THIS SMALL SCALE WILL NOT BE SUFFICIENT TO PRODUCE ELECTRICITY ,BUT THE RESPOND IS THIS WILL BE SUFFICIENT AND CAPABLE FOR THE SMALL NO. OF USERS WHICH ARE THE VILLAGE CITIZENS .**

**BUT WHY HYDRO POWER AND NOT SOLAR OR WIND POWER .**

**IT IS WILL KNOWN THAT SOLAR POWER IS VERY EXPENSIVE DUE TO THE INSTALLATION TECHNOLOGIES ,AND THE BATTERIES NEEDED TO COMPENSATE THE ABSENCE OF THE SOLAR ENERGY DURING KNIGHT OR WINTER CLOUDY DAYS.**

**ALSO WIND POWER ARE MUCH EXPENSIVE AND IT IS NOT SUFFICIENT EITHER IN PLACES WITH NO OR LOW WIND POWER OR CLIMATIC WHICH WILL AFFECT STABILITY OF PRODUCTION .**

**BOTH NEED HIGH EFFICIENT AND EXPENSIVE MAINTENANCE AND IT CAN’T BE INSTALLED AND START PRODUCTION WITHOUT ANOTHER SOURCE FOR ELECTRICITY FROM CARBON FUELS LIKE GAS OR PETROL WHICH DECREASE EFFICIENCY OF THE BOTH SOURCES MAY BE IN THE FUTURE IT COULD BE SOLVED THROUGH NEWER OR CHEAPER TECHNOLOGIES BUT UNTIL THE MOMENT NO CHANGE IN THE ABOVE MENTIONED INFORMATION’S AND ANY NEUTRAL POWER EXPERT WILL SAY WHAT WE MENTIONED**

**SO FOR THE ABOVE REASONS WE DECIDED TO GO IN THAT DIRECTION**

**B-THE NATURAL FUEL PLAN**

**THIS PLAN IS BEING PUT FOR THE USES OF THE INDIVIDUALS IN HOMES AND IN THE MEDIUM USES IN TRADE AND FOR CARS WHICH DECREASE THE RELAYING ON THE CARBON FUELS LIKE PETROL FOR THE HOME USES AND THE TRANSPORTATION ON THE SCALE OF THE VILLAGE ONLY WE AIM TO PRODUCE A SUSTAINABLE PLANE IN THE MENTIONED ABOVE TOPICS IN ORDER TO HAVE A SUSTAINABLE SOURCE FOR BURNING FUELS, THIS PLANE HAS BEEN DEVELOPED BY THE MINISTRY OF AGRICULTURE IN THE EGYPTIAN GOVERNMENT ,AND IN THE FOLLOWING THE PLAN:**

**WE WILL PRODUCE THE METHANE GAS FOR THE USES OF BURNING EITHER IN HOMES OR IN TRANSPORTATION OR THE PRIMITIVE USES IN AGRICULTURE AND THE SMALL INDUSTRIES RELAYING ON IT NOT MORE THAN THAT ,MORE THAN THAT NEEDS ANOTHER WORK PLAN.**

**WE WILL GET A USE FROM HUMAN AND ANIMAL WASTES THROUGH PRODUCING METHANE GAS BY MAKING A NATURAL VERY HIGH PURSER UNDER GROUND ROOM IN EVERY HOME AND FARM THIS ROOM THE WASTES WILL GO TO IT AND UNDER THE HIGH PURSER AND HEAT IT WILL PRODUCE METHANE GAS WHICH WILL BE REVERSED TO THE HOME OR FARM TO USE IT ,FROM ONE SIDE WE WILL GET RIDE OF WASTES THROUGH A SAFE SUSTAINABLE WAY, ON THE OTHER SIDE WE WILL PRODUCE METHANE GAS WHICH HAS LOW CARBON SIDE ,FROM THE OTHER HAND WE HAS A SUSTAINABLE CHEEP RESOURCE OF FUEL WHICH SAVES IMPORTING FUEL FOR TRANSPORTATION WHICH IS VERY ESSENTIAL IN DEVELOPING THE VILLAGE, AND THE MOST IMPORTANT THING IS THE VILLAGE IS RELAYING ON NO BODY OR COUNTRY IN FUEL RESOURCE AND BY SEQUENCE DEVELOPMENT .**

**IN THE FUTURE MAY WE HAVE A NETWORK IN COLLECTING METHANE GAS AND REDISTRIBUTE IT FOR THE INDUSTRIAL USES .**

**SOME COUNTRIES LIKE BRASIL IS RELAYING ON METHANE GAS BY ANIMAL AND AGRICULTURE WASTES LIKE THE WASTES OF SUGAR CAN .**

**4TH  THE ECONOMIC DEVELOPMENTS**

**FROM THE ABOVE MENTIONED 3 POINTS THE ECHONOMIC DEVELOPMENT IS STARTED :**

**As any economic activity needs energy to start and transportation to proceed on with labors who need water to survive and an urban organizing to be organized in the administrative line we can start the economic development.**

**In our vision we developed the existing activities like fishing by adding refrigerators storages for saving the fish for exporting and keeping the goods which will be imported ,we developed the agriculture activities by the water efficiency use which allows to plant the crops through the whole year which allows more production and cheaper in prices this stability allows for more industries relaying on them like the canned fish for fishing activity and milk ,meat and grazing industries allowing for more extra sub activities ,**

**Also vegetables and fruits canning in the future can be adding through the outer investment as the village will be attractive for investors through the freedom of financial capitals and also through developing the three mentioned above points.**

**This for the exciting activities ,but we added an extra activity which is tourism spicily honey moon tourism as the village has good cost line and crystal water with marvels untouched nature which is very suitable for this industry we proposed 2 hotels on the Maldific style letting us for wider horizons as this industry has so many sub industry .**

**The harbor will be like a port for recaptioning them in arrivals and departures and this will let the identity of the village be exported through the culture which will be expressed for the visitor .**

**THE FUNDING FOR THE PROJECT**

**FOR THE PROJECT WE HAVE PUT A FINANCIAL PLAN IN ORDER TO ACHIEVE THE OBJECTIVE WHICH IS THE FULL DEVELOPMENT OF THE PROJECT, AND IN THE FOLLOWING THE FINANCIAL FUND PLAN:**

**A-THE GOVERNMENTAL SUPPORT : THE GOVERNMENT OF FIJI WILL SUPPORT THE PROJECT FINANCIAL BY 25% IN ORDER TO BE AN EXAMPLE FOR THE DEVELOPMENT IN THE WHOLE COUNTRY**

**B-THE INTERNATIONAL N.G.O WILL SUPPORT THE PROJECT BY 35% AS THIS IS AN EXAMPLE FOR HUMAN DEVELOPMENT .**

**C- THE INVESTORS WHO WILL TAKE THE HOTEL AND THE HARBOR BY (THE B.O.T SYSTEM WHICH IS BUILD ,OPERATE AND TRANSFER ) WHICH IS BUILD AND OPERATE FOR 25 YEARS AND THEN TRANSFER TO THE CITY COUNCIL OR THE MUNICIPALITY OR THE FIJI GOVERNMENT ,THIS SHARE IN THE FUND BY 40%**

**BY COLLECTING THE INPUTS FOR THE ABOVE POINTS WE GOT THE RESULTS OF A FUNDING FINANCIAL PLAN FOR REAL ABLE TO BE EXECUTED**