



OPEN SPACES DEVELOPMENT USING GIS

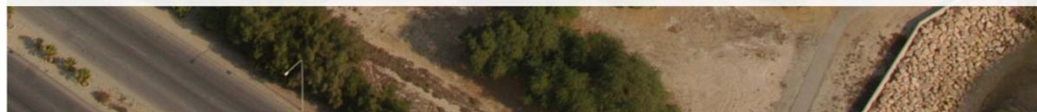
JALMUDAH DISTRICT IN JUBAIL INDUSTRIAL CITY AS A CASE STUDY



A TERM PROJECT IN CRP 514 COURSE : INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS
TERM 112

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INTRODUCTION

OPEN SPACES DEVELOPMENT USING GIS JALMUDAH DISTRICT IN JUBAIL INDUSTRIAL CITY

Jubail Industrial City, JIC

IS NOW A WELL-ESTABLISHED
WORLD-SCALE
PETROCHEMICAL INDUSTRIAL
CENTER .

IT IS SAUDI ARABIA'S LEADING
CENTRE FOR FOREIGN JOINT
VENTURE CAPITAL AND OVERALL
INVESTMENT .

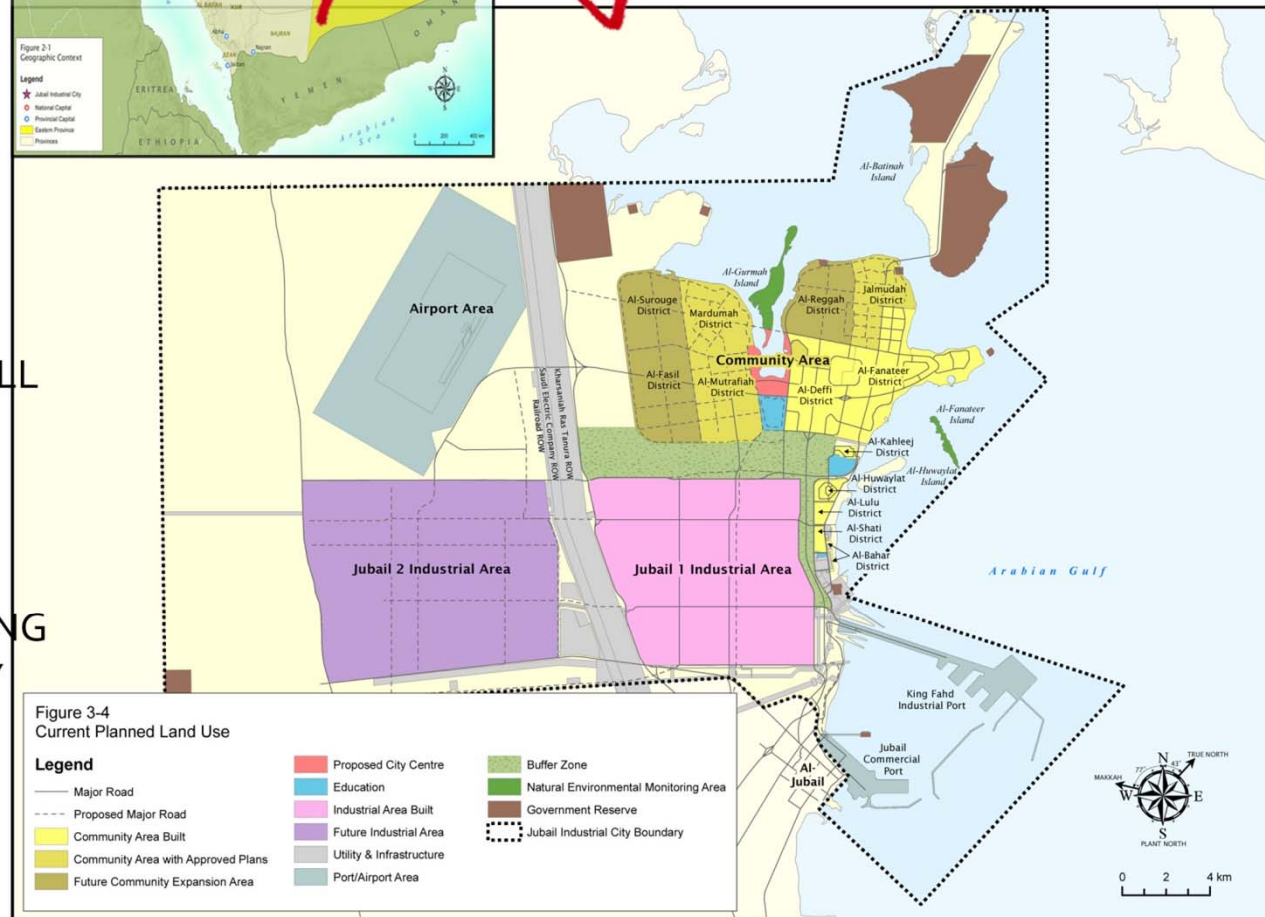
JIC COVERS AN AREA OF
APPROXIMATELY 763 km²
LAND AREA (1016 km² INCLUDING
WATER), WITH APPROXIMATELY
260 km²

DESIGNATED FOR INITIAL
DEVELOPMENT .



DO YOU KNOW THAT

JUBAIL 2 IS EXPECTED TO GENERATED
ABOUT 55,000 NEW DIRECT JOBS
ALONG WITH OVER 330,000
INDIRECT JOBS !!



LAND USE & COMMUNITY

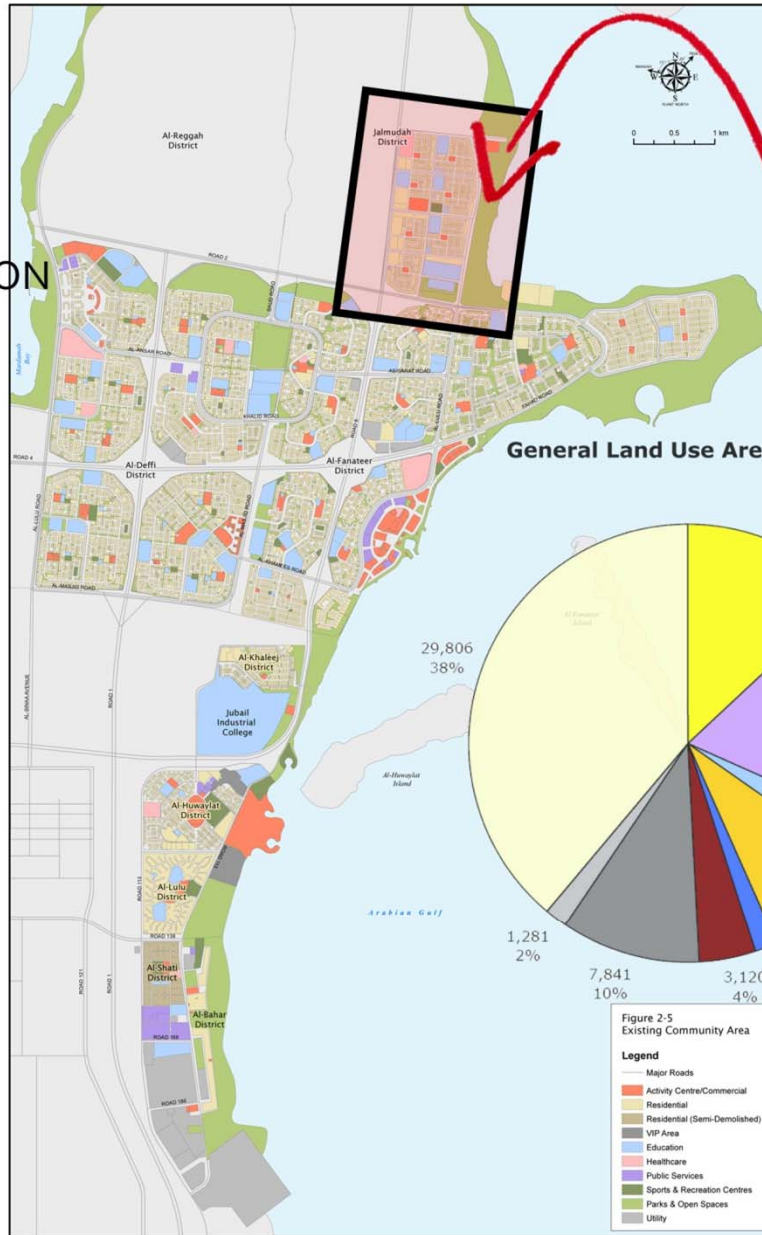
TARGET LAND USE DISTRIBUTION
THE GENERAL TARGET
LAND USE MIX FOR PREPARING
NEW RESIDENTIAL DISTRICT
PLANS SHOULD GENERALLY
BE CONSISTENT WITH THE
FOLLOWING

RESIDENTIAL USES 45%

COMMUNITY USES HEALTH
COMMERCIAL RELIGIOUS
FACILITIES 15%

PARKS AND OPEN SPACE 15%

INFRASTRUCTURE AND ROADS 25%



DO YOU KNOW THAT

RESIDENTIAL AREAS BEING
MADE TO DEVELOP NEW
HOUSING FACILITIES
TO ACCOMMODATE ABOUT
ADDITIONAL 50,000
PEOPLE IN THE NEW 1,000
HECTARE JALMUDAH DISTRICT
OF JUBAIL !!

WHY JALMUDAH ?

AS A NEW DISTRICT
COMMUNITY PLAN IN **JIC**
LONG TERM DEVELOPMENT
CONSTRAINTS, OPPORTUNITIES
AND RECOMMENDATIONS
FOR COMMUNITY PLANNING
STANDARDS SUCH AS

ADDRESSES HOUSING
EDUCATION
COMMERCIAL
HEALTH CARE
PUBLIC ADMINISTRATION
CULTURAL
SOCIAL AND RECREATIONAL FACILITIES
PARKS AND OPEN SPACE

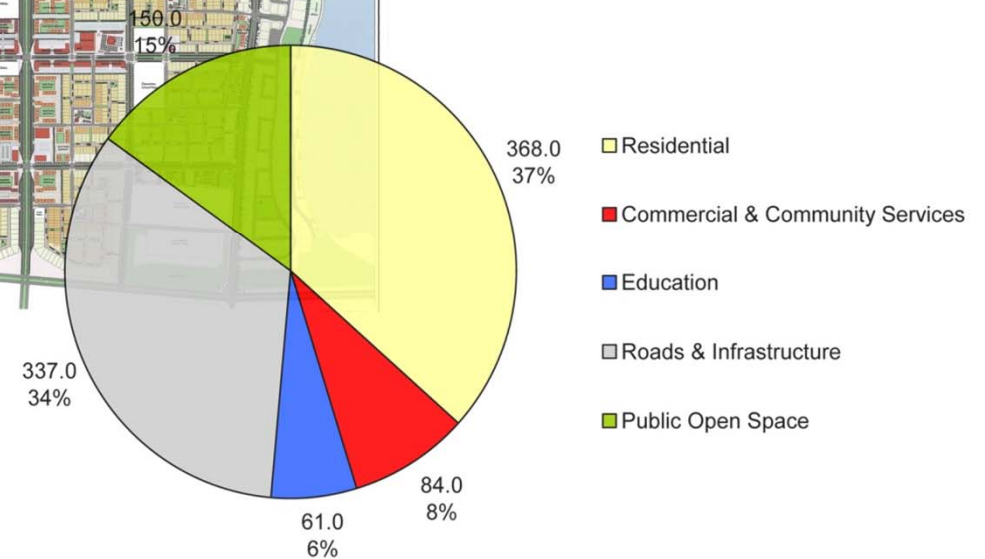


DO YOU KNOW THAT

NUMBER OF VILLAS IN JALUDAH
DISTRICT ARE 6,532
APARTMENTS ARE 4,920

WHILE THE PUBLIC OPEN SPACE
IS 150 HA WHICH IS 15 % OF THE
TOTAL LANDUSE ARE !!

Jalmudah General Land Use Area Breakdown (ha)



GOAL - OBJECTIVE

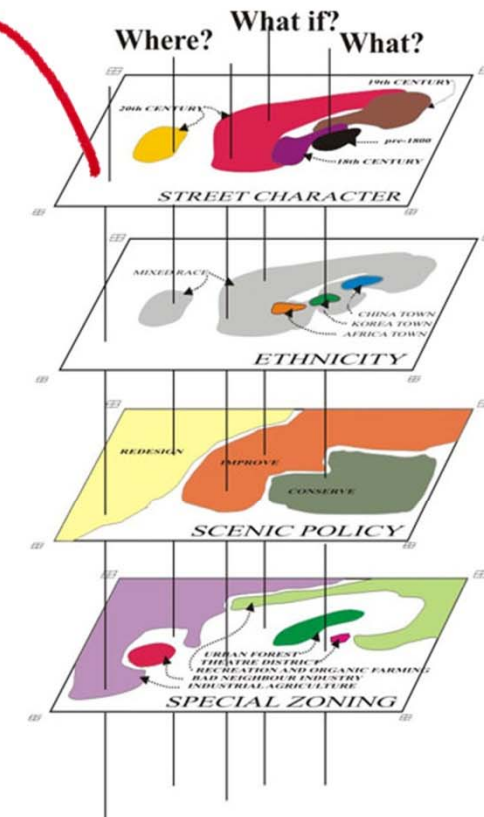
IS TO ASSIGNS VALUES IN JALMUDAH DISTRICT TO THEMATIC DATA (LAND COVER, PROPERTY LINES, PATHWAYS AND GREEN SPACES THAT ARE A MEASURE OF THE ABILITY OF THAT CONDITION TO ACCOMMODATE A PARTICULAR USE WITH HELP OF GIS APPLICATION .

RESULTS INDICATE THE MOST DESIRABLE LOCATIONS FOR
PLAYGROUND AREA



Comparison of Traditional and Design Sciences

GIS & traditional sciences	The Design sciences
Analysis	Synthesis
From instances to principles	From principles to instances
Causal	Goal-oriented
Descriptive	Prescriptive
Positive	Normative
<i>IS</i>	<i>OUGHT TO BE</i>

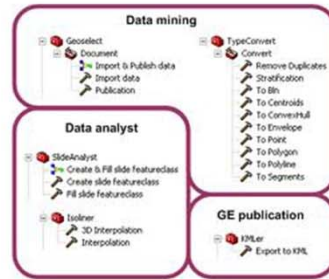


WHAT IS THE OVERLAY
METHOD ?

OVERLAYS CAN BE USED TO ESTIMATE THE COMBINED EFFECTS OF MULTIPLE PROPERTIES POLLUTION POTENTIAL IN THIS CASE THE METHOD HAS BECOME A STANDARD PRACTICE IN SITE SUITABILITY ANALYSIS AND IS EXTREMELY EFFECTIVE FOR INCORPORATING NATURAL RESOURCE INFORMATION INTO PLANNING AND DESIGN PROCESSES

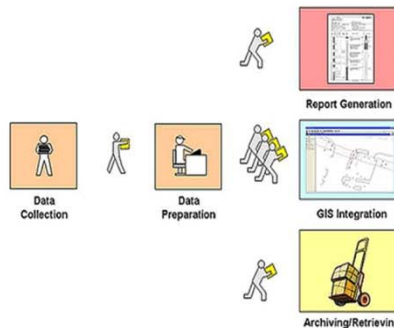
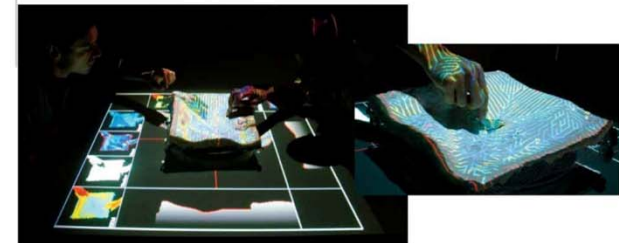


DATA COLLECTION



DATA ANALYZING

*"THE MEDIUM
THE MESSAGE"*
MEANING THAT A DESIGNER'S CHOSEN MEDIA DIRECTLY INFLUENCES HOW A MESSAGE IS PERCEIVED BY OTHERS
EMERGING TECHNOLOGY



USING GIS
FOR MULTIPLE
RESULTS ALT



IMPLEMENTATION

OPEN SPACES DEVELOPMENT USING GIS JALMUDAH DISTRICT IN JUBAIL INDUSTRIAL CITY

HOW IT CAN BE APPLIED ?

SINCE OUR OBJECTIVE IS TO FIND THE BEST LOCATION FOR **PLAYGROUND AREA** IN JALMUDAH DISTRICT

THERE FOR A CRITERIA OF LAYERS SHOULD BE CHOSEN REGARDING TO THE NEED

- RESIDENTIAL AREAS - APARTMENTS AND VILLAS
- COMMERCIAL AREAS - NEIGHBOURHOOD, SECTOR AND DISTRICT
- SCHOOLS
- PARKS
- RECREATIONAL FACILITIES
- NETWORK TRANSPORTATION - VEHICLE AND PEDESTRIAN



RESIDENTIAL



NETWORK



PARK



SCHOOLS



COMMERCIAL



RECREATIONAL

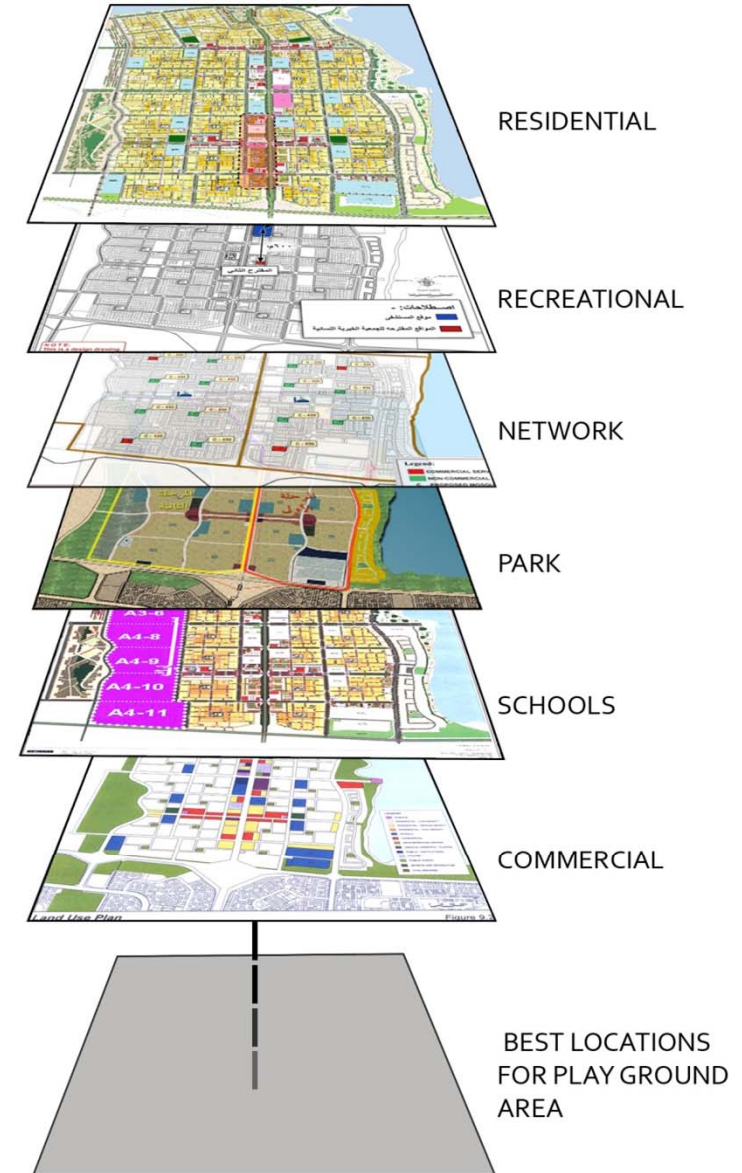
DESIRABLE LOCATION

MULTIPLE DATA LAYERS ARE THEN OVERLAID AND THEIR OVERLAPPING VALUES SUMMED THE RESULTS INDICATE THE MOST DESIRABLE LOCATIONS FOR

PLAYGROUND AREA

WHICH USE IN QUESTION OVERLAYS AND CAN BE USED ESTIMATE THE COMBINED EFFECTS OF MULTIPLE PROPERTIES

THIS METHOD HAS BECOME A STANDARD PRACTICE IN SITE SUITABILITY ANALYSIS AND IS EXTREMELY EFFECTIVE FOR INCORPORATING NATURAL RESOURCE INFORMATION INTO PLANNING AND DESIGN PROCESSES



DURABLE LOCATIONS

THE BASIC PREMISE OF GIS SUITABILITY ANALYSIS IS THAT EACH ASPECT OF THE LANDSCAPE HAS INTRINSIC CHARACTERISTICS THAT ARE IN SOME DEGREE EITHER SUITABLE OR UNSUITABLE FOR THE ACTIVITIES BEING PLANNED. SUITABILITY IS DETERMINED THROUGH SYSTEMATIC MULTI-FACTOR ANALYSIS OF THE DIFFERENT ASPECT



CONCLUSION

OPEN SPACES DEVELOPMENT USING GIS JALMUDAH DISTRICT IN JUBAIL INDUSTRIAL CITY

THIS PRESENTATION PROVIDES AN OVERVIEW OF INNOVATION OCCURRING IN THE TECHNOLOGICAL AND THEORETICAL WORLD OF GIS

INNOVATIONS IN SOFTWARE AND METHOD ARE PUSHING WELL BEYOND THE CONVENTIONAL APPLICATION OF GIS AND DEVELOPING

TOOLS THAT COULD VITALLY IMPROVE THE PRACTICE OF LANDSCAPE ARCHITECTURE

GIS NOW SUPPORTS EARLY INTEGRATION INTO THE DESIGN PROCESS, OFFERS NEW ANALYSIS TECHNIQUES THAT EXPAND AWARENESS OF NEIGHBORHOOD VALUE AND ELIMINATES SOCIAL BARRIERS TO TECHNOLOGY

