Rural Development and Planning in LDCs: The “Gamba Deve – Licoma axis”, District of Caia, Mozambique

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disciplines covered

discipline 1. REGIONAL SPACIAL PLANNING

discipline 2. LOW-VOLUME ROAD INFRASTRUCTURE DESIGN
activities

classroom activity:  - LECTURE
    - HORIZONTAL DISCUSSION

homework activity:  - WORKGROUP DEFINITION
    - ACTIVITY DESCRIPTION
The context Mozambique
The context Caia District

- surface: **3477** sq. km
- population: **115 612** people
- agricultural occupation: **80 %**
- scolarity (classes 1-7): **71 %**
- protected water coverage: **52 %**
- malaria cases: **18 274**
- income from tributes: **185 407 USD**
GDL axis: schematic representation
GDL axis: distribution of humas settlements
GDL: context and determinants

- LOW-INCOME POPULATION
- EXTREME DEPENDENCE ON AGRICULTURE
- LOW-VARIETY OF SURVIVING STRATEGIES
- YOUNG POPULATION
- LOW COVERAGE OF BASIC SERVICES
- LOW QUALITY OF PUBLIC / PRIVATE SERVICES
- EXTREME ISOLATION
services: working principles

- LOCAL ADMINISTRATIVE AUTORITY

- PUBLIC / PRIVATE SERVICES:
  - schools
  - health-posts
  - water wells
  - local markets
  - mills

- SIMPLICITY OF SERVICES
services: network description

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ED1: description of current layout

- PLANIMETRIC LAYOUT
- ELEVATION PROFILE
- HUMAN AGGREGATES
- MULALA RIVER
- MEPUZE RIVER
ED1: road defects

- INFLUENCE OF SEASONAL RAINS (900mm / 5 months)

- ROAD DEFECTS:
  - dust
  - potholes
  - erosion
  - seasonal mud (slipperiness)

- SECONDARY WATER COURSES CROSSING
technical solutions: general layout
technical solutions: road design sections

- WEARING COURSE COMPOSITION
- USE OF LOCAL MATERIALS
- WATER OUTFLOW DESIGN
- DESCRIPTION OF ALL SECTIONS
- ATTENTION TO LEVEL OF WATER
- RIVERBED PROTECTION
- CONDUCT SPECIFICATIONS
network of services: proposal description
network of services: priorities
synergies

- AGRICULTURAL PRODUCTS TRADE INCREASE
- NEW PRODUCTS ON LOCAL MARKETS
- PRODUCTS COSTS REDUCTION
- INVESTORS IN AGRICULTURE / TOURISM / FORESTRY
- TRANSPORT COSTS / TIME REDUCTION
- CONNECTION TO BETTER SERVICES

... more ...

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homework activity: description

- STUDENTS ARE DIVIDED IN GROUPS

- WORK ON THE DEFINITION OF ALTERNATIVE SOLUTIONS TO THE PROPOSED ONE

- ACTIVITY CAN BE DONE AS HOMEWORK AND AS PART OF THE LAB / WORKSHOP

- SUGGESTED MATERIAL IS IN APPENDIX

- SUGGESTED TIMEFRAME IS BETWEEN 10 AND 20 HOURS
homework activity: themes

(1) ED1: PLANIMETRIC LAYOUT AND TECHNICAL SOLUTIONS

(2) SERVICES TO POPULATION: NETWORK AND PRIORITIES

(3) SINERGIES OF JOINT DESIGN OF ROAD INFRASTRUCTURE AND SERVICE NETWORK
APPENDIXES:

appendix 1: human settlements for GDL (cartography 1:50,000)
appendix 2: distribution of services for GDL (cartography 1:50,000)
appendix 3: proposed distribution of services for GDL (cartography 1:50,000)
appendix 4: water basin of the Mepuze River and secondary water courses (cartography 1:50,000)
appendix 5: photographic map of actual defects along ED1
appendix 6: in-site survey of present defects along ED1 (cartography 1:50,000)
appendix 7: proposed planimetry design for ED1 (cartography 1:50,000)
appendix 8: proposal for services and infrastructure for GDL (cartography 1:50,000)
appendix 9: schematic analysis of services and aggregates of GDL
appendix 10: functional scheme of services and aggregates of GDL