Redevelopment of nJoli Square

Kwazakhele Township
Port Elizabeth, South Africa

Project Appraisal and Risk Management

28 February 2008

Training for Township Renewal Initiative
Presented by NDP Unit
Overview of economic analysis

- Microeconomics (especially benefit-cost analysis) is central to the effective functioning of government and provides basic tools to help citizens, public servants, policymakers & society make rational choices about efficient allocation of resources, thereby supporting a more effective democratic process.
- Economic analysis answers key questions that increase the likelihood of project & program success. It looks at the impact on the entity undertaking the project, on society, on the fiscus & on various stakeholders, & about project's risks & sustainability.
- It helps design and select projects that contribute to the welfare of a country.
- Is most useful when used early in the project cycle to identify poor projects & poor project components. If used at the end of the project cycle, economic analysis can only help determine whether to proceed with a project or not.
Overview of economic analysis

• In particular, these tools can help
• Determine whether private or public sector should undertake the project
• Estimate its fiscal impact
• Determine whether the arrangements for cost recovery are efficient and equitable
• Assess its potential environmental impact and contribution to poverty reduction
DIFFERENT PROJECTS

Project Design

(Different products, prices, location, scale, timing, ownership, financing, contractual arrangements, regulatory framework, etc)

RISK ANALYSIS

Spreadsheet models

FINANCIAL ANALYSIS

Owners

Debt holders

ECONOMIC ANALYSIS

National parameters

Regulated markets

ENVIRONMENTAL and SOCIAL EXTERNALITIES

ECONOMIC PRICES and EXTERNALITIES

General framework

Output and input prices

RISK ANALYSIS

Sensitivity

Scenario

Monte Carlo

Costs of risk

Risk allocation and reduction

DISTRIBUTIVE ANALYSIS

COST-BENEFIT

or COST-EFFECTIVENESS

from different perspectives

Click to buy NOW!

Input and output prices

Debt holders

Costs of risk

Risk allocation and reduction
Conversion factor

- Conversion factors are the ratios of economic to financial prices. Thus a conversion factor is a number that is used to convert the domestic market price of an item into its economic opportunity cost to the economy by multiplying the market price of the item by the conversion factor.
Content overview

- Project overview
- Locality
- Urban renewal plan
- Construction options
- Funding required
- Financial Analysis
- Economic Analysis
- Risk Analysis
- Conclusions
Project overview

- Township project → Kwazakhele in PE (NMM)
- NDPG funding by new NDP Unit
  - Supporting community development
  - Leveraging private sector investment
- Only significantly advanced project in NDP portfolio of 55 projects
- New town centre
  - 254,000 people
  - Low incomes
  - High unemployment
  - Sense of place
Locality
Project snapshot

- Objectives
  - Iconic $\rightarrow$ civic pride
  - World class facility
  - Urban renewal catalyst
- Public transport facility $\rightarrow$ Khulani corridor
- Home for social & civic functions
- Platform for SMME development
- Stimulus for private sector investment
- Sustainable and flexible
Process

PRE - FEASIBILITY STUDY

FEASIBILITY STUDY

BUSINESS PLAN

IMPLEMENTATION TASK TEAM

TENANTING  DETAIL DESIGN  LAND ACQUISITION

CONSTRUCTION

OPERATION
Aerial view of nJoli Square
Bird’s eye view
nJoli Road perspective
View of main entrance
View along main access
View of bus drop-off area
Urban renewal plan
Properties affected by development
Land for relocation of affected residences
Show houses
Construction options

• Option A
  – 2 storey dome
  – R153 million

• Option B
  – 2 story dome, constructed so that 3\textsuperscript{rd} storey can be constructed in future
  – R160 million

• Option C
  – 3 story dome
  – R170 million
Proposed income statement for 1\textsuperscript{st} year of operations

<table>
<thead>
<tr>
<th>Income Statement</th>
<th>A</th>
<th>B</th>
<th>C</th>
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<tbody>
<tr>
<td>Rental Income</td>
<td>1,026,034</td>
<td>1,026,034</td>
<td>1,393,111</td>
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<tr>
<td>VAT</td>
<td>126,004</td>
<td>126,004</td>
<td>171,084</td>
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<tr>
<td>Agents Commission</td>
<td>9,000</td>
<td>9,000</td>
<td>12,220</td>
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<tr>
<td><strong>Net Rental Income</strong></td>
<td>891,030</td>
<td>891,030</td>
<td>1,209,807</td>
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<tr>
<td>Operating Expenses</td>
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<tr>
<td>Administration</td>
<td>180,006</td>
<td>180,006</td>
<td>244,406</td>
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<tr>
<td>Insurance</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rates and Taxes</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Water and Electricity</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Security</td>
<td>240,000</td>
<td>240,000</td>
<td>240,000</td>
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<tr>
<td>Cleaning</td>
<td>180,000</td>
<td>180,000</td>
<td>180,000</td>
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<tr>
<td>Maintenance</td>
<td>97,357</td>
<td>99,470</td>
<td>106,281</td>
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<tr>
<td>Gardening and Sundry</td>
<td>24,000</td>
<td>24,000</td>
<td>24,000</td>
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<tr>
<td>General</td>
<td>60,000</td>
<td>60,000</td>
<td>60,000</td>
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<tr>
<td><strong>Total expenses</strong></td>
<td>781,363</td>
<td>783,476</td>
<td>854,686</td>
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<tr>
<td>Net Income / (loss)</td>
<td>109,667</td>
<td>107,554</td>
<td>355,121</td>
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<tr>
<td>NI/Rental</td>
<td>12%</td>
<td>12%</td>
<td>29%</td>
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Additional lettable space option delivers optimal cashflows.
## Funding required

<table>
<thead>
<tr>
<th>Funder</th>
<th>Yr 1</th>
<th>Yr 2</th>
<th>Yr 3</th>
<th>Total</th>
<th>Share (%)</th>
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</thead>
<tbody>
<tr>
<td>Council</td>
<td>14,000,000</td>
<td>10,000,000</td>
<td>10,000,000</td>
<td>34,000,000</td>
<td>20</td>
</tr>
<tr>
<td>Soccer World Cup</td>
<td>5,000,000</td>
<td>10,000,000</td>
<td>-</td>
<td>15,000,000</td>
<td>9</td>
</tr>
<tr>
<td>NDPG</td>
<td>10,000,000</td>
<td>55,000,000</td>
<td>56,000,000</td>
<td>121,000,000</td>
<td>71</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>29,000,000</td>
<td>75,000,000</td>
<td>66,000,000</td>
<td>170,000,000</td>
<td>100</td>
</tr>
</tbody>
</table>
Implementation programme

Go-ahead for Project
Awareness Campaign
Market & secure tenants / Letting
Secure funding
Obtain land for relocation
Geotechnical investigation
Tacheometric survey
Design services/houses for relocation
Procurement (relocation)
Construction (relocation)
Architectural & engineering design
Relocation process
Procurement of Contractor
Commencement of Construction
Questions

• What is economic value of the project? How does this vary from financial value?
• Will operating income be sufficient to cover operating expenses?
• Can capital costs be recovered? If so, under what conditions?
• Can it leverage private sector investment?
Assumptions

- Development needed by community
- Stimulus to local economic activity
- Leverage of private sector participation
- Use of government facilities & shopping amenities
Financial & economic analysis

- Operating cash flow is sufficient for revenues to cover ops costs
- Depreciation → significant negative impact on income tax statement → no tax payable
- Financial NPV → negative → -22,755,557
- Economic NPV → positive → 116,133,449 → largely due to externalities → benefits
  - Savings in transport
  - Savings in time
  - Incremental increase in property values, as well as property rates

92% of externalities accrue to benefit of community (R21½ million per annum)
# Risks & mitigation

<table>
<thead>
<tr>
<th>Risk</th>
<th>Detail</th>
<th>Mitigation Strategy</th>
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</thead>
<tbody>
<tr>
<td>Political &amp; Social</td>
<td>Community resistance → purchase of their properties for the development</td>
<td>Participatory engagement process</td>
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<tr>
<td></td>
<td>Trader resistance to relocation to new trading area → sabotage &amp; non-payment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of sense of ownership</td>
<td></td>
</tr>
<tr>
<td>Planning</td>
<td>Geotechnical</td>
<td>Effective studies</td>
</tr>
<tr>
<td></td>
<td>Financial viability</td>
<td>Effective analysis of financial &amp; economic model &amp; refinement of concepts</td>
</tr>
<tr>
<td>Construction risk</td>
<td>Cost overruns</td>
<td>Contracts &amp; overrun agreement with municipality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reputable service providers</td>
</tr>
<tr>
<td>Operations</td>
<td>Institutional management &amp; ownership</td>
<td>Negotiation with role-players to ensure appropriate management &amp; ownership</td>
</tr>
<tr>
<td></td>
<td>Lack of critical mass (Tenant occupancy levels)</td>
<td>Quality urban design</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enticing tenanting mix (public &amp; private)</td>
</tr>
<tr>
<td></td>
<td>Low visitor footfall (= reduced no. of taxi trips needed)</td>
<td>Quality urban design</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Good precinct management &amp; marketing to community</td>
</tr>
</tbody>
</table>
## Risks & mitigation

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
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<tbody>
<tr>
<td></td>
<td><strong>Cost Overrun Factor</strong></td>
<td></td>
</tr>
<tr>
<td>468</td>
<td>95.0%</td>
<td>(22,755,557) 116,133,449</td>
</tr>
<tr>
<td>472</td>
<td>100.0%</td>
<td>(22,755,557) 116,133,449</td>
</tr>
<tr>
<td>474</td>
<td>105.0%</td>
<td>(31,686,442) 108,118,577</td>
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<tr>
<td>476</td>
<td>110.0%</td>
<td>(41,052,534) 99,712,789</td>
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<tr>
<td>477</td>
<td>115.0%</td>
<td>(50,853,835) 90,916,084</td>
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<tr>
<td>478</td>
<td>120.0%</td>
<td>(61,090,343) 81,728,462</td>
</tr>
<tr>
<td>479</td>
<td>125.0%</td>
<td>(71,762,059) 72,149,924</td>
</tr>
<tr>
<td>480</td>
<td>130.0%</td>
<td>(82,868,983) 62,180,470</td>
</tr>
<tr>
<td>481</td>
<td>135.0%</td>
<td>(94,411,115) 51,820,099</td>
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</table>

### PV Externalities Trips

<table>
<thead>
<tr>
<th>O</th>
<th>P</th>
<th>Q</th>
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<tbody>
<tr>
<td><strong>PV Externalities Trips</strong></td>
<td><strong>Number of trips</strong></td>
<td><strong>PV Externalities (Communities)</strong></td>
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<tr>
<td>468</td>
<td>1.00</td>
<td>61,470,343 63,530,517</td>
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<tr>
<td>469</td>
<td>1.50</td>
<td>88,801,896 90,862,070</td>
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<tr>
<td>470</td>
<td>2.00</td>
<td>116,133,449 118,193,623</td>
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<tr>
<td>471</td>
<td>2.50</td>
<td>143,465,002 145,525,176</td>
</tr>
<tr>
<td>472</td>
<td>3.00</td>
<td>170,796,555 172,856,729</td>
</tr>
<tr>
<td>473</td>
<td>3.50</td>
<td>198,128,108 200,188,282</td>
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<tr>
<td>474</td>
<td>4.00</td>
<td>225,459,661 227,519,835</td>
</tr>
<tr>
<td>475</td>
<td>4.50</td>
<td>252,791,214 254,851,387</td>
</tr>
<tr>
<td>476</td>
<td>5.00</td>
<td>280,122,767 282,182,940</td>
</tr>
<tr>
<td>477</td>
<td>5.50</td>
<td>307,454,320 309,514,493</td>
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<tr>
<td>478</td>
<td>6.00</td>
<td>334,785,873 336,846,046</td>
</tr>
<tr>
<td>479</td>
<td>6.50</td>
<td>362,117,425 364,177,599</td>
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</table>
Monte Carlo simulation

- Mean of $\text{NPV}_{\text{financial}}$ is $-R23\text{m}$ (with very high degree of certainty!)
- But the mean $\text{NPV}_{\text{economic}}$ is $R115\text{m}$
  - No possibility of being negative
  - Greatly offsets the negative $\text{NPV}_{\text{financial}}$

- Sensitivity analysis
  - Cost overruns
  - Number of taxi trips saved
  - Inflation
  - Occupancy levels
Findings & recommendations

- Negative financial NPV but offset by large economic NPV
- Positive externalities
  - Savings in transport (bulk of externalities)
  - Savings in time
  - Incremental increase in property values & property rates
- Appears to suggest government should proceed → but will have to test assumptions