Removing Obstacles for Emerging Contractors

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Presentation Outline

- Introduction and Background
- Responsibility of Contractors
- Project Management / Initial Experiences
- Project Planning / Issues
- Breakeven Analysis
- Budgeting
- Conflict Resolution
- Recommendations
- Conclusion
Introduction and Background

- Housing backlog (WC) – 410,000¹
- Expected to double by 2040

¹ Budget speech 2009/10 by Western Cape Minister of Housing Bonginkosi Madikizela
Section 26(1) of the Constitution enshrines access to adequate housing as a basic right of all South Africans. The state is compelled to take reasonable measures within its available resources, including the introduction of legislation, to work towards ensuring that all South Africans enjoy this right (Section 26(2)).

In terms of Schedule 4 of the Constitution, national and provincial governments have concurrent legislative competence in respect of housing.

Langrug - Franschhoek
Lanrug 2007
Responsibility of Contractors

1. Constitution
2. National Government
3. Provincial Government
4. Local Government
5. Contractor
Project Management

- Achieving targets through the optimal use of resources.
- The Project Manager requires a broad skills set in order to achieve the targets of the project at hand.
Typical Project Cycle

- Slow Start
- Quick Momentum
- Slow Finish

% Project Completion

Time

Deadline

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Initial Project Experiences

- Main contractor hired the services of an “experienced” sub-contractor.
- Despite contract, the project was immediately at risk due to, amongst others:
  - No project management skills
  - Extreme tardiness
  - No Health and Safety plan
  - Transport issues
  - No involvement with local community
When stupidity raises its ugly head
Actual Project Cycle
The estimate of activity times is crucial in order to meet project deadlines.

\[ TE = \frac{(a + 4m + b)}{6} \]
Planning Issues

- Too many workers reporting for duty.
- Incorrect ratio of skilled to semi-skilled.
- Arriving on site with no or incorrect tools.
- Current limit setting not done at installation.
- Use of non-local workers increase time/cost.
- Delays in signing of workers contracts.
- Unwilling to work over weekends.
- Only 30 installations completed by day 6 (Breakeven point = 10 installations/day)
Breakeven Analysis / Learning Rates

- An accurate assessment of the breakeven point is critical to ensure contractor survival.
- A linear approach in the estimation of BE yielded 10 installations per day.
- This would only apply if the estimate was made using the results of an experienced team of installers.
- A new team would invariably take longer during the initial stages.
The total time taken to produce all units of run size $N$ is given by:

$$T = T_1 \sum_{n=1}^{N} n^r$$

where

$$r = \frac{\ln(\text{learning rate})}{\ln 2}$$

$T_1 = \text{time for initial unit}$
Budgeting Issues

- A major problem in the completion of state contracts.
- The sub-contractor did not have access to capital for the purchase of essential equipment necessary for the project and expected an advance from the main contractor.
- Labour protest on Christmas eve due to non-payment of wages – averted by main contractor.
- Contract terminated after sub-contractor demanded an increase to previously agreed installation fee.
Conflict Resolution

- The main contractor was often required to mediate and resolve conflicts.
  - Non-payment of wages
  - Disputes re: working hours
  - Demanding higher fees for CoC’s
  - Withholding municipal material
  - Political differences in the community
Recommendations; Contractor Specific

- Successful contractors to have completed accredited training, particularly in PM.
- Contractors to act as mentors for local skilled and semi-skilled workers.
- Health and Safety plans must be enforced.
- Main Contractor – Sub-contractor agreements should be fair and well understood by both parties.
Safety First

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Recommendations; Overall Project

- Community buy-in imperative before start of works.
- Community must be informed of the contractor's mandate and responsibility.
- Ensure that all labour contracts are understood, agreed to and signed.
- Optimization of installation sites.
- Security.
- Electrical Safety Education for Community.
Community Education in the Safe use of Electricity
Conclusions

- Despite the initial delays, the project was completed successfully and on time.
- A number of local workers gained valuable experience on the project.
- A former member of the team is now running his own contracts in Gauteng.
Thank you

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