



Quantitative Analysis for the Afghanistan Landmines & Livelihoods Survey

Stakeholder Workshop
Landmines & Livelihoods
Kabul, February 2011



> Topics discussed

- > Role & purpose of quantitative analysis in this survey
- > Preliminary analysis
- > Comparisons with other quantitative analysis of mine action in Afghanistan



> Reducing accidents & victims

> Data available:

- > MACCA data for 22 communities
- > Information from men collected in 16 communities
- > Information from women in 13 communities

> MACCA data show 363 casualties in total from the 22 communities, before demining

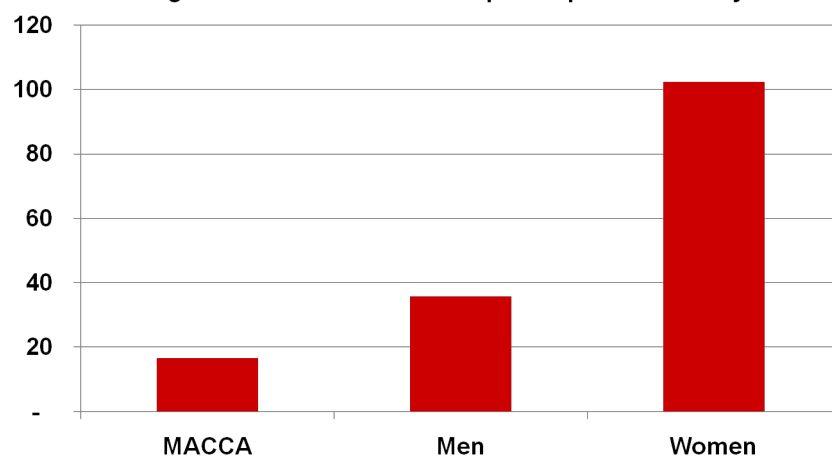
> No reported civilian casualties on demined areas since release

- > 1 injury and 2 deaths to deminers (probably new demining operations rather than previously demined areas)



> Reducing accidents & victims

Average Number of Casualties Reported per Community





- > **Conclusion: reducing accidents & victims**
- > **Demining works and has delivered a huge benefit**
 - > Economic
 - > Pain and suffering
 - > Sense of security
- > **MACCA data on casualties probably incomplete**
- > **Women appear to overstate number of casualties**
 - > Reflects inability to get accurate information to women, heightening their fear and sense of insecurity
- > **Next step**
 - > Time pattern of casualties
 - > Economic analysis of the benefits of casualty reduction



> Qala-i-Kashif

- > **Close to Kabul on major road**
- > **Battleground in 1994**
 - > Small area (3900 m²) of UXO contamination
 - > Up to 20 casualties
 - > Not cleared until 2008-09
 - > Estimated cost of clearance \$1,600 (sub-surface BAC)
- > **Cleared area now a market run by 2 entrepreneurs**
 - > About 75 stalls, paying (in total) rent of about 2.25million Afghanis/year (c. \$50,000)
- > **How to calculate whether demining was a good investment?**



> Qala-i-Kashif continued

> Assumptions

- > Recurrent costs to owners = 50% of revenue
- > Increase in rent = 2% per year (after inflation)
- > Discount rate = 10% per year (after inflation)

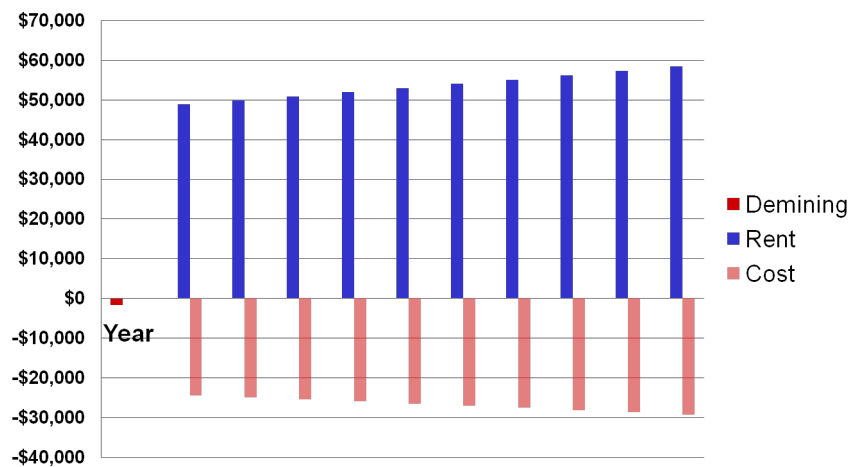
> Process

- > In Excel, lay out costs & benefits each year in 'current prices'
- > Discount these to find 'present values'
- > Calculate net present value of benefits & compare to demining costs



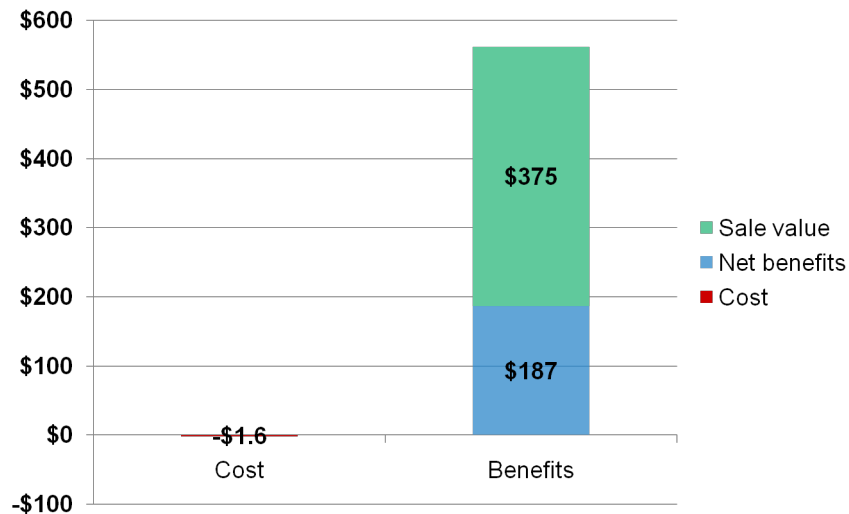
> Qala-i-Kashif continued

Annual Costs and Benefits





> Qala-i-Kashif continued



> Qala-i-Kashif continued

> Results 1 (calculation over 15 years)

- > Present value of costs = \$1,600
- > Present value of benefits = \$187,500
- > Net present value = \$185,900
- > Benefit:Cost Ratio = $(\text{Benefits} - \text{Costs}) / (\text{Costs}) = 116$
- > Internal Rate of Return = 32%

> New assumption

- > The land is still valuable after 15 years
- > Assume sale value in 15 years = twice net rents over past 15 years (= \$375,000)
- > New IRR = 47%

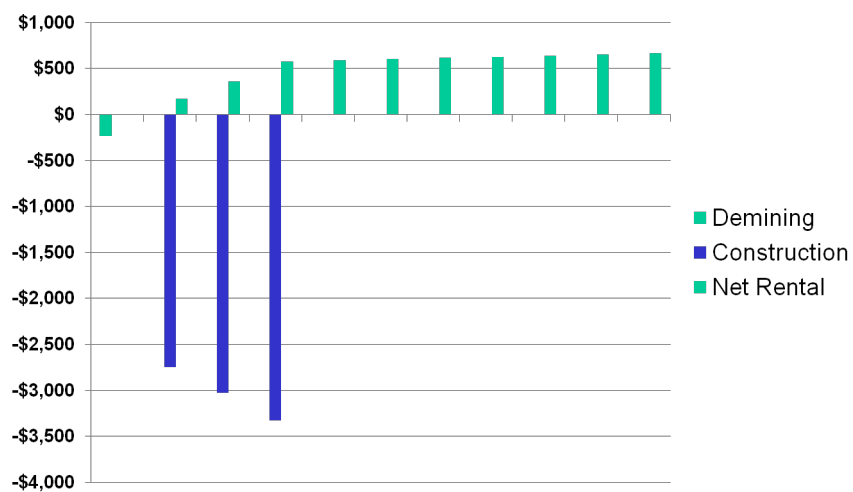


> Base Sokhara

- > Government land in Balkh
- > Mined in 1998
- > Demined 2002 & 2007-08
- > 1500 houses will be constructed for personnel from National Security Forces
- > Main assumptions
 - > 500 houses constructed per year for 3 years
 - > Cost \$5,000 per house
 - > Annual rental value = 10% of construction cost
 - > Annual maintenance cost of 4% of construction cost



> Base Sokhara continued





> Base Sokhara results

Costs & Benefits Base Sokhara

