CASE STUDY

AFFORDABLE HOUSING FEASIBILITY – NORTH AFRICA

INTRODUCTION

This case study demonstrates a development feasibility model for mixed social housing and affordable housing in the North Africa. Based on the principles observed in Morocco, a Public – Private Partnership (PPP) has been assumed. There are a number of factors that help explain why these PPP arrangements have worked well in Morocco – including the ability of the government to offer land below open market rates and tax breaks to make affordable housing projects more attractive to private developers (JLL, 2011).

Purchase of land is based on a subsidized price, under strict conditions of sales revenue. This case study assumes that developers must agree to sell flats for less than 140,000 Moroccan dirhams (US$15,000) on one third of the allocated land, for 200,000 Moroccan dirhams (US22,500) on another third. On the final third, the developers are allowed to build other types of properties (assumed US$60,000 per unit).

DEVELOPMENT OF NEW BUILDING FOR SALE

The case study assumes a land purchase of $2m and $18.5 m property development for 1,000 residential units.

Higher density development will be assumed for Parcel 1 (500 1-bed apartments), and cascading down to lower densities in Parcel 2 (300 2-bed apartments) and more so Parcel 3 (200 3-bed villas). The use of innovative planning principles and traditional architectural design, standard villa blocks are 625 sq.m., compared to the current standard size of 1,050 sq.m. This represents a saving in land area requirements of approximately 40%. The use of modular technologies has also reduced construction costs by 20% on most affordable housing projects. Such market evidence has been factored into this mode, where possible.

INPUTS AND PREFERENCES

PREFERENCES

- General > Regional Settings
    - Set Stamp Duty to 'Nil'
- General > Cash Flow Periods
    - Set cash flow rest periods to 'Monthly'
    - Resize Model to 45 time periods
- Taxation > Tax Type
    - Set to 'Nil'
- Financing > Global Settings
    - Financing Level is set to 'Advanced'
- Financing > Loan 1
    - Interest Payment Method is set to 'Capitalised'
    - Facility Limit is set to 'Fixed Amount'
    - Drawdown method is 'progressively when required'
    - Deselect 'automatic maturity' for the loan and set it to be refinanced by 'Equity'.

PRELIMINARY

- Cash Flow Title = Affordable Housing MENA
- Project Start Date = Jan 2012
- Project Size a = 1,000 dwellings
- Project Size b = 315,000 sqm
- Site Area = 165,800 sqm
- Floor space ratio = 1.9

LAND PURCHASE COSTS

- We have assumed a land value of $2m which represents a subsidized purchase price transferred by government to the developer.
- Other Acquisition Costs: legal fees of 2% to transfer the land ownership, payable pro-rata to the Land payment (denoted by the use of 'L' in the Quarter Start).

COST ESCALATION

- Uncategorized construction costs have been escalated at 1% per annum.
- Specific cost codes against the different housing types have been set up as follows:
    - LH1 – Low-cost housing 1 – assume 1% escalation p.a.
    - LH2 – Low cost housing 2 – assume 1.5% escalation p.a.
    - LH 3 – Villas – assume 2% escalation p.a.
- This allows us to separate these costs under the construction cost section.
- All other costs have been escalated by 2% per annum

PROFESSIONAL FEES

- Design fees are set at 4% of construction costs and quarter start 0 and span 4, escalating to start
- Other professional fees are set at 2% and pro-rata with construction time period with 'C' input.
- Development Management Fees are set at 2% of project costs (excluding land) and quarter start is 'C'.

CONSTRUCTION COSTS

- Rates for each housing type is as follows:
    - 1-bed apartment (US$7,500)
    - 2-bed apartment (US$13,500)
    - 3-bed Villas (US$25,000)
- Month start is 6 and span is 15. Rates include fit out.
- Parking provision for the apartments is referenced at 750 spaces @ US$1,500/unit

STATUTORY FEES

- DA application fees are $2,000, paid in month 1, spanning 1 month.

INFRASTRUCTURE FEES

- Road network build @ one lump sum of $100,000, pro-rata with construction period
- Water & utilities @ lump sum of US$35,000, paid after construction in Month 21, spanning 3 months

LANDSCAPING FEES

- Lump sum payment of US10,000 at Month 24 spanning 2 months

SALES & RENTAL REVENUE ESCALATIONS

- Revenue categories and escalation rates have been set up as follows:
    - RES1 – 1-bed apartments (fixed price) – no escalation
    - RES2 - 2-bed apartments (fixed price) – no escalation
    - RES3 - 3-bed villas have been escalated at 2% per annum.

SELLING & LEASING COSTS

- Sales commissions have been set up as follows:
    - RES1 – 1-bed apartments– 1%, 20% commissions paid on pre-sales, 5% deposits
    - RES2 - 2-bed apartments– 1%, 20% commissions paid on pre-sales, 5% deposits
    - RES3 - 3-bed villas have been escalated at 2% per annum, 20% commissions paid on pre-sales, 10% deposits
- A marketing cost of 1.5% has been added to 'Other selling costs', starting in Month 4 spanning 6 months.

SALES:

- Sales revenue has been entered as follows:
    - RES1 – 1-bed apartments– 500 units, 100,000 sqm and US15,000 sale price per unit
    - RES2 - 2-bed apartments– 300 units, 90,000 sqm and US22,500 sale price per unit
    - RES3 - 3-bed villas - 200 units, 125,000 sqm and US60,000 sale price per unit
- Sales settlements are due in Month 25 spanning 6 months.

FINANCING

- For Loan 1 inputs:
    - Enter $2m into Fixed Amount.
    - Set the interest rate at 6.5%.
- For Loan 4 inputs:
    - Set the interest rate to 8%. This loan acts as an overdraft account with interest capitalised.

PROJECT HURDLES

Set the Discount Rate at 18% to represent a social return inclusive of inflation, with a target development margin of 20% representing the high demand on such projects.

SUMMARY REPORT

COSTS & REVENUES	Quantity	SqM	USD/SqM	USD Total
REVENUE				USD
Total Sales Revenue	1,000	315,000.0	81.0	25,503,724
Residential - 1 Bedroom Units	500	100,000.0	75.0	7,500,000
Residential - 2 Bedroom Units	300	90,000.0	75.0	6,750,000
Residential - 3 Bedroom Units	200	125,000.0	90.0	11,253,724
Less Selling Costs				(750,130)
Less Purchasers Costs				-
NET SALE PROCEEDS				24,753,594
TOTAL REVENUE				24,753,594
TOTAL REVENUE				**24,753,594**
COSTS				
Land Purchase Cost				2,000,000
Land Transaction Costs				40,000
Construction Costs				14,051,606
Low cost housing 1				3,768,703
Low cost housing 2				4,080,262
Villas				5,066,446
Other				1,136,194
Professional Fees				1,184,783
Statutory Fees				2,000
Infrastructure				137,229
Landscaping				10,404
Interest Expense				1,655,585
TOTAL COSTS				**19,081,607**

PERFORMANCE INDICATORS			
Net Development Profit	5,671,987		
	5,671,987		
Development Margin (or Profit/Risk Margin)	**28.60%**	on total development costs (inc selling costs).	
Residual Land Value (based on 20% Target Margin)	3,136,911	18.93	per SqM of Site Area
Net Present Value	**1,840,628**	(at 18% per ann. discount rate, nominal)	
Benefit Cost Ratio	1.1269	(at 18% per ann. discount rate, nominal)	
Project Internal Rate of Return (IRR)	**27.07%**	(per ann. nominal)	
Residual Land Value (based on NPV)	3,775,971	22.79	per SqM of Site Area
Equity IRR	N.A.	(per ann. nominal)	
Equity Contribution	-		
Peak Debt Exposure	19,120,497		
Equity to Debt Ratio	N.A.		
Weighted Average Cost of Capital (WACC)	7.65%		
Breakeven Date for Cumulative Cash Flow	Jun-2014	(Month 29)	