



CASE STUDY

LAND OWNER CONTRIBUTING LAND IN JOINT VENTURE

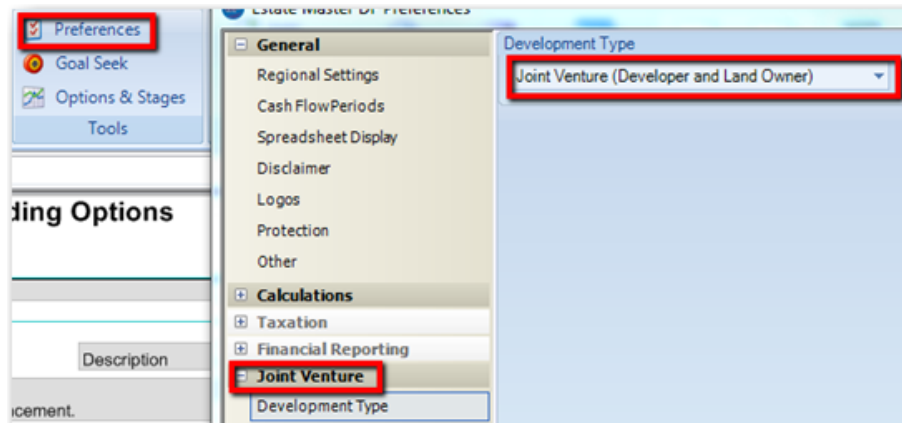
INTRODUCTION

This case study demonstrates how Estate Master DF can be used to model a project which considers a potential Land Owner's contribution to a project; considering their land value and facilitating percentage shares of any costs or revenues while also creating their own separate cash flow.

INITIAL SETUP

JOINT VENTURE PREFERENCES

We first need to switch our model into the Land Owner/Developer Joint Venture. Go to the Preferences, and Joint Venture. Then switch the Development Type to Joint Venture (Developer and Land Owner).



LAND PURCHASE & ACQUISITION COSTS

The land will be contributed by a Land Owner at a value of \$15m. This is entered in the PV of Land Opportunity Cost cell in the Land Purchase and Acquisition Costs section of the Input Sheet.

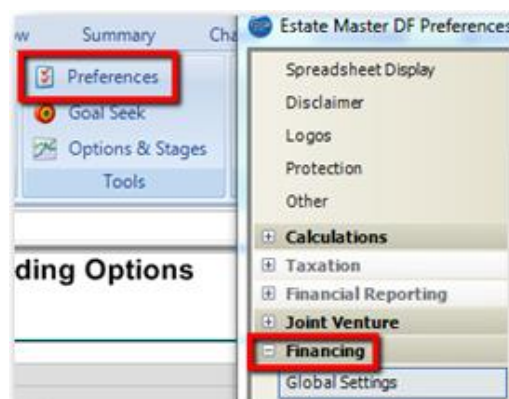


FINANCING

PREFERENCES

There are a few attributes to the Financing of this model that need to be adjusted in the Preferences in order to have the project funded as required.

Go to the *Preferences* button and open the *Financing* section of the Preferences.



Firstly, go to your Bank Loan (**Loan 2**) and make the following adjustments:

The screenshot shows the 'Loan Commencement and Maturity' settings for Loan 2. The left sidebar lists various modules: Spreadsheet Display, Disclaimer, Logos, Protection, Other, Calculations, Taxation, Financial Reporting, Joint Venture, and Financing. Under Financing, Loan 2 is selected. The main panel shows the following settings:

- Loan Commencement and Maturity:**
 - ☒ Automatic Commencement
 - ☒ Automatic Maturity
- Facility Limit Calculation Method:** % of Net Cash Flow to be Funded
- Loan Drawdown Method:** Progressively - Limited to cumulative facility limit.
- Interest Payment Method:** Capitalised (Compounded)
- Loan Ratio Calculation Method:** % of Net Cash Flow to be Funded
- Refinancing at Maturity:** Refinanced by Equity

- Facility Limit Calculation Method
 - Choose **% of Net Cash Flow to be Funded**. This will calculate the total Net Cash Flow and apply the percentage chosen in the Input Sheet.
- Loan Drawdown Method
 - Choose **Progressively – Limited to cumulative facility limit**. This will apply the percentage entered in the Input Sheet on a month by month basis (other preferences apply this percentage across the lifeline of the project).

Next, go to Loan 4.

By default; Loan 4 is your Senior Debt Overdraft. But you can adjust this to have a Fixed Limit and shift Overdraft settings to your Equity. Therefore, if costs exceed financing; an Equity injection will be generated to cover costs.

To do this, shift the Facility Limit Calculation Method to Set Fixed Limit (equity acts as overdraft facility).

The screenshot shows the 'Facility Limit Calculation Method' settings for Loan 4. The left sidebar lists various modules: Spreadsheet Display, Disclaimer, Logos, Protection, Other, Calculations, Taxation, Financial Reporting, Joint Venture, and Financing. Under Financing, Loan 4 is selected. The main panel shows the following settings:

- Facility Limit Calculation Method:** Set Fixed Limit (equity acts as overdraft facility)
- Interest Payment Method:** Capitalised (Compounded)
- Loan Ratio Calculation Method:** % of Net Cash Flow to be Funded

At the bottom of the panel, there are buttons for 'Print Report', 'Ok', and 'Cancel'.

EQUITY INPUTS

The key assumption for this case study is that the developer has a maximum of \$USD10m in equity. This is entered in the Fixed Amount cell of the Equity section of the Financing at the bottom of the Input Sheet.

Equity	
Developer's Equity Contribution	Fixed Amount
Progressively injected when required.	10,000,000

* If the Fixed Amount cell is greyed out, and the Percentage cell is editable; go to *Preferences > Financing > Equity* and shift *Facility Limit* to **Fixed Amount**.

DEBT INPUTS

Bank funding can be arranged to a maximum of 70% of total funding required. This is entered in Loan 2: Bank Loan in the Financing section of the Input Sheet.

Loan 2	
Description	Bank Loan
Facility Limit	Fixed Amount
Progressively - Limited to cumulative facility limit.	70.00%
Month Commencement	Auto
Maturity Month	Auto
Interest Rate	10.00%

* If the Percentage cell is greyed out, and the Fixed Amount cell is editable; go to *Preferences > Financing > Equity* and shift *Facility Limit* to **% of Net Cash Flow to be Funded**.

The developer will make up the shortfall with Equity injections; we will show how to apply this later.

OTHER INPUT ASSUMPTIONS

The basic assumptions are as follows:

- \$15m Land value representing Land Owner's contribution.
- 5% of total project costs have been set as Project Contingency
- Professional Fees are set at percentage of construction costs including 4% for masterplan approval and design and 3% for engineering and survey work. The latter is set to span the construction period.
- A Development Management fee of 2 % of total project costs (all costs excluding the land purchase)
- Construction has been staged in 2 stages: Stage 1 is the subdivision of 25 lots and stage 2 is construction and sales of 50 condominiums (townhouses). Total construction is \$27m including \$2m in global site costs
- For simplicity, Statutory Fees and Landholding Costs have been set to nil
- Selling Costs have been set with sales commissions of 4% with 50% paid upon sales exchange
- Sales & Marketing allowance set to 4% of gross sales; pro-rata with exchanges ('E' in 'Start') rather than settlements.
- Sales have been linked to a user inserted worksheet that details all the lot and condo prices individually. We could have typed these sale prices directly into the sales input section (it is expandable to 500 rows) but for simplicity (and typical if you have a sales price list) we have linked the average price for each stage times the number of units for each stage.
 - Note: the 'Staged' column is used to classify costs as either 'Global' (G) or 'Staged' (1 or 2). The Staged Summary Sheet (downloadable from EM online Client Area) can report on profitability and development margin for each stage.
 - Note: Milestone dates have also been entered in the model, which are linked to key cost and revenue timings to make more transparent the relationships.

REVENUE SPLIT

In this model, a percentage of Sales will be Split with the Land Owner upon Sale. This can be entered in the Sales section in the red **% Split to Owner** column of each Sales line in the Input Sheet.

9000

Sales

1. For salesperson or salesperson's spouse

Code	Stage	Description	No. Units	Total Area SqM	Current Sale Price	Sales Calc Method	Pre-Sale Exchanges Month Start	Month Span	Month Start	Month Span	Settlements Month Span	Cash Flow Period	Sales Rate Units / SqM per Month	% Split to Owner
9001	-	-	-	-	-	Per Unit	0	-	0	-	-	-	-	-
9002	-	Lots	25	600	412,300	Per Unit	0	-	24	12	Jan-15 - Dec-15	2.08	25.0%	
9003	-	Condo	50	300	989,900	Per Unit	0	-	36	12	Jan-16 - Dec-16	4.17	25.0%	
9004	-	-	-	-	-	Per Unit	0	-	0	-	-	-	-	-
9020	-	-	-	-	-	Per Unit	0	-	0	-	-	-	-	-

We will initially enter 25%, although we will adjust this later.

CASH FLOW

Look at the Cash Flow Sheet for a Monthly breakdown of all Costs and Revenues.

Scroll down to the Land Owner's Cash Flow at the bottom of the Cash Flow Sheet; you will see that the Land Owners Land value has been observed at Month 0. This is to represent the value of the Land that the Land Owner has contributed.

LAND OWNER'S CASH FLOW	TOTAL	0
REVENUE		
Gross Revenue	18,697,850	-
Less Selling / Leasing Costs	-	-
Profit Share	-	-
TOTAL NET REVENUE	18,697,850	-
COSTS		
Opportunity Cost of Land	15,000,000	15,000,000
Pro. Fees and Construction	-	-
Statutory Fees	-	-
Other Costs	-	-
TOTAL COSTS	15,000,000	15,000,000
Net Cash Flow b/f Interest	3,697,850	(15,000,000)

In the Developers Cash Flow above, the result of the preferences we chose earlier are that costs from Months 1 to 6 & Months 12 to 29 are split between the Bank Loan and Equity Injections at a 70%/30% split on a monthly basis.

DEVELOPER'S CASH FLOW	TOTAL	1 Feb-13	2 Mar-13	3 Apr-13	4 May-13	5 Jun-13	6 Jul-13
FINANCING							
Equity							
Manual Adjustments (Inject + / Repay -)	-	0	0	0	0	0	0
Injections	8,281,488	57,834	57,834	57,834	57,834	57,834	57,834
Interest Charged	-	-	-	-	-	-	-
Equity Repayment	13,359,482	-	-	-	-	-	-
Less Profit Share	-	-	-	-	-	-	-
Equity Balance	5,077,994	(57,834)	(115,668)	(173,502)	(231,336)	(289,170)	(347,004)
Equity Cash Flow	5,077,994	(57,834)	(57,834)	(57,834)	(57,834)	(57,834)	(57,834)
Loan 2 - Bank Loan							
Manual Adjustments (Drawdown - / Repay +)	-	0	0	0	0	0	0
Drawdown	(19,323,473)	(134,946)	(134,946)	(134,946)	(134,946)	(134,946)	(134,946)
Loan Interest Rate (%/ann)	-	-	-	-	-	-	-
Interest Charged	(2,693,367)	-	(1,125)	(2,258)	(3,402)	(4,555)	(5,717)
Application and Line Fees	-	-	-	-	-	-	-

When Sales begin to come through in month 24; 25% of these immediately go to the Land Owner, as set up earlier.

LAND OWNER'S CASH FLOW	TOTAL	24	25	26	27
REVENUE					
Gross Revenue	14,950,625	214,740	214,740	214,740	214,740
Less Selling / Leasing Costs	-	-	-	-	-
Profit Share	-	-	-	-	-
TOTAL NET REVENUE	14,950,625	214,740	214,740	214,740	214,740

In the Developers Cash Flow - as there are still costs occurring in Month 24; revenues are offset by these costs until Month 31 when costs stop.

DEVELOPER'S CASH FLOW	TOTAL	28 May-15	29 Jun-15	31 Aug-15
DEVELOPER'S CASH FLOW				
REVENUE				
Gross Sales Revenue	44,851,875	644,219	644,219	644,219
Selling Costs	(2,392,100)	(34,358)	(34,358)	(34,358)
Gross Rental Income	-	-	-	-
Leasing Costs	-	-	-	-
Other Income	-	-	-	-
Interest Received*	-	-	-	-
TOTAL NET REVENUE	42,459,775	609,860	609,860	609,860
COSTS				
Land and Acquisition	-	-	-	-
Professional Fees	2,496,690	149,727	118,749	-
Construction Costs (inc Contingency)	27,000,000	2,900,000	2,300,000	-
Statutory Fees	-	-	-	-
Miscellaneous Costs 1	-	-	-	-
Miscellaneous Costs 2	-	-	-	-
Miscellaneous Costs 3	-	-	-	-
Project Contingency (Reserve)	1,444,500	149,350	118,450	-
Land Holding Costs	-	-	-	-
Pre-Sale Commissions	-	-	-	-
Financing Costs (exc Fees)	-	-	-	-
TOTAL COSTS	30,941,190	3,199,077	2,537,199	
Net Cash Flow (before Interest)	11,518,585	(2,589,217)	(1,927,339)	609,860
Cumulative Cash Flow		(25,354,689)	(27,282,028)	(26,062,307)

This revenue goes immediately to paying off bank debt in Loan 2 in Month 30, and then the developer begins to make a profit by Month 42.

RESULTS

All project results are featured in the Summary Sheet.

The initial details; entitled *Summary of Investment Returns to Developer* seem to provide information that hints to a healthy project, with both the Development margin and IRR close to target.

PERFORMANCE INDICATORS

¹ Net Development Profit	8,928,661	
³ Development Margin (or Profit/Risk Margin)	24.85%	on total developmen
⁴ Residual Land Value (based on 20% Target Margin)	1,100,588	
⁵ Net Present Value	(506,410)	(at 25% per ann. dis
⁶ Benefit Cost Ratio	0.9740	(at 25% per ann. dis
⁷ Project Internal Rate of Return (IRR)	23.07%	(per ann. nominal)
⁸ Residual Land Value (based on NPV)	(497,627)	
Equity IRR	39.39%	(per ann. nominal)
Equity Contribution	8,184,608	
Peak Debt Exposure	20,205,739	
Equity to Debt Ratio	42.86%	

That only tells you the Developers returns.

When using the Land Owner/Developer Joint Venture, the report below that called *Summary of Investment Returns to Land Owner and Developer* gives you a much more accurate indication of how both the Land Owner and the Developer do in this project. Specifically, scroll down to the performance indicators.

PERFORMANCE INDICATORS			
Net Development Profit	(49,375)	8,928,661	8,879,286
Development Margin	-0.33%	24.85%	18.30%
on total development costs (inc selling costs).			
Discount Rate	12.00%	25.00%	
NPV of Cash Flow	10,115,088		
NPV less Land Value	(4,884,912)	(506,410)	
Internal Rate of Return	-0.10%	23.07%	

* Note: No redistribution of Developer's Gross Profit

Taking into consideration the value of the land contributed by the Land Owner, Estate Master DF will alert you to the fact that the Land Owner does not actually earn his money back; falling short by almost \$50,000.

RESOLUTION

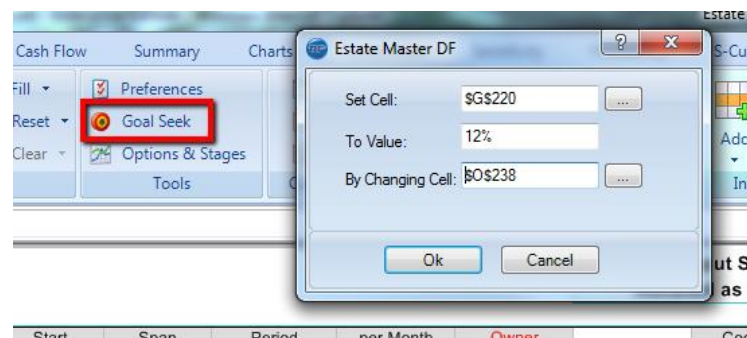
You will recall that we distributed 25% of Revenue to the Land Owner in the Sales section of the Input Sheet.

Sales													
Code	Stage	Description	No. Units	Total Area	Current Sale Price	Sales Calc Method	Pre-Sale Exchanges Month Start	Month Span	Month Start	Settlements Month Span	Cash Flow Period	Sales Rate Units / SqM per Month	% Split to Owner
9001	-	-	-	SqM	-	Per Unit	0	-	0	-	-	-	-
9002	-	Lots	25	600	412,300	Per Unit	0	-	24	12	Jan-15 - Dec-15	2.08	25.0%
9003	-	Condo	50	300	989,900	Per Unit	0	-	36	12	Jan-16 - Dec-16	4.17	25.0%
9004	-	-	-	-	-	Per Unit	0	-	0	-	-	-	-
9020	-	-	-	-	-	Per Unit	0	-	0	-	-	-	-

This gives us an opportunity to adjust this and create a project that may be more appealing to the Land Owner. By increasing this amount, we can then refer to the Performance indicators and see how this will affect the project.

Estate Master DF also contains all the 'Goal Seek' functionality of Excel. Therefore, you can run a 'Goal Seek' on any Performance Indicator you like linked to this **% Split to Owner** cell.

Important Note: Since 'Goal Seek' only works by changing one cell, you will need to change the **% Split to Owner** inputs so that the first one is a 'value' and the subsequent ones are a 'formula' that is linking to the first one, so that if the first one changes, the others in that column automatically change.



In this case; a Goal Seek base on the Land Owners 12% Discount Rate finds that a percentage split of just over 28% of Revenue creates a more even project for both Developer and Land Owner.

% Split to Owner
-
28.1%
28.1%
-

PERFORMANCE INDICATORS			
Net Development Profit	1,800,316	7,027,909	8,828,225
Development Margin on total development costs (inc selling costs).	12.00%	19.54%	18.17%
Discount Rate	12.00%	25.00%	
NPV of Cash Flow	11,366,527		
NPV less Land Value	(3,633,473)	(1,332,628)	
Internal Rate of Return	3.46%	19.80%	