Working with small-holders

& potential future research

Scott Waldron

SAFS



Other research

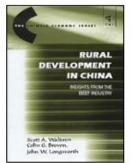
Agribusiness & policy analyses

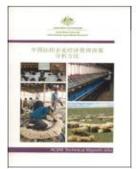
- China beef, sheepmeat, wool, cashmere, grasslands
- Beef in countries (Indonesia, Timor Leste) and regions (China & Southeast Asia, the Pacific)

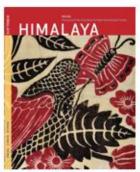
Funding

- Development agencies (DFAT, ACIAR)
- Industry (MLA, AWI)





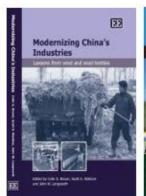


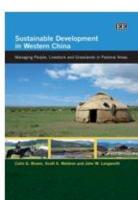












Farm modelling & management

Farm budgeting or modelling incorporated in virtually all projects, e.g.

- Tibet (crop-dairy)
- Eastern Indonesia (tree forages)

But increasing emphasis on proactively improving farm management And methods to "get small-holder agriculture moving"









Farm management as a discipline

- Long tradition in Australia of farm management & associated activities of book-keeping, farm budgeting, planning, modelling, risk management ...
- Widely used and powerful tools in development
 - Esp to understand systems
 - & verify interventions/technologies
- · But farm management
 - Decline as a (sub) discipline
 - And under-utilised as an applied management tool in international development
 - for government / extensionists
 - and farmers themselves to use to plan and make decisions
- · Reasons may include
 - Models can be complex / black boxes / electronic
 - Handbooks etc. can be too generic
- So Investigating ways to introduce targeted, useful, **sustainable** farm management tools in R for D projects

CRICOS code 00025B



Project design

Assessment of opportunities

- Technical
- Economic

Approach

- Multi-disciplinary teams agronomists, animal scientists, social scientists, communications experts, gender specialists, economists etc.
- Use participatory methods

But the specific strategy is crucial

- Timor Leste
- Vanuatu



ACIAR Project

Smallholder cattle enterprise development in Timor-Leste 2012 -







Indicators

- UNDP human development index 132 of 189 standard of living
- Long dry hungry season. Maize in west season, cassava, livestock (chickens, pigs)
- 23% of households in TL raise cattle
- Large lumpy assets, sold for cash income, major household needs & ceremonies

Monitored productivity:

- Turnoff rate ~10%
- · Calving interval 18-24 months
- Av daily growth rates 0.1 to 0.3 kg/day
- Calf mortality ~30%

Based on West Timor experience

- · potential to double productivity
- and incomes from cattle

6



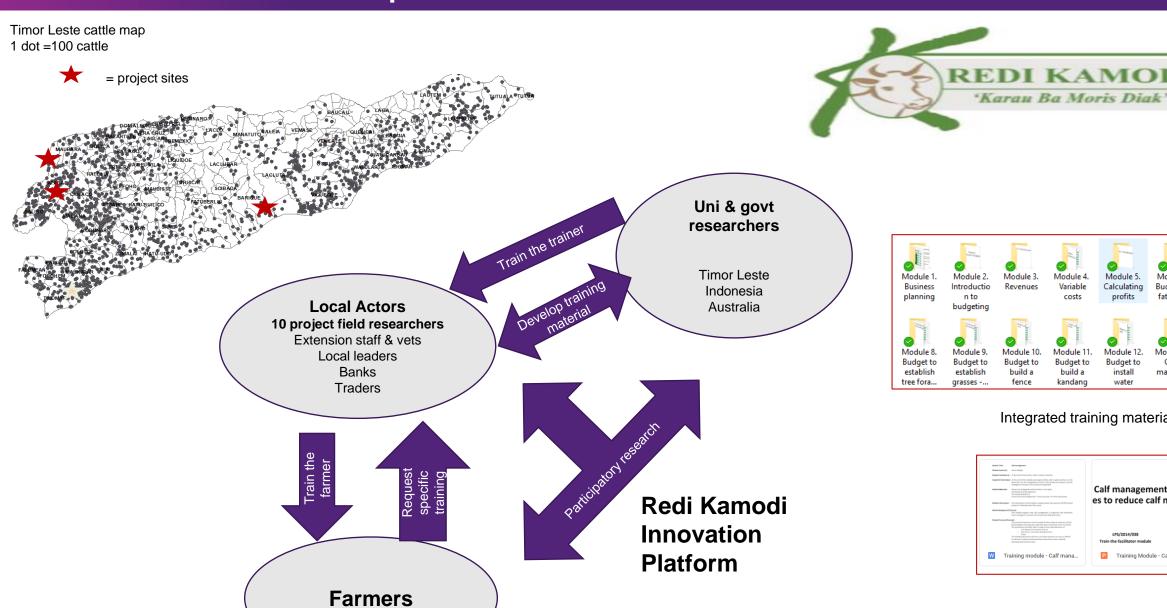






Innovation platform for Timor Leste







Integrated training material















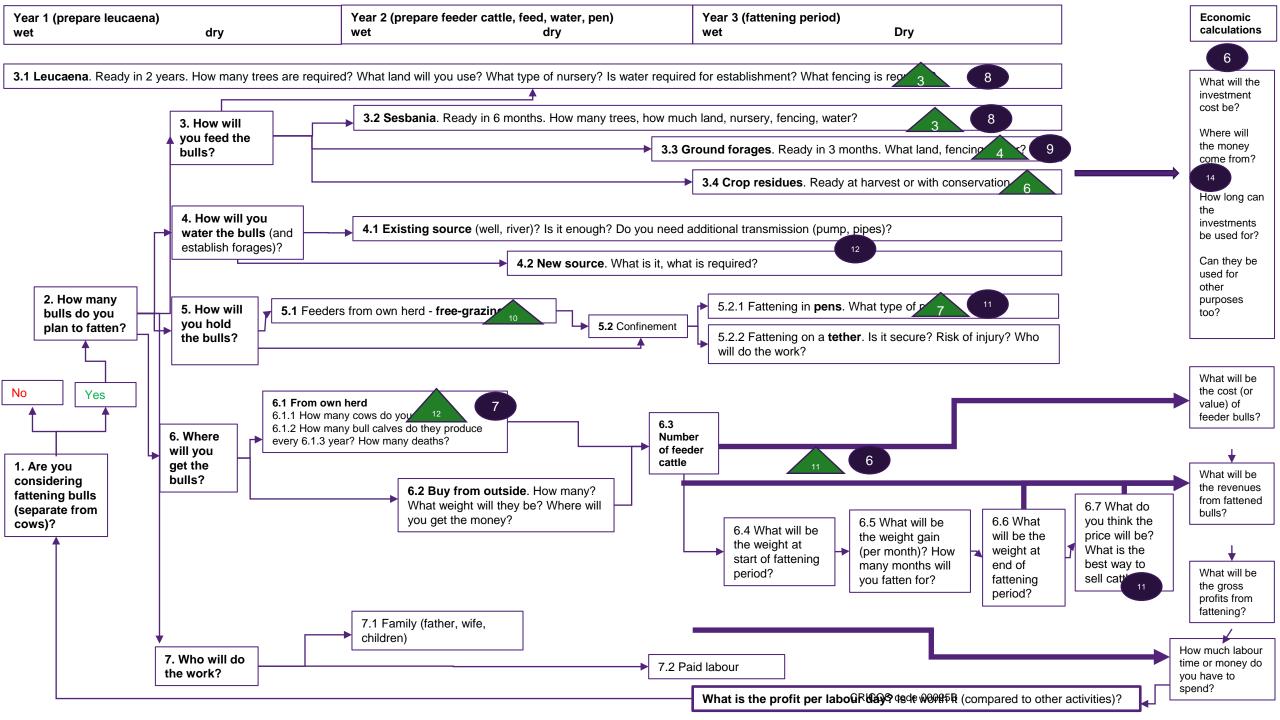




"Best bet" solutions

- Feed, water, control
- Early weaning
- Tree forages (leucaena)
- Specialised fattening

Decision tree approach







ACIAR Project Increasing the productivity and market options of smallholder beef cattle farmers in Vanuatu 2015 -











Vanuatu

- Established beef industry
- But neglect in recent decades
 - research, systems & small-holders



Farm planning in Vanuatu

BISNIS BLONG BULUK PROJEK



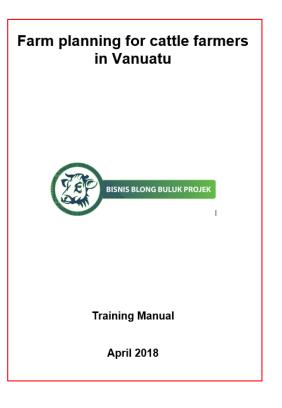
Tools

- A detailed farm model
- Training manual
- Modules

Format of material

- Based on a household example
- Completed interactively by farmers
- With guidance from trainers

is of several sectio	ns and worksheets that can be nav	igated through these links	
FRONT PAGE	INPUT SHEETS	OUTPUT SHEETS	
	Basic household information		
	Land stocking	Returns to labour	
	Herd structures	Cash flow	
	Herd change 10 years		
	Monthly cattle calcs		
	Prices		
	Variable Costs		
	Costs capital items		
	Copra		





Farm planning for cattle farmers in Vanuatu

 $\label{eq:modules 5 \& 7. Calculating stocking rates and productivity indicators$

Vanuatu



BISNIS BLONG BULUK PROJEK









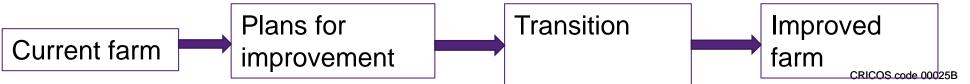
The case of Joseph

"Joseph" is a typical semi-commercial farm in East Santos

Joseph's story ...

- Father from Khole, mother from Olry
- Married, 1 son, 1 daughter
- Copra (shares with brother), vege garden (wife looks after), sometimes offfarm work, did 2 years seasonal work NZ
- When he went overseas fences got run down, weeds, stopped weaning
- But kept cattle and wants to rebuild cattle business

We will analyse ..





BISNIS BLONG BULUK PROJEK

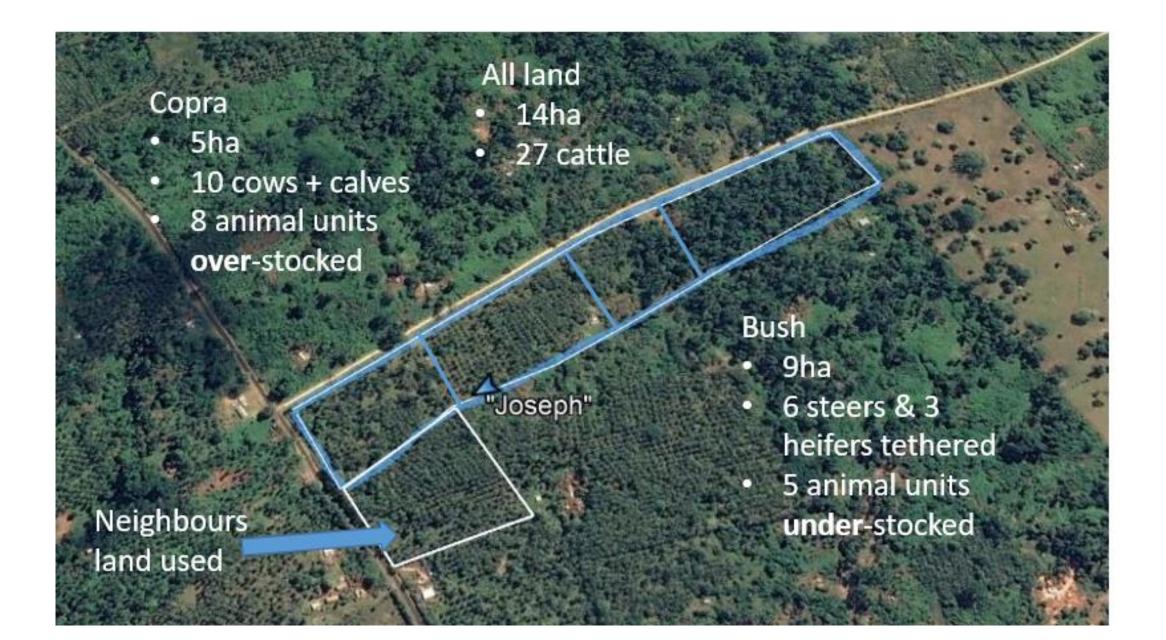






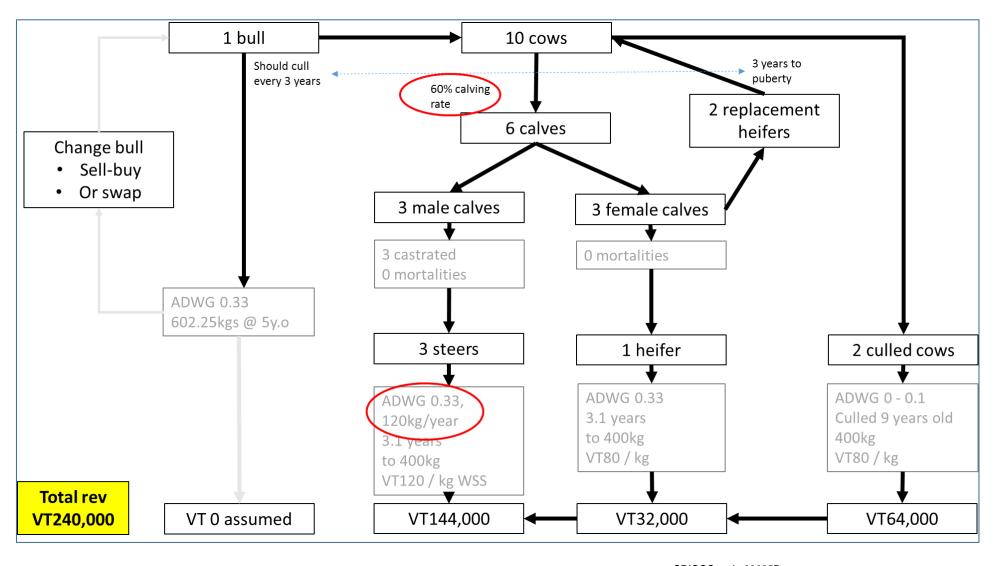
"Joseph's" current farm





"Joseph's" current cattle herd

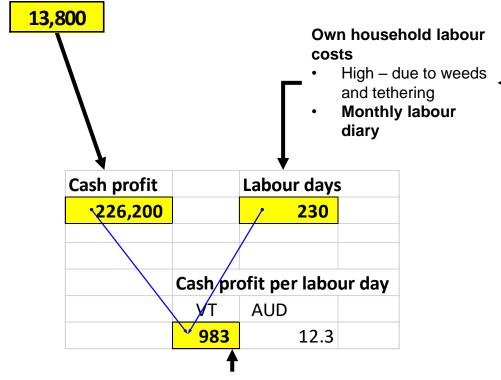






Cash costs

• Low - rope, fence repairs, some hired labour



To calculate daily returns:

(Compared to labour wage of VT1,000 day)

Nem blong baox blong yu:

Hemi helpem projek mo fam blong yu blong save hao mas ta

- Makem wok yu wokem smol taem olsem (S), haf dei wol
- Mo tu yu makem hao mas man I mekem wok ya

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copra block, bush block		
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"Joseph's" plans



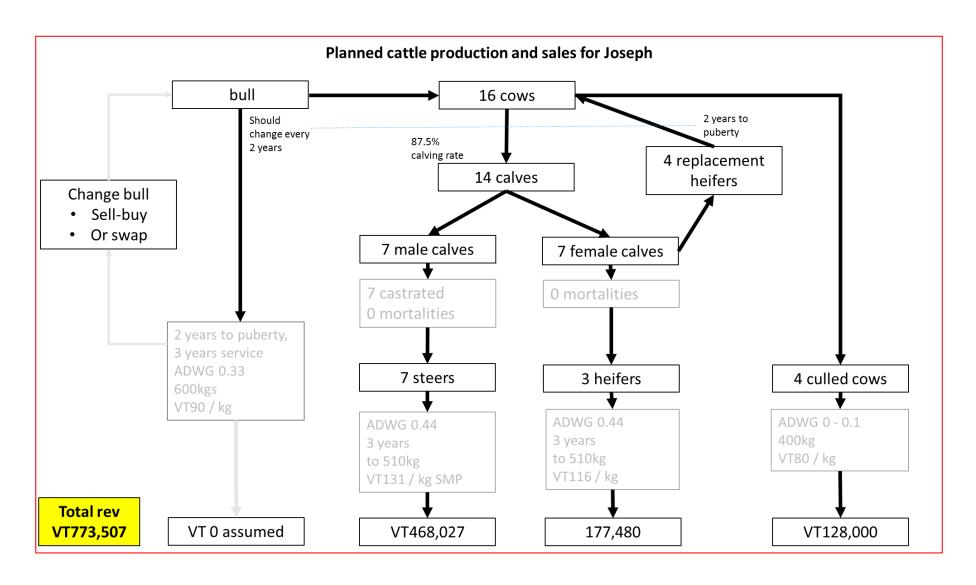
Joseph likes cattle, thinks it has a future, and he has under-utilised resources

His **aim** is to:

- Increase cow numbers from 10 to 16 head
 - Increase calving rates from 60% to ~90%
- Increase steer sales from 3 to 7 head per year
 - Increase growth rates from 120kg/year to 160kg/year
- If he sold steers at 3 years old, 510kgs
 - Classed as a S1 steer by SMP
 - Prices increase from VT120/kg LW (WSS) to VT131 LW equivalent SMP

"Joseph's" planned cattle herd





Planned land use



"Road block" (12 ha copra-bush)



Improvements on road block:

- Full external fence on bush block (9ha)
- Nursery for grass & legumes
- Weaning paddock
- Stockyards

Heifers on either block



"Village block" (11ha, bush)
Joseph's family land, external fence

Improvements on ether block:

- Clear & fence bush
- Plant 1 ha forages per year



Steers

Under-stocked

Investments required



Investment costs for Joseph in year 1 (VT)					
Fence around bush on road block (9ha)		129,000			
Nursery (25m * 25m)		15,620			
Pasture improvement (1ha)		122,080			
Stockyard	S			49,450	
					AUD
Total				316,150	3,952
Lost revenue during herd buildup (years 1-3)		64,000	800		
(Pasture improvement 1 ha years 2-10)			111,040		

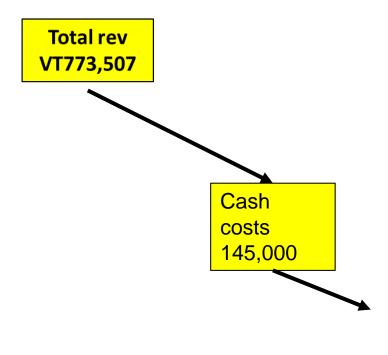
A lot of money, where does it come from?

- Savings from farm income. (1.7 years of cattle profits, assuming no other expenditures)
- Savings from off-farm income (transport, seasonal work, rental)

• Loan? CRICOS code 00025B

Income in new state systems





Cash profit Labour days

512,027

Cash profit per labour day

VT AUD

1,620

20.3

So improvement increases "returns to labour" by 65% **

Questions

- Is this enough to bring about change?
- Is it feasible?
- How could returns be improved?



R for D strategy

Household models

- Develop and document proof of concept at a convincing scale
- Trials, demonstrations, cross-visits
- For integration into government systems and ODI projects

Training material

- Tested, translated, in right format
- For accreditation (VSP, VQA)

[Presentation Title] | [Date] CRICOS code 00025B 26



Future research questions / feedback

Research topics

- Communication methods
- Ceremonies
- Food policy in small countries (TL, the Pacific)
- Marketing

[Presentation Title] | [Date] CRICOS code 00025B 27



Training and communications

Communication tools

- Stories / anecdotes / examples
- Demonstrations
- Decision trees
- Budgets
- Other approaches

Training material

- Manual, spreadsheets, modules
- Text, figures, drawings
- English, translations?

Participants

- Advisor trainer trainee
- Individuals vs groups
- Repetition / mentoring
- Household head, family, generations, male vs female



Ceremonies

- Major component of supply and consumption
- Policy issue for governments
- Questions about ceremonies as
 - Logistics units
 - Consumption, nutrition
 - Distribution
 - Value
 - Impacts on production systems

Changes with

- Population growth
- Generations
- Social adaptation



Food policy

Rationale of policy-makers

- Latent domestic resources (L, I, K)
- Burgeoning D
- Try to match up domestically
- Especially for formal and higher value markets
- Import replacement

Measures / policies

- Ceremonies
- Trade
- Development of domestic chains

But

- Infrastructure
- Systems
- Especially volumes



Cattle marketing

Included in projects – thought to be gains

But not straightforward

- Established buyers, rigid purchase systems...
- i.e. can't just develop and connect to higher value chains

Measures investigated by Noel Kahlo - Vanuatu

- Increasing the knowledge base of sellers to measure and compare prices and terms across channels
- To sustainably increase services into the system
 - Weights, description
 - Aggregation
 - Information
 - Catalogues

Timor

- Aggregation
- Sale by weight



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Thank you

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