

Using participatory budgets to investigate farmers' practices and the factors influencing them during production seasons in Ghana and Zimbabwe

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Aims

- Understand the constraints faced by farmers during production seasons
- Evaluate the usefulness of participatory budgets for this purpose
























The need for novel farm management methods

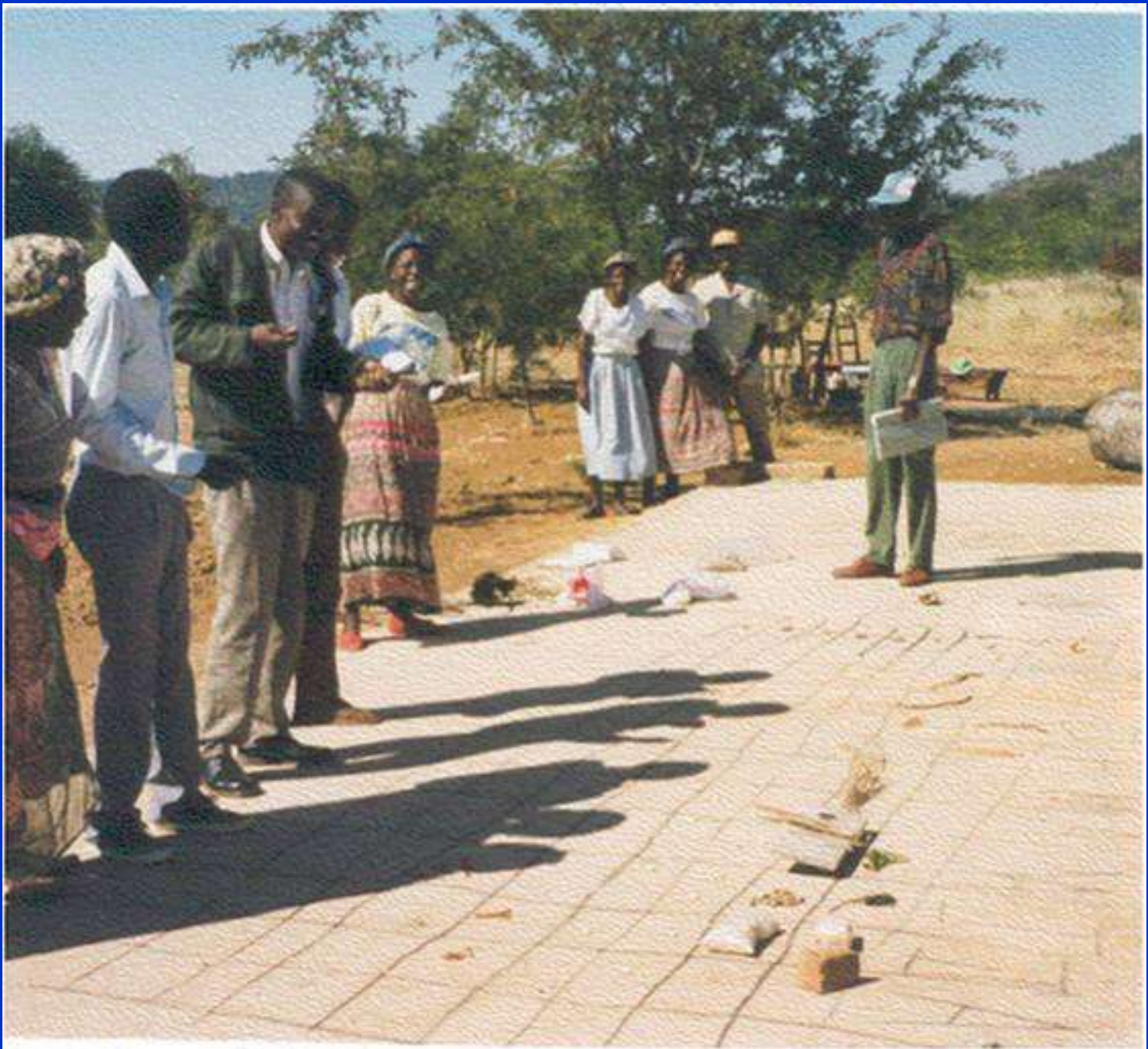
- Farm management methods assist farmer's decision making
- 'Traditional' farm management methods eg enterprise budgets, whole farm budgets, profit and loss accounts, balance sheets, partial budgets
- Used widely by commercial farmers for *planning, comparing alternative strategies, predicting effects of changes, monitoring*

Criteria for Participatory Farm Management methods

- Novel methods needed to:
 - include all important resources (not just money) and illustrate risk
 - Be easy to use
 - include changes over time (& allow planning within a season)
 - use available materials

Time

	I	II	III	IIII	IIII	IIII I
Activities						
Inputs	  	 	  		 	  
Outputs					 	 
Cash balance / 'profit'						



	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.
months	oooooo ooo	oooooooo oooo	oooooooo oooo	oooooooo oooooo	o	oo	ooo	oooo	oooooo	oooooooo	oooooooo o	oooooooo oo
activities	 	 oooooo 	
number of people												
number of days		oooo	oo	oooo	oooo oooo oooo	oooooo	oooooo	oo	oooooo	ooo	oooooo	o
number of animals	 	 	 	 	 						 	
number of days	ooo	oo	oooo	oo	oooooo							
money spent	ddd ddd..									d....	dd
outputs							 				ddddd ddddd ddddd dd	
'cash balance'	d.....											

d = \$100 . = \$10 ☐ = 1 tonne

Uses of Participatory Budgets with farmers

- Comparing different enterprises
- Planning new enterprises eg egg plant production, broilers, group garden
- Introducing and **jointly** exploring ideas about changing practices eg introducing an intercrop
- ‘What if’ scenarios...like a spread sheet

Uses of Participatory Budgets with farmers

- Others ...design and evaluating participatory on farm research, demonstrations
- Understanding farmers' practices eg plan, interact and learn during a season

1) Prior to growing season

1a) **PB plan** for each enterprise

1b) **RAM** (whole farm) **plan** for month 1 made up



2) End of month 1

2a) **RAM actual** for month 1 compared with planned RAM and reasons for differences identified and discussed

2b) **RAM plan** for month 2 made up



(continue for 'n' months)

(as in 3) above)



X) At end of growing season ('n'th month)

Xa) Compile **actual RAMs** into **actual PBs** and compare with original **planned PBs**. Discuss and explore differences.

Ward 12, Buhera District, Zimbabwe – farmers' plans

- Maize + one other crop
- Planting October – December
- Mainly family labour
- Varied access to draught power
- Six case studies, 2 female headed households

Biophysical problems Buhera district (n=6)

Problem / constraint	Farmers affected	Cause of problem	Impact of problem
Poor rains - late arrival, low quantity, and poor distribution	6		Delayed land preparation and planting resulting in competition for labour later in season Low moisture levels in soil
Termite damage (maize & sunflower)	3		Reduced yields, damaged cobs, lodging of plants
Aphid infestation (groundnuts)	3	Prolonged dry spell	Reduced yields
Sick draught animals	1		Delayed land preparation

Biophysical problems Buhera district (n=6)

Problem / constraint	Farmers affected	Cause of problem	Impact of problem
Lodging of maize	1	Termites and high winds	Damaged crop and low yields
Groundnut rosette virus	1	Late planting of crop	Reduced yields
Fungal disease on groundnuts	1	Wet period in season	Reduced yields
Poor soil fertility	1	Cannot afford fertiliser	Low yields
Bird damage	1		Reduced yields
Mice damage	1		Reduced yields

Socioeconomic problems Buhera district (n=6)

Problem / constraint	Farmers affected	Cause of problem	Impact of problem
Lack of cash, or cash diverted e.g. to pay school-fees	5		No fertiliser applied; different crop planted than planned due to seed cost; no weeding carried out; no gap filling
Broken equipment e.g ox-cart, yoke	2	Cannot be replaced as no money	No application of anthill soil
Unavailability of seed variety	2	Poor market supply	Inappropriate variety planted - low yields
Poor quality seed	1	Unreliable supplier	Poor germination and low yields
Ox-cart unavailable	1	Others using it - competition for use as rains delayed planting	No application of anthill soil, delayed transport from field

Socioeconomic problems Buhera district cont'd (n=6)

Problem / constraint	Farmers affected	Cause of problem	Impact of problem
Labour competition	6	Planting of crops at same time so weeding coincides Obligation to provide labour to family members	No weeding of some crops resulting in low yields
Funeral attendance	6	Social obligation	Delayed activities
Illness and pregnancy	3		Reduced labour available resulting in delayed activities

Socioeconomic problems Buhera district cont'd (n=6)

Ban on sale of cattle	Farmers affected	Cause of problem	Impact of problem
Roaming cattle (damage particularly to remote fields)	3	No fences, lack of control	Crop damage, increased labour, plant late, harvest early
Delayed availability of draught animals	2	Not own cattle, competition for animals due to delayed rains	Delayed land preparation
































Tano District, Ghana – farmers' plans

- Tomato cash crop
- Grown at end of dry season
- 20 men, 2 women



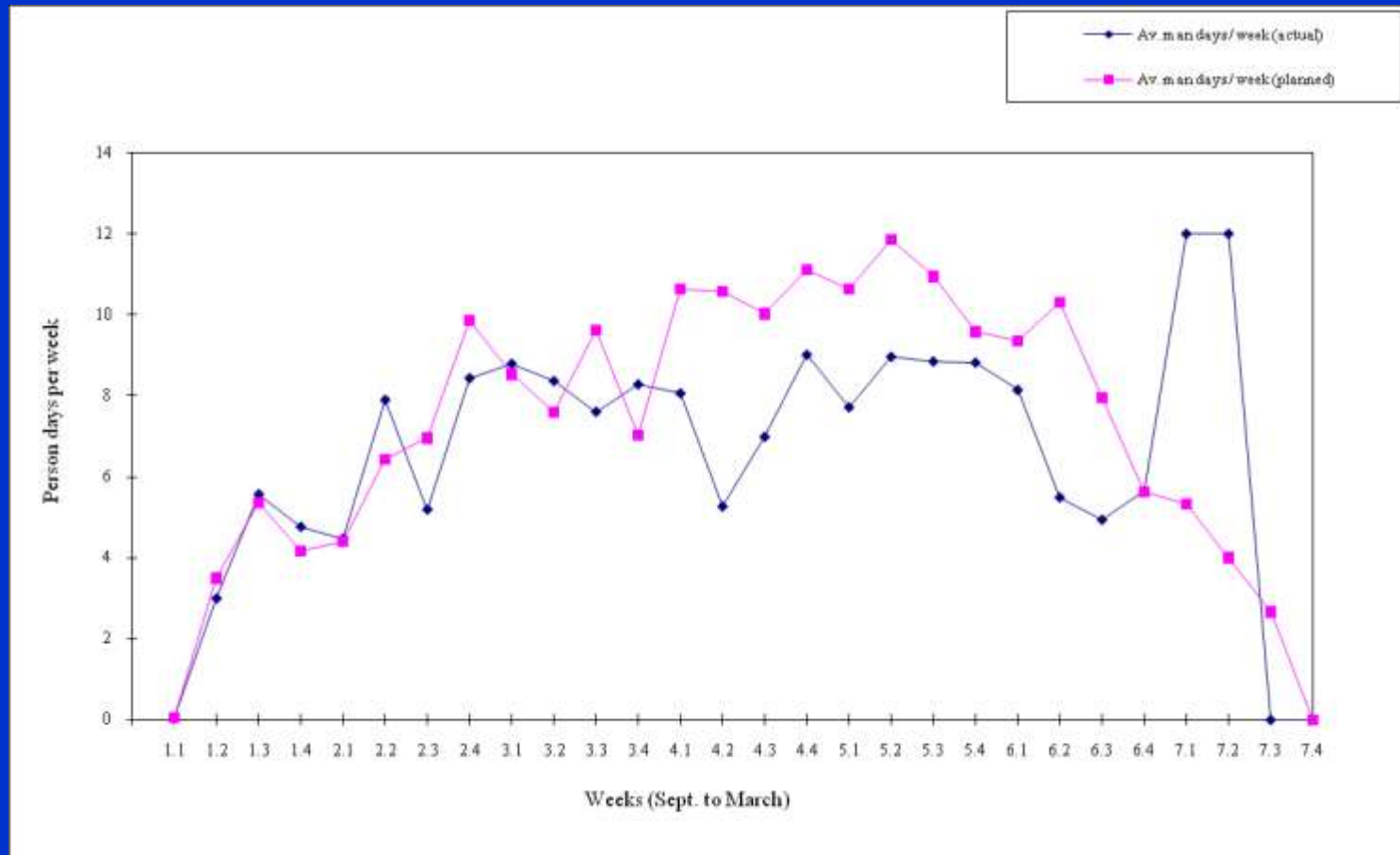
15/10/98. DRY SEASON TOMATO PRODUCTION. MR. A.G. MARFO (THREZ LAND). 1 Acre approx.

DWANGO.
FEB.

	OCT.			NOV.			DEC.			JAN.			FEB.		
ACTIVITY	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	 	 	 	 	 	 	 	 	 	 	 	 	 	 	 
LABOUR	1x1 (S) 5x1 (M) 1x1 (L)	1x1 (S) 2x1 (M) 1x1 (L)	3x2 (M) 1x4 (S) 1x1 (L)	1x2 (S) 1x3 (M) 1x4 (S)	1x2 (S) 1x3 (M) 1x4 (S)	1x2 (S) 1x3 (M) 1x4 (S)	1x2 (S) 1x3 (M) 1x4 (S)	1x2 (S) 1x3 (M) 1x4 (S)	1x2 (S) 1x3 (M) 1x4 (S)	1x2 (S) 1x3 (M) 1x4 (S)	1x2 (S) 1x3 (M) 1x4 (S)	1x2 (S) 1x3 (M) 1x4 (S)	1x2 (S) 1x3 (M) 1x4 (S)	1x2 (S) 1x3 (M) 1x4 (S)	1x2 (S) 1x3 (M) 1x4 (S)
SEED	Smith's (Lushoto)														
FERT.	2 bags Urea 15-15														
SPRAYER	10L														
CUTTING	1x1														
PLANT	1x1														
CULTURE	1x1														
CASH	Seed 18,000 Labour 1,000 Fert 2,000 Sprayer 1,000 Cutting 1,000 Plant 1,000 Cult 1,000 Total 15,000														

YIELD: 35 Boxes
@ \$40,000/Box.

Mean planned and actual labour profiles for 22 tomato farmers, Tano district



Biophysical problems identified, Tano district (n=22)

Problem	% of farmers	Cause of problem	Effect / Impact of problem
Farm burnt by wild fire	9%	-	Reduced harvest
Insect Pests	9%	-	Crop damage
Unexpected dry spell	13%	-	Harvest ended early
Excessive rains	9%	-	Flower drop and poor fruiting. Flooded fields
Fruit cracking	4%	Poor quality variety	Harvest stopped early

Socioeconomic problems identified, Tano district (n=22)

Problem	% of farmers	Causes	Effect / Impact of problem
Lack of buyers for tomatoes	100%	Too many growers, lack of demand	Fruits rot in the field Loss of income for farmers Reduced labour at harvest
Low price for toms	100%	(as above)	Low income & profit
Illness / Pregnancy	17%	-	Activities not undertaken, delayed, or take longer
Funeral attendance	13%	Social obligation	Activities delayed

Socioeconomic problems identified, Tano district (n=22)

Problem	% of farmers	Causes	Effect / Impact of problem
Inputs unavailable	13% (9% fert, 4% chemicals)	Input supply problems	Inconvenience and change in cost
Lack of cash	13%	-	Increased costs, smaller area cultivated, reduced inputs
Equipment broken	9% (sprayer)	-	Increased costs, inconvenience
Distance of farm from road	4%	-	Higher labour cost at harvest

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Constraints and decision making

- Zimbabwe. 11 of 21 constraints socioeconomic, 14 seasonal
- Ghana. 7 of 13 socioeconomic, 7 seasonal
- Illustrates the dynamic nature of decision making, i.e. as conditions unfold

Farmers' views

- Range of literacy levels
- Improved planning
- Improved allocation of resources (drought year)
- React better to events (visualise impacts of decisions)
- Quantifying resources and calculating costs and profit
- Increased awareness of price trends, labour costs
- Help future planning and comparing enterprises

Further uses of participatory budgets with farmers

- Greater emphasis on exploring implications of increased seasonal variation linked to climate change
- Consideration of different potential scenarios and management responses i.e. ‘what if’ ...

