

Blending Management to Technology

A Success Story on Innovative Tea Harvesting System at Alton estate

M.A.Wijeratne

Officer-in-Charge & Senior Research Officer, TRI

H.W.Shyamali

Head Agric Economics Div, TRI

Hemantha Kahatapitiya

Senior Manager, Alton estate



Tea Research Institute of Sri Lanka



Overall performance of the estate



Tea Research Institute of Sri Lanka

2

Introduction of harvesters to Alton estate


- Trained workers/staff by TRI experts
- Started in 2009 with 15 shears (men)
- Provided new baskets
- Higher wages for workers & special incentives
- Received full support from field staff
- Improved leaf standards
- Given Sunday work for shear pluckers
- Other workers volunteered to use shears
- More than 50% of extent is under shearing at present



Overall performance of the estate

Tea yield

VP

	Alton
2010	1910 
2009	1715

High yield

Seedling

	Alton
2010	1151 
2009	1096

5

Overall performance of the estate....

Yield kg/month–Manual & Shear harvesting (Before & after introducing shears)

	<u>Before</u> (Jan-Jun 2008/2009)	<u>After</u> (Jan-Jun 2011)
VP	176 (100) Manual	200 (113) Manual
VP	163 (100) Manual	195 (119) Shear
SD	97 (100) Manual	105 (108) Shear

High yield

6

Overall performance of the estate....

Plucking average-kg

	Alton
2010	17.3
2009	13.8



High plucking averages

Cost of plucking-Rs/kg (with AI & PI)

	Alton	Other estates
2010	(121) 176.29	(140) 171.65
2009	(100) 144.92	(100) 122.16



Controlled plucking cost

7

Overall performance of the estate.....

Cost of Production -Rs/kg

	Alton
2010	345.05
2009	372.22



Reduced COP

NSA-Rs/kg

	Alton	Other
2010/11	374.31	356.05
2009/10	366.71	360.15



High NSA

8

Overall performance of the estate.....

Profit/Loss-Rs/kg

	Alton	
2010 (Profit)	29.26	# <i>Turned to profits</i>
2009 (loss)	-5.51	

Worker Productivity - kg/worker

	Alton	
2010	426	↑ # <i>High labour productivity</i>
2009	381	

9

Overall performance of the estate.....



Alton estate:

2009 - 19th position in Western high grown

2010 - 6th position ,, ,, ,,

10

Savings due to shear harvesting

Plucking cost	Alton	Other estates
	2010	(121) 176.29
2009	(100) 144.92	(100) 122.16

Probable plucking cost in 2010 (with AI & PI)

(40% increase as in other estates) = Rs 202.88/kg

Actual plucking cost in 2010 = Rs. 176.29

Savings by new plucking strategy = Rs. 26.59/kg

Total production in 2010 = 386,249kg

Estimated savings by shear plucking = Rs.10,270,360

Aprox. cost incurred for harvesting strategy = Rs. 984,640

Total savings (10,270,360-984,640) = Rs.9,285,720

11

Pay-back period of selective harvester

Plucking average - VP (manual) = 18 kg/worker
(shears) = 23 kg/worker

Cost including over killos (manual) = Rs. 610
(shears) = Rs. 705

Rs/kg green leaf (manual) = Rs. 33.88
(shears) = Rs. 30.65

Savings with shears = Rs. 3.23/kg GL

Amount of GL required to cover cost of shear = 421kg

No. of days required to pluck 421 kg = 18 days

Pay-back period = 18 days

12

Summary & Conclusions

Present problem (Plucking)

The labour shortage is a continuing problem



As a result:

- # Fields are under-plucked despite all inputs (*eg. Fertilizers*)
- # Extended plucking rounds produce poor quality leaf
- # Stripping & Leaf damages are very common (*eg. men*)
- # Refuse tea content is high
- # Quality of made tea (*price*) is low
- # COP is high



Profit margin is very narrow/negative (losses)

13

Summary & Conclusions....

Way out

In order to face the challenge we need to

- Improve labour productivity
- Improve yields
- Improve leaf standard &
- Improve quality of our teas

The most appropriate opportunity available for us is to

- Use the TRI Selective Tea Harvesters &
- Plucking baskets on estates
- With appropriate Management intervention

14



Thank you

