PRESENT STATUS AND CONSTRANTS IN MECHANIZATION OF RICE PRODUCTION

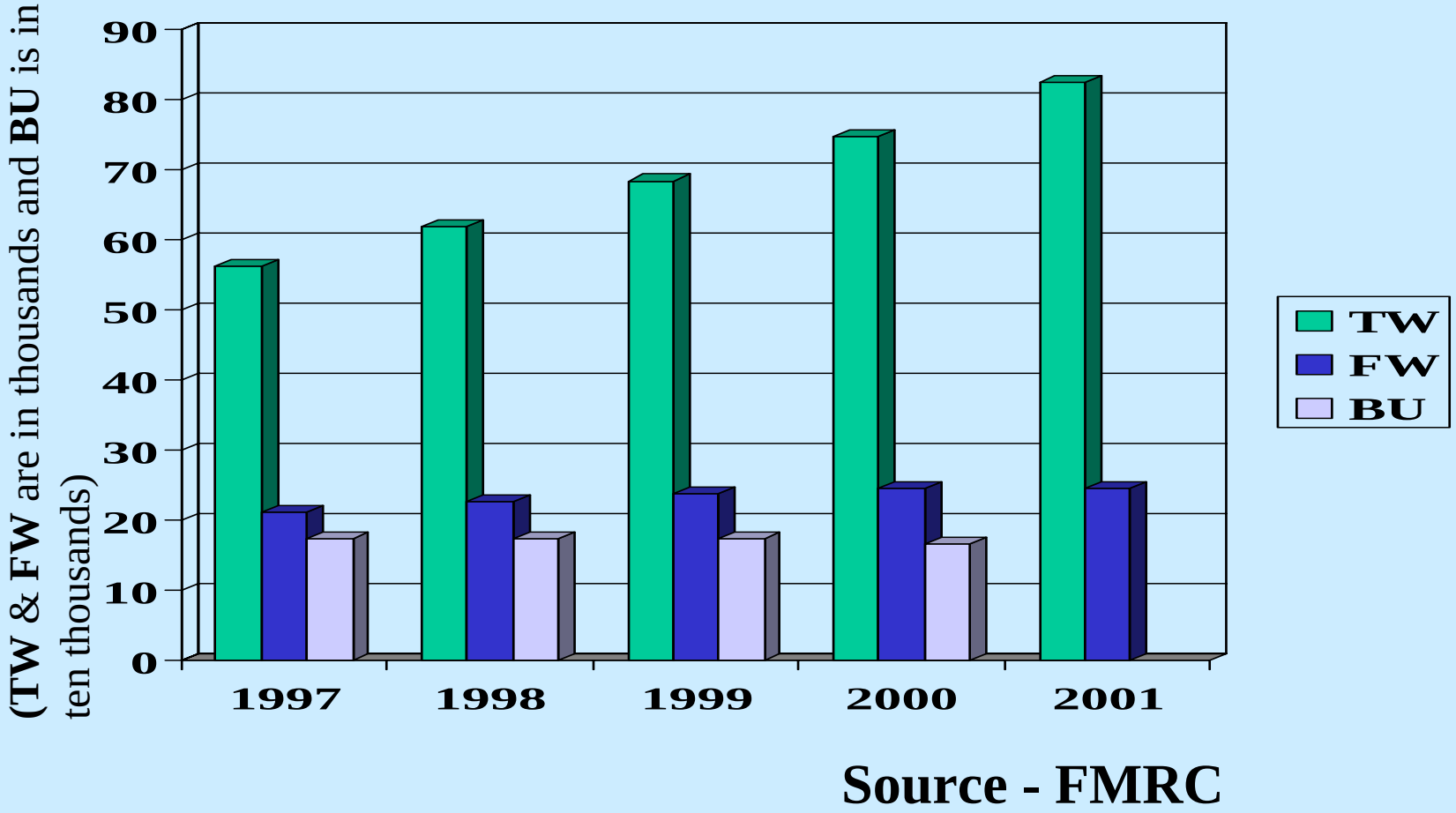
THE NEED

1. To minimize drudgery
2. To lower production cost
3. To increase quality
4. To increase cropping intensity
5. To solve the problem of labor scarcity

SOME GENERAL INFORMATION

- Rice production 2.69 million tons (2001)
- This fulfils 96% of the local demand
- 736,000 ha available for paddy cultivation
- Cultivated only 75% in Maha and 45% in Yala
- Average yield 3.86 tons/ha (80 bushels/ac)
- 16% of the agricultural income is from the paddy sector
- 800,000 families (20% of the population) depend on paddy cultivation
- 30% of the labor force involved in rice sector(source DOA & DCS)

Status of Main Power Sources in the Field



Source - FMRC

Present Status of Machinery Population (FMRC, 2001)

Machine	No
F.W. Tractors (20-50hp)	24473
Power Tiller(5hp-12hp)	82372
Plows & Rotovetors	115509
Transplanters	825
Weeders	4500
Sprayers	250186

Present Status of Machinery Population (FMRC, 2001)

Machine	**No**
Reapers	2500
Threshers	55398
Winnowing Fans	59250
Combine Harvesters	596
Oxen & Cows(5% of population)	77850
Buffalos (24% 0f population)	166464

Level of Mechanization in each Operation (FMRC, 2001)

Operation	**L of M %**
Land Preparation	90
C & R of Bunds	0
Transplanting	5
Weeding	2
Spraying	100
Reaping	15
Combine Harvesting	5
Threshing	60
Winnowing	82

Cropping Intensity for Paddy- Year 2000 (DCS, 2001)

Total area available	736,000ha	
Area cultivated Maha 99/00	549,246ha	75%
Area cultivated Yala 2000	328,354ha	45%
Area cultivated Yala & Maha	877600 ha	119%

- 55% of land (Yala) unable to cultivate due to scarcity of water
- Water scarcity arises mainly due to delayed land preparation in previous Maha
- By shortening the duration of land preparation we can save water for Yala
- To shorten the duration of land preparation by 2 weeks, 556,920 hp additionally required

Power Requirement and Duration of Land Preparation

Operation	**Power Req.**	**Duration**
Primary Tillage	15hp/ha	12days/ha
Secondary Tillage	10hp/ha	8days/ha
Pudling & Leveling	10hp/ha	8days/ha
Crop Establishment		8-30 days/ha

Constrains and Suggestions

1. Holding size and topography in upcountry

Holding sizes in major paddy cultivating areas

Holding size (ac)	Pol	Amp	Bat
Less than 1	13	11	12
1-2	20	16	17
above 2	67	73	71

(Source DCS)

2. Small size Plots

   This reduces Field Capacity of machines

   Make larger plots by removing excessive bunds, save labor C & R bunds (make sure to level the basin properly before crop establishment for water management purposes)

3. Lack of extension services

   Educate farmers

4. Lack of training facilities (only FMTC)

   Improve facilities and have more centers

5. High cost of farm machinery

   Promote local manufacturers, subsidize material cost, introduce a mechanization policy

6. Low income of farmers.

   Self propelled machines are expensive (Combines), Introduce machines which could be coupled to existing tractors Improve research facilities

7. Non availability of machines. (clearing and repairing of bunds)

   Improve research facilities

8. High cost of fuel & electricity.

Riding type 12hp TW tractor is more economical (source: FMRC)

Type	Fuel con	Capacity	Capacity
7hpwtw	1.0L/h	0.4 ha/day	.05ha/L
12hprtw	1.4L/h	1.0 ha/day	.09ha/L
35hpfw	4.5L/h	1.4ha/day	.04ha/L

9. Lodging.

It is observed that 60 % of paddy crop was lodged in Maha 2001/2002.(FMRC)

Develop resistant varieties

Transplanting or row seeding

10. Non availability of roads to individual farms.

Develop infrastructure facilities

THANK YOU