



Centurion
UN
Shaping
Empowering

MECHANIZATION



WHAT IS MECHANIZATION?

Mechanization is viewed as package of technology to:

Ensure timely field operations to increase productivity, reduce crop losses and improve quality of agro-produce

Increase productivity of land and other inputs more effectively

Increase labour productivity using labour saving and drudgery reducing devices.

The mechanization technology is thus, dynamic and location specific.

It is subject to change with techno-economic advancement and socio-cultural up-liftment.



Centurion
UNIVERSITY

Shap
Emp

OBJECTIVES OF MECHANISATION

Ensure timeliness of each operation

Higher field capacity and field efficiency

Increase land use

Reduce drudgery

Increase productivity

Reduce losses and improve quality of produce

Enhance the effectiveness of other inputs

Add value to the produce

Reduce production cost

Make farming cost effective



Centurion
UNIVERSITY
Shaping Lives...
Empowering Communities...

POWER SOURCES IN FARMS

ANIMATE POWER

HUMAN POWER

ANIMAL POWER

MECHANICAL POWER

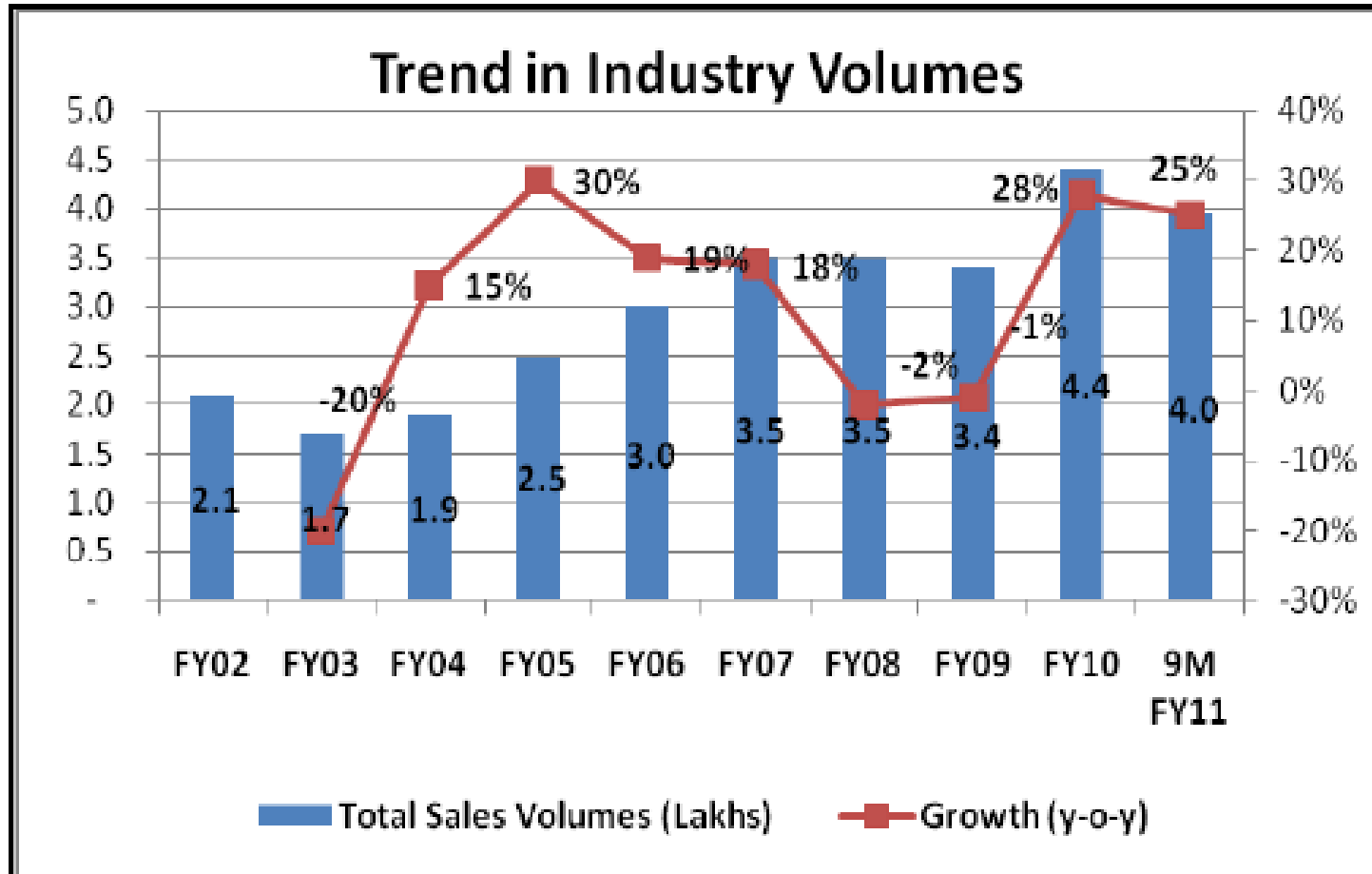
ELECTRICAL POWER

OTHERS SOURCES



ANNUAL TRACTOR SALE

Chart 1: Annual Trend in Tractor Sales Volumes



Source: Industry, ICRA estimates



CONSTRAINTS OF MECHANIZATION

SMALL LAND HOLDING SIZE

NON AVAILABILTY OF ASSURED IRRIGATION

LOW CROPPING INTENSITY

POOR ECONOMIC CONDITION

NON AVAILABILITY OF MACHINERY AND EQUIPMENT, LACK OF REPAIR AND MAINTENANCE FACILITIES

LOW USE OF LARGE MACHINES AND POWER SOURCES

LACK OF PROPER KNOWLEDGE OF FARMER ON FARM MACHINERY.

MECHNIZATION MAY DISPLACE LABOUR



Centurion
UNIVERSITY

S
E

WHY MECHANIZATION ? NEED

**INCREASE PRODUCTIVITY TO MEET THE
DEMAND**

INCREASE CROPPING INTENSITY

SHORTAGE OF LABOUR

TO MAKE AGRICULTURE MORE PROFITABLE

TO REDUCE DRUDGERY IN AGRICULTURE



Centurion
UNIV
Shaping Lives
Empowering

TYPES OF MECHANIZATION

ANIMAL POWER MECHANIZATION

**SMALL FARM SIZE (< 2 HA),
RAINFED CONDITION**

POWER TILLER POWER MECHANIZATION

MEDIUM FARM SIZE (2 – 5 HA)

TRACTOR POWER MECHANIZATION

**LARGE FARM SIZE (>10 HA),
IRRIGATED AREA,
HIGH CROPPING INTENSITY AREA**



TARGET OF MECHANIZATION

Increase of power input to 2 kW/ha by the year 2020.

To develop high capacity farm machines for timeliness of operation where turn around time is low.

To improve management of farm machinery

To mechanize hill agriculture

To mechanize sugarcane, cotton, fruits and vegetable crops and covered cultivation

To improve quality of manufacture of farm machinery

To establish farm mechanization clinic & primary processing unit in rural areas for more employment and increase of farm income

To encourage SSI unit to take up manufacture of farm machinery and to strengthen R&D - manufacturer linkages for speedy commercialization.



Mechanization strategy different farm sizes

Small farms (1-4ha):

Improved animal drawn implements can be used (MB plough, cultivator, disc harrow, puddler, seed- cum fertilizer drill, planter, animal drawn weeder, bullock cart supplemented by manual operated transplanter, manual weeder, knapsack sprayer/power operated knapsack sprayer, pedal/power thresher

Making custom hiring service available in the region for tractor drawn implements

Cooperative management of farm machinery

Financing of secondhand tractor

Providing small animal drawn implements with provision of subsidy

Contact or corporate farming