

Asian and Pacific Workshop on Whole-Process Mechanization of Potato Production

Title: Mechanized Potato Farming in Pakistan

Speaker Name: Muzammil Husain

Position: Scientific Officer

Agency: Pakistan Agricultural Research Council

27-28 June 2016, Kunming, China



CSAM



Content Overview

- Potato Supply chain in Pakistan
- Status of mechanization in potato production
- Need assessment of Potato production mechanization
- Challenges and constraints faced for whole-process mechanization
- Suggestion for regional cooperation for whole-process mechanization of potato production in Asia and the Pacific
- Conclusion
- Speaker contact information

Potato supply chain in Pakistan

- In Pakistan potato production is estimated 3141.40 thousand tones with an average yield of 22.7 per hectare.
- Potato supply chain in Pakistan can be categorized of three types.

Local consumption

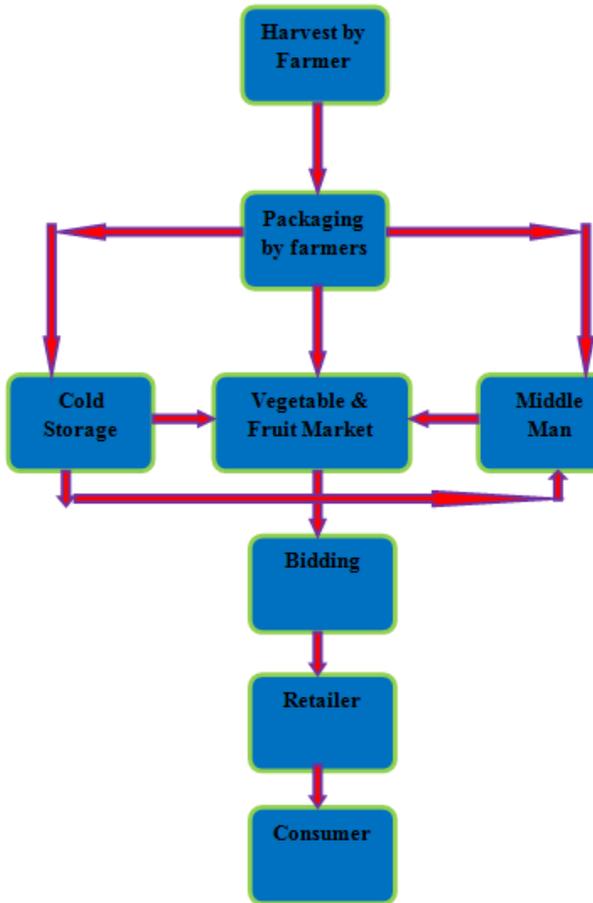
Industrial consumption

Exports

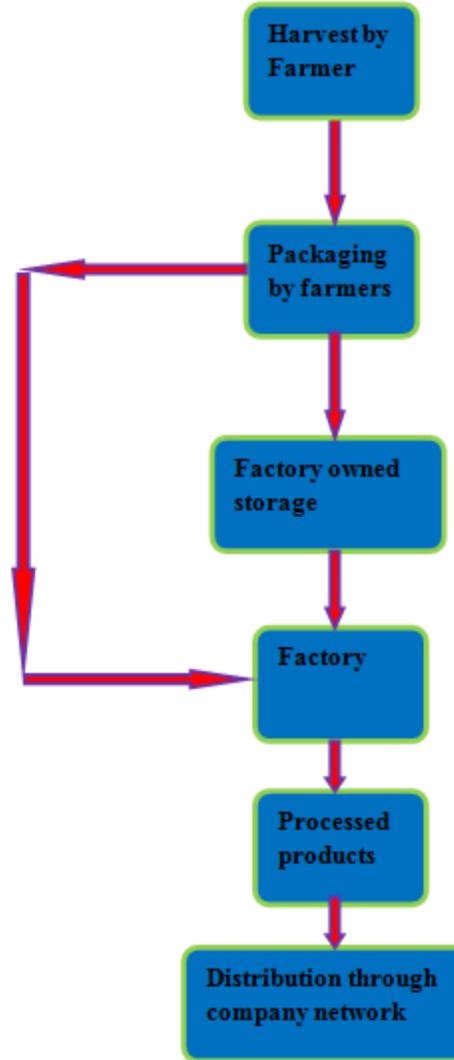
- By most accounts, the marketing system for potatoes in Pakistan is openly competitive, with a large number of buyers and sellers. Sales sometimes occur via public auctions.
- Marketing is organized by a network of agents who organize village-level traders, also called assemblers.
- The flow is mostly from village to city, where demand is highest.

potato supply chain

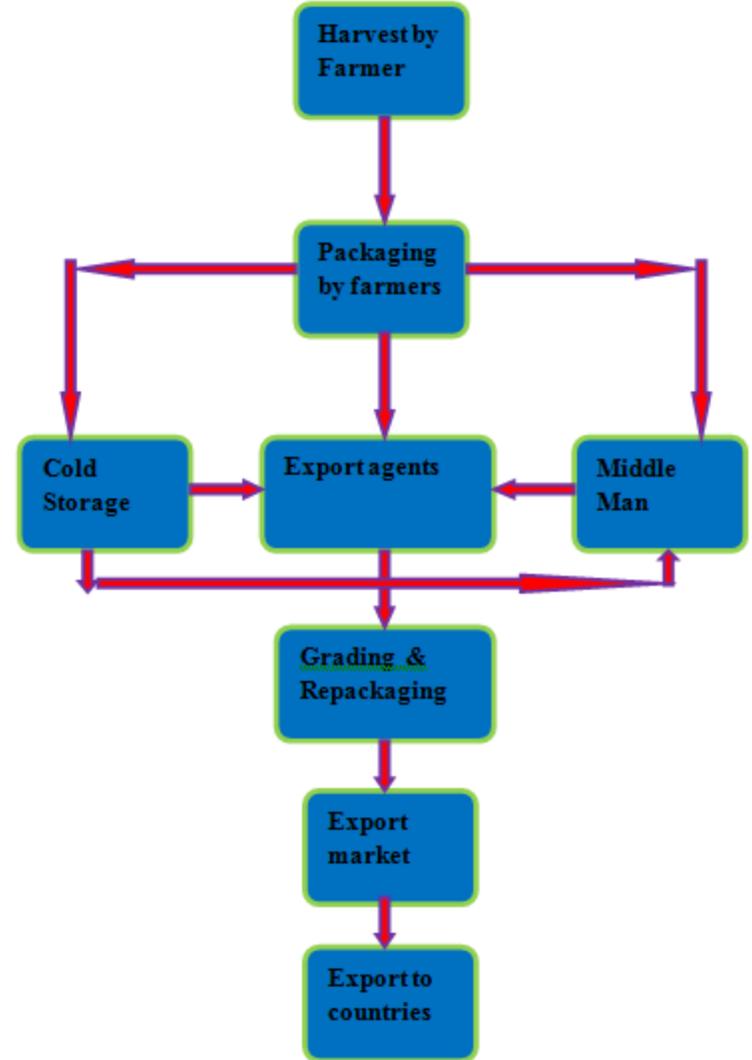
Domestic



Industry



Export



Status of mechanization in potato production in Pakistan

Currently the farmers of Pakistan are using the following essential machinery and equipment in land preparation for potato sowing.

- Mould Board Plough
- Disc Plough
- Tine cultivator
- Disc Harrow
- Rotary tiller
- Ridger

Farmers are using following machinery for sowing, harvesting and other purposes.

- Potato planter cum fertilizer
- Hoeing and intercultural practices machinery
- Spray machinery
- Harvesting machinery
 - Potato digger
 - Potato harvester
- Potato grader

Need assessment of potato production mechanization in Pakistan

- **Portable Potato Grader**

The need of portable tractor mounted PTO operated potato grader, with adjustable RPM of feeder, grader and conveyors according to the materials to be sorted out.

- **Stone separator**

In Pakistan some soils in plain areas and mostly in hilly areas naturally contain stones, which damage the potato tuber during planting and harvesting.

- **Harvester**

A self propelled potato harvester should be introduced which contain a function of digging, cleaning, grading and packing in a single unit.

- **Intercultural/ Hoeing machinery**

To overcome the problem of weeds and residue other than crop, a self propelled hoeing machinery with less hp is the need of farmers.

- **Planter**

Need of farming community is light weight fully automatic planter

- **Seed cutter**

An intelligent seed cutting machine should be introduced for better, uniform and safe cutting of seedling

Challenges and constraints faced for whole-process mechanization of potato production in Pakistan

- **Small farmers**

farmers have small land holding. These farmers do not afford to pay the price of high tech machinery involved in whole process mechanization of potato. Usually these farmers use machinery from the service providers. The service providers can be targeted to enhance adoption of machinery use.

- **High cost of production inputs:**

The high cost of good seeds, labour and farming equipment is a major constrain to the quantity of potato produced. Many farmers cannot afford to buy the equipment which will increase their yield output.

- **Tractorization instead of mechanization**

In Pakistan most of the farm machinery is operated through the tractor, self propelled special machines for different crops in Pakistan are not very popular.

- **Small HP tractors**

In Pakistan 60 percent of tractor are less than 50 HP. These tractors are not even capable of performing basic potato mechanization machinery i.e. Digger and planter.

- **Inadequate storage facilities:**

The storage facility available is the traditional methods which do not store the potato tubers to last for more than one month. This increases the loss of potato tubers and seeds, therefore farmers have to sell off their produce as soon as it is harvested.

Suggestions for regional cooperation for whole-process mechanization of potato production in Asia and the Pacific, and potential contribution.

- Small scale machinery should be introduced which were compatible for small farmers.
- To approach mechanizing machinery for developing countries import and export duty should be vanished or decreased.
- Assess the type and size of the machinery, relevant to their topographical conditions .
- Such type of conferences/workshops/seminars which promotes the potato mechanization should be held at different countries of Asia and pacific.

Conclusion

- A small scale machinery should be developed and promoted in developing and poor countries for mechanized potato production as a welfare of humanity to feed hungry world.
- The common fund should be established, which support the projects for resolving the issues relevant to mechanized potato production.
- Farmers training programs should be launched relevant to mechanization.
- Frequent Conferences in which variety of nations throughout the globe are called to pay attention on mechanized production of important humane food crop, should be arranged. From this conference we all have an opportunity to learn from each other and do something to promote mechanization for better production.

Contact Information

A decorative horizontal line of orange dots of varying sizes, arranged in a slightly wavy pattern.

MR. Muzammil Husain

Tel: +92 51 90733611

Mob: +92 333 2211123

Fax: +92 51 9255034

Email: engrmuz@gmail.com