College of Horticulture
V.C.S.G. Uttarakhand University of Horticulture and Forestry
Bharsar, Pauri Garhwal

Rural horticulture work experience

COMPONENT- INDUSTRIAL TRAINING

Submitted To-
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INDUSTRIAL TRAINING FROM UTTARAKHAND SEEDS AND TARAI DEVELOPMENT CORPORATION LTD. HALDI, PANTNAGAR.

GUIDELINES UNDER-

- Dr. Deepak Pandey (Chief Seed Production Officer)
- Dr. Chandra Mohan
- Dr. Mohit Sharma (Incharge of Haldi Plant)
- Dr. B.B. Mishra (Incharge V.S.P.P.)
- Mr. P.S. Mehra (Incharge of S.T.L.)

Aims of Industrial Training

- The main aim of the Industrial Training program is to produce graduates who are ready to face the working world.

- The program also aims to produce the knowledgeable, skilled and experienced graduates, demanded by employers, who are able to apply the knowledge acquired at university to the working world.

INTRODUCTION :

- It refers to Uttarakhand Seeds and Tarai development Corporation.
- Headquarter- Haldi
- Establishment - 29 June,1969 .
- Established by G.B.P.U.A.T. With the help of World Bank ,State and Central government.
- Originally name was – TDC,renamed UK Seeds & TDC in 2002.
- First chairman – Dr. Dhyan Pal Singh.
- Governed by Company's act.

❑Operating across the state-20,000 hectares seed production area.

❑ The total turn over of last financial year 2014 -15 was 10303 lacs rupees.

HISTORY :

- To achieve the goal of increased productivity, availability of high quality seed, in adequate quantities, is of paramount importance.

- In this very context, a project known as Tarai Development Corporation (TDC), was launched on 29th June, 1969 with the assistance of World Bank and Govt. of India.

- Under the auspices of Tarai Development Corporation (TDC) land reform works viz. leveling, grading, development of irrigation facilities and import of agricultural implements such as, tractors, combine harvesters and various imported parts were carried out in order to provide basic inputs to the share holder seed producer for efficient and quality seed production.

- The corporation's contribution to "Green Revolution" received all around acclamation and applause

- The government of India and World Bank were so impressed with its efficiency, achievement that the corporation was taken as Mother Project, for establishing similar seed project in other 5 state of the Country under National seed program (NSP) phase I. Under NSP II, launched in 1978, this corporation was restructured with induction of capital from U.P. State, Govt. of India, NSC and it started functioning under the name and style of "U.P. Seed and Tarai Development corporation Ltd. (UPS & TDC)".

- As per provision contained in the U.P. Reorganization Act, 2000, an M.O.U. has been entered between the government of Uttar Pradesh and Uttarakhand for the division of the Corporation on 09.12.2002

- The Corporation is now functioning under the administrative control of Uttarkhand Government. It is now known as Uttarakhand Seeds and Tarai Development Corporation Ltd. (UKS & TDC

MISSION :

- The mission of UKS & TDC is to act as an effective instrument in accelerating the farm production, productivity per unit and thus, improve the socio-economic status of the rural areas.

- For this purpose, the Corporation is endeavoring to:
Make available quality seed, timely and in adequate quantity at reasonable and economical price in its marketing territories; through Public, Cooperative and Private network of distributors and dealers.

- Liaise and associate with research organization of repute, for developing production of scientifically proven high yielding seed varieties.

- Maintain organization, systems and procedures to ensure quality of seeds grown, procured, processed and packed, stored and marketed.

- Aim at generating internal resources for facilitating steady growth and development in servicing the farmers.

OBJECTIVES :

- To make available improved quality seeds
- To Increase productivity
- To improve the economic status of the farmer

ACTIVITIES

- Placement of Breeder seed indent with Ministry of Agriculture Govt. of India through Director Agriculture, Uttarakhand.

- Procurement of Breeder seed from different ICAR Institutes/Agriculture Universities after receiving allotment from Govt. of India.

- Multiplication of Foundation seed from allotted Breeder seed at University farm and progressive seed growers

- Arrangements for Certified seed production at seed growers field after providing them Foundation seeds.

- Inspection of seed production fields to ensure genetic purity and disease free Certified seed. Installation, Management, operations and proper storage of seed in processing plants.

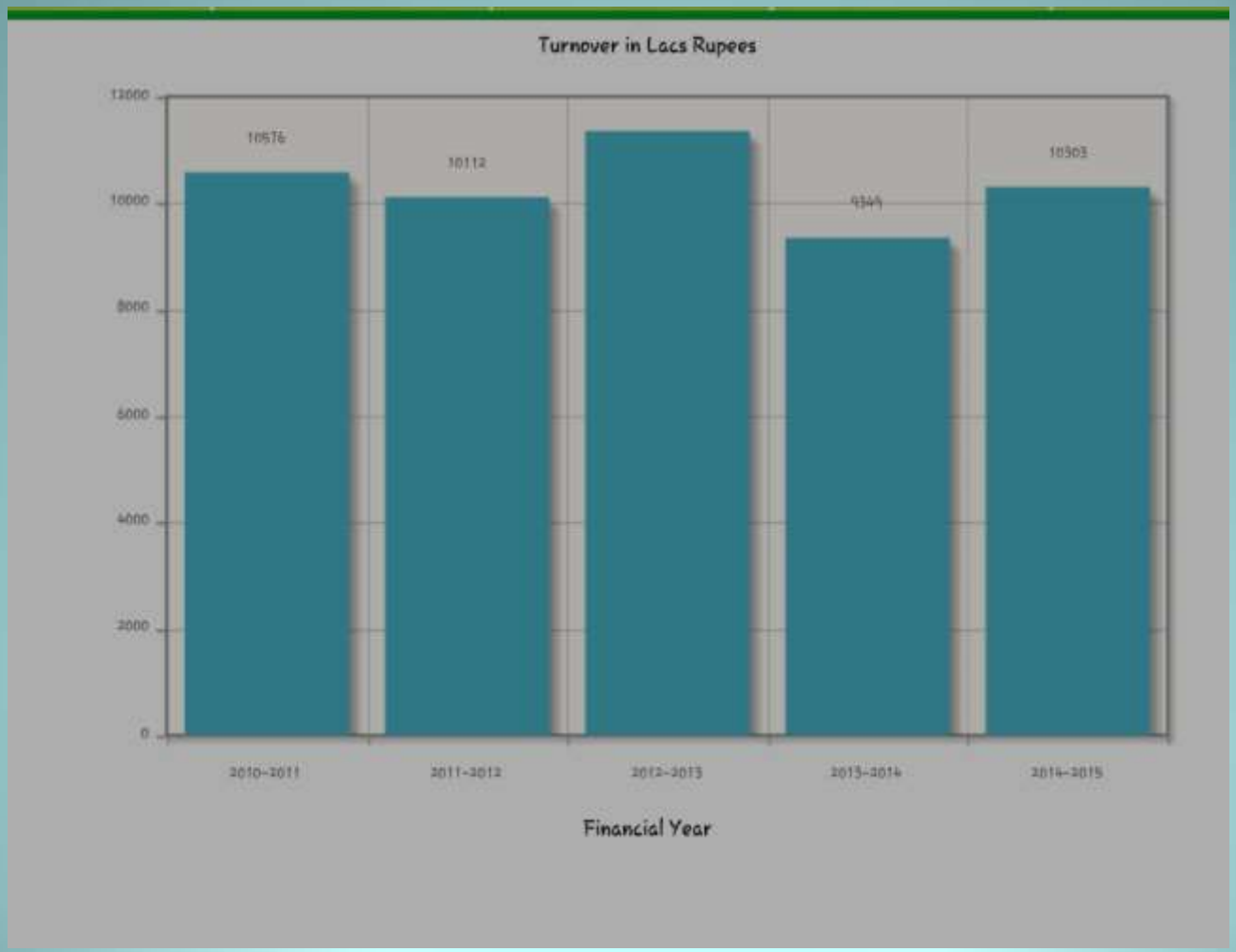
- Providing bags free of cost and all other facilities to the seed growers which are required from time to time for quality seed production.

SHARES OF DIFFERENT SHARE HOLDER IN UKS AND TDC.

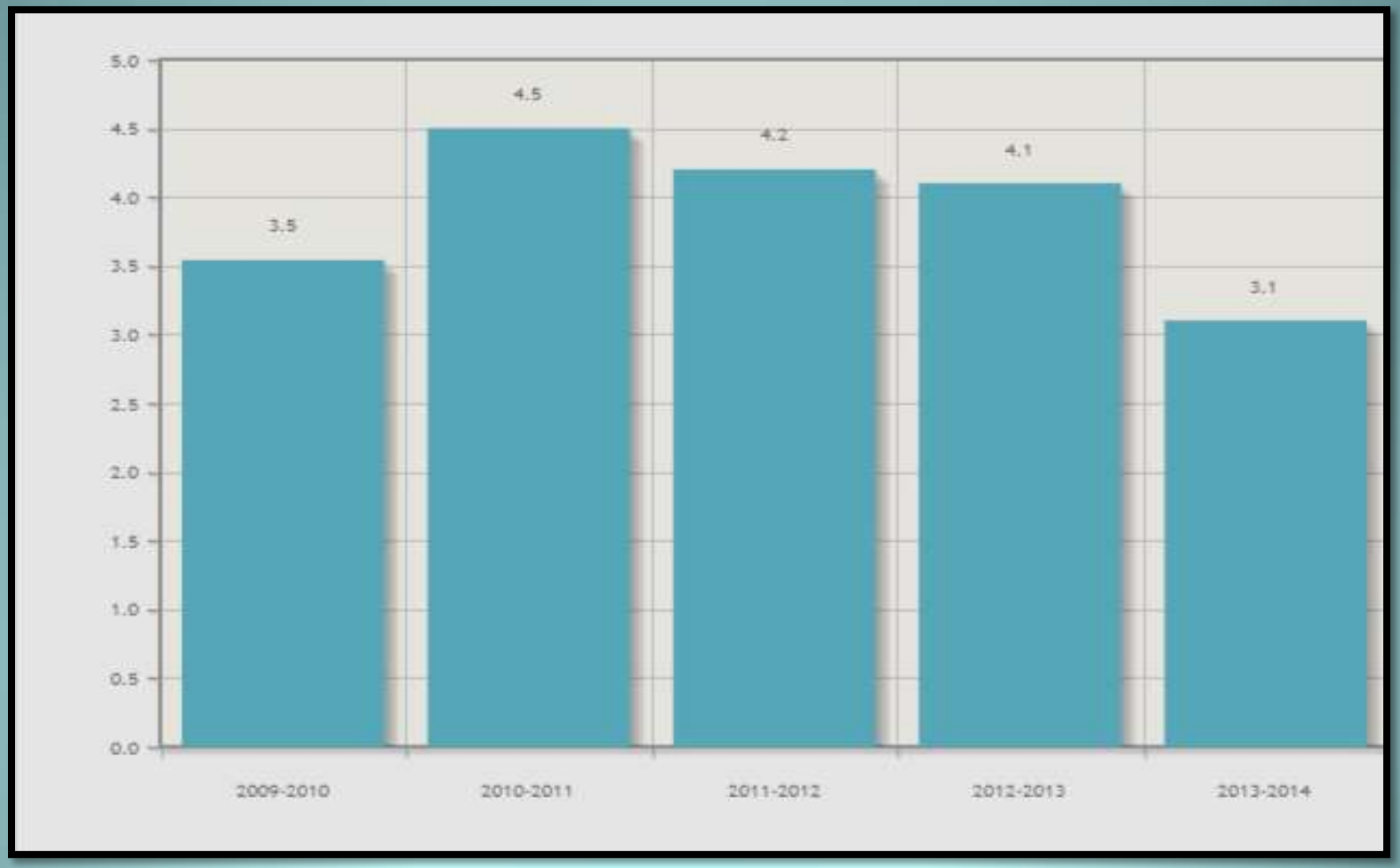
S.NO.	SHARE HOLDER	EQUITY	DIRECTORS
1	UTTARAKHAND GOVERMENT	30%	6
2	GOVT. OF INDIA	21%	3
3	FARMERS OF TARAI REGION	20%	4
4	GBPUA&T,PANTNAGAR	15%	2
5	FARMERS OF KANPUR & FAIZABAD REGION	5%	1
6	FARMERS OF GARHWAL & KUMAON REGION	9%	1

TURNOVER OF UKS AND TDC IN LACS.

:- turnover of last year 2014-2015 - 10303 lacs rupees



PRODUCTION IN LACS QUINTALS.



TDC PROCESSING PLANTS

Name of processing plant	Capacity (in quintals)
Nagla	1,80,000
Haldi	1,60,000
Matkota	1,20,000
Kashipur(On Custom)	50,000
Khatima	40,000
Dhanori (Haridwar)	40,000
Vegetable Plant Haldi	20,000

MAJOR DEPARTMENTS

- PRODUCTION
- PROCESSING
- MARKETING
- ENGINEERING
- FINANCE
- HUMAN RESOURCE

❑ ACTIVITIES INVOLVED IN PROCESSING OF SEED

A. Intake of raw seed.

1. Whole intake lot is weighed .

2. Visual inspection of raw seed is done for purity.

3. Moisture is measured to check quality of seed.

- **Moisture test**: It is done by moisture meter. Moisture should not be greater than 12% for wheat, 13% for paddy, 9% for oilseeds and 9% for pulses and vegetable varies from 6 to 10%.

4. Quality raw seed is stored in intake shed.

II. QUALITY CHECK

1. **sampling.**
   i. field sample.- taken from farmers field before intake of seed.
   ii. BP sample.(before processing)- taken before processing for testing in Lab.
   iii.AP sample.(After processing)- taken after processing for testing in Lab..

Types of sample :-

a. Submitted sample – it is submitted in lab. for testing .
b. Working sample – amount of seed from submitted sample which is tested in lab.

eg.	submitted sample	working sample
1. pea -	1000g	900g
2. okra -	1000g	140g.
3. raddish-	300g	30g.

III. TEST CONDUCTED IN LAB.

AP and BP samples are tested in lab for quality assurance.

Step 1. Sample registration.

samples are provided with tag having farmers code , variety and type of seed (foundation or certified seed) etc.

Step 2. Physical purity test .

In physical purity test sample is tested for innert matter, objectional weed, damaged seeds other variety seeds etc.

#. Volume of sample specific to crop is taken and visualy tested for purity.

eg. Okra – volume C, French bean – volume B, Brinjal – volume A.

Selection other cultivar seeds mixed with seed sample.

step 3. Tetrazolium test

It is fast method of checking viability of seed.

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a. Seeds are soaked for 24hrs.

b. Seeds are cut into half

c. Dip into tetrazolium solution 2gm per l.

d. Kept in incubater for 4hrs.

e. Result- viable seed show pink colour.

Step 4. Germination test

This test is done to check the germination capabilty of seeds.

Method of germination test – rolled towel paper method.

It is of two types- top of the paper and between paper.

- In this seeds are kept in filter paper.
- test is done in two replications per contains 100 seeds.

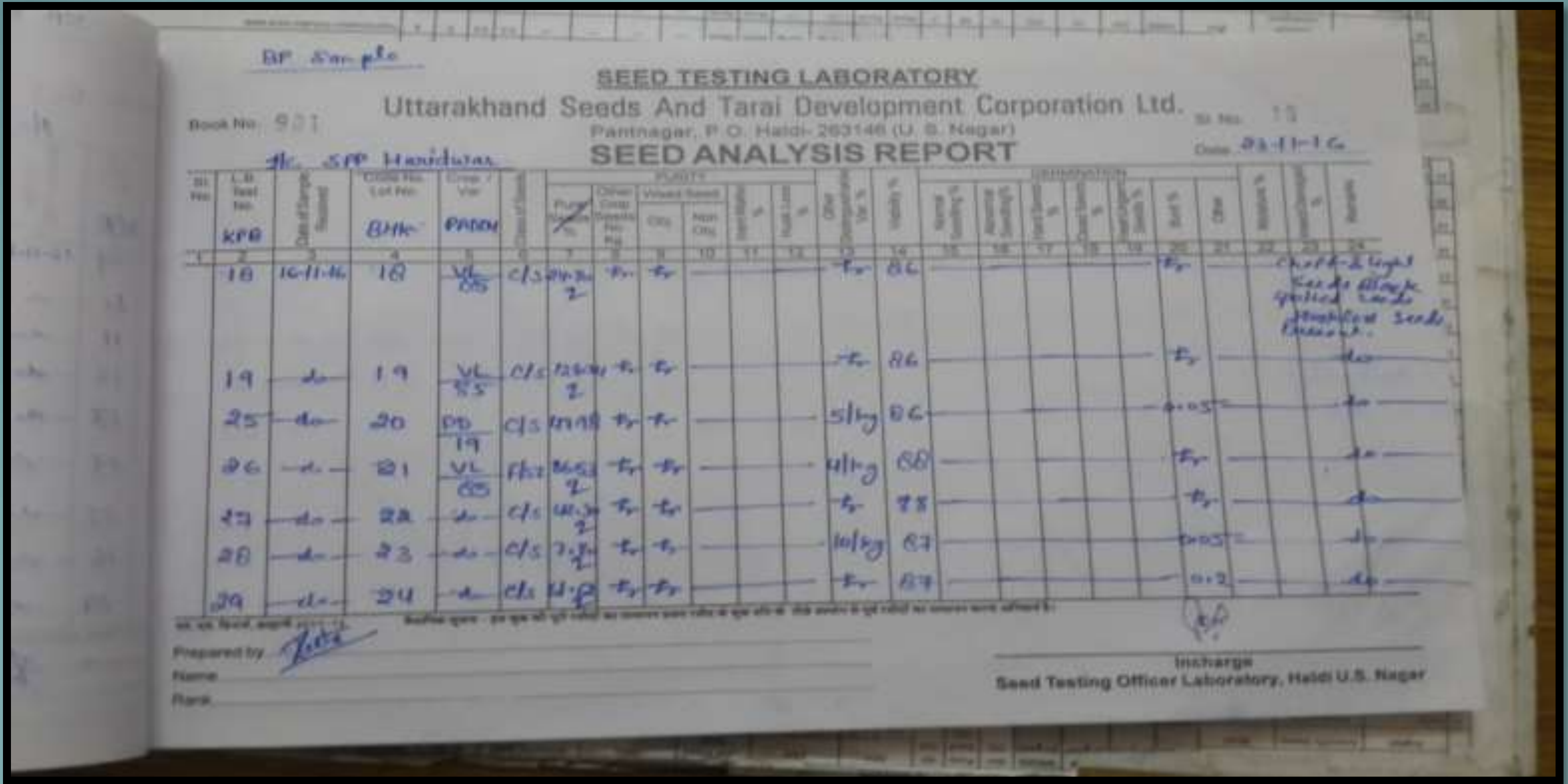
- mosturised and kept in incubater.

- Germination is tested after 4 to 8 days.

- Then seeds are divided into 3 groups.

1. Normal seeds. 2. Abnormal seeds. 3. Dead or hard seeds

LAB TEST REPORT



BP Sample

SEED TESTING LABORATORY

Uttarakhand Seeds And Tarai Development Corporation Ltd.

Pantnagar, P.O. Haldi- 263145 (U.S. Nagar)

SEED ANALYSIS REPORT

Book No. 921 — Sl. No. 15 — Date 23-11-16

Ac. SPP Haridwar

Sl. No.	L.B. Test No. (KPB)	Date of Sample Received	Code No. / Lot No. (BHK)	Crop / Var (PADDY)	Class of Seeds	Pure Seeds %	Other Crop Seeds No/Kg	Weed Seed Obj.	10	11	12	Other Distinguishable Var %	Viability %	15	16	17	18	19	20	21	22	23	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	18	16-11-16	18	VL 65	C/S	[illegible]	Tr	Tr				Tr	86						Tr				[illegible]
	19	do	19	VL 55	C/S	[illegible]	Tr	Tr				Tr	86						Tr				do
	25	do	20	PD 19	C/S	[illegible]	Tr	Tr				5/kg	86						0.05				do
	26	do	21	VL 65	F/S	[illegible]	Tr	Tr				4/kg	88						Tr				do
	27	do	22	do	C/S	[illegible]	Tr	Tr				Tr	78						Tr				do
	28	do	23	do	C/S	[illegible]	Tr	Tr				10/kg	87						0.05				do
	29	do	24	do	C/S	[illegible]	Tr	Tr				Tr	87						0.2				do

Prepared by

Name

Rank

Incharge

Seed Testing Officer Laboratory, Haldi U.S. Nagar

Report contains result of different test contucted, on the basis of report the seed get permission for processing and selling.

Steps in raw seed processing.

- Hopper
- De stonner
- Pre Cleaner
- Seed Grader
- Indent Cylinder
- Gravity Separator
- Seed Treater
- Autobagger.Stitching, Sealing.
- Stacking

HOPPER

It is a small bin where seed are droped to be lifted through conveyor belt.

DESTONER

It is machine to remove large stones, wood and debries.

PRECLEANER

•Precleaning is done for removal of wasteb which larger in size then seed.

• It generaly help in removal of 60% of impurities.

Grader

Grader is used to separate under size , moderate and over size seeds.

Seed intake

Grading

Under size and good sized seeds.

GRVITY SEPARATER

The gravity separator employs a floatation principle.
In this separation, seeds are vertically stratified in layers on the deck according to density

Indent cylinder-

Removes the cut grains.

Treater

Used to treat seeds, usualy thirum is used .

BAGGING

- Bagging is done in jute, cotton cloth bag and plastic bags.

- seal and tag are also attached with date of packaging , farmers code etc .

- Ones packed seed it is valid for sale upto 9 months after that revalidation is to be done which is valid for 6 month.

CONTROLLED ATMOSPHERIC PACKAGING FACILITY.

➢Crop which should be packed below 10% moisture level are packed and stored in controlled atm facility.

1. dryer:- To reduce the moisture of seeds for packing dryer is used.
   - It reduces 1% moisture per hour.
   - It have capacity of 200kg.

eg. Okra seeds are packed at moisture level 10% to 8% which is difficult to attain in open condition.

packing machine of differet capcities.

a. For 1to 2 kg.(digital) based).

B. 250g to 500g. (digital)

C. for 1to 200g (volume

a. Controlled atm chamber for storage .

B. packed seed display.

MOBILE SEED PROCESSING PLANT.

- Mobile seed processing plant is truck mounted plant containes all the machinery required for the processing of seed.

- it is a inovative approach to bring processing plant to the door step to the farmer living in the rural areas.

- It has capacity to process 5q per hrs.

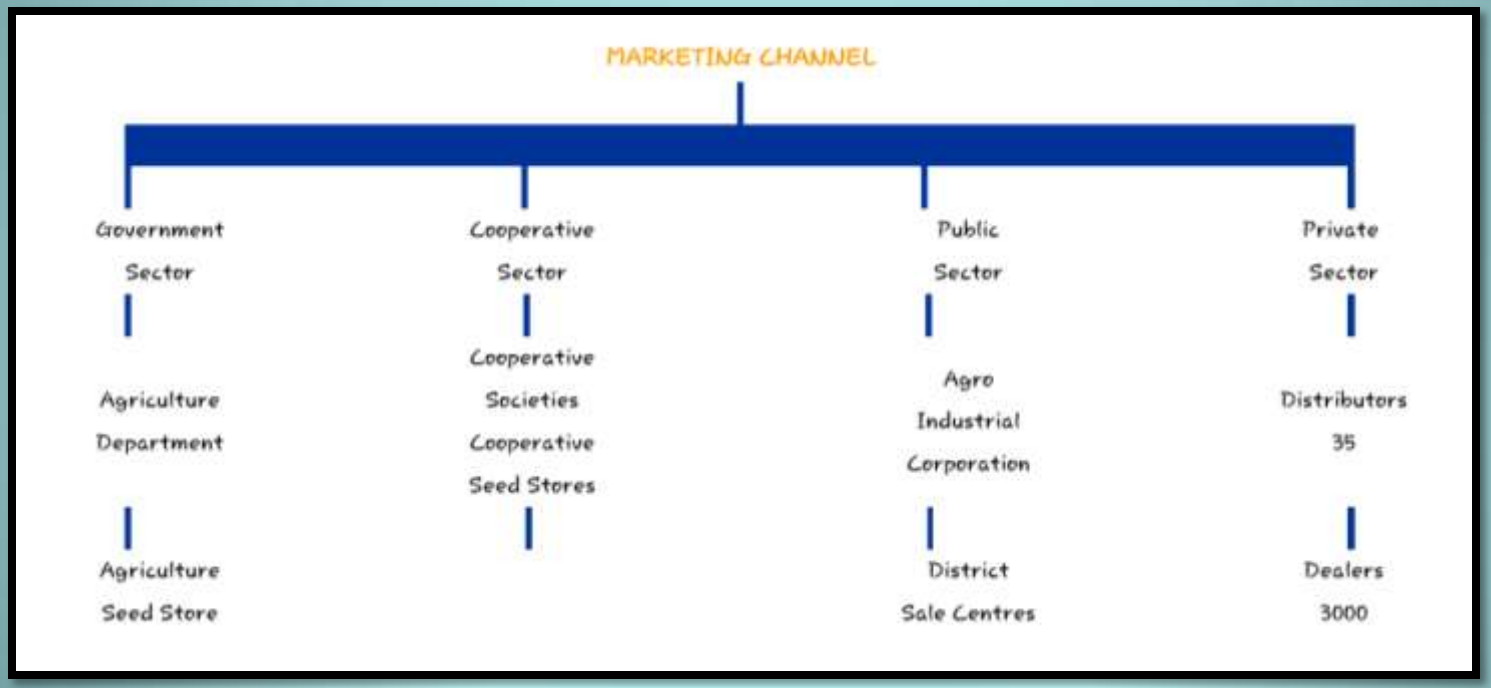
DRYER INDENT CYLENDER GRADER

Hopper

Indent cylinder

MARKETING

Marketing is the most essential part of any organization as other aspects, specifically production is fruitless until it is utilized. This Corporation has paid full attention to this aspect and the challenge has witnessed the 'Silver Jubilee Success'.



EXPORT:

Possibilities are being explored for export of high quality "Pantnagar Seeds" (OPUS, Hybrid-Public & Private and Organic) to neighboring countries viz Srilanka, Nepal, Pakistan, Afghanistan, Myanmar, Indonesia etc. approach is going on for registering our products with FAO for facilitating export of Pantnagar Seeds through FAO to the participating needy Countries.

WHAT WE LEARNED

- Basic knowledge about processing of seeds and different machines used in processing of raw seeds.

- We learned about different test conducted in labs to check purity of seeds.

- We learned about processing amd packaging in Controlled atm storage facility.

- We learned about different processes and activities in which UKS and TDC works.

THANK YOU

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