

Job Analysis And On - The - Job Training
For Persons With Mental Retardation

S E R I E S - 2



Preparation Of
Polybag Nursery,
Vegetable Garden
& Seed Packets



**National Institute for the
Mentally Handicapped**



**JOB ANALYSIS AND ON-THE-JOB TRAINING FOR PERSONS
WITH MENTAL RETARDATION - SERIES - 2**

**PREPARATION OF POLYBAG NURSERY, VEGETABLE GARDEN
AND SEED PACKETS**

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Cover photo : Persons with mental retardation on Job-training at Pely Garden, Vocational training and Habilitation Centre, Palghat, Kerala.

FOREWORD

Systematic vocational training is one of the thrust areas identified by the National Institute for the Mentally Handicapped, Secunderabad. There are very few examples in our country which have demonstrated with some degree of success, to provide employment opportunities for persons with mental retardation.

Earlier in the series, the Institute had highlighted an innovative sheltered workshop project on wire cut bricks and tiles. The Poly Garden initiated another rural based programme of employing the persons with mental retardation in their nursery, vegetable garden and packaging of seeds, under the technical guidance of the staff of National Institute for the Mentally Handicapped. The Institute prepared a functional curriculum which has successfully been executed by Poly Garden. This publication has been brought out with the objective to spread the idea to other voluntary organisations who are keen to provide vocational training to persons with mental retardation in rural areas. The Institute is pleased to share this knowhow as well as will be too willing to provide consultancy and sort out problems if any, in their execution of such projects.

Date: 17 March, 1992
Place : Secunderabad

(Dr.D.K.Menon)
Director. NIMH

ACKNOWLEDGEMENT

"Preparation of Poly Bag Nursery, Vegetable Garden and Seed Packets" is one of the trades selected in Poly Garden, a multi trade residential Vocational Training and Habilitation Centre at Palghat, Kerala. I acknowledge the assistance given by Rev.Fr.Paul Puvathingal, the Director of Poly Garden, in preparing this curriculum.

The interest and sincerity of the staff of Poly Garden, to follow a systematic method, has helped to field test this curriculum during the year 1991. Their services are gratefully acknowledged.

Last but not the least, the services of Mr.C.Siddeshwar in typing this booklet is appreciated.

A.T.Thressia Kutty

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PREPARATION OF POLY BAG NURSERY, VEGETABLE GARDEN AND SEED PACKETS

INTRODUCTION

Since India is mostly an agricultural society persons with mental retardation in rural and even in urban areas can be trained to usefully engage in agricultural activities. The training would help them to work either in their own farms or in the neighbouring farms where usually their parents, brothers and sisters work for their livelihood.

Poly Garden, a residential multi trade vocational training centre at Palghat, Kerala, selected a trade to train adult mentally retarded persons for preparation of nursery, vegetable garden and seed packets. This curriculum was developed for the purpose of on-the-job training and it was field tested during the year 1991 in Poly Garden. This booklet explains a modified version of the above curriculum so that it could be used in different parts of the country.

THE CRITERIA FOR SELECTION OF AREAS IN AGRICULTURE

Only 3 areas - Preparation of nursery, vegetable garden and seed packets which are selected for a short term course, are included in this booklet. The other areas will be taken in the next series of job analysis and on-the-job training for persons with mental retardation. The reasons for selection of the above mentioned areas are:

1. Various methods are used in the preparation of nursery. But only the preparation of polybag nursery is included because the tasks involved are simple and children at different levels of mental retardation could be trained.
2. The most common vegetables - creepers and non-creepers cultivated in small scale and large scale are selected and methodology is developed for urban and rural areas.
3. Especially in rural areas during the harvest season, demand and market for vegetables are very poor. Collecting seeds from the vegetables and preparation of seed packets for sale could be introduced.

As mentioned in the design of the course, persons above 15/18 years could be selected irrespective of the level of mental retardation. The pre requisite skills for each area are given under each item.

The trades can be clubbed together for a one year course. For example, training in manufacture of wire cut bricks and tiles and agriculture were simultaneously planned for a group of 10 mentally retarded adults, at Poly Garden. They were given training in agriculture when it was off season for brick making.

HOW TO ORGANIZE THE COURSE

Irrespective of the level of mental retardation, mentally retarded persons can be successfully trained to engage in this trade, if systematically programmed and supervised. This trade could be planned as a vocational training course for a group of children in institutions for mentally retarded persons functioning both in rural and urban areas. It is also

useful to guide the parents individually to train their children. The job analysis given in this booklet may not be the same for all levels of children who are residing in different parts of the country.

THE VOCATIONAL TRAINING COURSE IS DESIGNED AS FOLLOWS

1. Trade: Preparation of nursery, vegetable garden and seed packets.
2. Number of tainees: 10 adult males with mental retardation
3. Selection criteria
 - Age 15 - 18 years
 - Independence in mobility
 - Awareness of safety
 - Ability to communicate needs
 - Hand functioning
 - Ability to attend to the task without disturbing others.
4. Duration
 - 12months, flexible depending on the ability of the trainees
5. Curriculum
 - Job analysis and on-th-job training for persons with mental retardation series - 2. Preparation of nursery, vegetable garden, & seed packets developed by the National Institute for the Mentally Handicapped, Secunderabad.
6. Nature of training
 - On-the-job training
7. Evaluation
 - The prescribed evaluation sheet will be used at 2 months interval
8. Graduation criteria
 - 50% to 60% of tasks in the prescribed curriculum
9. Certificate
 - Certificate will be issued after successful completion of the course.
10. Job opportunities
 - Agricultural farms, Mali/Helper for mali in Government and voluntary organizations, Self Employment.

PREPARATION OF POLYBAG NURSERY

Plants can be propagated vegetatively and by seedlings. Generally plants propagated vegetatively bear fruits earlier than the seedlings propagated plants. Before transplanting seedlings, seeds are sow neither in beds prepared for nursery or in polybags. The method of preparation of polybag nursery is explained for the purpose of training the persons with mental retardation.

Pre requisite skills:

The persons with all levels of mental retardation could be trained in this trade. Mobility is not essential. The trainee should be able to sit in a place at least for an hour. Hand functioning is important to fill the prepared soil in polybags. He should not have the habit of eating nonedible items. The capacity to follow simple instructions is also needed.

Materials needed :

1. 5" X 8" size polythene bags
2. Punching machine to make holes on them
3. Spade

4. Mixture of sand, soil and manure (1:1:1 proportion)
5. Seeds/cuttings
6. Insecticides
7. Bucket, mug, water
8. Provision of shade to keep the prepared bags.

Method of training:

The tasks involved are

1. Preparation of the mixture of sand, soil and manure
2. Filling the mixture in polybags.
3. Keeping seeds/cuttings in polybags
4. Keeping the bags in rows under shade.
5. Watering
6. Application of insecticide

These tasks could be given to the trainees in rotation depending upon their ability. The mildly retarded persons will be able to mix the sand, soil and manure. Filling the bags and watering are appropriate for all levels of mentally retarded persons. Make them sit around the mixture prepared. Show them how to fill in the polythene bags, to keep the bags in rows under shade, and to water properly. Appreciate them and reward their success.

For the purpose of training and evaluation a sample job analysis format is given on the following pages. The graph shows that the trainee could achieve 90% of skills in the preparation of polybag nursery.

The Job analysis could be modified depending on the differences in practices in various parts of the country.

PREPARATION OF NURSERY		Name: FKP		Periodical Evaluation					Remarks
		Age : 20 yrs		14.1.91	5.3.92	2.5.91	6.7.91	6.9.91	
1.	Preparation of Nursery (in polethene bags)	Date:							
1.	Collects 5"X8" size polethene bags			V	V	I	I	I	
2.	Makes two holes on the cover (1" high from the bottom) using punching machine			TD	M	V	V	I	
3.	Prepares the mixutre of sand, soil and manure (compost) in 1:1:1 proportion			TD	M	V	V	V	Proportion is to be told
4.	Selects the place for nurse ry			TD	M	V	V	I	
5.	Fills the mixture in polethene covers one by one			V	V	M	I	I	
6.	Keeps the polethene bag in the place selected			M	V	V	I	I	
7.	Keeps 100 bags in 10 lines as a square			M	M	V	V	I	
8.	Keeps 10 filled covers in one line			M	M	V	V	I	
9.	Puts seed in each cover			M	V	V	I	I	
10.	Pours water			M	M	V	V	I	
11.	Waters daily			V	V	V	I	I	
12.	Sprinkles insecticide as per need			TD	TD	TD	TD	TD	risky
		Total							
Work related skills and work behaviour									
13.	Can sit in a place			I	I	I	I	I	
14.	Can move for watering			I	I	I	I	I	
15.	Can fill with hand/both hands			I	I	I	I	I	
16.	Recognizes edible items			I	I	I	I	I	
17.	Eats only edible items			I	I	I	I	I	
18.	Follows simple instructionns			I	I	I	I	I	
19.	Can attend to the task for 1 to 2 hours			V	I	I	I	I	
20.	Obeys the supervisor			I	I	I	I	I	
		Total		7	8	9	13	18	

Codes:

I - Independent

V - Verbal cues

M - Modelling

P - Physical help

TD - Totally Dependent

- Without any help if the trainee does the task mark I

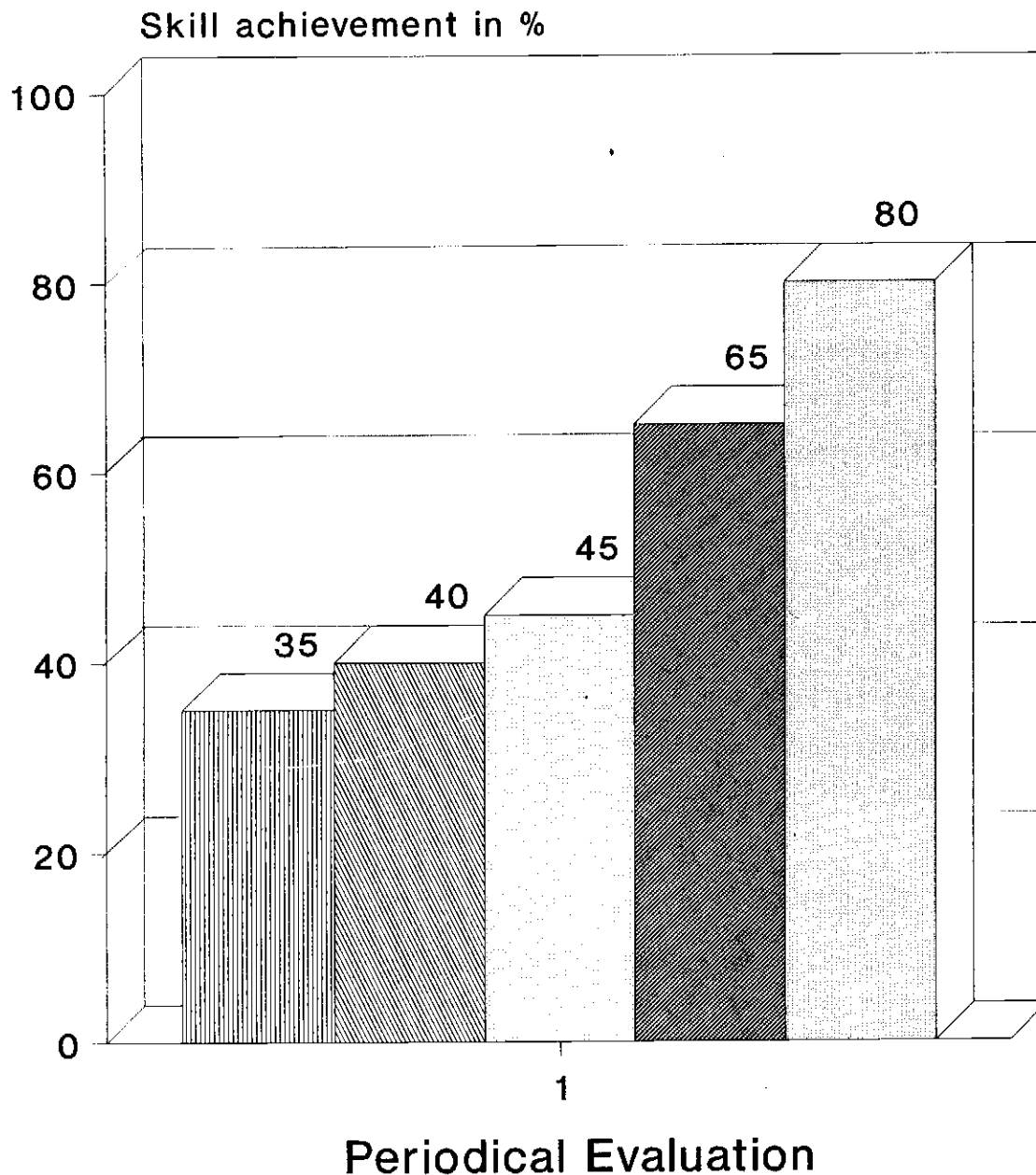
- If he has to be told what to do mark V

- If he has to be shown how to do, mark M

- If he needs physical help, mark P

- If he has to be totally helped to do, mark TD

Preparation of Nursery Skills Achievement in Percentage



PREPARATION OF VEGETABLE GARDEN - NON CREEPERS

There are creepers and non creepers among vegetables. Tomato, brinjal, chilli and bhindi are non creepers. The cultural operations of tomato, brinjal and chilli are similar. These are transplanted. Vegetables and seedlings are first raised in the nursery and transplanted to the main field 30 to 40 days after sowing when the plants attain 8 to 10 Cms. height.

Planting

During rainy season, planting should be done on ridge and in summer season in furrows at the recommended spacing.

Brinjal	:	60 X 70 Cms.
Tomato	:	60 X 60 Cms.
Chilli	:	45 X 45 Cms.

The transplanted seedlings should be given temporary shade for 2 to 4 days during summer period.

Manures and fertilizers:

Apply farm yard manure at the rate of 20 - 25 tonnes per hactre at the time of land preparation and mix well with the soil. A fertilizer dose 75 Kg., 40Kg., 25Kg., Nitrogen, Phosphorous and potash may be given per hactre. Half of Nitrogen, full Phosphorous and half of potash may be applied 20-25 days after transplanting. The remaining quantities may be applied one month after the first application.

After Cultivation

Give one or two inter cultural operations to control weeds. Earth up the ridges after fertilizer application. Maintain sufficient moisture supply. During summer, irrigate at 3 to 4 days intervals for chilli and brinjal. For tomato, irrigation should be given in alternative days especially during the fruiting period. Stake the plants if necessary.

Plant Protection :

Spray carbaryle D 15% at intervals of 15-20 days to control fruit and shoot borers in brinjal.

Spray Quinalphor 0.025% fo control of mealy bugs and lacewings. Dimethoate at 0.025% is effective in controlling mites, aphids, and other insects.

Spray chilli nursery and main field 1% bordeaux mixture at monthly intervals during the rainy season, uproot and destroy the plants affected by bacteria.

Bhindi

The three planting seasons for bhindi are Februar - March, June - July and October - November.

Planting

For the summer crop soak the seeds in water for 24 hours before sowing and give a spacing of 60 X 30 Cms. During rainy season sow the seeds at a spacing of 60Cms. between rows and 45Cms. between plants.

Manures and fertilizers:

Apply farm yard manure as basal dose at a rate of 12 tonnes per hectare. At the time of sowing apply ammonium sulphate 125 kg/ha. Superphosphate 50 Kg/ha and Muriate of potash 50 Kg/ha. Ammonium sulphate 125 Kg/ha may be applied one month after sowing.

After Cultivation:

Give pre-sowing irrigation if soil is not moist enough. During summer, irrigate at intervals of 5-6 days. Conduct weeding regularly and earth up rows during rainy season.

For controlling fruit and shoot borers remove all drooping shoots and damaged fruits. Spray Carbaryl 0.15% at intervals of 15-20 days.

HOW TO TRAIN PERSONS WITH MENTAL RETARDATION**Pre-requisite skills:**

Independent mobility, hand function, and safety skills are important pre-requisites for this trade. Communication skills and functional academics are not very important. But he should be able to follow the instructions. The trainee should have the endurance and stamina to engage himself in manual labour.

Job analysis:

For the purpose of training, job analysis is done by dividing the entire process into the following stages.

- A. Preparation of land
- B. Sowing
- C. Transplanting
- D. Plant Protection
- E. Collection of Vegetables
- F. Work related skills
- G. Work Behaviour

Each stage is further divided into small steps in order to simplify and to evaluate the trainee's achievements at one/two months interval. The sample format is given in the following pages. The graph shows that the trainee was able to achieve 80% of tasks within a period of 10 months training.

The mentally retarded persons may not be able to select the land, follow the time schedule and use the manures and pesticides independently. These tasks especially use of pesticides are risky. The mentally retarded persons need supervision. Other tasks preparation of land, sowing, weeding, watering, and collecting vegetables do not involve risk, so they can become independent if systematic training is given. During the initial stage let the trainees observe, then allow them to work with physical and verbal prompting. Encourage them by praising and rewarding their achievements.

Reference : Package of Practices Recommendations (Crops) 89
Kerala Agricultural University, Trichur. Pages 214 - 216.

II. PREPARATION OF VEGETABLE GARDEN		Name:					Remarks
NON CREEPERS		Age :					
		Periodical Evaluations					Date:
		1	2	3	4	5	
A.	Preparation of land						
1.	Selects the land	TD	M	V	V	V	
2.	Marks the land (18"X22" for 6 furrows)	TD	P	V	V	V	
3.	Ploughs/digs the marked land	P	M	V	I	I	
4.	Levels the land	P	M	I	I	I	
5.	Removes the weeds from the land	M	V	I	I	I	
6.	Prepares furrow in 1" width	TD	M	V	V	I	
7.	Prepares 6 furrows at 2' distance	TD	M	V	V	I	
8.	Digs to loosen the soil in the furrow	TD	M	V	I	I	
9.	Prepares manure	TD	M	V	V	V	
10.	Takes 5 to 7 Kg. manure	TD	M	V	V	V	
11.	Applies manure in the furrow from one end to the other	TD	V	I	I	I	
12.	Mixes the manure in the soil with spade	TD	N	I	I	I	
13.	Prepares all 6 furrows as explained above	TD	M	V	I	I	
Total		0	0	4	7	9	
B. SOWING							
1.	Prepares pits in the furrow at 2 feet distance	TD	M	I	I	I	
2.	Takes seeds in a tray	M	I	I	I	I	
3.	Sows 2 seeds in each pit	M	V	I	I	I	
4.	Covers the pit with soil	V	I	I	I	I	
5.	Prepares pits in all 6 furrows	M	I	I	I	I	
6.	Sows seeds in all pits	M	I	I	I	I	
7.	Covers the pits with soil	M	I	I	I	I	
8.	Waters carefully the furrows	M	I	I	I	I	
9.	Keeps back the materials in place	V	V	I	I	I	
Total		0	6	9	9	9	

C. TRANSPLATING							
1.	Removes 60 seedlings from the nursery	TD	M	V	V	V	
2.	Keeps under shade	TD	M	V	I	I	
3.	Prepares pits at 2 feet distance	M	V	I	I	I	
4.	Plants the seedlings in the pit	N	V	I	I	I	
5.	Plants in all pits in the furrows	M	V	I	I	I	
6.	Waters carefully	M	I	I	I	I	
7.	Collects small branches with leaves from trees	TD	M	V	I	I	
8.	Uses the branches for shade	M	I	I	I	I	
9.	Removes the branches used for shade after 3 days	V	I	I	I	I	
10.	Waters the plants in morning and evening	V	V	I	I	I	
Total		0	3	7	9	9	

D. PLANT PROTECTION							
1.	Fills water in the pot used for watering	I	I	I	I	I	
2.	Waters the furrow from one end to the other	M	V	I	I	I	
3.	Observes the leaves coming out	V	I	I	I	I	
4.	Takes 1 Kg. manure in a tin	M	V	V	V	I	
5.	Takes the manure in a table spoon	M	V	I	I	I	
6.	Puts the manure in the marked area around the plant without touching the plant	M	V	I	I	I	
7.	Mixes the soil and manure without effecting the plant	M	V	I	I	I	
8.	Takes water	I	I	I	I	I	
9.	Waters the plants	I	I	I	I	I	
10.	Takes the insecticides in the sprayer	-	-	-	-	-	
11.	Sprays on the plants	TD	M	M	V	V	
12.	Observes that plants are flowering	M	V	I	I	I	
13.	Applies manure	TD	M	V	I	I	
14.	Mixes the manure with soil without affecting the plants	M	I	I	I	I	
15.	Waters the plants in mornings and evenings as needed	M	V	I	I	I	
16.	Removes weeds from the wet furrows	M	I	I	I	I	
17.	Removes the weeds from the farm	I	I	I	I	I	
Total		4	7	13	14	15	

E. COLLECTION OF VEGETABLES							
1.	Recognizes the ripe vegetables	TD	M	V	I	I	
2.	Plucks/cuts the vegetables from the plants	TD	M	P	V	I	
3.	Takes care of the plants when plucking/cutting vegetables	TD	M	I	I	I	
4.	Stores the vegetables in proper place	M	I	I	I	I	
Total		0	1	2	3	4	

F. WORK RELATED SKILLS							
1.	Realizes that he can earn out of work	I	I	I	I	I	
2.	Reaches in time to attend work	V	I	I	I	I	
3.	Recognizes/names the equipments used for work	TD	I	I	I	I	
4.	Recognizes/names of the vegetables	TD	I	I	I	I	
5.	Recognizes/names the parts of plants	TD	V	I	I	I	
6.	Recognizes/names the manures and fertilizers	TD	TD	TD	TD	TD	
7.	Recognizes/names the insecticides for agriculture	TD	TD	TD	TD	TD	
8.	Calculates the money upto 10 rupees	TD	TD	TD	TD	TD	
9.	Uses pocket money for personal use	TD	TD	TD	TD	TD	
10.	Aware of the use of Bank	TD	TD	TD	TD	TD	
11.	Crosses street safely	TD	TD	TD	TD	TD	
12.	Behaves properly in public places	TD	TD	TD	TD	TD	
13.	Reads own address	TD	TD	TD	I	I	
14.	Writes own address	TD	TD	TD	TD	TD	
15.	Writes letters to parents/friends	TD	TD	TD	TD	TD	
Total		1	4	5	6	6	

G. WORK BEHAVIOUR							
1.	Wears the dress for work	V	I	I	I	I	
2.	Goes to work on time	V	I	I	I	I	
3.	Starts work as per the direction	V	M	I	I	I	
4.	Continues work as directed	V	I	I	I	I	
5.	Breaks for tea/lunch	V	V	V	V	V	
6.	Takes rest as permitted	V	I	I	I	I	
7.	Continues work as directed	V	V	I	I	I	
8.	Takes bath and changes clothes after work	V	I	I	I	I	
9.	Co-operates with others during work	I	I	I	I	I	
10.	Communicates properly during work	I	I	I	I	I	
Total		2	7	9	9	9	

**PREPARATION OF VEGETABLE GARDEN - NON CREEPERS
JOB ANALYSIS - PERIODICAL EVALUATION SHEET**

Name :

Age :

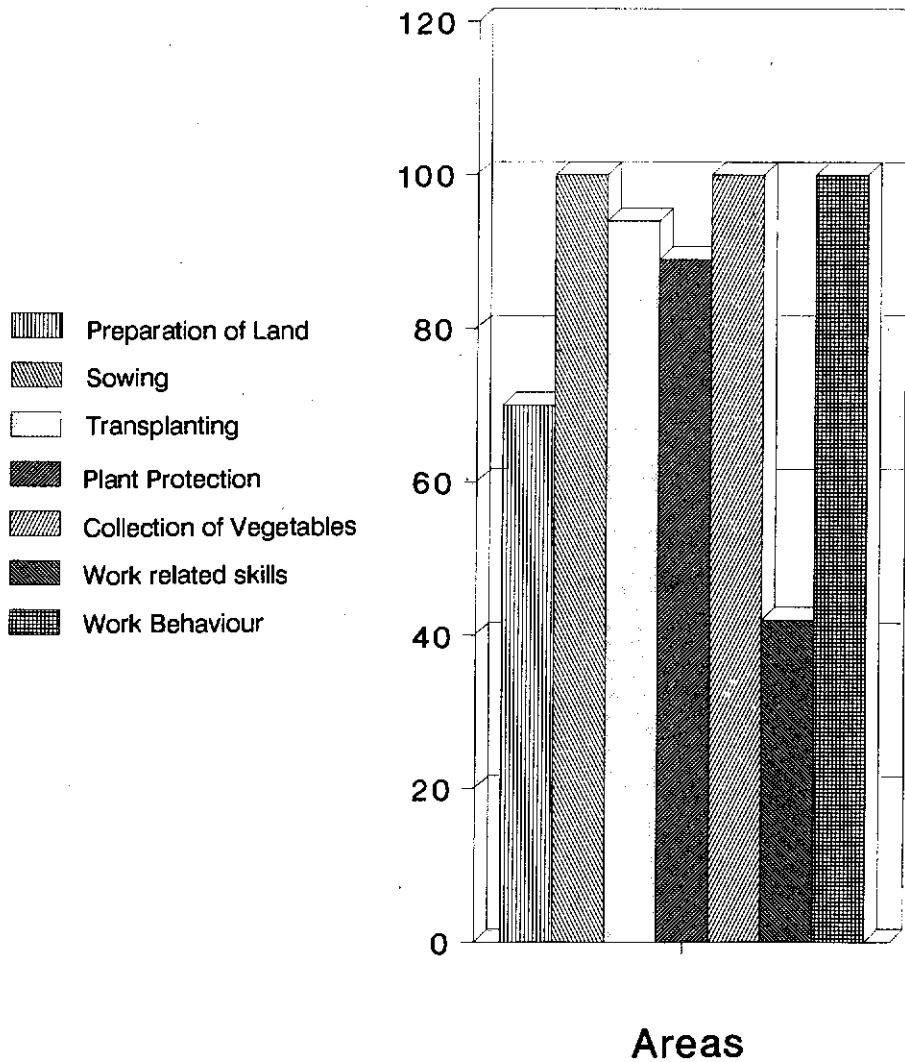
Periodical evaluation

Skill Areas	Total No. of skills	Date	1	2	3	4	5	6	Remarks
			5.1.91	3.3.91	8.5.91	1.7.91	2.9.91		
A. Preparation of land	13		0	0	4	7	9		
B. Sowing	9		0	6	9	9	9		
C. Transplanting	10		0	3	7	9	9		
D. Plant Protection	17		4	7	13	14	15		
E. Collection of vegetables	4		0	1	2	3	4		
F. Work related skills	15		1	4	5	6	6		
G. Work behaviour	10		2	7	9	9	9		
Total		78	7	28	49	57	61		

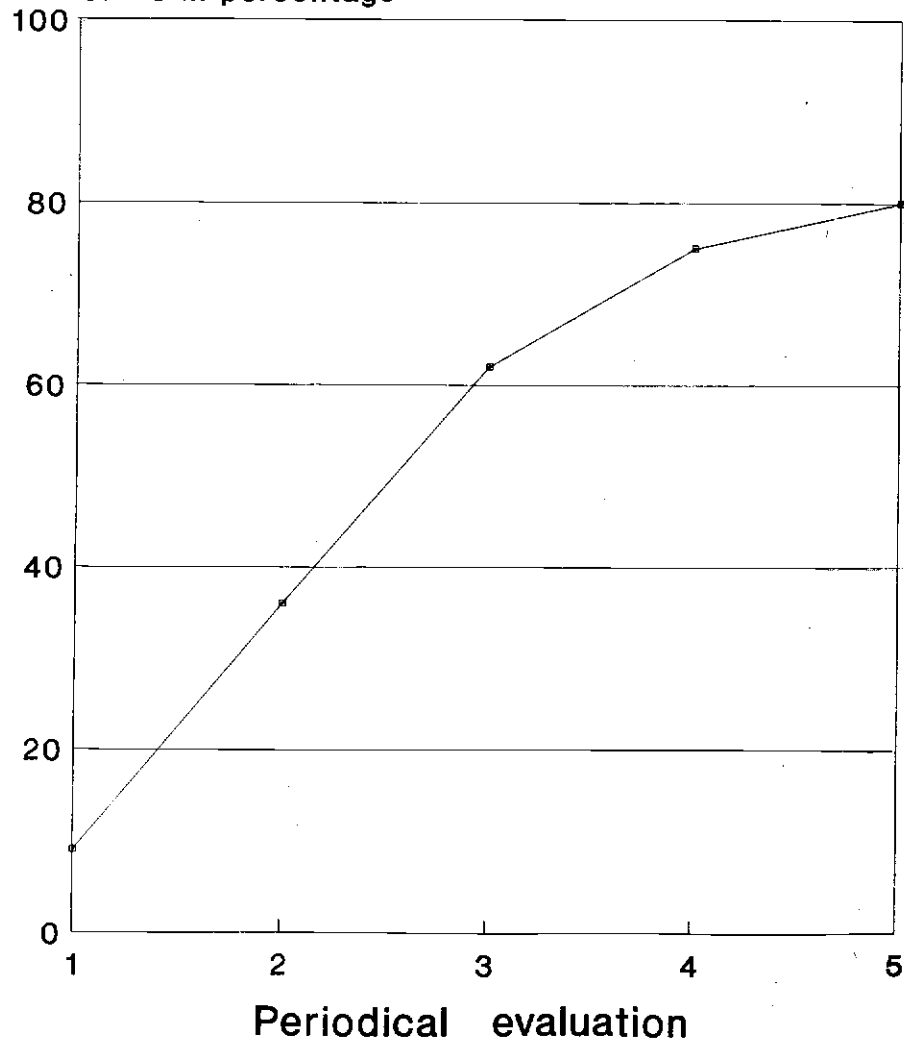
Skills achievement in % in A to G areas Preparation of vegetable garden - non creepers

Total skills Achievement during periodical evaluation Preparation of Vegetable garden - non creepers

Periodical achievement in percentage



Skills in percentage



VEGETABLE GARDEN - CREEPERS

Bitter gourd, snake gourd, cucumber, pumpkin, ash gourd, bottle gourd, ridge gourd etc., are the common vegetables belonging to this group.

These vegetables can be successfully grown during January to March and September to December. For the rainfed crop, sowing can also be started after the receipt of the first few showers.

Sowing

Pits of 60 Cms. diameter and 30-40 Cms. depth are taken at the desired spacing. Fertilizer is mixed with top soil in the pit and seeds are sown @ 4-5/pit. Remove unhealthy plants after two weeks and retain 2 to 3 plants per pit.

Spacing	m X m
Bitter gourd	2 X 2
Snake gourd	2 X 2
Bottle gourd	3 X 3
Pumpkin	4.5 X 2
Ash gourd	4.5 X 2
Cucumber/melon	2 X 1.5
Water Melon	2 X 3

Manures and fertilizers

Apply farm yard manure @ 20-25 tonnes per hectare as basal dose with half dose of Nitrogen (35 Kg.) and full dose of Phosphorous (25Kg.) and Potash (25Kg.). The remaining dose of Nitrogen (35Kg.) can be applied in equal split doses at the time of vining and at the time of full blooming. For bitter ground and snake gourd, top dressing may be done in several split doses at fortnight intervals.

After Cultivation:

During the initial stages of growth, irrigate at an interval of 3-4 days. Irrigate alternate days, during flowering and fruiting periods.

For training cucumber and pumpkin, spread dried twigs on the ground. Bitter gourd, snake gourd and bottle gourd are trailed on pandals. Conduct weeding, and raking of the soil at the time of fertilizer application. Earthing up may be done during rainy season.

Plant protection:

Pests:

Fruit flies: Apply BHC 10% DP in pits before sowing of seeds to destroy the puparria. In homestead gardens the fruits may be covered with poly, cloth or paper bags to ensure chemical protection. In large gardens apply Carbaryl 0.2% or Malathion 0.2% suspension containing sugar or jaggery at 10g. Spray as coarse droplets on the ventral surface of leaves. Remove and destroy affected and decayed fruits.

Epilachna beetle - Remove and destroy egg masses, grubs and adults occurring on leaves. Spray Carbaryl 0.2%.

Red pumpkin beetles - Adult eats the leaves, makes holes on foliage, and causes damage on roots and fruits. Incorporate BHC 10% DP in pits before sowing the seeds to destroy the grubs and pupae.

Plant lice - Apply 1.5% fish oil soap. First dissolve soap in a little hot water and then make up the volume. Alternatively apply Dimethoate 0.05%, Phosphamidon 0.05% or Monocrotophos 0.05%.

Diseases :

Downy Mildew - During rainy season downy mildew may be severe. This can be checked by spraying Mancozeb 0.2%.

Powdery Mildew - Powdery mildew can be controlled by spraying Nitrophenol 0.5%.

Mosaic - During rainy season, mosaic may be severe in pumpkin. Control vectors by spraying insecticides like Dimethoate 0.05% or Phosphamidon 0.05%. Uprooting and destruction of affected plants and collateral hosts is a must.

Harvesting should be done at least 10 days after insecticide/fungicide application. The fruits should be washed thoroughly in water before cooking.

HOW TO TRAIN PERSONS WITH MENTAL RETARDATION

Pre requisite skills for selection of trainees for this trade are the same as mentioned in non-creepers. Job analysis is done for the entire process explained above in order to train the mentally retarded persons. It has been divided into the following stages.

- A. Preparation of land and sowing
- B. Preparation of pandal for trailing
- C. Plant protection
- D. Collection of vegetables
- E. Work related skills
- F. Work behaviour

Each stage is further divided into small stages to simplify for step by step training and to evaluate the performance at one/two months interval.

A sample filled in format is given on the following pages. The graph shows the trainee was able to achieve 90% skills mentioned in the job analysis format.

As mentioned for non-creepers, except selection of land, following the time schedule and application of manure and pesticides, the mentally retarded persons are able to work independently, if systematic training is given. The job analysis format could be modified as per need of the place and mental and physical ability of the trainee.

III. PREPARATION OF VEGETABLE GARDEN - CREEPERS		Periodical evaluation					Remarks
A. PREPARATION OF LAND AND SOWING	Date	3.1.91	4.3.91	9.5.91	1.7.91	5.9.91	
1.	Prepares land (18' x 22')	TD	M	V	V	V	
2.	Takes pits of 2 feet diameter and 1 feet to 1 1/2 feet depth at desired distance	TD	M	V	V	I	
3.	Applies 3 Kilos manure	TD	M	V	V	V	
4.	Mixes the manure and soil with spade	V	V	I	I	I	
5.	Levels the pit	M	I	I	I	I	
6.	Removes the weeds and other things from the pit	M	I	I	I	I	
7.	Sows 4 to 5 seeds in each pit	TD	M	V	V	I	
8.	Removes unhealthy plants after 2 weeks	TD	M	V	V	V	
9.	Retains 2 to 3 plants per pit	TD	M	V	V	I	
10.	Waters the plants with water pot as needed	TD	V	I	I	I	
Total		-	2	4	4	7	
B. PREPARATION OF PANDAL FOR TRAILING							
1.	Recognizes the time and need to trail the plant	TD	M	V	V	I	
2.	Fixes dried twigs 6' high near each plant	TD	M	I	I	I	
3.	Selects 6 pillars (6 feet length) for pandal	TD	M	V	V	V	
4.	Digs 6 pits at four corners and in the middle for pillars	TD	M	V	V	I	
5.	Fixes the pillars in the pits	TD	M	V	I	I	
6.	Ties coir on the top of the pillars for pandal	TD	M	V	V	V	
Total		0	0	1	2	4	
C. PLANT PROTECTION							
1.	Fills the water in the water pot	M	V	I	I	I	
2.	Waters the pits where plants are sown	M	I	I	I	I	
3.	Recognizes the time to trail the plant	M	V	I	I	I	
4.	Fills the insecticides in the sprayer	TD	TD	TD	TD	TD	
5.	Sprays on the plants	TD	D	M	M	V	
6.	Takes the fertilizer in a tin	TD	M	V	V	V	
7.	Sprinkles the fertilizer in the pits (2 to 3 table spoons)	TD	M	V	I	I	
8.	Mixes the fertilizer with the soil without touching the plants	TD	M	I	I	I	
9.	Removes the weeds from the pits	TD	M	V	V	I	
10.	Takes out the weeds from the farm	M	M	I	I	I	
Total		0	1	5	6	7	

E. COLLECTION OF VEGETABLES							
1.	Recognizes the ripe vegetables	TD	M	V	I	I	
2.	Plucks/cuts the vegetables from the plants	TD	M	P	V	I	
3.	Takes care of the plants when plucking/cutting vegetables	TD	M	I	I	I	
4.	Stores the vegetables in proper place	M	I	I	I	I	
Total		0	1	2	3	4	
F. WORK RELATED SKILLS							
1.	Realizes that he can earn out of work	V	I	I	I	I	
2.	Reaches in time to attend work	V	V	V	I	I	
3.	Recognizes/names the equipments used for work	TD	I	I	I	I	
4.	Recognizes/names of the vegetables	V	I	I	I	I	
5.	Recognizes/names the parts of plants	V	V	V	V	V	
6.	Recognizes/names the manures and fertilizers	TD	TD	TD	TD	TD	
7.	Recognizes/names the insecticides used for agriculture	TD	TD	TD	TD	TD	
8.	Calculates the money upto 10 rupees	TD	TD	TD	TD	TD	
9.	Uses pocket money for personal use	TD	TD	TD	TD	TD	
10.	Aware of the use of Bank	TD	TD	TD	TD	TD	
11.	Crosses street safely	V	V	I	I	I	
12.	Behaves properly in public places	I	I	I	I	I	
13.	Reads own address	TD	TD	TD	TD	TD	
14.	Writes own address	TD	TD	TD	TD	TD	
15.	Writes letters to parents/friends	TD	TD	TD	TD	TD	
Total		1	4	5	6	6	

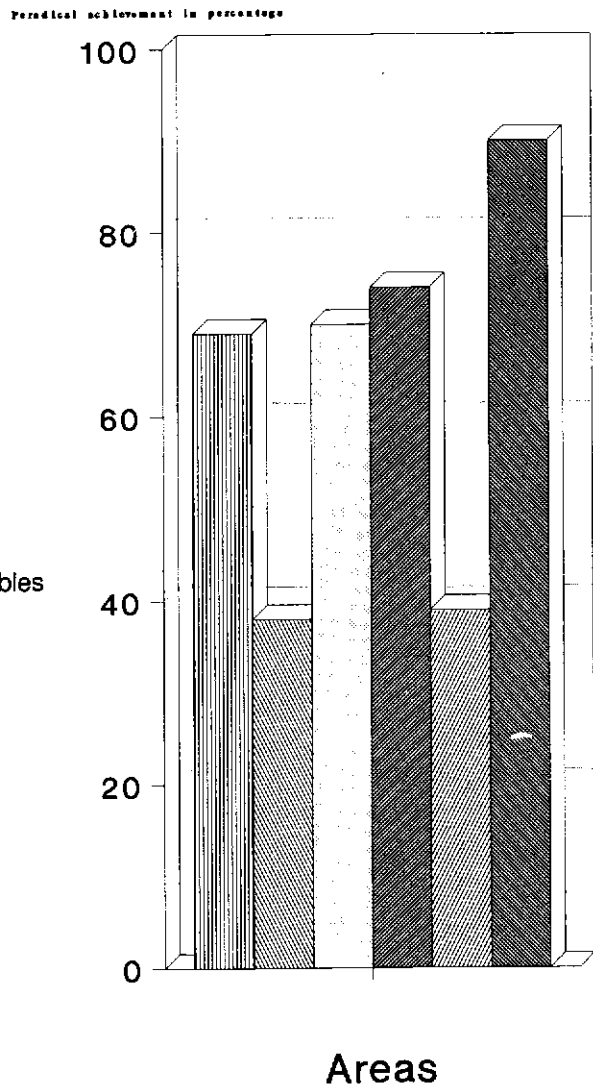
G. WORK BEHAVIOUR							
1.	Wears the dress for work	V	I	I	I	I	
2.	Goes to work on time	V	I	I	I	I	
3.	Starts work as per the direction	V	I	I	I	I	
4.	Continues work as directed	V	I	I	I	I	
5.	Breaks for tea/lunch	V	V	V	V	V	
6.	Takes rest as permitted	V	I	I	I	I	
7.	Continues work as directed	V	V	I	I	I	
8.	Takes bath and changes clothes after work	V	I	I	I	I	
9.	Co-operates with others during work	I	I	I	I	I	
10.	Communicates properly during work	I	I	I	I	I	
Total		2	7	9	9	9	

**PREPARATION OF VEGETABLE GARDEN - CREEPERS
JOB ANALYSIS - PERIODICAL EVALUATION SHEET**

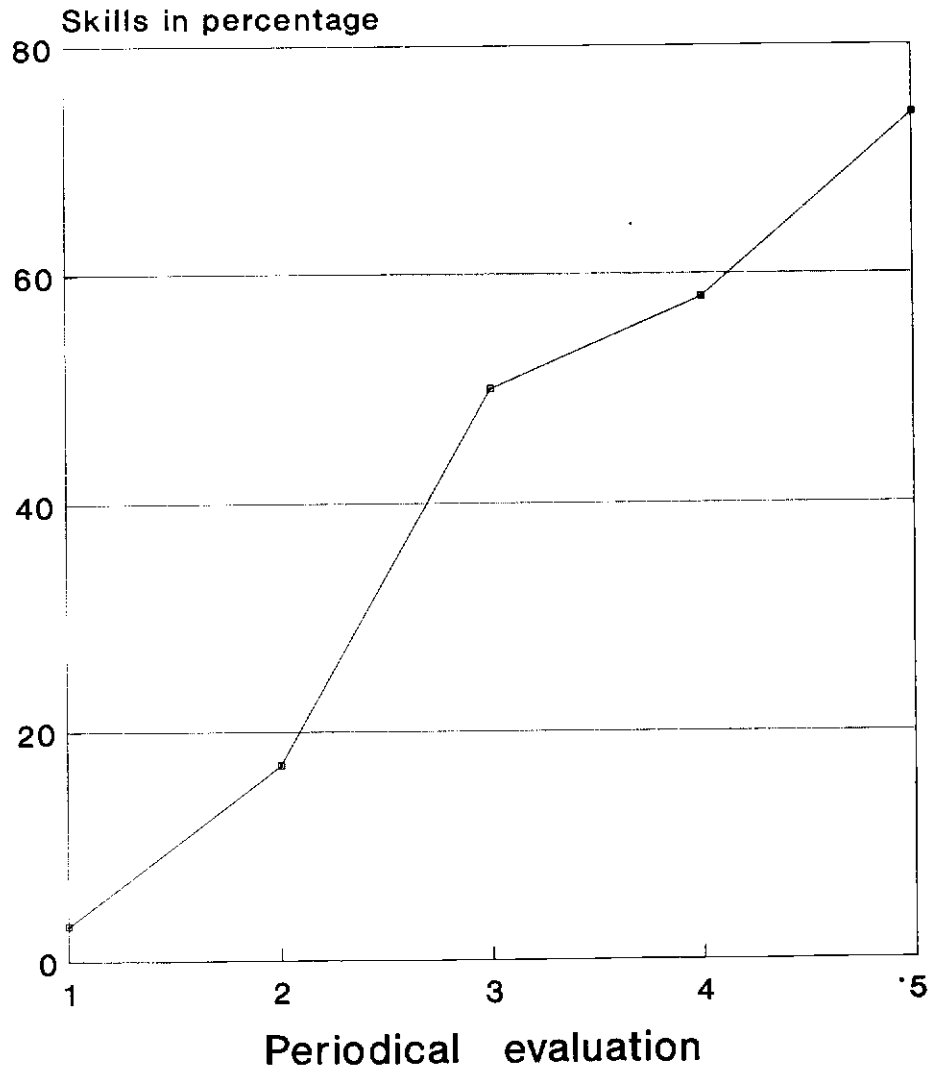
Name :

Age :									Remarks
Skills Areas	Total No of skills	1	2	3	4	5	6		
		5.1.91	4.3.91	7.5.91	1.7.91	3.9.91			
A.	Preparation of land and sowing	10	0	2	4	4	7		
B.	Preparation of pandal for training	6	0	0	1	2	4		
C.	Plant protection	10	0	1	5	6	7		
D.	Collection of Vegetables	4	0	1	2	3	4		
E.	Work related skill	15	1	2	6	6	6		
F.	Work behaviour	10	2	7	9	9	9		
Total		55	3	13	27	30	37		

**Skills achievement in % in A to F areas
Preparation of Vegetable garden - Creepers**



**Total skills achievement during periodical evaluation
Preparation of vegetable garden - Creepers**



PREPARATION OF SEED PACKETS

During the harvest season, the demand and marketing facilities for vegetables and fruits in rural areas are poor. So seeds can be extracted from the ripe vegetables and fruits for the preparation of seed packets for sale. This trade could be introduced especially in rural residential institutions for adults with mental retardation if the institute has orchards and vegetable garden.

Collection of seeds:

Properly ripened vegetables and fruits are collected. They should be free from disease and insects. The seeds are extracted from them in various suitable manner. They are then dried by spreading them on concrete or wooden or other suitable floors under shade. From these good ones are selected based on weight, colour etc. Such seeds are stored in poethylene bags.

The materials needed for preparation of seed packets:

1. Seeds collected and preserved in poethylene bags
2. Small covers
3. If not printed, a rubber stamp for labeling
4. Stapler or gum to close the cover
5. Measuring equipment.

Training Programme:

Pre requisite skills:

The persons with all levels of mental retardation could be trained in this trade. Mobility is not essential. The trainee should be able to sit in a place at least for an hour. Hand functioning is important to fill the seeds, stamp and staple the covers. He should not have the habit of eating non edible items. The minimum level of following instructions is also needed.

Job analysis:

The entire task of preparation of seed packets is analysed into 20 steps for training and evaluation. The filled in format is given on the following pages. The graph shows that the trainee was able to achieve 18/20 skills within a period of 10 months training.

Depending on the ability of the person especially in the case of persons with severe mental retardation, the trainees could be given the selected tasks, for example filling the cover or stamping on the cover. He may not be able to attain all the skills. But a person with mild mental retardation will be able to do it independently.

PREPARATION OF SEED PACKETS

	Periodical Evaluation					Remarks
	5.1.91	1.3.91	12.5.91	8.7.91	10.9.91	
1. Collects the good fruits/vegetables from healthy plants	TD	M	V	V	V	
2. Cuts and opens the ripened fruits/Vegetables	TD	M	V	V	V	
3. Takes seeds from the fruits/vegetables	M	V	I	I	I	
4. Spreads the seeds on paper/wooden plank	M	V	I	I	I	
5. Dries in sun (not in hot sun)	M	V	I	I	I	
6. Mixes BHC 10% insecticide with seeds	TD	TD	TD	TD	V	
7. Keeps the seeds in poethylene covers	M	V	I	I	I	
8. Takes small covers (10X7 cms.)	M	I	I	I	I	
9. Labels the cover	M	I	I	I	I	
10. Puts the collected seeds in a tray	M	V	V	I	I	
11. Takes the required quantity/number of seeds to fill the covers	M	V	V	V	I	
12. Puts the seeds in the cover	M	I	I	I	I	
13. Closes the cover	M	I	I	I	I	
14. Seals the cover (Pasting/stapling)	TD	M	I	I	I	
15. Sits in a place for 1 to 2 hours	I	I	I	I	I	
16. Follows simple directions	I	I	I	I	I	
17. Co-operates with the supervisor	I	I	I	I	I	
18. Uses both hands to work	I	I	I	I	I	
19. Identifies and eats edible items	I	I	I	I	I	
20. Identifies the materials used for seed packing	V	V	I	I	I	
Total	5	9	15	16	17	