


Increasing the productivity of Gourds and other Horticultural crops through establishment of Permanent pandal system-An RKVY Success in Tamil Nadu

Pandal system is a technological improvement used to support bitter gourd, ribbed gourd, snake gourd, lab-lab, Chow-Chow, Coccinea, Bottle gourd and fruits like grapes, musk melon. These crops are being grown on commercial scale since they have tremendous market potential and are capable of giving high returns to the growers.



Problems addressed through this programme:

Most of the farmers (Approx. 95%) in Tamil Nadu state are small and marginal in nature. Though large extents are available under various vegetable crops, the productivity levels of many gourd vegetables are not fully tapped to the expected potential. Through implementation of this programme, various factors limiting the production and productivity of gourd vegetables mentioned below were addressed:


- 
- ❖ Limited awareness to the farmers on adoption of technologies in crop production, like production of Gourds on Pandal system, etc..
 - ❖ High initial investment for establishment of pandals due to which farmers are unable to adopt permanent pandal cultivation of vegetables.

Initiative:

Considering the above-mentioned facts, assistance has been provided for the establishment of Permanent Pandal system through Rashtriya Krishi Vikas Yojana/ National Agriculture Development Programme from the year 2011-12.

So far, assistance for cultivation of Horticultural crops through establishment of permanent pandal system has been provided for an area of 3209 Ha at an outlay of Rs.61.51 crore. Most of the farmers benefitted through this programme are small and marginal farmers.

Aims and Objectives of the programme:

- ❖ Increase the productivity of gourd vegetables .
 - ❖ Enhancing the quality of creeper vegetables.
 - ❖ Reduce the pest & disease incidence as the crop is better exposed.
 - ❖ To assist the small and marginal farmers to cultivate gourds through establishment of permanent pandals.
- 



Importance of Permanent Pandal cultivation:


Permanent Pandal cultivation has the following advantages:

- The branches are well distributed and exposed to sunlight.
- Convenience in carrying out cultural operations.
- Easy to harvest fruits/vegetables.
- Maximizing productivity with quality fruit production.
- Results in higher yield as compared to open field cultivations.
- Farmers don't have to invest in the supporting structure every year as it is permanent and benefits on the long run.

Strategy:

Usually pandal is made of stone pillars, which is very costly. Because of the high expense factor, most of the low-income farmers cannot afford to practice this cultivation. Previously, Pandal cultivation was restricted to grapes cultivation only. Now it's been effectively used for all kinds of gourd vegetables.

The Pandal is established by using cement pillars/stone pillars having height of 10 feet and 20-25 cm girth. At the spacing of 15x15m distance, 30x45 cm pits are dug to erect pillars. Approximately 195-200 pillars are required for establishment of one-acre Pandal for cultivation. Training and pruning practices are followed to facilitate growth resulting in higher yield compared to normal cultivation.



The major constraint in pandal cultivation of horticulture crops is the need for high initial investment. The working cost for permanent structure heavy creeper is given below.

Sl. No	Detail of structure components	Rate (Rs)	Quantity	Amount(Rs)
1	Cost of stone Pillar 3x3.25 m Spacing 1000 Nos / Ha	300	1000	3,00,000
2	Cost of G.I. Wires			
2.1	i) 16 gauge 1400 kg	70	1400	98,000
2.2	ii) 8 gauge	70	600	42,000
2.3	iii) 6 gauge	70	50	3,500
2.4	iv) Labour cost for erection work	L.S		60,000
2.5	v) Miscellaneous cost	L.S		26,500
	Total			5,30,000

Hence, the total amount needed to construct a permanent pandal is Rs.5.30 lakh /ha for heavy creepers. Since the requirement for light and medium creeper is less than this amount, assistance is being provided for the pandal structure and hybrid vegetable seeds. An amount of Rs.4 lakh/ha alone is taken as unit cost and 50% subsidy i.e., of Rs.2 lakh/ ha is being provided as assistance.



The beneficiary farmers have been provided back ended assistance @ Rs.2 lakh / ha for establishing permanent Pandal structure with stone pillar / Concrete pillar with GI wire and for hybrid high yielding vegetable seeds. Each farmer is eligible for a maximum assistance of one hectare area. The beneficiary farmers have also been encouraged to install drip irrigation from Pradhan Mantri Krishi Sinchayee Yojana.

Success story



Name of the beneficiary	Sakthivel
Address	S/o. Dhandapani, 2/248, Illuppanagaram
Block	Gudimangalanam
District	Tiruppur
Scheme and Year	NADP 2021-2022
Component	Permanent Pandal system (0.5 Ha)
Name of the crop & Variety	Bottle gourd - East West Swikar
Subsidy availed	Rs.1,00,000/-
Normal Yield (kg/ 0.50 Ha/crop)	48000 kg
Yield with Permanent Pandal system (kg/ 0.50 Ha/year)	96000 kg
Cost of cultivation per 0.50 Ha / year	Rs. 2.8 Lakh
Average Cost per kg in farm price	Rs. 5 / kg
Gross Income / year	Rs. 4.8 lakh
Net Profit per 0.50 Ha / year	Rs.2 lakh
Technology followed	Pandal was erected using Stone pillars and GI wires. Compared to conventional method, it is stable and durable. Hence, the farmer can cultivate for subsequent years using the same pandal structure.
Farmer's Comments	<ul style="list-style-type: none"> • Yield of the crop is increased drastically. • Compared to conventional method, produce damage is less. • Quality of the produce is improved and fetches a good market price.
Percentage of increased Yield with the normal Yield	47 %