

CHAPTER II PERFORMANCE AUDIT

AGRICULTURE DEPARTMENT

2 Implementation of National Horticulture Mission in Tamil Nadu

Executive Summary

Introduction

National Horticulture Mission (NHM), a Centrally Sponsored Scheme, was launched in 2005-06 to promote holistic growth of the horticulture sector through area based regionally differentiated strategies including research, technology promotion, extension, processing and marketing to enhance horticulture production, improve nutritional securities and income support to farm households. NHM was subsumed as a sub-scheme of the Central Scheme, Mission for Integrated Development of Horticulture from April 2014 onwards. NHM was implemented in the State of Tamil Nadu in 13 out of 31 districts from 2005-06 and extended to other districts periodically. During 2011-12 to 2015-16, the scheme was implemented in 22 out of 31 districts of the State. Tamil Nadu Horticulture Development Agency (TANHODA), a registered society formed as a Special Purpose Vehicle for implementing various horticulture schemes funded by Government of India and Government of Tamil Nadu functioned as State Horticulture Mission headed by Managing Director.

Planning

TANHODA failed to prepare State Horticulture Mission Document to determine the potentiality of horticulture in the State. Annual Action Plan was prepared without baseline survey, finalisation of detailed project proposals was delayed and there was absence of sub-plan for the component area expansion. All these resulted in deferment of six sanctioned projects for ₹ 11.47 crore and non-availing of GOI sanction of ₹ 34.33 crore for 26 projects indicating inadequate planning in the development of horticulture sector.

Financial Management

Imprudent financial management resulted in blocking of funds of ₹ 4.35 crore and non-utilisation of the released funds of ₹ 32.37 crore. There was delay in release of received Central funds and State funds by Government of Tamil Nadu resulting in delayed achievement of the envisaged objectives.

Programme Management

Absence of effective maintenance of new plantations in the subsequent years despite incurring of ₹ 36.15 crore and delayed or under completion of projects resulted in non-achievement of the objective of enhancement of production of horticulture crops. Short allocation of sanctioned funds to the schemes for the benefit of deprived sections of society resulted in non-generating of income and provision of social security.

Monitoring

Lack of concurrent evaluation of projects and deficiencies in the monitoring of the programme indicated weak internal control.

2.1 Introduction

National Horticulture Mission (NHM), a Centrally Sponsored Scheme, was launched in 2005-06 to promote holistic growth of the horticulture sector through area based regionally differentiated strategies including research, technology promotion, extension, processing and marketing to enhance horticulture production, improve nutritional securities and income support to farm households. NHM was subsumed as a sub-scheme of the Central Scheme, Mission for Integrated Development of Horticulture (MIDH) from April 2014 onwards. NHM was implemented in the State of Tamil Nadu in 13 out of 31 districts from 2005-06 and extended to other districts periodically. During 2011-12 to 2015-16, the scheme was implemented in 22⁵ out of 31 districts of the State. Tamil Nadu Horticulture Development Agency (TANHODA), a registered society formed as a Special Purpose Vehicle for implementing various horticulture schemes funded by Government of India (GOI) and Government of Tamil Nadu (GoTN), functioned as State Horticulture Mission (SHM) headed by Managing Director. GOI established Agro Economic Research Centres (AERCs) to provide data on various aspects of agriculture and rural life and to conduct comprehensive study of agricultural economic problems in the States. AERC, University of Madras conducted an impact study on NHM during 2012-13. The study identified various deficiencies such as absence of focus on post harvest management facilities and marketing and recommended suggestions for the growth of horticulture sector of Tamil Nadu.

2.2 Organisational setup

Agriculture Production Commissioner and Secretary to Government (APC) is the administrative head of the Agriculture Department at the Government level. Director of Horticulture and Plantation Crops (DHPC) is the head of the Horticulture Department. The NHM scheme is implemented by SHM through District Mission Committees⁶ (DMCs) and supervised by State Level Executive Committee⁷ (SLEC).

⁵ Ariyalur, Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Kanyakumari, Krishnagiri, Madurai, Nilgiris, Perambalur, Pudukotai, Ramanathapuram, Salem, Sivagangai, Thanjavur, Theni, Tiruppur, Tirunelveli, Tiruchirappalli, Vellore and Villupuram.

⁶ District Mission Committee headed by District Collector with Joint Director/Deputy Director of Horticulture as Member Secretary and 12 Members from various agencies, which included Rural Development Agency, Agriculture Department, Agricultural Market Committee, Tamil Nadu Agriculture University (TNAU), Growers Associations and Khadhi and Village Industries Board.

⁷ APC is the Chairman of SLEC and DHPC is the Member Secretary. Besides there are 11 members from various Departments viz., Finance, Agriculture, Agricultural Engineering, TNAU, Forest and Ministry of Agriculture, Government of India.

2.3 Audit objectives

Performance Audit was conducted to assess whether:

- Planning for formulation of projects was effective and according to the guidelines of the scheme;
- Financial management ensured adequate and timely availability of funds and their effective and economic utilisation;
- Projects were implemented economically, efficiently and effectively as envisaged in the guidelines, besides achievement of the intended objectives; and
- Internal control and monitoring was adequate.

2.4 Audit criteria

Audit criteria were sourced from:

- Five Year Plan documents for the period 2007-08 to 2011-12 and 2012-13 to 2016-17;
- NHM operational guidelines issued by GOI in 2010;
- MIDH operational guidelines issued by GOI in 2014;
- Annual Action Plans (AAPs) approved by GOI on NHM;
- Implementation guidelines issued by SHM from time to time;
- Impact study on NHM conducted by AERC, University of Madras;
- State General Financial and Accounting Rules/procedure; and
- Information on NHM available in the website of Ministry of Agriculture, GOI.

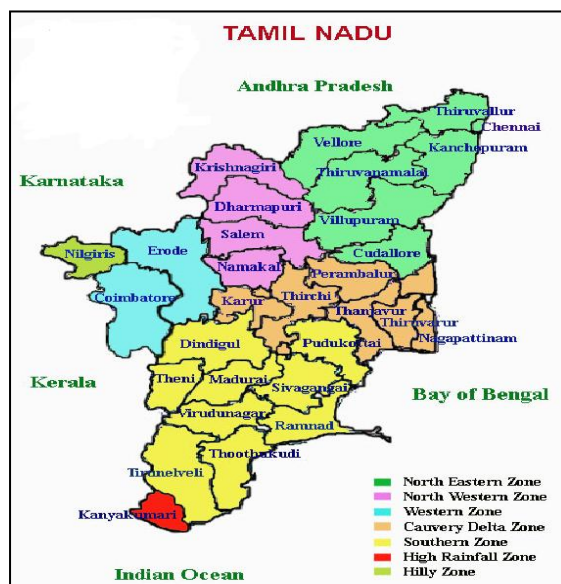
2.5 Scope and methodology of Audit

The implementation of NHM involved execution of five⁸ major components in 22 districts covering all the seven Agro Climatic Zones⁹ of the State. Performance Audit was conducted from April to August 2016 and covered test check of seven¹⁰ out of 22 districts for the period 2011-12 to 2015-16. In addition, records at the Secretariat and TANHODA were also examined. The districts in the Agro Climatic Zones were stratified and one district from each Zone was selected by adopting random sampling method for detailed scrutiny. In order to assess field level implementation, 25 *per cent* of the block level offices in each district, subject to minimum of two and maximum of four, were also checked.

⁸ Area expansion, Rejuvenation, Protected Cultivation, Organic farming and Integrated Post Harvest Management.

⁹ Agro Climatic Zones viz., Cauvery Delta, High Rainfall, Hilly Zones, North Eastern, North Western, Southern and Western Zones were classified based on soil characteristics, rainfall distribution, irrigation pattern and cropping pattern.

¹⁰ Dindigul, Kanyakumari, Krishnagiri, Madurai, Nilgiris, Tiruchirappalli and Vellore.



Audit scope, coverage and methodology were discussed in the Entry Conference held on 25 May 2016 with the APC and the Head of TANHODA. Audit findings were also discussed with the APC and Head of TANHODA in the Exit Conference held on 17 October 2016 and their views have been considered while finalising the report. The reply of the Government, received in December 2016, has also been considered while finalising the report. We acknowledge the co-operation extended by

Agriculture Department, TANHODA and other field offices in providing us the necessary records and information.

Audit Findings

2.6 Planning

2.6.1 Non-preparation of State Horticulture Mission Document

NHM guidelines, 2010 and 2014 (Paras 4.8 and 5.1) envisaged preparation of Perspective/Strategic Plan and road map i.e. State Horticulture Mission Document (SHMD) for overall development of horticulture in consonance with Mission's objectives and in co-ordination with Technical Support Groups and State Agriculture Universities. SHMD determined the potentiality of horticulture products duly projecting plan of action for XI and XII Five Year Plan periods. GOI had also instructed (March 2013) for preparation of AAP from 2013-14, in accordance with the district-wise bench mark data on area, production and productivity and also to adhere to the District Agriculture Plans.

We observed that TANHODA had failed to co-ordinate with Tamil Nadu Agriculture University (TNAU) for preparation of SHMD in consonance with Mission's goals and objectives. This resulted in postponement of six GOI approved projects¹¹ for ₹ 11.47 crore by SLEC for want of feasibility / assessment report from TNAU and non-availability of work force. This led to diversion of funds to other components and non-achievement of the objectives of establishment of tissue culture units and cold storage facilities in these six projects.

¹¹ (i) Establishment of new Tissue Culture Unit at Periyakulam- ₹ 5.92 crore; (ii) Construction of Multipurpose Cold Storage, Pudukottai – ₹ 4.80 crore; (iii) Strengthening of Plant Tissue culture units at TNAU at Coimbatore, Madurai and Tiruchirappalli – ₹ 0.60 crore and (iv) Establishment of pre cooling unit at Krishnagiri – ₹ 0.15 crore.

We also observed that the Comprehensive State Agriculture Plan (CSAP) for the XI Plan period (2007-08 to 2011-12) prepared in 2008-09 by GoTN, on the basis of inputs from District Agriculture Plans, identified certain weaknesses in the horticulture sector like inadequate network of horticulture extension machinery in the State and lack of infrastructure for processing value added fruit and vegetable products had not been addressed. CSAP for XII Plan period (2012-13 to 2016-17) was finalised during 2016-17. Absence of projects to address the weakness identified in the CSAP during XI Plan and delayed preparation of CSAP during XII Plan resulted in non-determination of potentiality of horticulture crops.

2.6.2 Preparation of Annual Action Plan (AAPs)

NHM guidelines, 2010 and 2014 (Para 4.8(b)) envisaged SHM to conduct baseline survey and feasibility studies in the Districts and Blocks to determine the status, potential, production and demand for horticulture development based on strength, weakness, opportunities and challenges (SWOC) analysis. AAPs prepared with these details were consolidated by SHM, vetted by SLEC and approved by GOI. The guidelines had also envisaged preparation of sub-plans for determining the availability of planting materials for the component of area expansion. The sub-plan was also required to indicate the details of quantifiable major outputs, objectives and strategies of the projects proposed for approval.

In respect of Project Based Activities, the details of beneficiaries, location, etc., was required to be communicated to GOI with the approval of SLEC for release of funds.

Scrutiny of the approved AAPs for the period 2011-12 to 2015-16 revealed the following:

- Baseline survey was not conducted by SHM during 2011-12 to 2015-16 in the State. An amount of ₹ one crore sanctioned in the AAP for 2014-15 towards conducting baseline survey and strengthening horticulture statistical database was not allocated (October 2016) by SHM citing short release of funds. This resulted in non-determination of potential and demand of horticulture development based on SWOC analysis.
- The AAPs proposed by SHM and approved by GOI during 2011-12 to 2014-15, did not include sub-plan to ensure the objective of the availability of planting materials and strategies adopted for their supply to expand the area of horticulture. Failure to determine the availability of planting materials resulted in non-availability of planting materials for turmeric, banana sucker and bulbous flowers in the State farms and permitting farmers to procure the same at their own discretion in violation of the guidelines as discussed in Paragraph No. 2.8.3.
- Twenty six Project Based Activities for the components including Integrated Post Harvest Management (IPHM), Organic farming proposed and approved in the AAPs, were not submitted to GOI for release of funds due to delay in finalisation of detailed project

proposals. This resulted in non-availing of GOI sanction of ₹ 34.33 crore towards the development of horticulture sector (**Annexure - 2**).

Thus, non-preparation of SHMD to determine the potentiality of horticulture in the State, preparation of AAP without baseline survey, delay in finalisation of detailed project proposals and absence of sub-plan for the component area expansion resulted in deferment of six sanctioned projects for ₹ 11.47 crore and non-availing of GOI sanction of ₹ 34.33 crore for 26 projects indicating inadequate planning in the development of horticulture sector.

Director of Horticulture and Plantation Crops stated (October 2016) in the exit conference that the weaknesses identified would be addressed after engagement of consultant. Government replied (December 2016) that the AAPs were finalised on the basis of perspective plan and baseline survey prepared by a private consultant in 2005. It was stated that short release of GOI funds while approving the AAPs was attributed to non-preparation of baseline survey. Government further stated that Projects Based Activities could not be submitted due to non-receipt of proposals from the beneficiaries.

The reply was not acceptable as the perspective plan and baseline survey conducted in 2005 was for proposal of projects for the period 2005-06 to 2007-08 only. Further, GOI released the grants on lump sum basis and SHM failed to allocate sufficient funds for conducting baseline survey. In respect of Projects Based Activities, SHM failed to identify existence of beneficiaries before proposing the projects to GOI indicating absence of adequate planning.

2.7 Financial Management

The components of the NHM were executed utilising the GOI and GoTN funds. The funding pattern by GOI and GoTN was in the ratio of 85 and 15 *per cent* during 2011-12 to 2014-15 and 60 and 40 *per cent* from 2015-16 onwards. At the commencement of each financial year, GOI communicated the tentative financial outlay for each year to TANHODA for submission of AAP to GOI for approval and release of funds. The sanctioned Central and State share of funds were released directly to TANHODA during 2011-12 to 2013-14. From 2014-15, GOI released the Central share to the State Government, which subsequently released to TANHODA. GoTN appointed (July 2014) a nodal officer to ensure timely release of Central funds along with the State share to the implementing agencies to avoid delay in securing further Central funds.

The details of tentative financial outlay, financial outlay proposed and approved in AAP, release of funds and expenditure under NHM for the period 2011-12 to 2015-16 were as detailed in **Table 2.1**.

Table: 2.1 Sanction and release of funds**(₹ in crore)**

Year	Tentative financial outlay	AAP sent to GOI for approval	AAP approved by GOI	Actual release			Expenditure
				GOI	GoTN	Total	
2011-12	110.00	200.50	145.00	62.00	10.94	72.94	50.15
2012-13	150.00	346.09	80.00	56.00	9.88	65.88	73.16
2013-14	136.00	140.00	115.00	92.87	16.39	109.26	90.97
2014-15	127.00	115.54	115.85	55.36	9.77	65.13	64.26
2015-16	97.31	123.20	102.50	58.73	39.15	97.88	100.18
Total	620.31	925.33	558.35	324.96	86.13	411.09	378.72

(Source: Details furnished by TANHODA)

From the above details, we observed as under:

- Though GOI had communicated tentative financial outlay of ₹ 620.31 crore during 2011-12 to 2015-16, TANHODA forwarded AAPs for ₹ 925.33 crore, indicating that efforts were not made to propose prioritised project components in the AAP and non-execution of some projects approved by GOI in AAP, due to non-identification of beneficiaries as discussed in Paragraph No.2.6.2.
- Despite communication of tentative financial outlay of ₹ 150 crore, GOI approved AAP for ₹ 80 crore for the year 2012-13 due to non-utilisation of the released funds by TANHODA during 2011-12. Failure to utilise the released funds within the financial year resulted in short approval of funds for components for horticulture sector in AAP to the extent of ₹ 70 crore.
- As against the total approved amount of ₹ 558.35 crore i.e., ₹ 448.97 crore by GOI and ₹ 109.38 crore by the GoTN, the actual release of funds by GOI was ₹ 324.96 crore and GoTN was ₹ 86.13 crore (totaling ₹ 411.09 crore) for the implementation of the project components. This resulted in short release of funds to the tune of ₹ 147.26 crore i.e., ₹ 124.01 crore (28 per cent) by GOI and ₹ 23.25 crore (21 per cent) by GoTN. The short release of funds resulted in short achievement of targets for the components protected cultivation, organic farming, mechanisation, Human resource development and IPHM during 2011-12 and 2013-14 and also indicative of ineffective pursuance by the SHM to ensure complete release of funds for the project components included and approved in AAP by GOI.
- Out of ₹ 411.09 crore released, ₹ 378.72 crore was incurred during 2011-12 to 2015-16 leaving unspent balance of ₹ 32.37 crore. Non-utilisation of the released funds was due to delay in identification of beneficiaries, delay in completion of tender process and partial completion of the projects as discussed in Paragraph Nos. 2.8.5.1 and 2.8.7.2.
- Though GOI funds for the years 2011-12 to 2013-14 were released directly to TANHODA, the matching share of GoTN funds of ₹ 4.76 crore pertaining to 2010-11 and 2012-13 was released to TANHODA belatedly in the subsequent financial years resulting in delayed allocation of funds to the districts for execution of projects.

- After the introduction of modified procedure of transfer of GOI funds to TANHODA through GoTN, we observed that GOI funds of ₹ 30.36 crore pertaining to 2014-15 received from GOI in June 2014 were released (November 2014) by GoTN with a delay of five months and ₹ 46.13 crore received from GOI for 2015-16 was released to TANHODA with a delay of two months. This resulted in delayed availability of funds for execution of sanctioned projects despite appointment of a nodal officer to ensure timely release of funds.

Thus, due to imprudent financial management, there was delay in release of received Central funds and matching share of State funds by GoTN. Further, the failure of TANHODA to utilise the released funds of ₹ 32.37 crore resulted in non-achievement of the objectives of NHM.

Government replied (December 2016) that diversion of staff during 2011-12 to bring back cyclone Thane affected horticulture crops resulted in non-utilisation of funds in the sanctioned projects and the same would be utilised in the subsequent years. It was also stated that processing time involved in transfer of funds delayed the release of funds to TANHODA during 2014-15 to 2015-16.

The reply was not acceptable as the funds for NHM were released by GOI in June 2011 and GoTN in September 2011, whereas the cyclone occurred in December 2011 only and released funds were not utilised during 2013-14 also. The delay of two to five months for processing and transferring the funds received in the Government account from GOI to TANHODA indicated lack of effective action to implement the projects in horticulture.

2.7.1 Non-establishment of Terminal Market Complex

GOI approved (November 2010) establishment of Terminal Market Complex for horticulture produce at Perundurai for ₹ 120.62 crore on Private Public Partnership mode with the NHM subsidy of ₹ 28.99 crore for implementation by Tamil Nadu State Agriculture Marketing Board (TNSAMB). The objectives of the project were to link farmers to markets by shortening supply chain of perishables, to increase farmers' income and for development of marketing and post harvest infrastructure through private sector investment. The work was entrusted to a firm in February 2011. The agreement provided for payment of 15 *per cent* of the subsidy on execution of 25 *per cent* of the project work and the balance after completion of prescribed quantum.

After commencement of the project and execution of 19 *per cent* of the complex work by the private entrepreneur, TNSAMB requested for release of first instalment of the subsidy and TANHODA released (September 2014) ₹ 4.35 crore. The project could not be continued by the private entrepreneur due to non-procurement of the commodities like fruits and vegetable, by the local traders at the insistence of commission agents. TNSAMB did not disburse the first instalment of the subsidy to the entrepreneur as 25 *per cent* of work was not completed, which resulted in termination of the project (May 2015).

Thus, release of funds before completion of prescribed quantum of work resulted in blocking of funds of ₹ 4.35 crore in the Personal Deposit account of TNSAMB for more than two years besides non-achievement of intended objective of creation of infrastructure and enhanced income to farmers.

Government replied (December 2016) that efforts were being made to receive the first instalment of the subsidy amount from TNSAMB.

2.7.2 Non-submission of Utilisation Certificates to State Government

While releasing the funds, GOI and GoTN instructed the implementing agencies for submission of Utilisation Certificates (UCs) for the funds received for execution of projects under NHM, after the end of the financial year. It was, however, noticed that the TANHODA submitted UC for the GOI funds received and utilised during 2011-12 to 2015-16 duly indicating the balance of funds available at the end of the year. TANHODA failed to furnish UC for the utilisation of GoTN funds of ₹ 75.19 crore received during 2012-13 to 2015-16. This resulted in release of subsequent funds from State Government without ensuring the utilisation of released funds by GoTN and non-communication of release and utilisation of State share to GOI.

Government replied (December 2016) that UCs were forwarded to GOI for Central share and the amount of State share to NHM was watched through Budget. The reply was not acceptable as the entire funds released under NHM was transferred to the savings bank account of TANHODA and could not be watched through Budget.

2.7.3 Excess expenditure towards mission management activities

NHM guidelines, (Para 9.1 of 2010 and 8.1 of 2014) permitted five *per cent* of the total annual expenditure for managing various activities of implementing agency and district missions towards administrative expenses, project preparation, computerisation, etc.

Scrutiny of records revealed that an expenditure of ₹ 21.05 crore was incurred towards managing the activities of SHM and DMCs towards administrative and other expenses during 2011-12 to 2015-16, as against the eligible amount ₹ 18.94 crore (five *per cent* of ₹ 378.72 crore) resulting in excess expenditure of ₹ 2.11 crore towards mission management activities instead of approved projects for the development of horticulture sector.

2.8 Programme Management

The details of area of horticulture cultivation, production and productivity during the last five years in respect of horticulture crops for the State of Tamil Nadu are as detailed in **Table 2.2**.

Table: 2.2 Area, production and productivity of horticulture crops

Name of the crop	Year														
	2011-12			2012-13			2013-14			2014-15			2015-16		
	A	Pdn	Pty	A	Pdn	Pty	A	Pdn	Pty	A	Pdn	Pty	A	Pdn	Pty
Fruits	2.87	58.77	20.48	2.95	59.56	20.18	2.77	55.22	19.91	2.86	59.63	20.87	2.94	62.61	21.28
Vegetables	2.54	69.27	27.25	2.20	52.88	24.01	2.77	69.60	25.17	2.85	75.16	26.39	2.93	78.92	26.90
Spices and Condiments	1.65	10.05	6.11	1.31	7.89	6.04	1.09	7.23	6.62	1.13	7.82	6.94	1.16	8.21	7.07
Plantation crops	2.55	10.50	4.12	2.55	10.61	4.16	2.36	10.95	4.63	2.43	12.33	5.07	2.51	12.95	5.16
Medicinal and Aromatic crops	0.14	1.29	9.20	0.16	2.17	13.26	0.14	2.04	14.98	0.14	2.20	15.71	0.14	2.31	16.02
Flowers	0.26	2.74	10.35	0.26	2.96	11.32	0.25	3.11	12.56	0.25	3.36	13.17	0.26	3.52	13.43
Total	10.01	152.62	15.24	9.43	136.07	14.42	8.38	138.3	16.50	9.66	160.5	16.61	9.94	168.52	16.95

(Source – Details furnished by the Department)

(A: Area in lakh ha; Pdn: Production in lakh MT; Pty: Productivity in MT per ha)

As may be seen from the above, the production of horticulture crops had increased from 152.62 LMT in 2011-12 to 168.52 LMT during 2015-16 but the production of spices and condiments had decreased from 10.05 LMT in 2011-12 to 8.21 LMT in 2015-16, and the productivity of vegetables had decreased by 0.35 MT per ha during this period. The area under horticulture cultivation had also decreased from 10.01 lakh ha to 9.94 lakh ha.

The audit observations on the implementation of the components of the NHM are discussed in the succeeding paragraphs.

2.8.1 Mission achievements

In order to achieve the objectives of NHM, various components such as production of planting material, establishment of new gardens (area expansion), rejuvenation, protected cultivation and integrated post harvest management etc. had been implemented in the State. NHM guidelines (2010) envisaged taking up of specific programmes under IPHM. GOI also emphasised (March 2013) the importance of development of IPHM activities and desired that atleast 25 per cent of outlay of the AAP had to be utilised for IPHM. It was also instructed to restrict the expenditure on area expansion to 20 per cent of the outlay. The impact study conducted by AERC, University of Madras also recommended the need for enhancement of IPHM infrastructure considering the perishable nature of fruits and flowers.

The details of expenditure incurred for the various components of NHM during the period 2011-12 to 2015-16 were indicated as detailed in **Table 2.3**.

Table: 2.3 Details of year-wise and component-wise expenditure

(₹ in crore)

Sl. No	Major components	Year-wise expenditure					Total for 2011-12 to 2015-16/ percentage	Total for 2013-14 to 2015-16/ percentage
		2011-12	2012-13	2013-14	2014-15	2015-16		
1	Area Expansion	35.09	32.83	22.18	20.04	22.00	132.14 (35)	64.22 (25)
2	Rejuvenation	1.27	14.12	8.38	4.10	3.00	30.87 (8)	15.48 (6)
3	Protected cultivation	8.15	12.23	27.69	25.12	44.40	117.59 (31)	97.21 (38)
4	Organic Farming	0.19	0.33	1.10	1.02	0	2.64 (1)	2.12 (1)
5	IPHM	0.20	0.10	1.40	1.38	4.46	7.54 (2)	7.24 (3)
6	Miscellaneous and other components	5.25	13.55	30.22	12.60	26.32	87.94 (23)	69.14 (27)
	Total	50.15	73.16	90.97	64.26	100.18	378.72	255.41

(Source: Details furnished by TANHODA)

(The figures in the brackets indicated the percentage of expenditure for the component to the total expenditure)

From the above, we observe as under:

- Seventy four *per cent* of the total expenditure incurred was for three components viz., Area expansion (35 *per cent*), protected cultivation (31 *per cent*) and Rejuvenation (8 *per cent*) during 2011-12 to 2015-16. The expenditure under area expansion continued to be more than 20 *per cent* during 2013-14 to 2015-16 despite instructions from GOI for restricting the expenditure upto 20 *per cent*.
- The area under horticulture production was reduced to 9.95 lakh ha in 2015-16 from 10.01 lakh ha in 2011-12 despite incurring 35 *per cent* of the total expenditure for area expansion of 82,432 ha, indicating absence of efforts to retain the farmers under horticulture cultivation in the subsequent years.
- As against the instructions of GOI and recommendations by University of Madras, SHM incurred expenditure of ₹ 7.24 crore out of the total expenditure of ₹ 255.41 crore during 2013-14 to 2015-16 (three *per cent*) resulting in inadequate allocation of funds for IPHM activities. This resulted in short-achievement of objective of increasing marketability of horticulture produce and profitability of farmers envisaged in the guidelines.

Thus, SHM failed to provide funds proportionately to all components, restrict expenditure towards area expansion and provide adequate funds for the development of IPHM infrastructure to promote latest technologies.

Government replied (December 2016) that the expenditure under area expansion was incurred as per the targets approved in the AAPs and reallocation of approved funds was not permitted by GOI. The reply was not acceptable as TANHODA failed to follow the instructions of GOI and recommendation of University of Madras at the time of preparation of AAP. Further, the allocation of funds from GOI was made on lump sum basis and not component-wise.

2.8.2 Production and distribution of planting material

The guidelines on NHM envisaged that production and distribution of quality seeds and planting material is an important component of the Mission. To meet the requirement of planting material for bringing additional area under improved varieties of horticulture crops and for rejuvenation programme for old/senile plantations, assistance was provided for setting up new nurseries under the Public¹² and private sector. This component included establishment of nurseries and formation of Tissue Culture Units.

2.8.2.1 Establishment of nurseries

The component envisaged creation of model nursery in an area of two to four ha and small nursery of one ha area with infrastructure like fencing, mother stock block maintenance, raising root stock seedlings under net house conditions and propagation house with irrigation system. 100 per cent assistance¹³ was provided for setting up new nurseries under Public sector and 50 per cent under private sector. Production of minimum of 50,000 numbers of planting materials per ha every year was also envisaged. From 2014-15, hi-tech nurseries were approved in an area of one to four ha. The details of establishment of nurseries during 2011-12 to 2015-16 have been furnished in Table 2.4.

Table: 2.4 Details of establishment of nurseries

Year	Model				Hi-tech				Small			
	Approved		Achievement		Approved		Achievement		Approved		Achievement	
	P	F	P	F	P	F	P	F	P	F	P	F
2011-12	8	200.00	0	0.62	0	0	0	0	12	75	6	24.91
2012-13	6	137.50	6	112.50	0	0	0	0	10	46.88	9	43.75
2013-14	1	21.25	1	25.00	0	0	0	0	7	23.91	3	15.63
2014-15	0	0	0	0	5	212.50	2	50	14	153	7	67.5
2015-16	0	0	0	0	0	0	0	0	0	0	0	0
Total	15	358.75	7	138.12	5	212.50	2	50	43	298.79	25	151.79

(Source: Details furnished by TANHODA)

(P – Physical in number; F – Financial- ₹ in lakh)

- Though AAP envisaged creation of 15 (Public- 14 and private- 1) model nurseries during 2011-12 to 2015-16, only seven (Public- 6 and private- 1) were created incurring ₹ 1.38 crore. Eight nurseries approved in the AAP for 2011-12 were not completed resulting in non-production of 80 lakh¹⁴ planting materials during 2011-12 to 2015-16 for supplying good quality seeds to farmers.
- As against the target of 43 (Public - 29 and private - 14) for establishment of small nurseries, only 25 (Public- 14 and private- 11) were created resulting in shortfall of 52 per cent in Public sector, under the control of TANHODA which led to short production of planting materials despite sanction by GOI.

¹² The State Horticulture Farms under the control of TANHODA. The planting materials developed under these Farms were supplied to the beneficiaries.

¹³ ₹ 6.25 lakh for small nursery and total cost of ₹ 25 lakh at ₹ 6.25 lakh per ha for model nursery.

¹⁴ Eight nursery x 50,000 planting material x 4 ha x 5 years = 80 lakh.

Government replied (December 2016) that the works for establishment of Hi-tech, model and small nurseries were in progress and would be completed before March 2017. Thus, the objective of establishment of nurseries, for enhanced production of planting materials for supply to farmers was not achieved.

2.8.2.2 Establishment of nurseries in test checked districts

In six out of seven test checked districts, six model and 10 small nurseries were approved for establishment in the State Horticulture Farms (SHFs) of the districts, during 2011-12 to 2015-16 for ₹ 2.48 crore. Of these, three model and three small nurseries were completed and the remaining nurseries were yet to be completed. We observed as under with regard to these nurseries.

- In Reddiarchatram, Dindigul district a small nursery created (November 2012) at a cost of ₹ 6.25 lakh¹⁵ was dismantled (October 2013) to accommodate the Centre of Excellence (COE) for the development of vegetable crops, thereby making the expenditure unfruitful.
- In respect of model nursery at Santhaiyur, Dindigul district, TANHODA released (August 2013) ₹ 25 lakh. Similarly, ₹ 40 lakh was released (2014-15) for creation of a Hi-tech and a small nursery at Sirumalai, Dindigul district. However, these nurseries could not be completed (August 2016) due to non-creation of infrastructure facilities like fencing to protect planting materials from cattle and trespassers and building for storing the inputs, by the Engineering Wing of TANHODA, pending finalisation of tenders.
- TANHODA released (2011-12 to 2012-13) ₹ 62.50 lakh to the district field office for establishment of two model nurseries in public sector and one model nursery in private sector in Krishnagiri District. The site identified (2011-12) in the Horticulture Training Centre for one model nursery was not handed over and the other selected site did not have irrigation facilities which resulted in non-establishment (June 2016) of nurseries in public sector. The private nursery was also not established due to non-identification of beneficiary, even after five years of release of funds.
- TANHODA released (2011-12 to 2012-13) ₹ 31.25 lakh for creation of one model nursery in SHF Navlok and one small nursery in SHF Kudapattu in Vellore district. Scrutiny of records revealed that ₹ 3.66 lakh was utilised for purchase of planting materials for the existing nursery and maintenance of existing shade net. Thus, the nurseries were not created even after five years from sanction, despite incurring an expenditure of ₹ 3.66 lakh.

Thus, failure to allocate sufficient funds for creation of nurseries, non-creation of sanctioned nurseries, absence of adequate infrastructure and dismantling of

¹⁵ ₹ 1.30 lakh towards installation of shade-net house of 544.320 sq m; ₹ 2.05 lakh for installation of three poly-houses of 85.32 sq m each and ₹ 2.90 lakh for Drip Irrigation system.

the created nursery resulted in non-achievement of the objective of providing quality planting material for enhancement of production of horticulture crops.

Government replied (December 2016) that the establishment of small nursery at Sirumalai had been proposed to be shifted to some other location and in respect of Krishnagiri, the action to hand over land was in progress. In respect of other nurseries, the works commenced after allocation of funds would be completed in March 2017. However, Government did not furnish specific replies to selection of unsuitable site and absence of irrigation facilities in the selected site.

2.8.2.3 Establishment of new gardens (Area expansion)

NHM guidelines (Para 8.16), 2010 envisaged adequate coverage of large areas under improved varieties of horticulture crops. This would enable to introduce latest high yielding varieties of suitable crops for enhanced productivity. The pattern of NHM assistance was 100 *per cent* for flowers, 60 *per cent* for perennial crops with two years maintenance assistance at 20 *per cent* each year and 75 *per cent* for non-perennial crops with 25 *per cent* maintenance assistance. The maintenance assistance was linked to the survival of the crops.

The details of the area of new gardens created for perennial crops, fruits and flowering crops including maintenance activities undertaken during 2011-12 to 2015-16 are detailed in the **Annexure - 3**.

Though an area of 82,432 ha was included for the plantation of latest high yielding varieties under NHM during 2011-12 to 2015-16, there was no significant increase in the total area under horticulture production and in fact it had decreased from 10.01 lakh ha in 2011-12 to 9.94 lakh ha in 2015-16 despite incurring an expenditure of ₹ 112.99 crore on this component.

The targets and achievements of raising and maintenance of perennial and non-perennial crops during 2011-12 to 2015-16 have been given in **Annexure - 4**.

- We observed that the Department had released assistance (60 *per cent*) for raising of perennial plantation in 26,969 ha during 2011-12 to 2014-15 and these plantations were eligible for first year maintenance of 20 *per cent* subject to survival rate of 75 *per cent*. The first year maintenance assistance of ₹ 13 crore was released to cover an area of 17,857 ha during 2012-13 to 2015-16. In respect of the balance area of 9,112 ha, no maintenance assistance was paid.
- Similarly, second year maintenance was paid for 2,364 ha during 2013-14 for the plantations raised during 2011-12 and no provision was made during 2014-15 for maintenance of plantation raised during 2012-13.
- Department had released assistance (75 *per cent*) for raising of non-perennial plantation in 11,351 ha during 2011-12 to 2014-15. These plantations were eligible for first year maintenance of 25 *per cent* subject to survival rate of 90 *per cent*. The first year maintenance assistance of ₹ 0.03 crore was released to cover an area of 35 ha during 2012-13 to 2015-16. In respect of the balance area of 11,316 ha, no maintenance assistance was paid.

- It was seen from the test checked districts that the details of survival of plantations was not recorded and the survival was estimated based on physical appearance. The correctness of estimation of survival of plantations by physical appearance raised in an area of 38,320 ha could not be ensured in audit due to absence of recorded documents. This resulted in non-assessment of achievement of the objective of enhanced productivity of horticulture crops.

Thus, absence of effective maintenance of the plantations in the subsequent years resulted in non-ensuring the fulfillment of objective of the area expansion scheme executed utilising ₹ 36.15 crore for raising (9,112 ha) perennial and (11,316 ha) non-perennial crops during 2011-12 to 2014-15.

In the Exit Conference (October 2016), DHPC assured to instruct the district level officials to maintain Follow-up Register on survival of plants.

Government replied (December 2016) that the commercial production of the fruits, vegetables, plantation crops undertaken by area expansion could be realised from sixth year onwards and increase in production and productivity would be realised after six years. It was also stated that more funds for maintenance component were not provided as they intended to provide funds to more number of farmers and to bring new area under horticulture crops.

The reply was not acceptable as varieties of horticulture crops like vegetables and flowers had commenced commercial production in one or two years. The reasons for not providing more funds for maintenance was also not acceptable as activity of covering new areas instead of maintenance of existing area resulted in reduction of total area despite area expansion of 82,432 ha during 2011-12 to 2015-16.

2.8.2.4 Delay in supply of planting materials

The production of good quality of seeds and planting materials and their timely distribution¹⁶ to farmers are critical inputs to attain the objective of increase in production and productivity of the horticulture crops. NHM guidelines 2010 had also envisaged that the planting material should be supplied from accredited nursery, their availability should be ensured in advance and duly reflected in AAP.

The details of distribution of planting material, the planting season, varieties of plantation under area expansion component relating to the 10 blocks in three out of seven test checked districts were as detailed in **Table 2.5**.

¹⁶ Details of seasons for planting, fertigation, harvesting, etc. of various horticulture crops are recommended in the Crop Production Techniques published by the DHPC and TNAU.

Table: 2.5 Distribution of planting materials

Crop variety	Planting season recommended by TNAU	Total planting material supplied			Planting material supplied beyond the season				Period of delay in supply
		Area (in ha)	Number of farmers	Number of plantations	Area (in ha)	Number of farmers	Number of plantations	Percentage of plantations	
Mango	July to December	1,790.50	1,701	2,08,160	1,301.50	1,195	1,43,172	69	1 to 5 months
Acid lime	December to February, June to September	362	497	68,346	213	295	29,012	42	1 to 3 months
Amla	July and August	172	145	26,033	172	145	26,033	100	1 to 8 months
Total		2,324.50	2,343	3,02,539	1,686.50	1,635	1,98,217		

(Source: Details furnished by TANHODA)

It may be seen from the above that 100 *per cent* of the plantations of amla, 69 *per cent* of mango and 42 *per cent* of acid lime were supplied belatedly after the planting seasons indicating absence of effective planning in supply of planting materials to the beneficiaries for utilisation in the right planting season to achieve the desired income generation to them.

Government replied (December 2016) that there was no expiry season for planting material and can be planted in summer also, if sufficient irrigation facilities were provided. It was also stated that the farmers were advised to keep the planting materials in shady places with proper irrigation to enable them to plant during the next season.

Reply was not acceptable as non-availability of planting materials prior to the start of season and retaining the same for longer periods than required were contrary to guidelines and would impact the yield of horticulture crops, besides putting undue pressure on irrigation facilities.

2.8.3 Payment of subsidy in contravention to NHM guidelines

As per Para 4.4 of NHM guidelines, 2010, the Executive Committee of GOI is empowered to approve, modify and reallocate the quantum of subsidy assistance to beneficiaries for the components under NHM. The guidelines provided for supply of planting materials and inputs for various schemes. Beneficiaries were eligible for credit linked back ended subsidy for some components of NHM, like IPHM. The guidelines also prohibited procurement of planting materials at the discretion of farmers and envisaged supply through nurseries.

The operational guidelines issued by TANHODA provided for payment of cash assistance through bank accounts to the farmers towards procurement of planting materials of bulbous flowers, turmeric and banana suckers crops and for meeting inter-cultivation expenses like ploughing under the component area expansion, in violation of NHM guidelines. This resulted in procurement of planting materials at the discretion of farmers for a value of ₹ 5.04 crore, and payment of ₹ 13.18 crore towards inter-cultivation expenses during 2011-12 to 2015-16 in the seven test checked districts.

Thus, modification of NHM assistance by the SHM in contravention of guidelines resulted in procurement of planting materials at the discretion of farmers instead of supplying them through the accredited nurseries to maximise the yield of horticulture crops.

Government stated (December 2016) that planting material for turmeric, bulbous flower and banana sucker were not produced in the State farms/accredited nursery and considering large quantity of requirement, farmers were allowed to procure planting material.

The reply was not acceptable as the SHM not only failed to produce required planting material for farmers but also permitted procurement from non-accredited sources.

2.8.4 Rejuvenation of old and senile plantations

NHM guidelines attributed reasons for low productivity of perennial fruits like mango, cashew and strawberry plantations to existence of old and senile trees. Rejuvenation¹⁷ helps in improving production and productivity. The NHM guidelines (Para 8.19) envisaged the productivity improvement programmes through rejuvenation by removal of senile plantations, re-plantations with fresh stock supported with appropriate and integrated combination of fertilizers, pruning and grafting techniques.

The targets and achievements of rejuvenation of old and senile plantations during 2011-12 to 2015-16 were as detailed in **Table 2.6**.

Table: 2.6 Targets and achievements of rejuvenation of plantations

Year	Target		Achievement	
	Physical (in ha)	Financial (₹ in crore)	Physical (in ha)	Financial (₹ in crore)
2011-12	2,500	3.75	1,627	1.27
2012-13	14,000	21.00	9,526	14.12
2013-14	6,486	8.27	5,589	8.38
2014-15	2,400	4.08	2,050	4.10
2015-16	1,500	3.00	1,500	3.00
TOTAL	26,886	40.10	20,292	30.87

(Source: Details furnished by TANHODA)

It may be seen from above that as against the target of 26,886 ha for rejuvenation, the actual achievement was 20,292 ha and the Department cited the non-allotment of sufficient funds as the reasons for shortfall.

As the yield of fruit bearing trees exhibit declining trend after 20 years, the Department needs to plan for rejuvenation of atleast five *per cent* of the area of fruit bearing trees (2.87 lakh ha in 2011-12) every year. However, the actual achievement of rejuvenation ranged between one and three *per cent* only, during 2011-12 to 2015-16.

We observed that detailed assessment of productivity/yield of senile plantations for the past period, tree census with regard to their age, disease etc., and survey of the senile plantations in the orchards requiring replacement were ascertained by field level officers by physical estimates and no documentation was maintained.

¹⁷ Refers to replacement of old and senile plants with new plants.

Scrutiny of records in test checked districts revealed the following:

- No rejuvenation was undertaken in two¹⁸ test checked districts during 2011-12 to 2015-16. The area of cultivation of jack fruit and strawberry in Nilgiris district reduced from 177 ha and 7.40 ha in 2014-15 to 60.55 ha and 5.85 ha in 2015-16 respectively, emphasizing the need for rejuvenation.
- In five out of seven test checked districts, as against the target of 3,081 ha, rejuvenation of 1,940 ha (63 *per cent*) of old orchards was completed incurring an expenditure of ₹ 2.33 crore.
- Absence of documentation on the area occupied by senile plantations and insufficient allocation of funds for rejuvenation of the existing orchards resulted in non-enhancement of productivity of perennial crops as discussed in Paragraph No 2.8.

Government replied (December 2016) that work was executed based on the fund released. However, the fact remains that absence of initiative to undertake rejuvenation hampered the productivity of perennial crops.

2.8.5 Protected cultivation

Protected cultivation practice is a cropping technique wherein the micro climate surrounding the plant body is controlled partially or fully as per the requirement of the horticulture crops grown during their period of growth. NHM guidelines envisaged mission activities like construction of Green house, shade net house, and mulching¹⁹ to protect cultivation from extreme weather conditions and to increase the production and productivity.

2.8.5.1 Mission activities under protected cultivation

NHM guidelines, 2010 (Para 8.22) provided for selection of variety of construction material²⁰ for green houses with different rates of subsidy²¹ to enable beneficiaries to select variety of locally available construction materials.



Completed Green House without plantations

¹⁸ Nilgiris and Kanyakumari.

¹⁹ Mulching is covering the soil around the plant with plastic film to conserve the soil moisture that prevents weed growth and regulate soil temperature.

²⁰ (i) Fan and Pad system ₹ 1,465 per sq m – (ii) Tubular Structure ₹ 935 per sq m (iii) Wooden structure ₹ 515 per sq m (iv) Bamboo structure ₹ 375 per sq m.

²¹ For all the structure subsidy component was 50 *per cent* of the cost.

The actual achievement against target of 6,631 ha fixed for poly green houses, shade net, mulching and anti bird nets under protected cultivation during 2011-12 to 2015-16 was 5,567 ha. The lower achievement of target was attributed to the inability of beneficiaries to afford huge investment involved for the project and the difficulties faced by them to obtain bank loan by providing collateral security.

We observed in Krishnagiri District, that as against the target for construction of 101 green houses in 3.08 lakh sq m during 2014-15, only 46 works of 1.30 lakh sq m involving subsidy of ₹ 5.57 crore were completed leaving 55 works of 1.78 lakh sq m unexecuted. Similarly during 2015-16, against target of 149 works of 4.64 lakh sq m, only 91 works of 2.68 lakh sq m involving subsidy of ₹ 11.45 crore were completed and balance 58 works of 1.96 lakh sq m were pending execution as of September 2016. Of the 470 beneficiaries identified in Krishnagiri district during 2013-14 to 2014-15, 135 beneficiaries had withdrawn their applications due to non-sanctioning of loan and the Department could re-identify only 90 fresh beneficiaries for the project.

Thus, selection of beneficiaries without proper assessment of their financial capabilities led to non-commencement of the projects by the selected beneficiaries requiring re-identification of fresh beneficiaries. Failure to re-identify the fresh beneficiaries resulted in non-achievement of increased production and productivity of vegetable species.

Government replied (December 2016) that the delay in sanction and release of loan by banks resulted in delayed execution of the project. It was also stated that the shortfall would be completed in the subsequent years. The reply was not tenable as the Department failed to assess the financial status of the beneficiaries indicating absence of proper planning.

2.8.5.2 Plastic Mulching

Plastic mulching is an advanced technology, which is promoted among farmers to enhance productivity of horticulture crops. Under NHM, this component was implemented for promoting intensive cultivation of vegetables in a cluster mode by giving due priority.

The targets and achievements during 2011-12 to 2015-16 were as under:

Year	Physical (in ha)		Financial (₹ in crore)	
	Target	Achievement	Target	Achievement
2011-12	1,000	335	1.00	0.33
2012-13	0	40	0	0.04
2013-14	1,597	1,386	1.36	1.39
2014-15	1,000	903	1.36	1.44
2015-16	2,600	2,601	4.16	4.16
Total	6,197	5,265	7.88	7.36

(Source: Details furnished by TANHODA)

As against the target of 6,197 ha set for implementing plastic mulching in the State, Department achieved 5,265 ha during 2011-12 to 2015-16 by incurring an expenditure of ₹ 7.36 crore.

We observed from the seven test checked districts that as against an area of 59,576 ha undertaking vegetable and flower cultivation as of 31 March 2016, only 1,283 ha of area had been covered with the latest technology of plastic

mulching during 2011-12 to 2015-16 with an expenditure of ₹ 1.74 crore. This indicated absence of initiative to introduce latest technology in the horticulture sector for better production and productivity of vegetables.

Government replied (December 2016) that the targets were proposed based on the requirement received from the farmers and large area would be covered in a phased manner. However, the fact remains that only very less area was covered for adoption of latest technology by farmers.

2.8.6 Organic farming

Organic Farming is a holistic and integrated way towards creating a sustainable farming system by lowering input cost by substituting chemical inputs with organic inputs, decreased reliance on non-renewable resources, capturing the high-value markets thereby increasing farm income.

2.8.6.1 Unfruitful expenditure on promotion of Organic Farming

GOI approved (March 2009) the AAP for the year 2009-10, which included organic farming and certification in an area of 800 ha with project cost of ₹ 1.20 crore and subsidy assistance of ₹ 80 lakh. Based on the tender from CHPC, International Competence Centre of Organic Agriculture (ICCOA) had submitted (June 2009) project proposals for organic farming and certification in 1,000 ha. The proposals received were scrutinised and the Department instructed (August 2009) ICCOA to conduct baseline survey in two districts²² for identification of organic farming potential and the same was completed (September 2009) and proposal submitted for implementation in 800 ha. However, SLEC approved (May 2012) adoption of organic farming and certification to cover 1,000 ha in four districts²³ in a period of three years.

The project proposals submitted (August 2012) for implementation in four districts were deferred (September 2012) by GOI for want of clarification regarding details of codal formalities/bidding process followed in selection of service provider. SHM re-submitted (October 2012) the project stating that ICCOA was the only agency, which had submitted the proposal in required form. GOI approved (April 2013) project for ₹ 3.28 crore with the subsidy of ₹ two crore for adoption of 1,000 ha and certification of 20 clusters of 50 ha with back ended subsidy. The agreement was entered (June 2013), with ICCOA with various conditions including creation of farmers' groups, conduct of baseline survey, providing training and inputs for adoption of technology, registration of area and farmers using accredited certified agency.

TANHODA released ₹ 70 lakh (₹ 34.00 lakh in November 2013 and ₹ 36 lakh in June 2014). During inspection (November and December 2014) it was ascertained that clusters were not formed and there was short supply of organic inputs to farmers. Considering the poor performance of the ICCOA, the project was withdrawn (June 2015) with the approval of SLEC. Despite repeated reminders, no accounts were furnished for the released amount of ₹ 70 lakh by ICCOA (November 2016) to TANHODA. The balance amount

²² Namakkal and Nilgiris.

²³ Erode, Ramanathapuram, Theni and Vellore.

sanctioned for the project was diverted to pollination support component with the approval of GOI.

Scrutiny of records revealed the following:

- Though baseline survey was conducted for two districts, the project was approved by SLEC for implementation in four different districts without any survey.
- Despite assurance to GOI that the proposals submitted by ICCOA were in the required form and insisted on approval without following bidding process, poor performance of ICCOA in the conduct of baseline survey and short supply of inputs indicated selection of incorrect agency for execution of the project on promotion of organic farming.
- GOI approved the project with back ended subsidy. However, SHM released ₹ 70 lakh in two instalments without ascertaining the actual work executed and eligibility of subsidy without furnishing any accounts on the expenditure incurred.
- Diversion of the balance amount to another project resulted in non-achievement of the objective of promotion of organic farming.

Thus, selection of districts without baseline survey, selection of implementing agency without adopting bidding process, payment of subsidy in advance in contravention of GOI instructions and diversion of sanctioned funds for other project resulted in unfruitful expenditure of ₹ 70 lakh besides non-achievement of the objective of promotion of organic farming and certification.

Government replied (December 2016) that the project was withdrawn due to poor performance of ICCOA. It was stated that the diversion of funds was done with the approval of SLEC to the project with huge demand and efforts would be made to execute organic farming project in the ensuing years. However, the fact remains that the project approved by GOI for promotion of organic farming was yet to be initiated in the State.

2.8.7 Centre of Excellence

NHM guidelines (Para 7.32) envisaged establishment of Centre of Excellence (COE) for different horticulture crops which would serve as demonstration and training centers as well as source of planting material and vegetable seedlings under protected cultivation. Establishment of four CsOE was sanctioned for ₹ 29.98 crore during 2011-12 to 2015-16 for flowers, vegetables and tropical fruits in the four districts²⁴ of the State. Two sanctioned CsOE were not taken up due to non-approval of project reports by GOI. The audit observations on the establishment of other two CsOE are discussed in the succeeding paragraphs.

²⁴ Dindigul, Krishnagiri, Nilgiris and Tiruchirappalli.

2.8.7.1 Centre of Excellence for cut flowers

The project of establishment of COE for cut flowers in Krishnagiri district, an Indo-Israel Joint Venture, was approved (April 2012) by GOI for ₹ 8.80 crore with an objective to serve as a demonstration site for high tech protected floriculture technologies to flower growers and entrepreneurs. The project envisaged construction of civil works²⁵ for ₹ 4.86 crore and horticulture activities²⁶ for ₹ 3.94 crore for cultivation in 10 acre for production and distribution of 25,000 floriculture planting materials to farmers. All the 18 components of the civil works were awarded (November 2013) to a single tenderer who quoted lowest rate, for ₹ 4.94 crore for completion within nine months, i.e., by August 2014. The contractor completed (August 2016) nine components of civil works incurring an expenditure of ₹ 3.68 crore and five components (sanctioned ₹ 54.78 lakh - expenditure ₹ 37.66 lakh) were under progress. Four components (sanctioned ₹ 71.62 lakh) like construction of ponds, interlinking water sources and poly house automation system had not been commenced even after the expiry of two years from the scheduled date of completion of the project. TANHODA did not invoke penal clause to levy penalty on the contractor for delay in completion of work as envisaged in the agreement. The horticulture activities of procurement of cold storage equipment, post harvest equipment were completed and cultivation of flowers was also undertaken in one ha incurring an expenditure of ₹ 1.06 crore (December 2016).

We observed that the horticulture activities completed could not be put to use due to delay in completion of civil works and the objective of growing flowers in 10 ha utilising high-tech protected floriculture technologies could not be achieved even after three years from the commencement of work despite incurring an expenditure of ₹ 4.74 crore for the project.

Government replied (December 2016) that the works were undertaken on priority basis and an expenditure of ₹ 4.74 crore had been incurred. It was also stated that the production phase would commence after completing planting before March 2017. Thus, the achievement of the envisaged objective of the joint venture project was still pending.

2.8.7.2 Centre of Excellence for vegetables

With a view to demonstrate advanced production technologies for high quality vegetable produce for both National and International market and to achieve increased productivity, the project of establishment of COE for vegetables in Dindigul district was approved (April 2012) for ₹ 10.18 crore (civil and engineering activities - ₹ 6.57 crore and horticulture activities - ₹ 3.61 crore) by GOI. SHM planned to establish the COE in the existing SHF considering the locational and climatic advantages. The project envisaged demonstration of poly house cultivation of tomato, capsicum and cucumber in 4,000 sq m each and demonstration of transplant production in vegetable under poly house

²⁵ Land leveling; laying of bore wells; construction of administrative building for storage, laboratories, pre-cooling units; establishment of poly houses and shade net house.

²⁶ Post harvest equipment, cold storage equipment, generator, crop supported system, drip irrigation facilities, etc.

structure in two units of one acre each with expected quantity of 10 lakh per year.

Civil works were awarded (November 2013) to contractors for ₹ 3.79 crore for completion in nine months and horticulture activities were proposed to be undertaken by the Department. The works relating to civil works were completed (October 2015) with an expenditure of ₹ 3.65 crore.

We noticed that an amount of ₹ 0.92 crore was incurred (October 2016) towards horticulture activities and the works on creation of 3,968 sq m of hi-tech vegetable nursery, components like poly-house automation system, farm equipments were not completed due to non-finalisation of tenders by TANHODA. We also noticed that, for facilitating construction activities for establishment of the COE, 1,420 out of 4,983 pedigree mother plants in the existing SHF were removed (June 2013) by the project officer without analysing environmental impact.

Thus, delay in commencement of horticulture and engineering activities of the COE resulted in non-utilisation of civil structures constructed, besides non-achievement of demonstration of transplant production of vegetables despite incurring an expenditure of ₹ 4.57 crore. Removal of pedigree mother plants in the existing SHF for the project also led to non-maintenance of existing horticultural activities.

Government replied (December 2016) that production and distribution of vegetable Pro Tray seedlings was undertaken in the constructed civil work of naturally ventilated poly house and efforts would be made to complete the hi-tech nursery and other components before March 2017. However, the fact remains that the objective of demonstration of transplant production of vegetables was not achieved even after three years from the date of commencement of work.

2.8.8 Inadequate spending for Scheduled Castes / Tribes and women beneficiaries

Government of India instructed (April 2011) SHM to ensure that 16.2 *per cent* and eight *per cent* of the sanctioned funds under NHM were targeted for the farmers and beneficiaries belonging to Scheduled Castes (SC) and Scheduled Tribes (ST) as per the directives of the Planning Commission. It was also instructed that at least 30 *per cent* of the allocation was to be earmarked for women beneficiaries / farmers.

The release of funds for NHM was revised from 2014-15 onwards and funds were released separately for SC/ST beneficiaries. As against the total release of NHM funds of ₹ 163.01 crore during 2014-15 to 2015-16, separate release orders of ₹ 32.15 crore were issued for implementation of components to benefit SC/ST beneficiaries.

We observed that TANHODA allocated funds of ₹ 20.37 crore (61 *per cent*), during 2014-15 to 2015-16, for SC/ST beneficiaries and the actual expenditure incurred during these two years was ₹ 14.59 crore resulting in diversion of ₹ 17.56 crore of NHM funds released for the benefit of the economically underprivileged section of society to general beneficiaries.

We also observed from the test checked districts that as against the total NHM beneficiaries of 54,699, only 6,071 (11 per cent) SC/ST farmers were benefitted with the assistance for the improvement of horticulture sector during 2011-12 to 2015-16. This resulted in short achievement of targets by 13 per cent indicating absence of adequate coverage to SC/ST beneficiaries.

The details of total expenditure and the percentage of expenditure on SC, ST and women beneficiaries in seven test checked districts were as detailed in **Table 2.7**.

Table: 2.7 Details of expenditure on SC, ST and women beneficiaries

(₹ in crore)

District	Total Expenditure during 2011-12 to 2015-16	Percentage of expenditure			Percentage of shortfall in expenditure to the beneficiaries with reference to standards		
		SC	ST	Women	SC	ST	Women
Tiruchirappalli	8.55	0.63 (7.37)	0.12 (1.40)	1.33 (15.56)	8.83	6.60	14.44
Nilgris	9.84	0.30 (3.05)	0.25 (2.54)	1.40 (14.23)	13.15	5.46	15.77
Dindigul	16.33	4.69 (28.72)	0	1.34 (8.21)	-	8.00	21.79
Madurai	10.77	0.81 (7.52)	0	1.72 (15.97)	8.68	8.00	14.03
Kanyakumari	6.64	0.16 (2.41)	0.45 (6.78)	1.69 (25.45)	13.79	1.22	4.55
Vellore	12.67	2.10 (16.57)	0.19 (1.50)	0.31 (2.45)	-	6.50	27.55
Krishnagiri	60.98	1.34 (2.20)	0	5.40 (8.86)	14.00	8.00	21.14

(Source: Details furnished by TANHODA)

(Figures in bracket indicated the percentage of expenditure to the total expenditure)

From the above details, the following deficiencies were noticed:

- The shortfall in expenditure towards SC beneficiaries during 2011-12 to 2015-16 in the seven test checked districts ranged between 8.68 and 14 per cent except the two districts of Dindigul and Vellore.
- The shortfall in expenditure towards ST beneficiaries ranged between 1.22 and eight per cent.
- In respect of women beneficiaries, the shortfall ranged between 4.55 and 27.55 per cent.

Thus, TANHODA failed to adhere to the directives of the Planning Commission in allocation and expenditure of funds under NHM to the beneficiaries and farmers belonging to the SC, ST and Women in order to enable them to earn sufficient income and provide social security.

Government replied (December 2016) that availability of potential farmers under SC/ST/Women category was not uniform in all districts. The components like protected cultivation, IPHM, etc., involved higher cost of investment excluding subsidy and absence of progressive beneficiaries was the reason for non-achievement. The reply was not acceptable as exclusive components for the benefit of SC/ST/Women beneficiaries considering their financial status were not proposed in the AAP.

2.8.9 Human Resource Development

NHM guidelines (Para 8.31) envisaged training, field visits of farmers to neighbouring districts, study tours of staff to other districts and States, exposure visits in latest technologies like precision farming, organic farming,

etc. to farmers. The details of various trainings imparted to the beneficiaries/ farmers during 2011-12 to 2015-16 were as under:

Type of training	Target as per AAP (Numbers)	No. of participants trained	Shortfall	Percentage of shortfall
Training of farmers	26,480	18,707	7,773	29
Exposure visit of farmers	6,780	2,765	4,015	59
Study tour	6,714	330	6,384	95
Total	39,974	21,802	18,172	

(Source: Details furnished by TANHODA)

There was shortfall in achievement of target to training and exposure visits to farmers to the extent of 29 and 59 *per cent* respectively. The study tours proposed for the technical staff/field officers of the Department, to enable them to learn and disseminate the technology to the farmers for better horticulture production among farmers, was achieved to an extent of five *per cent* of the targets. The percentage of shortfall in achievement of these components in the seven test checked districts was 39, 47 and 98 respectively.

We observed that three projects²⁷ for ₹ 2.90 crore were approved by GOI in AAP and SHM failed to forward the project proposals with the approval of SLEC for release of funds. This resulted in non-achievement of envisaged objective of acquiring knowledge of production practices followed in other district and States.

Thus, SHM did not initiate effective steps for imparting training, exposure visits and study tours to the farmers and field staff despite proposing in the AAP.

Government replied (December 2016) that training needs vary from farmer to farmer and common training module cannot be developed. It was stated that efforts were made for imparting training to farmers within the State, outside the State and Exposure visits. Government did not furnish reasons for shortfall in study tours. The reply was not acceptable as the targets fixed by the Department itself after considering the training needs of the individual farmers were not achieved.

2.8.10 Promotion of Groups and Associations

NHM guidelines, 2014 envisaged (Para 2.1 (b)) encouragement of farmers into farmer groups like farmer interest groups, farmer producer organizations as one of the main objectives to bring economy of scale and scope in the horticulture sector.

Despite the above guidelines and GOI approval of ₹ 20 lakh in the AAP (2014-15) for forming ten farmer's groups, no action was taken (August 2016) to form the groups to bring economy of scale and scope in the horticulture sector.

Government replied (December 2016) that the component was not implemented despite inclusion in the AAP as the funds were not released in full by GOI during 2014-15. The reply was not acceptable as the overall funds released during 2014-15 was ₹ 65.12 crore and the amount approved for this

²⁷ Three training / study tour of technical staff / field functionaries (outside India).

component was a meagre ₹ 20 lakh. Adequate amount could have been allotted by TANHODA to achieve the objective.

2.9 Internal Control

2.9.1 Monitoring

NHM guidelines envisaged SLEC to release funds, monitor and review implementation of the programmes under NHM. The DMC was responsible for carrying forward the objectives for the project formulation, implementation and monitoring of these programmes. The operational instructions for NHM (2014-15) by the TANHODA mandated approval of identified beneficiaries for the area expansion component by DMC. Despite these guidelines and instructions, we observed as under:

- No meetings of SLEC were conducted during 2013-14 and 2014-15. In the selected Vellore district no meeting of DMC was conducted during 2011-12. The number of DMC meetings conducted in the seven test checked districts during 2011-12 to 2015-16 varied between eight²⁸ and 53²⁹.
- Though the DMC was in-charge for project formulation, five out of seven test checked districts failed to consider the projects for inclusion in AAP finalised by TANHODA during 2011-12 to 2015-16.
- The minutes of the meetings of DMC indicated that the progress of implementation of the programmes approved for execution in districts was not monitored by DMC in the seven test checked districts during 2011-12 to 2015-16.
- Despite requirement of approval of DMC for the identified beneficiaries, the same was not followed in two³⁰ test checked districts during 2014-15 and 2015-16 and two³¹ test checked districts during 2014-15.
- Additional operational instructions for implementing NHM issued during 2011-12 specified that the inputs for the NHM scheme shall be distributed within one month of receiving supply at the field office. As and when the inputs were received, the details of inputs received should be reported within 12 hours by Block level officers to the District Officer and also to the Managing Director of TANHODA on the same day by email. However, we observed from the scrutiny of records that 7.73 lakh kg and 6,220 litre of inputs such as Dimethoate, Imidacloprid, Corbon oxy chloride. etc, were issued to the beneficiaries with a delay ranging from one to 11 months in 19 blocks in seven selected districts by the field offices in violation of the guidelines. The same was also not monitored by the District and TANHODA officials.

²⁸ DMC, Vellore.

²⁹ DMC, Dindigul.

³⁰ Tiruchirappalli and Madurai.

³¹ Dindigul and Vellore.

2.9.2 Evaluation

NHM guidelines envisaged conduct of term end evaluation at the end of XI and XII Plan period on the implementation of the scheme. Concurrent evaluation was also required to be conducted by engaging suitable agencies. State Governments were also required to conduct evaluation studies on project basis.

Scrutiny of records revealed that term end evaluation on the implementation of the NHM scheme in the State was not conducted at the end of the XI Plan period. Concurrent evaluation on the impact of the scheme in the State was conducted during 2012-13 by University of Madras and further concurrent evaluation study was not conducted during 2013-14 to 2015-16. It was also noticed that the recommendations made on the concurrent impact study was not implemented by the State.

Thus, non-conduct of SLEC meeting for two years, failure to propose project formulations with the approval of DMC, non-approval of identified beneficiaries by DMC for area expansion programme and absence of concurrent evaluation indicated inadequate monitoring in implementation of the NHM in the State.

Government replied (December 2016) that though no SLEC meetings were held for the two years, the agenda was discussed in Review meeting and through circulation agenda. It was also replied that the Institute of Economic Change had been nominated (November 2016) to conduct evaluation which would be completed shortly.

The reply was not acceptable as the representative of GOI was not present to express the views for the centrally sponsored scheme for these years and to ensure effective implementation.

2.10 Conclusion

Implementation of National Horticulture Mission in Tamil Nadu revealed that the TANHODA failed to prepare State Horticulture Mission Document to determine the potentiality of horticulture in the State. Annual Action Plan was prepared without baseline survey, finalisation of detailed project proposals was delayed and there was absence of sub-plan for the component area expansion. All these resulted in deferment of six sanctioned projects for ₹ 11.47 crore and non-availing of GOI sanction of ₹ 34.33 crore for 26 projects indicating inadequate planning in the development of horticulture sector. Imprudent financial management resulted in blocking of funds of ₹ 4.35 crore and non-utilisation of the released funds of ₹ 32.37 crore. There was delay in release of received Central funds and State funds by GoTN resulting in delayed achievement of the envisaged objectives. Absence of effective maintenance of new plantations in the subsequent years despite incurring of ₹ 36.15 crore and delayed or under completion of projects resulted in non-achievement of the objective of enhancement of production of horticulture crops. Short allocation of sanctioned funds to the schemes for the benefit of deprived sections of society resulted in non-generating of income and provision of social security. Lack of concurrent evaluation of projects and

deficiencies in the monitoring of the programme indicated weak internal control.

2.11. Recommendations

State Government may

- Ensure preparation of State Horticulture Mission Document after conducting baseline survey and preparation of AAP and sub-plan envisaging the objectives and strategies of the projects.
- Ensure prompt submission of project proposals with the approval of SLEC for Project Based Activities.
- Strengthen the system of financial control in implementation of projects by ensuring complete and effective utilisation of funds sanctioned for intended objectives.
- Formulate a mechanism for effective project management in timely supply of planting materials, maintenance of plantations, rejuvenation of orchards and creation of post harvest facilities.
- Ensure effective monitoring of implementation of projects through District Mission Committees. Concurrent evaluation of implemented projects may also be ensured.