

# CHAPTER I PERFORMANCE AUDIT

## AGRICULTURE DEPARTMENT

### 1.1 State Horticulture Mission

#### *Highlights*

*The State Horticulture Mission was launched in 2005-06 to give new momentum to the development of horticulture, generate employment and enhance farm income. Out of the various interventions under the State Horticulture Mission, organic cultivation practised in Wayanad District showed significant improvement. Rural marketing facilities and infrastructure for seed production established by the Vegetable and Fruit Promotion Council, Keralam enabled farmers to sell their products directly to the customers and achieve substantial progress in production of vegetable seed. However, there were several deficiencies in implementation of various schemes under the Mission as indicated below:*

**The Perspective Plan for the entire Mission period (2005-12) was not prepared.**

*(Paragraph 1.1.6)*

**Annual Action Plans for 2005-06 to 2007-08 were prepared without basic data from district/field level agencies and resulting in unrealistic targets.**

*(Paragraph 1.1.7)*

**Out of Rs 267.90 crore received from the Central and State Governments during 2005-09, Rs 112.34 crore (42 per cent) remained unutilized with the State Horticulture Mission, the district missions and other implementing agencies.**

*(Paragraph 1.1.8.1)*

**Assistance of Rs 12.02 lakh was released to four out of eight test-checked private sector nurseries despite the minimum stipulated area for the nurseries not being available with them. In the test-checked districts, the district Missions and the Agriculture Department did not ensure the quality of plants produced in the nurseries.**

*(Paragraph 1.1.9.2)*

**Audit scrutiny in four districts revealed that there was excess payment of assistance of Rs 2.16 crore for ginger and turmeric crops and non-payment of assistance of Rs 51.81 lakh for pepper crops under the area expansion programme.**

*(Paragraph 1.1.9.4)*

**The total area under cultivation of major crops, namely pineapple, pepper and ginger declined in 2007-08 as compared to 2004-05, despite expenditure of Rs 10.93 crore during 2005-08 under the area expansion programme. The areas under banana and turmeric crops showed only a marginal increase.**

*(Paragraph 1.1.9.4)*

**The actual production of pepper decreased despite spending Rs 34.46 crore under the scheme, 'Rejuvenation of pepper gardens' during 2005-08 as part of the State Horticulture Mission programme in Idukki and Wayanad districts.**

*(Paragraph 1.1.9.5)*

**Subsidy of Rs 3.25 crore, earmarked for pack houses, mobile processing units and cold storages during 2005-09 was not utilised due to poor response arising out of low subsidy rates.**

*(Paragraph 1.1.9.10)*

### **1.1.1 Introduction**

The State Horticulture Mission (SHM) was launched in October 2005 for implementation of the National Horticulture Mission programme introduced by Government of India (GOI) during 2005-06. The schemes of the SHM envisaged overall development of the horticulture sector including areas of production, post-harvest management, processing and marketing of horticultural produce. Initially, the programme was implemented in 10 districts but it was subsequently extended to four<sup>1</sup> more districts.

### **1.1.2 Organisational Set up**

The SHM, registered under the Travancore-Cochin Literary, Scientific and Charitable Societies Registration Act 1955, started functioning from October 2005. The control, administration and management of the affairs of the SHM are vested in a Governing Body with the Minister for Agriculture as the Chairman and the Agriculture Production Commissioner as the Vice Chairman. A State Level Executive Committee (SLEC), constituted under the Chairmanship of the Agriculture Production Commissioner is responsible for project formulation and monitoring. The SHM is headed by a Director while the District Missions are headed by Deputy Directors of Agriculture (Horticulture). The programmes are mainly implemented by the State Agriculture Department through Krishi Bhavans. The Kerala Agriculture University (KAU), the Kerala State Horticultural Product Development Corporation Limited (Horticorp), the Vegetable and Fruit Promotion Council, Keralam (VFPCCK), etc., are also involved in the implementation of the SHM schemes.

### **1.1.3 Audit Objectives**

The audit objectives were to examine whether:

- Annual Action Plans were prepared on the basis of accurate and reliable data and were approved in time;
- GOI and the State Government released funds as per the approved Annual Action Plans and the utilisation of funds was effective;
- the schemes were implemented in consonance with the guidelines of the Mission so that the targets were individually and collectively achieved;

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<sup>1</sup> Kollam and Kottayam from February 2009, Pathanamthitta from February 2008, Thiruvananthapuram from February 2007.

- the scheme interventions resulted in improvement of the horticulture sectors covering production, post-harvest management, processing and marketing and
- adequate monitoring existed at various levels to ensure effective implementation of the schemes.

#### **1.1.4 Audit Criteria**

The following criteria were adopted for assessing the performance:

- Guidelines issued by the National and State Horticulture Missions,
- Annual Action Plans approved by the National Horticulture Mission,
- Act, Rules, orders and instructions issued by the Central and State Governments and
- Financial and physical targets set by the SHM.

#### **1.1.5 Scope of Audit and Audit Methodology**

The performance audit, covering the activities of the SHM from 2005-06 to 2008-09, was conducted during March-June 2009. Audit scrutinised records of the Directorate of Agriculture, the head office of the SHM and four<sup>2</sup> out of 14 district offices selected by the random sampling method. In each of the selected districts, offices of two Assistant Directors of Agriculture and four Krishi Bhavans<sup>3</sup> were also inspected. Besides, the head office and selected field units of KAU, the offices of Horticorp, VFPCCK and model/small nurseries in the four districts were also inspected. Private nurseries were inspected in the presence of departmental officials. An entry meeting with the Secretary, Department of Agriculture was held on 12 May 2009 and an exit meeting with the Agriculture Production Commissioner was held on 26 August 2009.

#### **Audit Findings**

The deficiencies noticed in implementation of the schemes under the Mission are detailed below:

#### **1.1.6 Non-preparation of the State Horticulture Mission Document**

The main objective of the SHM was overall development of the horticulture sector in the State, keeping in view the regional disparities and climatic conditions. In order to formulate the said strategies and to give assistance to the programmes, a base line survey on the status of horticulture production and development potential was essential. Based on this survey, a Perspective Plan or the State Horticulture Mission Document indicating the strategies for achieving the SHM's objectives and schedules for executing various project activities for the entire SHM period (2005-2012), was to be prepared. This, in turn, would form the basis for preparation of Annual Action Plans (AAPs). However, this critical document was not prepared by SHM. In response, the Director, SHM stated (September 2009) that the Department of Agriculture had prepared the AAP for 2005-06 prior to formation of the SHM and got it approved by GOI. He also added that the details of any study or document

**State Horticulture  
Mission Document for  
the entire Mission  
period (2005-12) was  
not prepared**

<sup>2</sup> Ernakulam, Idukki, Thiruvananthapuram and Wayanad.

<sup>3</sup> The lowest field unit in the Agriculture Department.

relied on for formulation of Action Plans would be available with the Directorate of Agriculture. However, audit scrutiny revealed that details of baseline surveys were not available with the Directorate of Agriculture. Therefore, the AAPs for 2005-06 to 2008-09 were prepared on an *ad hoc* basis without any Perspective Plan, which adversely affected the implementation of the programmes.

### **1.1.7 Deficiencies in preparation of Annual Action Plans**

**AAPs for 2005-06 to 2007-08 were prepared without involvement of district/field level offices**

According to NHM guidelines, the District Missions were to prepare the AAPs based on their priorities and potential to execute programmes and the SHM was to prepare a consolidated AAP covering the whole State. Audit scrutiny revealed that AAPs for the first three years of implementation (2005-08) were prepared without involvement of district Missions and field level implementing units. Consequently, targets were fixed for the implementing units without assessing field level requirements and feasibility. This resulted in poor progress in the execution of projects.

Audit also found that only 50 *per cent* of the total funds allotted were released to the district Missions/implementing agencies, despite involving district Missions in the preparation of AAPs for 2008-09, which indicated that fixing of district level targets were unrealistic.

**Technical Support Group was not constituted despite allocation of funds**

The guidelines stipulated formation of a Technical Support Group (TSG) consisting of experts and technical personnel to advise and evaluate project proposals, monitor the planning and implement the programmes. However, the TSG was not constituted as of June 2009 and allocation of Rupees two crore in 2005-06 and Rs 0.50 crore in 2008-09 for this purpose remained unutilised. The Director, SHM stated (September 2009) that action would be taken to constitute a TSG at the earliest.

### **1.1.8 Financial Management**

#### **1.1.8.1 Low utilization of GOI funds**

The National Horticulture Mission (NHM) programme was launched as a *cent per cent* Centrally Sponsored Scheme during the Tenth Plan period (2002-07). However, during the Eleventh Plan period (2007-12), the pattern of financial assistance between the Central and State Governments was revised to 85:15. The Central assistance as per the approved AAP was allotted based on the expenditure during the previous year and the capacity of the SHM in implementing the programme and the same was released directly to the SHM through demand drafts/ cheques. The SHM, in turn, released assistance to all the implementing units as grants or subsidies depending on the programmes entrusted to them. The details of receipt and utilization of funds by the SHM for the period 2005-09 were as follows:

Table 1.1: Details of receipt and utilization of funds

Year	Amount as per Approved Action Plan	Share due from		Amount received from		Total receipt	Amount released by SHM	Unutilised balance with SHM	
		GOI	State Govt (15%)	GOI	State Govt			Amount	Percentage
2005-06	75.83	75.83	Nil(*)	35.34	Nil	35.34	3.85	31.49	89
2006-07	193.73	193.73	Nil(*)	79.64	Nil	79.64	69.03	10.61	13
2007-08	192.13	163.31	28.82	61.48	3.00	64.48	63.84	0.64	1
2008-09	174.20	148.07	26.13	75.17	13.27 <sup>4</sup>	88.44	44.00	44.44	50
<b>Total</b>	<b>635.89</b>	<b>580.94</b>	<b>54.95</b>	<b>251.63</b>	<b>16.27</b>	<b>267.90</b>	<b>180.72</b>	<b>87.18</b>	<b>33</b>

(\*)The scheme was eligible for *cent per cent* assistance from GOI during 2005-06 and 2006-07

Source: Records of State Horticulture Mission

It was observed that:

**Failure of SHM to utilise the original allotment resulted in non-release of Rs 367.99 crore for SHM activities**

- Against the total approved outlay of Rs 635.89 crore for SHM during 2005-09, the amount received was only Rs 267.90 crore. This resulted in shortfall (58 *per cent*) in release of Rs 367.99 crore (Central Share Rs 329.31 crore and State share Rs 38.68 crore). Failure of the SHM to utilise the original allotment resulted in non-release of balances of approved outlays by GOI in the subsequent years, which would reduce the spending in the horticulture sector.

**Out of Rs 267.90 crore released to the SHM during 2005-09, Rs 112.34 crore remained unutilised**

- Out of Rs 267.90 crore received by the SHM during 2005-09, only Rs 180.72 crore was released to the district Missions and other implementing units and the balance of Rs 87.18 crore remained unutilised with the SHM as of March 2009. However, district Missions and the implementing units could spend only Rs 154.56 crore and the balance of Rs 25.16 crore remained unutilised in bank accounts. Thus the total unspent amount was Rs 112.34 crore (42 *per cent*) as of March 2009. GOI directed (April 2009) the SHM to send proposals for revalidation of unutilized funds, but no proposals had been forwarded so far (October 2009).

**Non-release of Rs 7.85 crore towards State share during 2007-09**

- During 2007-09, the State Government released Rs 16.27 crore as a matching grant to the Central release of Rs 136.65 crore, against the requirement of Rs 24.12 crore. The Director, SHM stated (September 2009) that the release of the balance amount of Rs 7.85 crore was under correspondence with the State Government.

**Interest of Rs 11.15 crore earned up to March 2009 on SHM funds**

- The interest accrued up to March 2009 on SHM funds deposited in banks in the 12 district Missions and in the SHM headquarters amounted to Rs 11.15 crore. GOI clarified in August 2009 that the interest portion would be adjusted in the subsequent release of grants.

#### 1.1.8.2 Finalisation of annual accounts

The SHM was required to furnish audited accounts and utilization certificates to GOI immediately after the close of each financial year. As of August 2009, the annual accounts for the year 2005-06 had been finalised. The Director, SHM stated (September 2009) that the annual accounts up to 2007-08 had been finalized and approved by the Executive Committee of the SHM and the accounts for 2008-09 would be completed by December 2009. However, Audit found that the annual accounts for 2006-07 and 2007-08 had not been

<sup>4</sup> Rs 11.27 crore released by State Government on 31 March 2009.

approved as of September 2009 by the Governing Body as stipulated in clause 9.7(a) of the Memorandum of Association of the SHM.

### **1.1.9 Implementation of Schemes**

The main objective of the SHM was to provide holistic growth through the implementation of schemes like vegetable seed production, establishment of new nurseries, establishment of new garden, rejuvenation/replacement of senile pepper plantation, organic farming, post-harvest management activities, etc. The crops assisted by the SHM included perennial crops<sup>5</sup> and non-perennial crops<sup>6</sup>. The crops cultivated in the State differed from region to region and hence were grouped in three clusters<sup>7</sup> for the implementation of the programmes. Audit scrutiny was confined to major crops cultivated in the State viz. banana, ginger, pepper, pineapple, turmeric and vegetable seeds.

#### **1.1.9.1 Seed infrastructure**

To enhance the quality of vegetable seed production and to facilitate proper handling, storage and packaging of seeds, the NHM guidelines envisaged project-based assistance<sup>8</sup> for creating infrastructure like drying platforms, storage bins, packaging units and related equipment. The SHM sanctioned Rs 1.25 crore each to KAU and VFPCCK for establishing vegetable seed infrastructure and released Rs 90 lakh and Rs 75 lakh respectively to them till March 2009.

It was found that:

- The vegetable seed production of the VFPCCK unit increased from 13 MT in 2005-06 to 48 MT in 2008-09 and the seeds produced were sold through Krishi Bhavans whereas in KAU (College of Agriculture, Vellayani, Thiruvananthapuram) seed production had not yet started (April 2009) due to non-creation of infrastructural facilities.
- Rule 3 of the Seeds (Control) Order, 1983 stipulated mandatory licences for trading in seeds. However, KAU had not yet (June 2009) applied for a licence, whereas the licence issued to VFPCCK had expired in July 2008. However, KAU and VFPCCK did not make efforts to get the exemption from the State Government as per sub rule (2) of Rule 3 of the Seeds (Control) Order, 1983.

#### **1.1.9.2 Establishment of nurseries**

Production and distribution of good quality seeds and planting materials are the primary requirements for area expansion and rehabilitation programmes. In order to achieve the above objectives, the SHM provided assistance in the form of subsidies for establishment of two types of nurseries viz. model nurseries with minimum area of four hectares and small nurseries with minimum area of one hectare. These nurseries were eligible for subsidy at 100 per cent and 50 per cent of the estimated cost (model nursery-Rs 18 lakh,

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<sup>5</sup> Cashew, Mango, Pepper.

<sup>6</sup> Banana, Ginger, Pineapple, Turmeric, etc.

<sup>7</sup> Cluster I- Banana, Cashew, Mango, Pappaya and Pineapple; Cluster II- Spices (Ginger, Nutmeg, Pepper, Turmeric); Cluster III- Flowers.

<sup>8</sup> Cent per cent of the estimated cost for Public Sector Units and 25 per cent for private sector units in the form of credit linked back ended subsidy.

small nursery-Rupees three lakh) for the public sector and the private sector respectively. A Memorandum of Understanding (MoU) was to be executed between the selected beneficiary and the district Mission for completing the work within the stipulated time and to supply the required quantity and quality of planting materials as per the demand. During 2005-06 to 2008-09, the SHM approved the establishment of 55 model nurseries and 410 small nurseries with a total estimated cost of Rs 14.81 crore. Out of this, 25 model nurseries and 153 small nurseries were established (March 2009) and Rs 4.58 crore was released as subsidy to these nurseries.

Test check by Audit in four (out of 10) model nurseries and 13 (out of 67) small nurseries in the selected four districts revealed the following:

- MoUs between the nurseries and the district Missions were not executed as required in the guidelines. Thus the obligations of the nurseries were not enforced effectively by the respective district Missions. The Director, SHM stated (September 2009) that strict directions had been issued to execute MoUs in future.
- Assistance of Rs 12.02 lakh was released to four out of eight private nurseries which did not have the stipulated minimum area.
- Nurseries are required to produce and distribute quality planting materials continuously over a period of time. However, nurseries established for the crops like banana, ginger and turmeric were established for only one year either due to non-practising of continuous cultivation in the same land or leased land<sup>9</sup> cultivation. Hence, the subsidy of Rs 1.09 crore paid to such nurseries could not provide quality planting materials continuously over a period of time and the intended results were not achieved.
- During 2005-06, one model nursery for pepper in the private sector was sanctioned in Wayanad district with a maximum assistance of Rupees nine lakh. However, assistance of Rs 7.24 lakh was paid to three nurseries established in three pieces of land with an area of 1.3 Ha each, considering these as a single model nursery, even though the nurseries did not have a contiguous area of four hectares as required. Each of these three nurseries should have been considered as a small nursery and assistance of Rs 4.50 lakh (at Rs 1.50 lakh per nursery) only should have been paid. The excess assistance thus paid amounted to Rs 2.74 lakh.
- In February 2006, the SHM sanctioned the establishment of a model floriculture nursery in the Cardamom Research Station of KAU at Pampadumpara, Idukki district and released Rs 18 lakh (March and November 2006). As per the NHM guidelines, model nurseries were required to produce at least four lakh plants per annum. However, the nursery produced only 5240 plants during 2007-08 though it was set up in March 2007. It was seen in audit that a nursery set up earlier in the said station sold 4258 plants annually on an average during 2004-05 to 2006-07. Thus there was no visible increase in production by establishing this model nursery and the Rs 18 lakh released was largely

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<sup>9</sup> Cultivation in land taken on lease generally for one year.

unproductive. KAU stated (August 2009) that there was a shortage of skilled labourers for budding and necessary steps were under way to increase production.

- During 2006-07, small nurseries in pepper and ginger were sanctioned to the State Vegetable Farm, Vandiperiyar and the District Agriculture Farm, Areekuzha respectively. These nurseries existed for only one year and could not achieve the production targets. Despite this, model nurseries of the same crops were sanctioned to these departmental farms in the following year (2007-08). Sanctioning of model nurseries where even small nurseries could not achieve these targets showed poor commitment of the SHM towards achieving its objectives.
- In the test-checked districts, the district Missions and the Agriculture Department had no system to check the quality of plants produced in the nurseries before distributing the same to the SHM farmers of the district. The Director, SHM responded (September 2009) that a district level committee to check the quality of plants produced in the nurseries was there in each district but some of them were not functioning properly. He also added that proper functioning of the committees would be ensured.
- To ensure the quality of the products of the nurseries, the Ministry of Agriculture, GOI directed (August 2006) the State to enact legislation for nursery registration and certification. The Director of Agriculture replied (July 2009) that no legislation for nursery registration and certification of quality planting materials (excluding seeds) had been enacted by the Government of Kerala so far.

### **1.1.9.3 Tissue culture in pineapple**

Projects for the rehabilitation of a Tissue Culture (TC) Laboratory and establishment of a small nursery for production of pineapple suckers (using TC plantlets) by the Pineapple Research Station, Vazhakulam, Ernakulam district under KAU were approved by the SHM and MoUs for the laboratory and nursery were executed in February 2006 and March 2007 respectively. Subsidy of Rs 11 lakh (Rupees eight lakh for the TC laboratory and Rupees three lakh for the nursery) was released to KAU in February 2006 and March 2007. The rehabilitation work of the laboratory was completed in March 2006 and the nursery was established in March 2008. The capacity of the laboratory was 60,000 plantlets<sup>10</sup> per annum and these were to be hardened in the nursery. The capacity of the nursery was one lakh plantlets per annum. This created an idle capacity of 40,000 plantlets per annum in the nursery.

**Rupees six lakh released to two nurseries did not serve the intended purpose**

It was also seen that the SHM had approved another small nursery project by the Nadukkara Agro Processing Centre Limited (NAPCL), Muvattupuzha, Ernakulam, to produce 50,000 suckers<sup>11</sup> using plantlets from the TC laboratory of KAU and signed a MoU with them in February 2006. Subsidy of Rupees three lakh was also released in February 2006. As the existing capacity of the TC laboratory was insufficient to meet the requirement of its own nursery, the laboratory was not able to supply the required plantlets to

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<sup>10</sup> Plantlets are tiny plants developed through tissue culture for hardening and planting.

<sup>11</sup> Pineapple planting material.



NAPCL. NAPCL received only 2500 plantlets and had not produced any fully grown suckers till May 2009.

Thus sanctioning of two nurseries for production and hardening of TC pineapple suckers without linking to the actual capacity of the TC laboratory resulted in creation of unproductive facilities. Subsidy of Rupees six lakh released to the nurseries did not serve the intended purpose.

#### **1.1.9.4 Establishment of new gardens**

One of the major objectives of the SHM was to expand areas under cultivation through establishment of new gardens to enhance production and productivity of horticulture crops. The programme ‘Establishment of New Gardens’ envisaged assistance for bringing new areas under perennial fruit crops (gooseberry, mango), non-perennial fruit crops (banana, pineapple), spices (ginger, pepper, turmeric), and plantation crops (arecanut, cashew, cocoa). The quantum of assistance was on the basis of the estimated cost of cultivation per Ha and fixed as 75 per cent of the cost for perennial fruits, spices and plantation crops and 50 per cent for non-perennial fruits. The assistance was Rs 15,000 and Rs 11,250 per Ha for non-perennial and spices respectively. Assistance under the scheme was to be paid in three years in the ratio of 50:20:30. During 2005-09, Rs 36.10 crore was released as assistance for bringing an additional area of 53,108 Ha under cultivation of major crops, namely banana, ginger, pepper, pineapple and turmeric.

Audit scrutiny revealed that:

- Though the area expansion programme intended to ensure sustainable increase in cultivation of horticulture crops, the same was not achieved in the case of crops like banana, ginger and turmeric due to leased land cultivation and the practice of not continuing cultivation in the same land for more than one year. Hence, continued cultivation of these crops in the same land for three years as envisaged in the guidelines was not achieved.
- Pineapple is a commercial crop cultivated as a single crop as well as an intercrop during the initial periods (first four years) of rubber plantation. Most of the cultivation is on leased land. Though the cultivation continued for three years, assistance was not fully paid as stipulated in the guidelines. According to the scheme, assistance for the second year was subject to 75 per cent survival of new plants and for the third year, it was subject to 90 per cent survival of the plants assisted in the second year. Test check in selected districts revealed that only 44 per cent of plants were assisted in the second year and 30 per cent of plants were assisted in the third year. Though the assistance was to be paid in three years, SHM did not fix any financial target for the districts for continuing the cultivation in the second and third years. The Director, SHM stated (September 2009) that this was due to non-receipt of proposals from the district Mission. This reply is not acceptable since the SHM was responsible for including the second and third year targets based on the first year target.

Excess payment of assistance of Rs 2.16 crore for ginger and turmeric crops

- Ginger and turmeric were not cultivated in the same land continuously due to low fertility of land after the first year of cultivation. However, the entire assistance of Rs 11,250 per Ha was released in the first year itself though only Rs 5,625 (50 per cent assistance) was payable in the first year for these crops. This resulted in excess payment of assistance of Rs 2.16 crore on 3964 Ha of land brought under cultivation in the four districts test-checked. In the case of pepper, however, where continuous cultivation was practiced, the first year assistance of Rs 5625 per Ha alone was paid to farmers in the four districts test-checked. This resulted in non-payment of second and third year assistance of Rs 51.81 lakh on 940 Ha of land brought additionally under cultivation.

Non-payment of assistance of Rs 51.81 lakh towards pepper cultivation

### Impact of the scheme

The areas under cultivation of major crops assisted by SHM in the selected districts prior to the commencement of the scheme (2004-05) and in 2007-08 were as follows:

**Table 1.2: Areas under cultivation in the four test-checked districts**

Name of the crop	Area under cultivation (in hectares)									
	Ernakulam		Idukki		Thiruvananthapuram		Wayanad		Total	
	2004-05	2007-08	2004-05	2007-08	2004-05	2007-08	2004-05	2007-08	2004-05	2007-08
Banana	6,107	6,115	1,748	2,559	2,492	2,078	12,278	12,123	22,625	22,875
Pineapple	7,439	6,978	1,600	1,083	305	319	54	55	9,398	8,438
Ginger	295	337	876	934	103	94	5,731	4,604	7,005	5,969
Pepper	6,825	6,106	82,316	65,333	7,320	5,557	41,573	25,542	1,38,034	1,02,538
Turmeric	484	368	281	287	59	53	139	270	963	978

Source: Records of the Directorate of Agriculture

Despite spending Rs 33.61 crore to expand the area under cultivation of five major crops, the production and productivity declined in 2007-08 except for turmeric

The area under cultivation of banana increased by 46 per cent in Idukki. The area remained static in Ernakulam and Wayanad but declined in Thiruvananthapuram by 17 per cent. Also the cultivated area of turmeric in Wayanad district increased (51 per cent) from 139 Ha in 2004-05 to 270 Ha in 2007-08. A declining trend was noticed in respect of all other selected crops and the major decline noticed was for pepper where the shortfall ranged between 11 per cent (Ernakulam) to 39 per cent (Wayanad). The overall declining trend in cultivation indicated the ineffectiveness of the schemes in achieving sustainable development in cultivation of horticulture crops.

The total cropped area of the State in 2001-02 was 29.92 lakh Ha which increased to 29.96 lakh Ha in 2004-05. Nearly, 57 per cent of the cropped area was under paddy, coconut and rubber. The area under the major crops<sup>12</sup> assisted by the SHM in 2001-02 was 2.82 lakh Ha which increased to 3.28 lakh Ha in 2005-06 but declined thereafter to 2.58 lakh Ha in 2007-08. Cultivation details of major crops prior to implementation of the programme and after three years of intervention by the SHM in respect of selected crops for which substantial expenditure (Rs 33.61 crore) was incurred, were detailed in the following table:

<sup>12</sup> Banana, Ginger, Pepper, Pineapple and Turmeric.

Table 1.3: Area, production and productivity of selected crops in the State

Name of the crop	Status in 2004-05			Targets and achievements of SHM scheme			Status in 2007-08		
	Area (Ha)	Production (MT)	Productivity (Kg/Ha)	Physical Target	Achievement		Area (Ha)	Production (MT)	Productivity (Kg/Ha)
					Physical	Financial (lakh)			
Banana	58,866	4,75,371	8,075	40,281	33,262	2,255.60	59,341	4,39,803	7,411
Pineapple	12,680	1,01,912	8,037	8,979	6,915.6	422.17	11,262	82,782	7,350
Ginger	9,991	45,305	4,534	4,945	4,469.4	482.17	8,865	31,726	3,578
Pepper	2,37,669	74,980	315	9,740	1,462	79.58	1,75,679	41,952	239
Turmeric	2,881	6,244	2,167	1,547	1,162.7	121.24	3,155	7,434	2,356

Source: Records of Directorate of Agriculture and SHM

The areas under cultivation declined considerably in respect of pineapple, ginger and pepper, even though substantial assistance of Rs 4.53 crore, Rs 1.02 crore and Rs 5.38 crore respectively (total: Rs 10.93 crore) was provided for these crops under the area expansion programme till 2007-08. There was only a marginal increase of the area under banana (0.8 per cent) and turmeric (9.5 per cent) crops. The decline in the productivity of the test-checked crops (except turmeric) indicated that the programme could not achieve its major objective of enhancing production and productivity of important horticulture crops in the State.

#### 1.1.9.5 Rejuvenation/Replacement of senile plantations

Pepper is one of the most important export crops in Kerala. In 2004-05, the average yield of pepper was 315 kg per Ha against the potential of 1000 kg per Ha. The low productivity was due to preponderance of old and senile trees and poor management of inputs such as water, nutrients and pesticides including disease-affected pepper vines. The NHM envisaged 'Rejuvenation/Replacement of Senile Plantation' programme with the objective of rejuvenating pepper gardens by removing senile or diseased plants, by filling gaps, by putting new standards<sup>13</sup> and by adopting scientific management practices to enhance productivity to 1000 kg per Ha. Financial assistance of Rs 15,000 was available under the scheme, being 50 per cent of the cost of rejuvenation which was assessed as Rs 30,000. During 2005-06 to 2008-09, Rs 37.31 crore was disbursed as assistance in the two selected pepper cultivated districts of Idukki and Wayanad. The targets and achievements under the programme in the selected pepper cultivated districts and for the whole State are detailed in the following table:

Table 1.4: Targets and achievements for rejuvenation of pepper

Year	Physical target			Physical achievement			Financial target			Financial achievement		
	State	Selected districts		State	Selected districts		State	Selected districts		State	Selected districts	
		Wayanad	Idukki		Wayanad	Idukki		Wayanad	Idukki		Wayanad	Idukki
	(in hectare)						(Rupees in crore)					
2005-06	5000	2000	2000	5000	2000	2000	7.50	3.00	3.00	4.86	1.08	3.00
2006-07	10000	3000	3700	8395	3000	3930	15.00	4.50	5.55	11.66	4.49	5.90
2007-08	20000	5000	8375	16496	4985	8375	30.00	7.50	12.56	22.79	7.43	12.56
2008-09	30655	12000	13000	3098	Nil	1899	45.98	18.00	19.50	3.35	Nil	2.85
<b>Total</b>	<b>65655</b>	<b>22000</b>	<b>27075</b>	<b>32989</b>	<b>9985</b>	<b>16204</b>	<b>98.48</b>	<b>33.00</b>	<b>40.61</b>	<b>42.66</b>	<b>13.00</b>	<b>24.31</b>

Source: District-wise progress report of SHM

<sup>13</sup> Support trees for pepper vines.

Production of pepper in Idukki and Wayanad declined despite spending Rs 34.46 crore

It was seen in audit that the production and productivity of pepper decreased during 2007-08 compared to 2004-05 despite spending Rs 34.46 crore during the period 2005-08 for implementing rejuvenation programme by the SHM. The details of production and productivity were as under:

**Table 1.5: Production and productivity of pepper**

Name of the district	2004-05 before SHM		2007-08	
	Production (MT)	Productivity (Kg/Ha)	Production (MT)	Productivity (Kg/Ha)
Idukki	38787	471	23311	356
Wayanad	13897	334	4060	158

Source : Records of Agriculture Department

The deficiencies in implementation of the scheme noticed by Audit were:

- Field level studies regarding senile plantations, suitability of land, number of disease-affected plants, etc., were not conducted to assess the extent of rejuvenation/replacement and the inputs required.
- In Idukki and Wayanad districts, the target fixed were about 32 *per cent* and 61 *per cent* of the total cropped area respectively. However, assistance was distributed amongst all the farmers without assessing the extent of rejuvenation/replacement required, which resulted in unproductive use of the funds.
- The pattern of assistance to the farmers was in the form of cash and kind (permits for drawing inputs from authorised depots) till December 2007. However, from January 2008 full subsidy was to be paid in cash. The Director, SHM stated (September 2009) that the farmers were given the liberty to purchase inputs from agencies of their choice as the assistance under the scheme was not attractive, the formalities involved in procuring these inputs through permit system were cumbersome and on the assumption that a genuine farmer would apply good quality inputs for the benefit of his crop.
- In Idukki, the majority of the farmers had no land records of their holdings and the Krishi Bhavan could not verify the authenticity of the land records furnished by the farmers. The allotted assistance for disease control was divided amongst the farmers for rejuvenation in areas ranging from 0.1 Ha to 0.4 Ha. Providing assistance to small land holdings for disease control did not result in rejuvenation and increased productivity of the land.
- During 2005-09, targets fixed for two Krishi Bhavans at Vazhathopu and Kamakshy in Idukki district for pepper rejuvenation were 1,400 Ha and 1,500 Ha respectively against the actual area under pepper cultivation of 1,350 Ha and 1,200 Ha respectively. The targeted area for rejuvenation was higher than the actual area of pepper cultivation. This indicated that the targets fixed were not realistic and without verification of facts.

#### **1.1.9.6 Organic farming**

Organic farming aims at production of agricultural produce with no chemical residues. This cultivation requires two to three years to achieve organic status. Organic farming should exclusively be promoted on an area-based- approach instead of a crop-specific approach. Groups of 20-25 farmers possessing

contiguous areas of 25-50 Ha were to be selected for execution of organic farming. The programme envisaged financial assistance of Rs 10,000 per Ha for the first two to three years. GOI subsequently revised (May 2008) the minimum land requirement and the period of assistance to 50 Ha and three years respectively. During 2005-09, financial assistance of Rs 2.44 crore was disbursed to farmers for cultivation of crops using the organic farming method in an area of 2419 Ha in three test-checked districts<sup>14</sup> (except Wayanad district).

**Assistance of Rs 2.44 crore was sanctioned for cultivation of organic products in violation of NHM guidelines**

It was observed in audit that the targets allotted to the Krishi Bhavans in the three test-checked districts (except in Wayanad) were divided among the beneficiaries having land ranging from 0.06 Ha to 1 Ha. This implied that the minimum area specified in the guidelines was not adhered to during selection of beneficiaries. The Director, SHM replied (June 2009) that the land pattern was typically fragmented in nature and the average size of land holdings was 20 cents (0.08 Ha). Consequently, the guidelines on organic farming could not be effectively adhered to. This was mainly due to the failure of the SHM to identify clusters of contiguous areas suitable for organic farming at the time of preparation of the Action Plan.

However, it was found in audit that area-based organic farming as per NHM norms was successfully practised with the help of two societies working in the field of promoting organic farming in two Block Panchayats<sup>15</sup> test-checked in Wayanad district.

**Out of Rs 17.50 lakh released to NAPCL for organic farming, Rs 7.76 lakh was retained without utilisation**

Organic farming for pineapple was entrusted to the Nadukkara Agro Processing Centre Limited (NAPCL), Ernakulam in 100 Ha of land covering 21 panchayats and 40 farmers. The SHM released Rs 17.50 lakh as the first instalment for the purpose. The project was discontinued after cultivation in 43.44 Ha after incurring an expenditure of Rs 9.74 lakh. The balance of Rs 7.76 lakh remained unutilized with NAPCL (May 2009) as contiguous areas (25-50 Ha) had not been selected for implementing the farming. Thus the project remained unproductive. The Director, SHM stated (September 2009) that action had been taken to get back the unutilised amount of Rs 7.76 lakh from NAPCL.

#### **1.1.9.7 Establishment of bio-control laboratories**

Bio-control laboratories produce micro-organisms recognized as bio-control agents<sup>16</sup>, which control pests and diseases of plants. SHM sanctioned Rs 4.11 crore during 2006-09 for establishment of eight bio-control laboratories (six in the public sector and two in the private sector) and released Rs 1.72 crore as of April 2009 as indicated in the following table:

<sup>14</sup> Ernakulam, Idukki and Thiruvananthapuram.

<sup>15</sup> Mananthavady and Sulthan Bathery.

<sup>16</sup> Pseudomonas and Trichoderma.

**Table 1.6: Financial assistance to bio-control laboratories**

Sl. No.	Name of implementing agency	Year of sanction	SHM assistance <sup>17</sup>	Amount released	Month of release	Status
			(Rupees in lakh)			
1.	Indian Cardamom Research Institute, Pampadumpara, Idukki	2007-08	64.75	44.75	April 2008	Ongoing
2.	Agro Bio-tech Research Centre Limited, Kottayam	2008-09	24.62	Nil	-	Ongoing
3.	POABS Biotech, Nelliampathy, Palakkad	2008-09	40.00	25.00	April 2009	Ongoing
4.	CARD Krishi Vigyan Kendra, Pathanamthitta	2008-09	40.00	Nil	-	Not started
5.	Banana Research Station, Kannara, Thrissur	2008-09	31.39	28.99	January 2009	Ongoing
6.	KAU, Thrissur	2008-09	50.00	30.00	-do-	Ongoing
7.	College of Agriculture, Vellayani, Thiruvananthapuram	2006-07	80.00	43.60	January 2008	Ongoing
8.	Regional Agriculture Research Station, Ambalavayal, Wayanad	2008-09	80.00	Nil	-	Not started
	<b>Total</b>		<b>410.76</b>	<b>172.34</b>		

Source: Records of SHM

Audit found that:

- The SHM had not conducted any study to assess the annual requirement of bio-control agents for use in the horticulture sector before releasing funds to set up the above-stated laboratories in the State.
- Construction of a laboratory at the College of Agriculture, Vellayani, Thiruvananthapuram did not start as of May 2009, mainly due to delay in getting permission from the Grama Panchayat for construction of the building. Construction of a building in the Indian Cardamom Research Institute, Pampadumpara, Idukki, started in January 2008, was still to be completed (June 2009). Thus, Rs 88.35 lakh released for establishment of these two laboratories remained unproductive so far.
- A bio-control laboratory in Thrissur district under the Department of Agriculture and another one in the Krishi Vigyan Kendra of KAU in Wayanad district were established before the commencement of the SHM project. The laboratory at Thrissur had an annual production capacity of 200 MT Trichoderma<sup>18</sup> and 150 MT of Pseudomonas<sup>19</sup> and the laboratory at Wayanad had 10 MT each of Trichoderma and Pseudomonas. These laboratories could not use their full production capacity due to less demand from the Department of Agriculture for the schemes implemented by it. Hence, the decision to sanction one more laboratory at the Regional Agriculture Research Station, Ambalavayal, Wayanad was unjustified. The Director, SHM stated (September 2009) that instructions had been issued to all Principal Agricultural Officers to direct farmers to buy the bio-control agents from the SHM-assisted laboratories.

**Bio-control laboratories at Idukki and Thiruvananthapuram were not set up despite release of Rs 88.35 lakh**

<sup>17</sup> Project based-Maximum Rs 80 lakh for public sector/Government and Rs 40 lakh for private sector.

<sup>18</sup> Used to control foot rot disease in pepper.

<sup>19</sup> Pesticide and growth stimulant.

### 1.1.9.8 Distribution of subsidy

Delays of three to 12 months in disbursement of subsidy in 12 Krishi Bhavans in four test-checked districts

Krishi Bhavans are the field level implementing units of SHM schemes which collect subsidy claims from the beneficiaries and forward them to the district Missions. The district Missions place the claims before the District Level Committees (DLC) headed by the District Collectors and the DLCs pass the claims for payment according to the merit of each case. Cheques for more than Rupees one lakh are signed by the District Collectors for payment and the release of funds depends on the convening of the DLCs. It was seen that only one to eight meetings in 2007-08 and two to seven meetings in 2008-09 of the DLCs were held in the test-checked districts, which delayed the distribution of the subsidy despite having sufficient funds. Delays ranging from three to 12 months in disbursement of subsidy were noticed in 78 out of the 334 claims test-checked in 12 Krishi Bhavans in the selected districts. This was mainly due to non-convening of DLC meetings regularly, despite the decision (January 2008) to have meetings once in a month. The Director, SHM stated (September 2009) that the financial powers to pass claims upto Rs 10 lakh had since been delegated to the Principal Agricultural Officers and Deputy Directors of Agriculture (Horticulture) and hence, there were no delays in disbursement of funds to the beneficiaries.

The method of disbursement of claims was not common in all the districts test-checked. In Wayanad district, a zero balance account in bank was opened against all beneficiaries and the claims were transferred to their account from the district Mission itself. In other districts, the officers of the Block/Krishi Bhavans distributed the subsidy in cash. The system followed in Wayanad District enabled speedy settlement of claims when compared to the method of cash disbursement followed in other districts.

### 1.1.9.9 Marketing infrastructure

The marketing programmes under the SHM include strengthening of existing markets and investment from the private and co-operative sector in the development of market infrastructure. The targets in the AAPs for establishment of marketing facilities and achievements during 2005-06 to 2008-09 were as follows:

**Table 1.7: Targets and achievements of marketing facilities established**

Name of the scheme	Physical target	Financial target (Rs in lakh)	Physical achievement	Financial achievement (Rs in lakh)
Rural Market	156	612.50	22	22.00
Rural Market (Hill area)	18	82.50	1	4.08
Sorting and Grading Unit	8	29.58	6	2.28
Wholesale market	10	500.00	Nil	Nil

Source: Records of SHM

Construction of buildings in only seven rural markets (out of 22) was completed by VFPCCK

The Vegetable and Fruit Promotion Council, Keralam (VFPCCK) is an organization helping the farmers to increase income from commercial cultivation of crops. The SHM sanctioned an assistance of Rs 84.90 lakh (25 per cent of the cost) for the establishment of 22 rural markets by VFPCCK and the first instalment of Rs 22 lakh was released in August 2007. VFPCCK completed construction of permanent buildings for seven markets and essential facilities were provided. Construction of buildings in the remaining

places was not completed due to non-release of the second and third instalments of funds by the SHM.

Audit scrutiny revealed the following:

- Marketing facilities to support farmers were available wherever VFPCK was found to be active, whereas in other locations, similar marketing facilities were not established under the SHM scheme to support the local farmers involved in SHM programmes.
- Out of the 12 Krishi Bhavans test-checked, eight had no marketing facilities to support farmers within their jurisdiction.
- Manjallur and Kottapady panchayats in Ernakulam district resolved and communicated their decision through the Principal Agricultural Officer, Ernakulam to undertake the project for development of agricultural rural markets under the SHM in July 2007 and September 2007 respectively. But no assistance was sanctioned as of March 2009. The Director, SHM stated (September 2009) that no project proposals had been submitted by the panchayats. The reply does not explain why the SHM did not take action to obtain the project proposals from the panchayats.
- The SHM had not utilised the services of Horticornp which functions with the objective of assisting farmers through an integrated system of production, procurement, storage, marketing and exporting of horticultural products, in the marketing of produce of SHM farmers.

#### **1.1.9.10 Post-harvest management**

Subsidy of Rs 3.25 crore for post-harvest management was not utilised

Post-harvest management includes packing, grading, transportation, curing, ripening and cold storage. These facilities are essential for increasing the marketability of agriculture products adding value to the produce, increasing profitability and reducing losses. The SHM provides subsidy of 25 per cent of the estimated cost for post-harvest management activities. It was seen in audit that subsidy of Rs 3.25 crore earmarked during 2005-06 to 2008-09 for pack houses, mobile processing units and cold storages was not utilised. The Director, SHM replied that the funds could not be utilized due to poor response arising from low subsidy rates, reluctance of panchayat authorities to take up projects, etc. However, Rs 10 crore was given to the Perishable Cargo Unit established (March 2009) under the Cochin International Airport Authority Limited (CIAL) for facilitating export of vegetables and fruits. In the absence of pack houses and sorting and grading units in the nearby areas of CIAL to support farmers to keep their produce fresh, the facility established in CIAL was unable to support the SHM farmers in the State. This indicated that allocation was made in the AAP without assessing the field level situation, resulting in lack of support mechanism to add value to the farmers' produce.

#### **1.1.10 Monitoring and Evaluation**

The State Level Executive Committee (SLEC) and the District Level Committees were to review and monitor the implementation of the programmes at the State and district level. The Technical Support Group (TSG) of the Mission was to carry out concurrent monitoring of programmes. The SLEC, in their meetings held in April and July 2008, decided to constitute an evaluation team to monitor and evaluate the activities of the Mission.



It was seen in audit that:

- The TSG had not been formed (June 2009), concurrent monitoring of the programmes was not effectively carried out and a State level mechanism to monitor/evaluation did not exist in the SHM.
- District Missions in the test-checked districts were not receiving monthly progress reports from the block level/field level implementing units.
- MoUs for projects implemented by various agencies viz., KAU, VFPC, etc. included provision for sending monthly progress reports to the SHM. However, in the projects test-checked, the agencies executing the project were not furnishing progress reports regularly to the SHM.

**Monitoring and evaluation system was inadequate**

Lack of a proper monitoring and evaluation mechanism in the SHM resulted in non-implementation or delays in the completion of projects and inclusion of non-viable schemes in successive annual Plans. The Director, SHM stated (September 2009) that only skeletal staff was available in the headquarters, as a result of which, monitoring and evaluation could not be done effectively.

#### **1.1.11 Conclusion**

The State Horticulture Mission (SHM) has been functioning from 2005-06. Out of its various interventions, organic cultivation practised in Wayanad District showed significant improvement with Mission funding. Rural marketing facilities established by the Vegetable and Fruit Promotion Council, Keralam with assistance from the SHM were providing a much needed avenue to farmers to sell their products directly to the customers. Infrastructure facilities created by the Seed Production Centre of the Vegetable and Fruit Promotion Council, Keralam achieved substantial progress in the production of vegetable seed.

However, it was also seen that Annual Action Plans were prepared without basic data and proper evaluation. During 2005-06 to 2007-08, the district Missions and field level units were not involved in the preparation of Annual Action Plans. Consequently, the targets were unrealistic and were not achieved. During 2005-09, 42 *per cent* of the grants received from Central and State Governments remained unutilised.

Model/small nurseries were sanctioned without proper examination or evaluation of projects. Though funds were utilized for rejuvenation/replacement of senile pepper plantations in Idukki and Wayanad Districts, the production and productivity showed a sharp decline, indicating failure of the scheme in these districts. Post-harvest management functions, which were essential for improving marketability of agriculture products could not be established even though funds were available. The fact that the area of cultivation of most of the crops assisted by SHM declined over the years indicated that intervention of the SHM was not effective in increasing the production and productivity of horticulture crops. The existing monitoring and evaluation system was inadequate, resulting in poor execution of projects and inclusion of non-viable schemes in successive Annual Plans.

**1.1.12 Recommendations**

- The SHM should assess the extent of horticulture crops in the State and ascertain field level requirements before preparation of Annual Action Plans.
- Schemes/programmes should be proposed based on actual requirements and the capacity of the SHM to execute them.
- The SHM should take proactive action to ensure timely utilisation of funds released to Agricultural offices and implementing agencies.
- Rural marketing facilities established by the Vegetable and Fruit Promotion Council, Keralam should be extended to all the Blocks/Panchayats to enthuse farmers.
- The SHM may evaluate the causes for the sharp decline in pepper production before further release of funds for the rejuvenation programme.
- District level and State level inspection and monitoring mechanism should be strengthened.

The above points were referred to the Government in August 2009. Reply had not been received (October 2009).

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**HEALTH AND FAMILY WELFARE DEPARTMENT**
**1.2 National Rural Health Mission**
***Highlights***

*The National Rural Health Mission was launched by the Government of India in April 2005. It aimed at strengthening rural health care institutions by provision of infrastructure facilities and funds. A review of the implementation of the National Rural Health Mission in the State revealed improvement in the flow of funds to rural health institutions, upgraded infrastructure in some of the institutions and better health awareness among the rural population. However, deficiencies like absence of a Perspective Plan, accumulation of huge unspent funds in banks, slow pace of upgradation work in some institutions, lack of medical and para-medical staff, etc., were noticed.*

**Although only sample household surveys were carried out in the three test-checked districts, facility surveys required for identifying the health care needs of rural areas were conducted only in Community Health Centres though the guidelines stipulated that these were also to be carried out in Primary Health Centres and Sub Centres.**

*(Paragraph 1.2.6)*

**No Perspective Plan for the Mission period was prepared by the State Health and Family Welfare Society to ensure execution of projects along a critical path.**

*(Paragraph 1.2.6.2)*

**National Rural Health Mission funds of Rs 1.48 crore were spent during 2007-08 and 2008-09 for activities not approved by Government of India in the annual Programme Implementation Plans and Rs 51.86 lakh was diverted without their approval.**

*(Paragraph 1.2.7.4)*

**Management expenditure during 2007-08 and 2008-09 exceeded the prescribed limit of six per cent.**

*(Paragraph 1.2.7.5)*

**Construction of buildings for only 70 out of 115 Community Health Centres had been completed. Construction of buildings for 50 Sub Centres had not been started as of September 2009.**

*(Paragraphs 1.2.8.1 and 1.2.8.2)*

**Accredited Social Health Activists selected during 2007-08 and 2008-09, were not imparted training in three out of five prescribed modules.**

*(Paragraph 1.2.8.4)*

**Manpower, infrastructure and equipment in Community Health Centres and Primary Health Centres did not meet the Indian Public Health Standards despite upgradation through National Rural Health Mission funds.**

*(Paragraph 1.2.8.6)*

**Guidelines and the Purchase Preference Policy prescribed by Government of India for procurement of medicines were not followed. No pre-despatch or post-despatch inspections of drug kits, surgical kits and Accredited Social Health Activists' drug kits were conducted. Non-levy of penalty for delayed supplies of medicines amounted to Rs 3.18 crore.**

*(Paragraph 1.2.9.1)*

**Supply of surgical kits and Accredited Social Health Activists' drug kits was made by M/s.Karnataka Antibiotics and Pharmaceuticals Limited after purchasing them from private firms at lesser prices. As a result, the supplier earned undue benefit of Rs 3.78 crore and the State Health and Family Welfare Society incurred extra expenditure of an equivalent amount.**

*(Paragraphs 1.2.9.2 and 1.2.9.3)*

**An effective Health Management Information System was not set up though hardware and software for Rs 4.70 crore were procured for the purpose.**

*(Paragraph 1.2.10.3)*

**Under the 'Integrated Disease Surveillance Project', hardware and accessories procured for video-conferencing units at the district level at a cost of Rs 54.82 lakh were lying idle as of March 2009 as the State level video-conferencing unit had not been set up due to non-provision of space by the Director of Health Services.**

*(Paragraph 1.2.10.4)*

### **1.2.1 Introduction**

The National Rural Health Mission (NRHM) was launched by Government of India (GOI) in April 2005 throughout the country with special focus on 18 States. The Mission aimed at providing accessible, affordable, accountable, effective and reliable health care facilities in the rural areas by reducing the infant and maternal mortality rates, stabilising the total fertility rate of the population as well as preventing and controlling communicable and non-communicable diseases, including locally endemic diseases by involving the community in planning and monitoring. The key strategy of the Mission was to bridge gaps in health care facilities, facilitate decentralized planning in the health sector, provide an overarching umbrella to the existing programmes of Health and Family Welfare including Reproductive and Child Health-II and various disease control programmes. It sought to provide health to all in an equitable manner through increased outlays, horizontal integration of existing schemes, capacity building and human resource management. In Kerala, the State Health Mission (SHM) for implementation of various interventions under NRHM was set up in September 2006 and the State Programme Management Support Unit<sup>20</sup> was institutionalised in December 2006. The State Health and Family Welfare Society (SHS) and the District Health and Family Welfare Societies (DHS) were formed in April 2007. Prior to this, the activities under NRHM were being implemented by the Director of Health Services.

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<sup>20</sup> Secretariat to the SHM as well as the SHS. It provides technical support on logistics, financial management, tracking of funds, etc.

### **1.2.2 Organisational Set up**

At the State level, NRHM functions under the overall guidance of the SHM under the Chairmanship of the Chief Minister. The activities of the SHM are carried out through the SHS headed by the Health Minister. The Executive Committee of the SHS is headed by the Secretary, Health and Family Welfare Department.

At the district level, there are District Health Missions and DHSs headed by the Chairpersons of the District Panchayats. Their Executive Committees are headed by the District Collectors. The implementation of various disease control programmes is supervised by the respective heads of the Disease Control Programmes.

### **1.2.3 Audit Objectives**

The objectives of the performance audit were to assess whether:

- the planning process at the village, block, district and State levels were adequate;
- the assessment, release and utilisation of funds were efficient and effective;
- capacity building and strengthening of physical and human infrastructure were as per the Indian Public Health Standards (IPHS)<sup>21</sup> norms;
- the systems and procedures of procurement and distribution of drugs and services were cost-effective and efficient and ensured improved availability of drugs and services;
- the performance indicators and targets fixed, especially in respect of reproductive and child health care, immunisation and disease control programmes were achieved and
- the level of community participation was as per the guidelines.

### **1.2.4 Audit Criteria**

The audit criteria adopted for arriving at the audit conclusions were the following:

- The GOI framework on implementation of NRHM,
- Guidelines issued by GOI for various components, disease control programmes, financial aspects, etc.,
- Circulars issued by GOI, containing directions for NRHM activities,
- Orders and instructions issued by the State Government and
- IPHS for upgradation of health centres.

### **1.2.5 Scope and Methodology of Audit**

The performance audit was conducted from April 2008 to June 2009, covering the period from 2005-06 to 2008-09 by test check of records in the Department of Health and Family Welfare, the Directorate of Health Services,

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<sup>21</sup> A set of standards envisaged to improve the quality of health care delivery in the country under the National Rural Health Mission.

the SHS and Disease Control Societies. In addition, three<sup>22</sup> out of 14 DHSs were selected for detailed review. In the above three districts, three Taluk Headquarters Hospitals, three District Hospitals, six Community Health Centres (CHCs), 12 Primary Health Centres (PHCs) and 24 Sub Centres (SCs) were also selected using the Simple Random Sampling Method. Besides, data relating to 71 CHCs and 83 PHCs from all the districts were collected and analysed.

An entry conference was held with the Secretary to Government, Health and Family Welfare Department in April 2008, during which the audit objectives and criteria were discussed. Another meeting was held with the Secretary in February 2009, wherein certain State-specific issues were discussed.

An exit conference with the Secretary was conducted on 10 August 2009 during which the audit findings were discussed.

## **Audit Findings**

### **1.2.6 Planning**

**Only sample household surveys were carried out in the three test-checked districts**

NRHM envisaged a decentralised and participatory planning process with a bottom up approach from village level to the State level. The State and districts were, thus, required to prepare Perspective Plans for the Mission period (2005-12). Action Plans for each year were to be prepared by the SHS by consolidating all the district level plans to enable interventions in the health sector. Household surveys at the levels of CHC, PHC and SC were to be conducted for preparing comprehensive District Action Plans. Audit scrutiny revealed that only a sample household survey was conducted by the Department of Community Medicine of the Medical College, Kozhikode in selected panchayats and municipalities of three<sup>23</sup> out of 14 districts during February - March 2007. Consequently, the Annual Action Plans were prepared without adequate field data, rendering the planning process defective.

**Facility surveys were conducted only in CHCs and not conducted in any of the PHCs and SCs**

As per NRHM guidelines, facility surveys to ascertain the facilities available at the CHC/PHC/SC level were to be carried out in all the districts by 2008. It was seen in audit that facility surveys were conducted in all the 115 CHCs during September-December 2006. However, no facility survey had been carried out in any of the PHCs and SCs as of May 2009.

Government stated (September 2009) that as the State Programme Management Support Unit was institutionalised only in December 2006 and SHS started functioning from April 2007, there were delays in conducting necessary field surveys to collect essential data for preparing the Annual Plans. As regards the facility survey, the Government stated (September 2009) that such surveys had been conducted in all the CHCs in the first stage. Facility surveys in PHCs would be taken up in phases in due course and the entire exercise would be completed in stages.

However, the fact remains that the State Government took two years, since the launch of NRHM to establish the set up for NRHM and even after these two years, all the required household surveys and facility surveys, had not been

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<sup>22</sup> Palakkad, Thiruvananthapuram and Wayanad.

<sup>23</sup> Kannur, Malappuram and Wayanad.

conducted (September 2009). Thus, the formulation of the Annual Action Plans was deficient to this extent.

### **1.2.6.1 Action Plans at Village, Block and District levels**

Village, block, and district level Action Plans were not prepared for 2008-09 as envisaged in NRHM guidelines

Due to delays in setting up of the SHS and DHSs, no Action Plans were prepared for NRHM during 2005-06 and 2006-07. Only proposals for Reproductive and Child Health II (RCH II) were sent to GOI for these years and funds were released by GOI on the basis of these proposals. In 2007-08, Plans at the Sub Centre, block, district and State level were prepared as per the NRHM guidelines. However, in 2008-09, Action Plans below the State level were not prepared. Instead, fund requirements under various heads were collected from all the institutions and furnished to the SHS for preparation of a detailed State level Action Plan. Consequently, prioritization of issues at the district level and below the district level could not be done in the State Action Plan for 2008-09. Government stated (September 2009) that institution-based Action Plans were the basis for 2008-09. During 2010-11, ward would be the basis for preparation of Action Plans.

### **1.2.6.2 Perspective Plan**

SHS had not submitted a Perspective Plan for the Mission period to GOI

The SHS did not submit a Perspective Plan, as envisaged in the NRHM guidelines, to GOI for the Mission period. No Perspective Plans had been prepared by the DHSs in the three test-checked districts of Palakkad, Thiruvananthapuram and Wayanad. Government stated (September 2009) that the SHS had a clear Perspective Plan in terms of clearly laid down technical targets for the Mission period and for each year. Action Plans were prepared by the State with reference to these targets and goals. It was, however, found that the SHS had only fixed targets to be achieved in the Annual Action Plans, but had not prepared a comprehensive Perspective Plan for the entire Mission period. In the absence of such a Plan, the convergence of vertical health programmes, monitoring with reference to performance indicators, rationalization of manpower and resources available, etc., was not possible. Thus, the SHS had not evolved a systematic Perspective Plan based on reliable inputs for scheduling each and every activity in a critical path to execute the same within the time frame to ensure economy, efficiency and effectiveness in the implementation of NRHM.

## **1.2.7 Financial Management**

### **1.2.7.1 Fund management**

GOI provided 100 *per cent* grant-in-aid to the State Government for the years 2005-06 and 2006-07. During the Eleventh Plan (2007-12), the contribution was to be in the ratio of 85: 15 between the Centre and the State. Funds released by GOI for the components<sup>24</sup> were credited to one single bank account while funds for the National Disease Control Programmes were credited to the bank accounts of the respective societies responsible for these programmes. The funds released by GOI to the SHS during 2005-09 *vis-à-vis* the expenditure incurred were as follows:

<sup>24</sup> RCH-II: Maternal health, child health, family planning, tribal health, etc.,  
Additionalities: Hospital Management Committee, untied grant, maintenance grant, etc.,  
and Immunisation: Pulse Polio immunisation and routine immunisation.

**Table 1.8: Availability of funds and expenditure**

(Rupees in crore)

Year	Opening balance	Funds received from GOI	State share received	Total funds available	Expenditure	Closing balance	Percentage of savings
2005-06	7.70 <sup>25</sup>	44.90	Nil	52.60	11.14	41.46	79
2006-07	41.46	88.29	Nil	129.75	33.36	96.39	74
2007-08	96.39	229.95	Nil	326.34	154.52	171.82	53
2008-09 <sup>26</sup>	171.82	151.29	53.25	376.36	290.54	85.82	23
<b>Total</b>		<b>514.43</b>	<b>53.25</b>		<b>489.56</b>		

Source: Annual accounts certified by Chartered Accountants

During the first three years, i.e., 2005-08, utilisation of funds was less than 50 per cent

In the first three years, i.e., 2005-08, utilisation of funds was less than 50 per cent, mainly due to delays in setting up the SHS and the DHSs. During 2008-09, expenditure was 77 per cent of the available funds. The major items of expenditure were on *Janani Suraksha Yojana*<sup>27</sup> (Rs 12.84 crore), appointment of contractual staff (Rs 34.50 crore), procurement of drug kits (Rs 27.38 crore), grant-in-aid to SC, PHC, CHC and other hospitals (Rs 38 crore) and strengthening/upgradation of health centres (Rs 62.03 crore).

It was seen in audit that during 2007-09, the State Government contributed Rs 53.25 crore against its committed share of Rs 55.02 crore, resulting in short contribution of Rs 1.77 crore. There were unspent balances ranging from Rs 41.46 crore to Rs 171.82 crore at the close of each financial year during 2005-09.

Government stated (September 2009) that the State Programme Management Support Unit was institutionalised only in December 2006 and that the District Programme Managers were put in place only at the beginning of 2007. Also, the gestation period would be high since NRHM activities involved upgradation of facilities, etc. However, the fact remains that Government could utilise only 21 to 26 per cent of the funds during the first two years (2005-07) due to delay in establishing the set up for implementing NRHM in the State.

### 1.2.7.2 Low utilisation of funds

Government of India, Ministry of Health and Family Welfare, released funds to the State based on the progress of expenditure. Due to low utilisation of funds during the initial years of implementation of NRHM, Rs 5.51 crore and Rs 1.95 crore sanctioned for the National Immunisation Day, RCH II Flexible Pool<sup>28</sup>, Mission Flexible Pool<sup>29</sup> and strengthening of immunisation were not released by the Ministry during 2006-07 and 2007-08 respectively. Government stated (September 2009) that the low utilisation of funds was due to delays in formation of the State Programme Management Support Unit and SHS.

<sup>25</sup> Opening balance of National Disease Control Programme and Information, Education and Communication activities.

<sup>26</sup> Financial Management Report (not certified by Chartered Accountants).

<sup>27</sup> A scheme to promote safe delivery at health centres by providing cash incentives to pregnant women and Auxiliary Nurse Midwives or Accredited Social Health Activists.

<sup>28</sup> RCH II Flexible Pool: Discretionary resources made available to the States with the flexibility to make plans and for utilisation for maternal health, child health, family planning, tribal health, etc., according to their needs.

<sup>29</sup> Mission Flexible Pool: Discretionary resources made available to the States with the flexibility to make plans and for utilisation for hospital management committee, untied grant, annual maintenance grant, etc.



Out of Rs 154.21 crore released to the 14 DHSs during 2005-06 to 2007-08, the actual expenditure was only Rs 86.13 crore while the balance of Rs 68.08 crore remained unutilised with them. The expenditure for 2005-06 and 2006-07 was below 20 *per cent* of the funds released. Government stated (September 2009) that there were delays in generating consensus on the action to be taken for utilising the funds released to the hospitals as well as in accounting of the expenditure as the hospital management committees were headed by elected members. Government also added that necessary orders had been issued to organise regional level workshops to collect statements of expenditure and utilisation certificates from the institutions concerned.

### 1.2.7.3 Release of corpus grant, untied grant and annual maintenance grant

Each CHC was entitled to receive Rupees one lakh, as a corpus and a maintenance grant and an untied grant totalling Rs 50,000. Each PHC was entitled to receive Rs 50,000, as a corpus and a maintenance grant and an untied grant Rs 25,000. During 2006-07 to 2008-09, Rs 81.12 crore<sup>30</sup> was sanctioned by GOI towards corpus grant (Rs 25.98 crore), maintenance grant (Rs 24.27 crore) and untied grant (Rs 30.87 crore).

Information collected from 71 out of 115 CHCs and 83 out of 929 PHCs through questionnaires revealed that one to 46 CHCs and four to 66 PHCs received the entitled grants during 2006-09 as detailed below:

**Table 1.9: Number of CHCs/PHCs who received entitled grants**

	Corpus grant		Maintenance grant		Untied grant	
	Number of CHCs	Number of PHCs	Number of CHCs	Number of PHCs	Number of CHCs	Number of PHCs
2006-07	1	4	9	17	13	26
2007-08	32	48	35	65	41	66
2008-09	40	45	44	52	46	57

Source: Details collected through proforma from CHCs and PHCs

It may thus be seen that the additional resources provided by GOI for the CHCs and PHCs did not reach a large number of these institutions, despite the availability of funds. Government stated (September 2009) that during 2006-07 and 2007-08, the entire amount approved by GOI for payment of grant was released to the CHCs/PHCs through the District Health Societies. But during 2008-09, grants were released only to those CHCs/PHCs which utilised 80 *per cent* of the funds released earlier. However, the information received by Audit from the CHCs/PHCs revealed that the grants were received by a few institutions as shown in the table above.

### 1.2.7.4 Lapses in budgetary control

GOI approved Rs 80 lakh towards selection and training of Accredited Social Health Activists (ASHA<sup>31</sup>) during 2006-08 and Rupees five crore for procurement of ASHA drug kits during 2008-09. However, the SHS spent Rs 6.81 crore and Rs 16.69 crore respectively for the above purposes against

<sup>30</sup> Figures adopted from the proceedings of meetings of National Programme Co-ordination Committee of GOI, Ministry of Health and Family Welfare during 2006-07 to 2008-09.

<sup>31</sup> A trained community health worker to be provided in each village for assisting in neonatal care, prevention and cure of common childhood diseases, immunisation and family planning activities and other activities for control of malaria, tuberculosis, leprosy, etc.

the approved amounts which resulted in excess expenditure of Rs 17.70 crore. Further, in the test-checked districts, it was noticed that NRHM funds were utilised for unapproved activities as described below:

**Rupees 1.48 crore was spent on activities not approved by GOI in the Programme Implementation Plans and Rs 51.86 lakh was diverted for other services**

- The SHS released Rs 91.20 lakh (2007-08 and 2008-09) towards stipend for BSc (Nursing) students, Rupees six lakh (2008-09) as maintenance grants to six CHCs where upgradation work was in progress and Rs 16.20 lakh (2007-08 and 2008-09) to Hospital Management Committees (HMC) of the General Hospitals at Thiruvananthapuram and Wayanad. In response to Audit, the State Mission Director (SMD) stated (July 2009) that stipends had been given to nursing students to resolve the shortage of nurses. Maintenance grants to CHCs under upgradation and funds to the HMCs of the General Hospitals were provided because these units were running short of funds. The reply is not acceptable as it was the responsibility of the State Government to provide adequate funds for such activities which were not covered under NRHM.
- As per NRHM guidelines, SCs attached to CHCs/PHCs were not entitled for untied grants. Contrary to this, DHS provided untied grants of Rs 14.50 lakh to SCs attached to CHCs/PHCs during 2007-08 and 2008-09. In response, the SMD stated (July 2009) that the districts concerned had been asked to explain the reasons for this action.
- A refundable loan of Rupees seven lakh was released (2007-08) to the Kerala State Institute of Virology and Infectious Diseases, Alappuzha. Rupees 13.30 lakh was released (2008-09) towards routine expenses (purchase of furniture, fuel charges, etc.) of the Kerala Medical Service Corporation. These activities were not covered under NRHM. The SMD stated (July 2009) that the institutions had been asked to refund the amounts.
- An amount of Rs 51.86 lakh, approved for the constitution of 14 Mobile Outreach Units and payment of salaries to Junior Public Health Nurses in urban wards, was diverted (2007-08 and 2008-09) for meeting expenses relating to ward health sanitation activities. In response, the SMD justified the diversion and stated (July 2009) that funds were released to selected urban wards in the State to enable them to initiate action for their designated activities, with a special focus on mothers. However, the diversion was made without the approval of GOI and hence was irregular.

#### **1.2.7.5 Management expenditure**

**Expenditure on management during 2007-09 exceeded the prescribed limit of six per cent of the approved amount under Reproductive and Child Health II**

As per NRHM guidelines, management expenditure should not exceed six *per cent* of the approved amount under RCH-II. During 2005-06 and 2006-07, the expenditure on management was below six *per cent*, whereas it exceeded the limit by Rs 3.08 crore during 2007-08 and 2008-09. Audit scrutiny revealed that inadmissible expenditure unconnected with the activities of NRHM like Nurses'/Doctors' day celebration, wages to drivers attached to the Minister's Office, wages to staff of the Kerala Medical Service Corporation Limited, entertainment of visitors, etc., was incurred during the period, contributing to the excess.

### 1.2.7.6 Accounting system

The annual accounts for the years 2005-06, 2006-07 and 2007-08 were audited and certified in December 2006, February 2008 and May 2009 respectively while accounts for 2008-09 had not been prepared till June 2009. The SMD stated (July 2009) that the Audit Report for 2008-09 was expected to be ready by July 2009. However, the audited accounts for 2008-09 had not been finalised as of August 2009.

### 1.2.8 Upgradation of Health Care Infrastructure and Capacity Building

Construction of buildings for only 34 out of 174 health care institutions had been completed as of March 2009

The core strategy of NRHM includes strengthening of health institutions through better human resource development and providing adequate infrastructure and equipment to raise them at par with Indian Public Health Standards. GOI approved upgradation of 174 health care institutions at a cost of Rs 142.40 crore during 2006-09. The construction works were entrusted to five Government agencies<sup>32</sup> and Rs 49.75 crore was released to them up to March 2009. Construction of buildings for only 34 institutions out of 174 had been completed as of March 2009.

GOI also released Rs 20.18 crore during 2006-09 for upgradation of the Institute of Maternal and Child Health, Kozhikode to a Centre of Excellence. Rupees 4.58 crore was released as advance to Hindustan Prefab Limited for installation of a sewage treatment plant for the institute during 2007-09. Only the work of the sewage treatment plant was completed. The remaining work of laying of a pipeline within the premises and external pipelines to carry the treated effluents was still to be completed (September 2009).

#### 1.2.8.1 Delay in completion of upgradation of CHCs

Construction of buildings for 70 out of 115 CHCs had been completed

Hindustan Latex Limited (HLL) was appointed as the consultant for upgradation work of building infrastructure of CHCs in the State. As per the agreement signed for the purpose in February 2007, HLL was to prepare a detailed project report on the basis of a facility survey, get it approved by the hospital management committee of the CHCs and then prepare estimates for the works. Administrative sanction for the work was to be given by the SHS. During 2006-09, upgradation of 115 CHCs had been entrusted to HLL at an estimated cost of Rs 35.66 crore. Rupees 27.16 crore was paid as advance to HLL. It was observed that construction of only 22 CHCs had been completed as of March 2009. Work on 91 CHCs was in progress at various stages. Work was still to be started in the other two CHCs. None of the 22 CHCs which had been constructed had been upgraded as per the IPHS so far.

Government stated (September 2009) that the delay in upgradation of CHCs was due to various reasons such as delays in constitution of institutional level committees, revision of estimates to suit the budget, poor response of contractors to tender notifications, etc., which were beyond their control. The Government also stated that work had been completed in 70 out of 115 CHCs and work in the other CHCs was in progress. Government added that tendering procedures had almost been completed for procurement of

<sup>32</sup> Hindustan Prefab Limited, Hindustan Latex Limited, Kerala Health Research and Welfare Society, Kerala Police Housing Construction Corporation and Kerala State Nirmithi Kendra.

equipment for a few CHCs and equipment for the remaining CHCs would be given according to availability of funds.

### **1.2.8.2 Construction of buildings for Sub Centres**

**Construction of buildings for 50 Sub Centres had not yet been started**

In order to provide their own buildings to 2020 SCs, which were functioning in rented buildings, GOI approved in the Programme Implementation Plan for 2007-08, construction of buildings for 50 SCs at an estimated cost of Rs 3.30 crore (Rs 6.60 lakh per SC) and for the balance 1970 SCs during the subsequent years (2008-09: 700 and 2009-10: 1270). However, the construction of buildings was not taken up as of September 2009 as priority was given to CHC upgradation.

Government stated (September 2009) that the District Programme Managers had been instructed to submit proposals for upgradation of SCs under their jurisdiction and the work would be prioritised after the receipt of these proposals.

### **1.2.8.3 Deficiencies in the selected institutions**

During field visits to the selected institutions in the sample districts, the following deficiencies were noticed:

- The blood storage centre at the Taluk Headquarters Hospital, Ottappalam, Palakkad, for which Rs 1.55 lakh was spent during 2006-07, had not started functioning due to the absence of a trained blood bank technician. Government stated (September 2009) that the technician would be given training shortly.
- An outpatient block completed in March 2009 at a cost of Rs 25.26 lakh for CHC, Kadampazhipuram, Palakkad was not fully utilized due to shortage of specialist doctors and paramedical staff. Government stated (September 2009) that the outpatient wing was currently functional and an attempt was being made for getting the services of specialist doctors.
- Equipment viz., incubators, suction apparatus, etc., purchased in December 2008, at a cost of Rs 10 lakh, for renovation of the children's ward at the Taluk Headquarters Hospital, Ottappalam, Palakkad was not utilised as of April 2009, due to lack of three-phase electrification. Purchases were made without ensuring availability of space and usability of the equipment. Government stated (September 2009) that action was under way for getting three-phase electrical connection to operate the equipment and that furniture and other items had been distributed.
- A hospital building for the Taluk Headquarters Hospital, Sulthan Bathery, Wayanad, constructed at a cost of Rs 1.75 crore (Rs 50 lakh from NRHM funds) had started functioning from June 2008. However, the operation theatre, laboratory and Intensive Care Unit set up at a cost of Rs 34 lakh in October 2008 could not be made functional as of May 2009 due to shortage of staff. Government stated (September 2009) that staff had been posted under NRHM and the facilities were currently functioning.
- Non-posting of specialist doctors resulted in decrease of outpatients and non-utilisation of facilities viz., a fully equipped mini-operation theatre,

a labour room and an in-patient ward in PHC, Panamaram, Wayanad. Similarly, the operation theatre and labour room in CHC, Porunnannur, Wayanad was idling due to shortage of doctors. Government stated (September 2009) that efforts were being made to address the problem of shortage of doctors.

#### **1.2.8.4 Accredited Social Health Activist scheme**

**ASHAs were not given five prescribed modules of training as provided in the guidelines**

One of the key components of NRHM is to provide every village in the country with a trained female Accredited Social Health Activist (ASHA), accountable to the village. According to the guidelines, 28,757 ASHAs selected during 2007-08 and 2008-09, were to be imparted 23 days' training in five prescribed modules. However, training was imparted to 20,680 ASHAs in the first module, 16,180 ASHAs in the second module and 800 ASHAs in the third module during 2007-09. It was noticed that in the three selected districts, the third to fifth module training was not given to any of the selected ASHAs as of March 2009. The SMD stated that as of July 2009, 27,024 ASHAs were trained in the first module, 17,817 ASHAs in the second module and 1,720 ASHAs in the third module. As ASHAs were expected to create awareness on health and mobilise the community towards local health planning, it was necessary to give them training in all the five modules. Government stated (September 2009) that the training was in progress. Imparting training in five modules to a such a large number of ASHAs would take time. Lack of complete training could interfere with the purpose for which the ASHAs had been recruited.

#### **1.2.8.5 Mobile medical units**

Under NRHM, financial assistance<sup>33</sup> was to be provided for establishment of one Mobile Medical Unit<sup>34</sup> (MMU) for every district for improving health services in medically under-served remote areas. In the Programme Implementation Plan for 2006-07, GOI approved Rs 1.55 crore towards the capital cost of one MMU and recurring costs for 14 MMUs including the 13 MMUs already in use in seven districts. In the Programme Implementation Plan for 2007-08, GOI approved Rs 5.12 crore for 13 MMUs. However, no allocation of funds was made to the DHSs for purchase of the vehicles and for meeting the recurring charges of the MMUs, which resulted in the amount remaining unutilised. Government stated (September 2009) that Rs five crore had been released during 2008-09 to the Kerala Medical Services Corporation Limited for procurement of MMUs.

#### **1.2.8.6 Deficiencies in upgradation of CHCs and PHCs compared to IPHS norms**

NRHM envisages bringing of health institutions at par with IPHS to provide round-the-clock services. In order to ascertain the facilities available, Audit obtained relevant information through questionnaires from 71 CHCs and 83 PHCs from all the districts. Audit scrutiny revealed the following:

<sup>33</sup> Rupees 25.25 lakh per MMU towards capital cost and Rs 9.25 lakh per annum towards recurring charges.

<sup>34</sup> Two vehicles (a 10-seater passenger carrier to transport medical/ para-medical personnel and the second vehicle for carrying equipment/accessories with basic laboratory facilities) with Medical Officer: 2; Nurse:1; Laboratory Technician:1; Pharmacist: 1; Helper:1 and Driver: 2.

Forty nine CHCs did not have any specialists as per norms

• **Manpower**

As per IPHS norms, seven specialists<sup>35</sup> and nine staff nurses with supporting staff were required in each CHC. Forty nine CHCs did not have any specialists, while 21 CHCs had less than the prescribed number of specialists and only one CHC had the full complement of specialists. As regards staff nurses, nine CHCs had nine or more staff nurses, 57 had less than nine and four CHCs had no staff nurse.

Ten PHCs did not have a full time Medical Officer

According to IPHS norms, each PHC was required to have a Medical Officer, three staff nurses, one Pharmacist and one Laboratory Technician. Ten PHCs did not have a full time Medical Officer. Eleven PHCs had three or more staff nurses, while 42 had less than three and 30 did not have any staff nurse. It was also noticed that 79 PHCs did not have a Laboratory Technician, while 10 did not have a Pharmacist.

Government stated (September 2009) that every effort would be made to ensure adequate number of doctors in the institutions and to fill up regular vacancies.

• **Infrastructure**

NRHM envisages providing of 30 beds for in-patients in each CHC together with other facilities<sup>36</sup>. Information furnished by 71 out of 115 CHCs revealed that 22 CHCs had bed strength in excess of 30 and 35 CHCs had bed strength less than 30. Fourteen CHCs did not furnish the relevant information. The number of CHCs out of these 71 CHCs, where infrastructural facilities were not available, are given in the following table:

**Table 1.10: Non-availability of infrastructural facilities**

Facilities not available	Number of CHCs
Blood storage	70
ECG	60
Labour room	29
Operation theatre	39
X-ray	62
24 hour emergency services	30

Source: Details collected through questionnaires from 71 CHCs

Twenty seven CHCs did not have even 50 per cent of the major equipment required for operation theatres

• **Equipment**

According to IPHS norms, 10<sup>37</sup> major types of equipment are necessary to make an operation theatre (OT) operational. Out of 32 CHCs which had operation theatres, 27 did not have even 50 per cent<sup>38</sup> of equipment in the OTs.

Government stated (September 2009) that the deficiencies in infrastructural facilities and equipment pointed out by Audit were being addressed.

<sup>35</sup> One post each of Anaesthetist, General Surgeon, Gynaecologist/Obstetrician, Ophthalmic Surgeon, Paediatrician, Physician and Public Health Programme Manager.

<sup>36</sup> Operation theatre, labour room, X-ray, blood storage facility, 24 hour emergency services, wards, telephone, etc.

<sup>37</sup> Air conditioner, Boyle's apparatus, cardiac monitor, defibrillator, emergency lamp, EMO machine, fumigation apparatus, generator, oxygen cylinder and ventilator.

<sup>38</sup> Boyle's apparatus, cardiac monitor, defibrillator, oxygen cylinder and ventilator.

## 1.2.9 Procurement

A standardized procurement procedure was essential for the SHS to operationalise best practices to ensure transparency and public accountability and to facilitate a systematic approach in decision-making. During 2007-08 and 2008-09, the SHS purchased surgical kits, ASHA drug kits and other drug kits from M/s. Karnataka Antibiotics and Pharmaceuticals Limited (KAPL), a Central Public Sector Enterprise. Details are given in the table below:

**Table 1.11: Details of purchase of kits**

Sl. No	Details of item	Quantity supplied (numbers)	Period of supply	Date of agreement	Due date of completion of supply as per agreement	Amount (Rs in crore)
1.	Surgical kits	245 <sup>39</sup>	August to September 2007	17 May 2007	28 July 2007	33.54
2.	Surgical kits	245 <sup>39</sup>	April 2008	24 November 2007	12 March 2008	
3.	ASHA drug kits	8450	November 2008 to January 2009	29 September 2008	30 November 2008	6.69 <sup>40</sup>
4.	Drug kits	6218 <sup>41</sup>	April to May 2007 November and December 2007 August to November 2008	3 February 2007 (First supply order) 3 August 2007 (Second supply order) 17 June 2008 (Third supply order)	31 March 2007 31 October 2007 31 July 2008	26.14

Source: Records from the State Health and Family Welfare Society

### 1.2.9.1 Procedural irregularities

Guidelines prescribed by GOI for procurement were not followed

- The procurement guidelines issued by the Ministry of Health and Family Welfare in July 2006 for the RCH II project envisages different methods for procurement like open tenders, limited tenders, global tenders, etc. However, the single tender system was to be adopted only for drugs and equipment which were of proprietary nature or where only one particular firm was the manufacturer of the item demanded. Also, the Purchase Preference Policy approved by GOI in August 2006, envisaged procurement of 102 medicines manufactured by Pharma Central Public Sector Enterprises (CPSEs) and their subsidiaries, either by inviting limited tenders or by purchasing directly at rates certified by the National Pharmaceuticals Pricing Authority with discounts up to 35 per cent. However, for purchase of surgical kits and drug kits, the single tender system was adopted and for ASHA drug kits, the limited tender system was adopted, though various options were available as per the procurement policy. Moreover, the entire purchase was made from a single firm, viz. KAPL.

No pre-despatch or post-despatch inspection was conducted

- Conditions of agreement for supply of surgical kits, ASHA drug kits and drug kits specify pre-despatch and/or post-despatch inspection by the purchaser. Final payments are to be made only after the receipt of final acceptance certificates from the district Stores-in-charges. Scrutiny of records in the Family Welfare Stores at the three districts test-checked revealed that no pre-despatch or post-despatch inspections

<sup>39</sup> One kit per CHC for 115 CHCs and two kits per First Referral Unit (FRU) for 65 FRUs.

<sup>40</sup> Rs 7923 per kit (Basic price: Rs 7370 plus Central Sales Tax of Rs 295 plus administration charges of Rs 258 at 3.5 per cent of basic price).

<sup>41</sup> SCs: 5094 kits, PHCs: 829 Emergency Obstetric Care (EOC) kits, CHCs and Block PHCs: 230 RTI/STI drug kits and FRUs: 65 EOC kits.

Penalty was not levied for belated supplies amounting to Rs 3.18 crore

were conducted by the SHS or by the DHSs to ensure quality, quantity and workability of the supplied material. However, the final payments were released by the SHS/DHSs despite getting reports of short supply and damages. In reply, Government stated (September 2009) that the damaged items of the kits had been immediately replaced by KAPL.

- According to the agreement conditions, a penalty equivalent to one *per cent* of the price of the delayed goods for each week of delay in supply was leviable from the suppliers, subject to a maximum of 10 *per cent* of the cost of delayed goods. There were delays of three to eight weeks in supply of surgical kits, one to five weeks in the case of ASHA drug kits and one to fourteen weeks in the case of drug kits. The penalty, leviable from KAPL in the above cases was Rs 3.18 crore<sup>42</sup>. Government stated (September 2009) the Governing Body of the SHS had resolved to exempt KAPL from the penalty clause as there were only minor delays in supplies for reasons like transport bottlenecks, strikes, lack of raw materials, etc. The reply cannot be accepted because the delay ranged from two to fourteen weeks (excluding the delay of one week) and Government should have invoked the penalty clause as per the agreement conditions.

#### 1.2.9.2 Surgical kits and drug kits

Extra expenditure of Rs 1.99 crore was incurred due to indirect purchase

- Though the supply order was placed with KAPL, it was seen that the actual supply was made by another firm, viz. M/s.Plasti Surge Industries Private Limited, Amaravati, Maharashtra, on behalf of KAPL though there was no provision in the contract for subletting the contract. KAPL was allowed 6.8 *per cent* discount as per the invoice of M/s.Plasti Surge Industries kept in the records of three test-checked District Family Welfare Stores. However, KAPL had not passed on this discount to the SHS. The indirect purchase resulted in extra expenditure of Rs 1.99 crore<sup>43</sup> to the SHS and undue benefit of an equivalent amount to KAPL. Government stated (September 2009) that the in-house purchase policy of KAPL was not enquired into and the SHS had no knowledge of any private company through which KAPL had procured surgical kits and drugs kits. However, the fact remains that Government had incurred extra expenditure of Rs 1.99 crore.
- The SHS did not assess the actual requirement based on the sample survey conducted in September 2006 in all the CHCs before placing the order. In the Family Welfare Stores of the three districts test-checked, 26 out of 102 surgical kits had not been distributed to CHCs/First Referral Units as of March 2009. Physical verification done by Audit in two First Referral Units and three CHCs also revealed idling of seven surgical kits costing Rs 31 lakh.
- GOI instructed (December 2006) the State Government to procure the drugs from primary manufacturers following the Purchase Preference Policy for 102 medicines. The kits were to be formed by the State after procuring the drugs separately and this process was to be completed by

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<sup>42</sup> ASHA drug kits: Rs 0.13 crore, surgical kits: Rs 1.75 crore and drug kits: Rs 1.30 crore.

<sup>43</sup> 6.8 *per cent* of Rs 29.29 crore = Rs 1.99 crore.



15 February 2007. However, the State Government purchased (January 2007) drug kits from KAPL directly instead of purchasing the drugs separately from primary manufacturers and making their own kits. In response, Government stated (September 2009) that kitting required a long process i.e. procuring the stores, assembling them in godowns, and kitting using semi-skilled and unskilled labourers. This would involve huge investment and therefore readymade kits were purchased. The reply of the Government is not acceptable because the purchase of readymade kits was against the instructions of GOI.

### 1.2.9.3 ASHA drug kits

- Limited tenders were invited from Pharma CPSEs<sup>44</sup> in April 2008 by the SHS. After opening the technical bids, the Technical Committee rejected the bids of three Pharma CPSEs because a criminal case was pending against HAL and the required documents had not been submitted by IDPL and BCPL. However, the technical bid of KAPL was accepted as it had furnished product permits for two tablets (Albendazole and Paracetamol) and had agreed to supply the other items from reputed Good Manufacturing Practice (GMP) Companies. It was seen that the financial bid of KAPL was accepted without any negotiations to reduce the rates as envisaged in the Purchase Preference Policy because it was the only firm which qualified for the financial bid. Moreover, the need for going in for the two-bid system of selection of vendor in the purchase of common medicines for ASHA kits was not justifiable. This clearly indicated that KAPL was favoured by the SHS. Government stated (September 2009) that all the three CPSEs whose bids were examined did not submit product permits for all the products. The Technical Committee decided to open the financial bid of KAPL based on an undertaking given by it that it would procure the drugs from reputed GMP companies. Though negotiations were held with KAPL, it did not agree to reduce the rates. The procurement order was issued to KAPL based on the decision of the Governing Body of SHS.
- Though the supply order was placed with KAPL, it was seen that the actual supply was made by M/s.Vimal Labs Private Limited, Indore on behalf of KAPL. As per the invoices of the Indore based firm kept in the stores of the three test-checked District Family Welfare Stores, the rate quoted for each ASHA drug kit was Rs 5250 and this amount was entered as the cost in the stock register. However, the basic price quoted by KAPL and paid by the SHS was Rs 7370. Thus, the SHS incurred extra expenditure of Rs 1.79 crore<sup>45</sup> and provided undue benefit of an equal amount to KAPL. Government stated (September 2009) that the in-house purchase of KAPL had not been enquired into by them.

Extra expenditure of Rs 1.79 crore was incurred due to indirect purchase

<sup>44</sup> Bengal Chemicals and Pharmaceuticals Ltd (BCPL), Hindustan Antibiotic Ltd (HAL), Indian Drugs and Pharmaceuticals Ltd (IDPL) and Karnataka Antibiotics and Pharmaceuticals Ltd.

<sup>45</sup> Rs 2120 x 8450 kits = Rs 1.79 crore.

The SHS did not apply the principles of financial propriety in the selection of KAPL for the supply of surgical kits and ASHA kits as procedures were violated, quality of materials were not assessed and finally the procured surgical and drug kits were not utilised in full.

### 1.2.10 Performance Indicators

NRHM prescribes national targets for reducing the Infant Mortality Rate (IMR), the Maternal Mortality Rate (MMR) and the Total Fertility Rate (TFR), as well as reducing the morbidity and mortality rate and increasing the cure rate of different endemic diseases covered under various national programmes. State-specific targets were not prescribed by GOI, as different States were at different levels of achievement/performance at the beginning of the Mission period. The targets fixed by the SHS for 2007-08 to 2011-12 were as below:

**Table 1.12: Performance indicators**

Indicator	2006-07 Current level (actual figures)	2007-08	2008-09	2009-10	2010-11	2011-12
Infant Mortality Rate (per 1000 live births)	12	12	12	11	10	9
Maternal Mortality Rate (per 1,00,000 live births)	110	75	65	50	40	30
Total Fertility Rate (per woman)	1.9	1.8	1.8	1.7	1.7	1.6

Source: Reproductive and Child Health Project Implementation Plan of SHS for the year 2007-08

As the SHS had not evolved a mechanism to ascertain whether the targets fixed were achieved at the close of the respective years, audit could not ascertain the extent of achievement against the targets fixed.

#### 1.2.10.1 Maternal health

The important services which ensure maternal health are antenatal care, institutional delivery, post-natal care and referral services. It is essential to register all the pregnant women before they attain 12 weeks of pregnancy and provide them with three antenatal check-ups, 90 or more iron-folic acid (IFA) tablets, two doses of Tetanus Toxoid (TT) and advice on correct diet and vitamin supplements. It is mandatory for a Junior Public Health Nurse to prepare a micro-birth plan at the SC level for each beneficiary of the *Janani Suraksha Yojana* (JSY), containing dates of antenatal checkups and TT injections, identification of the health centre for referral services, the place of delivery, expected date of delivery, etc. Audit scrutiny revealed that micro-birth plans were not drawn up in any of the selected 24 SCs.

- In the selected districts (Palakkad, Thiruvananthapuram and Wayanad), out of 5,14,139 pregnant women registered, only 4,30,156 received three antenatal check ups during 2005-06 to 2008-09. In these districts, there were no significant variations over the years in the number of pregnant women receiving three antenatal check ups.
- Although all the pregnant women registered were required to be provided with IFA tablets for 100 days, shortfalls ranging from 16 to 44 per cent were noticed during 2005-06 to 2007-08.

Micro-birth plan for each beneficiary of *Janani Suraksha Yojana* was not drawn up

- During 2007-08 and 2008-09, Rs 23.95 lakh was disbursed to 7,985 beneficiaries in three Taluk Hospitals and two District Hospitals towards transportation cost under JSY, which was inadmissible.
- The percentage of institutional deliveries of pregnant women registered at the hospitals in the selected districts ranged from 77 to 96 in Palakkad, 61 to 104 in Thiruvananthapuram and 85 to 89 in Wayanad.

### 1.2.10.2 Immunisation

#### *Routine immunisation*

The immunisation of a child against six preventable diseases, namely, tuberculosis, diphtheria, pertussis, tetanus, polio and measles has been the cornerstone of routine immunisation in the State. During 2005-06 to 2007-08, the State had achieved 95 to 99 *per cent* success in pulse polio immunisation. However, immunisation in respect of other diseases showed wide variations ranging from 53 to 85 *per cent* in the test-checked districts during 2007-09. The targets and achievements of Diphtheria (DT) and TT immunisation carried out during 2005-09 are given in **Appendix I**.

**During 2005-09, 2,82,887 children between 0-1 age group were not fully immunised**

As per information furnished by the Director of Health Services, during 2005-06 to 2008-09, 19,30,592 out of 22,13,479 children between the 0-1 age group were administered full vaccines *viz.* BCG, Measles, Diphtheria, Pertussis and Tetanus (DPT) and Oral Polio Vaccine (OPV), leaving 2,82,887 children uncovered. The percentage of fully immunised children was in the range of 85 to 88 *per cent* during the period and did not show significant variations.

It was seen that DT coverage of children above five years declined steadily during 2005-06 to 2008-09 from 94 to 60 *per cent*. TT to children of 10 years and 16 years also declined during 2005-06 to 2007-08, but showed an increase during 2008-09.

Government stated (September 2009) that long periods of vaccine shortage occurred in 2007-08 and 2008-09 due to inadequate supply from GOI.

#### *Shortfall in administering Vitamin A solution*

The RCH-II programme emphasizes administering of Vitamin A solution to all children below three years of age. Prophylaxis against blindness amongst children due to deficiency of Vitamin A requires the first dose at nine months of age along with the measles vaccine, the second dose along with DPT/OPV and the subsequent three doses at six-monthly intervals.

**Percentage of children supplied with all five doses of Vitamin A solution declined**

Scrutiny of records in the three test-checked districts revealed a steady decline in the percentage of children supplied with all five doses during 2005-06 to 2008-09, the details of which are given in **Appendix II**. The main reason for the steady decline was the short supply of Vitamin A at health centres.

Government stated (September 2009) that the shortfall in administering Vitamin A solution was due to stoppage of supply by GOI from 2007-08.

An effective Integrated Health Management Information System was not set up though hardware and software were procured for Rs 4.70 crore

### 1.2.10.3 Health Management Information System

As per NRHM guidelines a health information system is to be in place for facilitating the smooth flow of information and for effective decision-making. The SHS purchased 1033 computers along with printers and UPS at a cost of Rs 3.64 crore for this purpose and supplied them to CHCs and PHCs in February 2008. The application software (MS Office 2007) was procured at a cost of Rs 1.06 crore during July 2008.

The SHS adopted the following multiple software applications:

- Health Management Information System (HMIS) viz., DHIS 2 developed by M/s HISP India Limited, a non-government organisation working in collaboration with the University of Oslo, Norway.
- A dynamic web-based surveillance system for monitoring disease incidence for the Integrated Disease Surveillance Project on a weekly basis.
- A Geospatial Kerala Health Information System developed by the Kerala State Remote Sensing and Environment Centre for tracking the spread and frequency of diseases and
- An MS-excel based format for data collection on diseases on daily basis by the State Disease Control and Monitoring Cell.

All these applications were independently operated by various users despite requiring common data sets relating to health parameters for their operation.

Instead of integrating various vertically driven information systems to create a single window system for data entry and report generation, the SHS developed multiple applications with common modules that resulted in data redundancy, duplication in data entry and increase in the workload at all levels. The State Data Officer stated (July 2009) that action was under way to integrate the systems of the Integrated Disease Surveillance Project and the State Disease Control and Monitoring Cell with the SHS.

### 1.2.10.4 Integrated Disease Surveillance Project

The Integrated Disease Surveillance Project (IDSP) was launched in November 2004 to detect early warning signals of impending outbreaks and to help initiate an effective response in a timely manner. Surveillance units were set up at the Central, State and district levels with linkages with all State headquarters, district headquarters and all government medical colleges on a Satellite Broadband Hybrid Network. Data is collected on a weekly (Monday–Sunday) basis. Whenever there is a rising trend of illness in any area, it is investigated by the Medical Officers/Rapid Response Teams to diagnose and control the outbreak. Data analysis and action are to be undertaken by the respective districts. The total cost of the project was Rupees nine crore, of which GOI released Rs 4.82 crore up to 2008-09. The expenditure incurred on the project was Rs 2.74 crore.

Hardware and accessories procured for Rs 54.82 lakh for IDSP were lying idle

All the 14 District Surveillance Units (DSU) were supplied with hardware accessories costing a total of Rs 21.06 lakh. Civil works for video-conferencing units were also completed in the districts at a cost of Rs 19.60 lakh. Accessories were also supplied to State Surveillance Units

(SSU) and seven<sup>46</sup> medical colleges at a cost of Rs 33.76 lakh. Necessary manpower was also provided to all DSUs and SSU. However, the video-conferencing unit at the State level had not been set up as of March 2009 as the Director of Health Services had not provided space for this. Consequently, hardware and accessories procured for Rs 54.82 lakh and the civil works executed at an expenditure of Rs 19.60 lakh, besides the manpower, remained idle. Moreover, the intention of the Government of detecting impending outbreaks and initiating an effective response could not be achieved. Government stated (September 2009) that the video-conferencing unit would be set up as soon as the civil works were completed within two months' time.

#### **1.2.11 Information, Education and Communication activities**

'Radio Health' launched by DHS, Thiruvananthapuram in September 2008 aimed to create positive changes in the health habits and behaviour of people by ensuring wider community participation through interactive and innovative radio programmes. It mainly focussed on primary health care and preventive aspects of health by giving importance to all medical systems and alternative health practices. Up to 31 March 2009, 108 programmes of 30 minutes duration had been broadcasted. Ten Radio Health Clubs were also established in schools, colleges, residential associations, etc., in different locations and 31 meetings were also conducted. This model could be adopted in other districts also to propagate health care programmes. Other activities under the Information, Education and Communication like Health Melas in Assembly constituencies, school health camps, street plays, cultural programmes, etc., were also conducted by the SHS. Government stated (September 2009) that the Radio Health Programme had been well received by the community and had been appreciated at various fora of the Ministry of Health and Family Welfare as a true innovation.

#### **1.2.12 Community participation**

NRHM envisages involving communities in planning, implementation and monitoring through representatives of Panchayati Raj Institutions and community based organisations at each level. It also envisages formation of Village Health and Sanitation Committees in each village within the overall framework of the Grama Sabhas. However, the State Government decided (February 2007) to constitute Ward Health and Sanitation Committees (WHSC) at the ward level instead of at the village level. In all the 24 SCs under the three test-checked districts, WHSCs, had been constituted. However, no revolving funds for providing referral and transport facilities on emergency deliveries had been set up in any of the WHSCs though envisaged under the scheme. Government stated (September 2009) that it was a conscious decision to constitute Ward Level Committees within the overall framework of the local bodies in lieu of Village Level Committees as improved community participation was the key to success of the scheme.

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<sup>46</sup> Co-operative Medical Colleges at Ernakulam and Pariyaram, Medical College Hospitals at Alappuzha, Kottayam, Kozhikode, Thiruvananthapuram and Thrissur.

### **1.2.13 Conclusion**

Introduction of NRHM in Kerala has improved the fund flow to health institutions at various levels, upgraded infrastructure in health institutions and helped in facilitating their routine management. It has led to the creation of Ward Health and Sanitation Committees and Hospital Management Committees and innovations like 'Radio Health' in Thiruvananthapuram district to create health awareness.

Decentralised planning was crucial for implementation of the scheme but the planning process was flawed as Annual Action Plans were prepared without preparing the State Perspective Plan and without using field level data, obtained through household and facility surveys.

The execution of projects by the SHS without the Perspective Plan by specifying the project activities in a critical path resulted in the projects being implemented without adhering to the time schedule. Thus, the SHS could not spend the funds released by GOI, huge amounts were kept in bank deposits and the accounts were not finalised in time. Though funds were available, the entitled grants were not released to all the CHCs and PHCs. Release of funds to activities not approved by GOI was also noticed. Upgradation work of CHCs and SCs were proceeding at a slow pace and even the facilities created were not fully utilised. There were deficiencies in medical and para-medical manpower, infrastructure facilities and equipment in CHCs and PHCs in the State. Procurement of drugs, surgical equipment and computers for Rs 70.01 crore was made without observing the principles of financial propriety and distributed without assessing the requirements of institutions.

### **1.2.14 Recommendations**

- The Perspective Plan should be prepared for the remaining Mission period by incorporating all the required strategies to achieve the objective of convergence of all health initiatives under one umbrella. Each activity should be executed along a critical path to achieve the desired result within the Mission period.
- The SHS and the DHSs should synchronise all their activities and integrate structurally to ensure sustainability of NRHM initiatives even after the Mission period.
- The State level Action Plan should be a part of the Perspective Plan and prepared only on the basis of consolidated Action Plans at the village, block and district levels so that actual requirements are projected.
- Proposals in the Action Plan should be made on the basis of the absorption capacity of the Mission and the funds released should be utilised without undue delays to avoid retention of huge balances in bank deposits.
- Corpus grants, maintenance grants and untied grants should be released annually to all the entitled health care institutions.
- Priority should be accorded to complete all the upgradation works for which GOI approvals have been received.
- Steps should be taken to fill up the regular vacancies of medical and para-medical staff in the CHCs and PHCs and post contractual staff

under NRHM as per requirements to achieve Indian Public Health Standards.

- The principles of financial propriety should be observed in all the procurement processes to avoid undue favour to the suppliers.
- The SHS should integrate various vertically driven information systems to create a one-point system for data entry and report generation that covers all its activities like accounting, manpower, health profile, stores, disease surveillance, etc. to provide online information for planning, execution and monitoring of the Mission.

## TRANSPORT/HOME/PUBLIC WORKS DEPARTMENTS

### 1.3 Road Safety Management in Kerala

#### *Highlights*

Road accidents and their adverse impact on the public are areas of serious concern for the Government. Kerala, with three per cent of the national population, accounted for nine per cent of the total number of road accidents in the country. There were 37,211 road accidents in the State in 2008, involving loss of 3,826 lives. The Kerala Road Safety Authority was constituted in April 2007 to co-ordinate road safety activities and to formulate a road safety policy. A Road Safety Fund was also created for this purpose. Though various departments and agencies were involved in this area, no specific road safety policy had been formulated in the State as of August 2009. The major areas of concern highlighted in the review are as under:

**The Government did not make proper efforts for co-ordination among the various committees involved with road safety activities.**

*(Paragraph 1.3.6.1)*

**The strength of enforcement officials in Motor Vehicle and Police Departments was not revised to be commensurate with the increase in the number of motor vehicles registered during 2003-08. This resulted in poor enforcement of the provisions of the Motor Vehicles Act and rules leading to increase in road accidents.**

*(Paragraph 1.3.6.8)*

**Out of 635 cases reported by the police during 2004-09 for suspension of driving licences, action was taken in 329 cases. Of this, in 48 cases, suspension of driving licences was not effective as the suspension orders were issued with retrospective effect.**

*(Paragraph 1.3.6.10)*

**Out of 11 Speed Check Radars purchased by the Police Department, six were not used due to defects, resulting in idle investment of Rs 34.94 lakh.**

*(Paragraph 1.3.6.11)*

**Fifteen hospitals located near the national highways and major district roads in the selected districts referred 3326 major accident cases to the Medical College Hospitals and other major hospitals during the period from January 2007 to May 2009 which indicated that the emergency care facilities available for road accident cases were inadequate.**

*(Paragraph 1.3.7.3)*

**As of March 2009, 1.37 lakh cases of motor accident claims were pending in Motor Accident Claims Tribunals.**

*(Paragraph 1.3.7.5)*

**No data management systems on accidents existed in the Public Works, Motor Vehicles and Police Departments.**

*(Paragraph 1.3.8.1)*



### 1.3.1 Introduction

Road safety is an area of serious concern for the State Government. Kerala, with three *per cent*<sup>47</sup> of the national population (2001 Census), accounted for nine *per cent*<sup>48</sup> of the total road accidents in the country. Road accidents have severe economic and social costs, which are around three *per cent* of the gross State domestic product (GSDP) annually. The number of road accidents decreased from 41,219 in 2004 to 37,211 in 2008, whereas the number of deaths showed an increasing trend from 3,059 in 2004 to 3,826 in 2008. During 2004 to 2008, there was one death for every 12 accidents.

### 1.3.2 Departments and Agencies involved

The following agencies of the State are involved in the management of road safety:

#### Transport Department

- **Motor Vehicles Department (MVD):** This department is responsible for implementation of the Motor Vehicles Act, 1988, the Central Motor Vehicles Rules, 1989 (Central Rules) and the Kerala Motor Vehicles Rules, 1989 (State Rules). The Transport Commissioner is the head of the department. There are 18 Regional Transport Offices headed by Regional Transport Officers (RTO) and 42 Sub Regional Transport Offices headed by Joint Regional Transport Officers (Jt. RTO). The RTOs and Jt. RTOs are assisted by Motor Vehicle Inspectors (MVI) and Assistant Motor Vehicle Inspectors (AMVI).
- **Kerala Road Safety Authority (KRSA):** This was constituted in April 2007 for co-ordinating the activities of various departments towards road safety and to make recommendations to the Government for formulating a road safety policy. A Road Safety Fund was also created and placed at the disposal of KRSA.

#### Home Department

- **Police Department - Traffic Police:** This department is responsible for control of traffic, enforcement of traffic rules and investigations of traffic accidents and traffic offences. It functions under the various Commissioners/District Superintendents of Police of the State. Nine traffic police stations have been set up in the State for effective management of traffic. Though a separate post of Inspector General (Traffic) was created by the Government in January 2009 and the duties and responsibilities were also clearly defined, no separate manpower and funds were provided and the pay and allowances of the traffic personnel were being drawn from the funds provided to the Police Department.

In addition, the Public Works Department (PWD), and various Municipal Corporations are associated with the construction and maintenance of roads. The Health Department provides trauma care facilities to accident victims and the Education Department helps to create road safety awareness among students. Besides, the National Transportation Planning and Research Centre

<sup>47</sup> Economic Review – Government of Kerala, 2007.

<sup>48</sup> Report of GOI, MORTH publication on road accidents in India, 2005.

(NATPAC)<sup>49</sup> undertakes research, training and consultancy projects in the transport sector. Motor Accident Claims Tribunals (MACT) deal with claims for compensation in accident cases.

### **1.3.3 Audit Objectives**

The objectives of the performance audit were to assess whether:

- the relevant rules and regulations relating to road safety are effectively and efficiently enforced and action is taken to create awareness about road safety;
- the prescribed standards and specifications are observed in road construction and maintenance;
- a proper system exists for data collection and analysis and the data is used for future planning and
- an effective system exists for timely action for rescue/transfer of accident victims to hospitals.

### **1.3.4 Audit Criteria**

The following criteria were adopted for assessing the performance:

- Motor Vehicles Act, 1988 and rules made thereunder,
- Manuals, codes, departmental orders and instructions,
- Road Safety Authority Act,
- Indian Roads Congress Specifications,
- Highway Protection Act,
- Road Policy of Kerala State (January 2006),
- Orders issued by the Ministry of Health/Director of Health Services.

### **1.3.5 Scope and Methodology of Audit**

The performance audit was conducted during the period April to June 2009 by test check of the records in the offices of the KRSA, the Transport Commissioner, Director General of Police, State Crime Records Bureau (SCRB), Director of Health Services (DHS) and Chief Engineers, PWD (Roads and Bridges/ National Highway Division) and subordinate offices under these, in the four<sup>50</sup> (out of 14) districts selected by Probability Proportional to Size With Replacement Sampling method. Besides, records relating to road safety programmes of NATPAC, activities of the three<sup>51</sup> (out of five) municipal corporations, motor accident claims and compensation awarded by MACT, road safety awareness programmes by the Director of Public Instructions (DPI) and the State Council of Educational Research and Training (SCERT) were also test-checked.

An entry conference was conducted in May 2009 with the Secretary, Transport Department, the Transport Commissioner, the IG of Police (Traffic) and the Additional Secretary, PWD. The audit objectives were explained to them. The findings and recommendations were discussed in detail in the exit conference

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<sup>49</sup> A Research and Development Centre under the Kerala State Council for Science, Technology and Environment.

<sup>50</sup> Ernakulam, Kozhikode, Pathanamthitta and Thiruvananthapuram.

<sup>51</sup> Kochi, Kozhikode and Thiruvananthapuram.

held in August 2009. The views of the Government/departments have also been taken into consideration for finalising the performance audit report.

### **Audit Findings**

Performance audit of road safety management in Kerala was conducted under two broad categories, viz. preventive safety and accident care. Under preventive safety category, road infrastructure, the system of enforcement of traffic rules and road safety awareness were examined in detail. Under accident care, rescue operations including transportation of accident victims to hospitals, facilities available in roadside hospitals, payment of compensation for accident victims, etc., were examined. Besides, the monitoring mechanism adopted for road safety management was also examined in Audit.

#### **1.3.6 Preventive Safety**

In order to ensure road safety, vehicle movement should be controlled by means of a proper road network, smooth traffic flow, traffic lights and road signages, coupled with a substantial level of compliance to rules by the road users. Audit examination of the factors influencing the accidents revealed the following:

##### **1.3.6.1 Multiplicity of authorities formed by the Government**

Government constituted the following authorities for road safety management:

- A Road Safety Council (RSC) and District Road Safety Committees under it were constituted (December 1991) as per Section 215 of the Motor Vehicles Act with the Minister for Transport and the District Collectors as the chairpersons of the State Council and District Committees respectively.
- The Kerala Road Safety Authority (KRSA) was established in April 2007 for the implementation of road safety programmes in the State. The Minister for Transport is the Chairman and the Transport Commissioner is the ex-Officio Road Safety Commissioner and Chief Executive of KRSA.
- A Co-ordination Committee for Accident Reduction Plan (CCARP) with the Chief Secretary as Chairman was constituted (July 2007) to implement, enforce and co-ordinate accident reduction activities and monitor strict enforcement of traffic laws and rules.

Audit observed that all these authorities had the same members and discussed the same issues during their meetings. Their recommendations such as providing medians, identifying of black spots, establishing emergency care facilities, co-ordinating in digging of roads, enforcing motor vehicle rules, creating awareness, etc. were discussed repeatedly at the meetings but were not implemented by the departments concerned due to financial constraints or manpower shortage. Thus the Government's initiative of creating multiple entities did not produce the desired results towards improving road safety in the State.

##### **1.3.6.2 Driving standards of drivers**

Analysis of the records of accidents with the State Crime Records Bureau (SCRB) showed that the reason for 97 per cent of road accidents was drivers'

**Ninety seven per cent of road accidents were due to drivers' faults**

mistakes while mechanical faults, bad roads and faults of pedestrians accounted for less than one *per cent* each. This indicated poor driving standards and ineffective enforcement of statutory provisions for issuing driving licences and penalising traffic violators.

An integrated approach to drivers' training, testing and licensing is important to prevent 'road rage', over-speeding, dangerous overtaking, lane cutting, jumping of signals, erratic parking, drunken driving, etc. Novices and young drivers, between the ages of 18 and 24 years, were involved in 31 *per cent* and 34 *per cent* of accidents during the years 2006 and 2007 respectively, killing 2,028 persons and injuring 32,897 persons during those two years.

### **1.3.6.3 Lacunae in issuance of Licences**

A learner's driving licence is issued to a person who is above 18 years of age, physically fit and qualifies in the learner's examination conducted by the Motor Vehicles Department (MVD). The practical test for the permanent driving licence is conducted by the MVI/AMVI. The number of licences issued during 2004-05 to 2008-09 was around three lakh per year. The maximum number of candidates to be tested on a day was fixed at 40 by the Transport Commissioner in May 1997. However, Audit found that during 2008-09 in RTO, Thiruvananthapuram, the number of candidates who took driving tests were in the range of 41 and 68 per day on 157 days. The increase in the number of candidates was likely to affect proper evaluation of the driving skills which would, in turn, lead to issue of licences to persons with inadequate driving skills.

### **1.3.6.4 Violation of building rules in providing parking spaces**

The Kerala Municipality Building Rules, 1999, prescribe the parking areas<sup>52</sup> required for different categories of buildings. Moreover, as per the Road Policy of Kerala, parking restrictions on streets and roadsides should be strictly enforced. As the vehicle population increased to 44.42 lakh in 2008, the requirement of parking areas specified in the rules became inadequate because more than one business entity was operating in office and commercial buildings. As parking space in commercial buildings was based on carpet area rather than on foot-falls, most of the vehicles had to be parked on public roads, which led to traffic congestion.

The commercial entities submit to local bodies building plans for construction of buildings showing adequate space for parking of vehicles. Subsequently, these parking spaces were utilised for business activities leading to parking of vehicles on roads and cause traffic congestion. The local bodies did not have any effective control to prevent such illegal practices. The Corporation of Thiruvananthapuram did not maintain proper records of such violations. In a test check, it was noticed that the designated parking spaces in two<sup>53</sup> commercial buildings had been converted for commercial use. Though the Corporation issued (June 2007) a notice to the Manager of these buildings for causing traffic congestion and accidents due to lack of parking space, no action had been taken so far (June 2009).

**Parking space in commercial building was used for business activities causing traffic congestion**

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<sup>52</sup> One parking space for every 100 sq.m of carpet area in business or office buildings (Group E) and 75 sq.m of carpet area in mercantile or commercial buildings (Group F).

<sup>53</sup> Food World at Pattom and Spencer building at Statue in Thiruvananthapuram City.

**1.3.6.5 Violation of parking rules**

For enforcement of parking regulations in Kozhikode and Thiruvananthapuram, the traffic police introduced a system of fixing stickers on vehicles that were parked in ‘No Parking’ areas and on vehicles which caused inconvenience to road users. The owners of the vehicles on which the stickers had been pasted were to report to the concerned police stations within 15 days to remit a fine of Rs 100 for the traffic violation.

There was no system to ensure that fines imposed for violation of parking rules were paid in all cases

Review of records maintained in the traffic police stations revealed that there was no system to ensure that fines were paid in respect of all the cases booked by the police. Action was also not initiated to prosecute the owners who failed to remit the fines due to difficulties in getting addresses from the web-site of MVD. Moreover, records of the booked cases were not properly maintained and the entries were not linked to the serial numbers of the counterfoils. As a result, it could not be verified whether all the cases booked for violation of traffic rules had been registered. Thus the system of enforcement of parking regulations remained ineffective.

**1.3.6.6 Non-functioning of signals**

Twelve out of 62 signal lights installed by KELTRON during 2004-05 were not functioning

During the period 2004-09, KELTRON<sup>54</sup> installed 62 signal lights at a cost of Rs 3.89 crore in 10 districts. Of these, 12 signal lights installed during 2004-05 were not functioning as of May 2009. It was noticed in audit that in Thrissur District, (which stood at third place in the order of occurrence of accidents), eight out of the nine signal lights were not functioning (some of them from January/February 2008 onwards) as the concerned authorities had not given annual maintenance contracts to KELTRON.

It was observed that the Signal Division of KELTRON at the request (March 2007) of the Transport Commissioner had submitted (March 2008) a project report identifying 278 critical junctions in 12 districts that required automatic traffic enforcement. No action had been taken by the Commissioner on the project report so far. The Government accepted the audit observation and stated that the cost of installing signals was high and action would be taken to instal signals through local bodies.

**1.3.6.7 Inadequate signage for speed restriction**

In order to facilitate accident-free flow of traffic, signboards on roads should be visible and self-explanatory. As per Section 112 of the Motor Vehicles Act, no person should drive a motor vehicle in any public place at a speed exceeding the maximum speed or below the minimum speed fixed for the vehicle.

During 2006 and 2007, 5,279 accidents occurred near schools/colleges in which 443 persons were killed and 6,221 persons were injured. Government decided (December 2008) to put up traffic signboards showing speed limits in front of all schools in the State with the help of the PWD, the Revenue Department, Local Self Government Institutions and Parent Teachers Associations of schools. Although, there were 12333 schools in the State, the Police Department had installed signboards only in front of 810 schools. The details of installation of signboards from Local Self Government Institutions

<sup>54</sup> Kerala State Electronics Development Corporation Limited.

and from other departments such as PWD and Revenue were awaited (October 2009).

**Speed-breakers were installed without proper signage**

Audit found that during 2006 and 2007, 27 out of 261 accidents and six out of 142 accidents respectively, turned out to be fatal where speed-breakers were installed. Had there been proper signage, these accidents could have been avoided. Further, on the National Highways and State Highways, signboards prescribing the speed limits for driving were not placed.

In order to restrict overspeeding, Government ordered (March 2007) all RTOs to ensure that speed governors were fitted in stage carriages and heavy transport vehicles before 15 April 2009. Only 89,908 out of 4.99 lakh heavy vehicles had been fitted with speed governors as of 14 July 2009.

**Signboards were not maintained as prescribed by Indian Roads Congress**

It was also noticed in the test-checked districts that the signboards placed by the police prominently showed advertisements of sponsors rather than the traffic information. Moreover, these signboards were not maintained as per the colour codes and standards prescribed by the Indian Roads Congress.

#### **1.3.6.8 Manpower status**

**The number of enforcement officers remained stagnant**

While the number of motor vehicles registered and the number of driving licence holders during 2003-08 showed an increase of 59 *per cent* and 26 *per cent* respectively, the number of enforcement officers in MVD remained stagnant at 409.

There was no well-defined system in the Police Department for assessing the manpower requirement for traffic management. Scientific norms for deployment of staff had neither been laid down nor evolved on the basis of work study. The department was functioning with a sanctioned strength of 2,156 personnel. The DGP intimated (August 2009) that only 2135 personnel were in position as at the end of 2008-09 against the requirement of 5637.

Audit observed that the inadequacy in the strength of enforcement officers in both the departments and the manifold increase in the vehicle population could contribute to poor enforcement of the provisions of the Motor Vehicles Act and the Rules leading to higher rate of road accidents. The Transport Commissioner stated (August 2009) that lack of equipment, training and space for seized vehicles in addition to the shortage of manpower had adversely affected enforcement.

#### **1.3.6.9 Non-imposition of deterrent penalties on habitual offenders**

**The Police or Motor Vehicles Department did not evolve an integrated system to verify whether the drivers were booked on earlier occasions also**

In order to book habitual traffic offenders, the Motor Vehicles Act and State Rules specified a lesser penalty for offences committed for the first time and increased penalty for violation of the same provision on subsequent occasions. However, the police or the MVD did not have any integrated system to verify whether drivers had been booked under the same rules of the Act on an earlier occasion so that increased penalty could be imposed on the offences committed again. Every time, when a violation was noticed, the drivers were booked as if it was for the first time and they got away with lesser penalty. Thus the objective of the Act remained unachieved. Similarly, compounding of violations was also not recorded in the licences to prevent habitual offences.

### ***1.3.6.10 Suspension of driving licences for over speeding and other serious violations***

The Motor Vehicles Act envisaged different kinds of penalties for violation of different provisions. Over speeding of vehicles was a major cause of road accidents and proper enforcement of speed restrictions could bring down the number of accidents. As per instructions issued by the Transport Commissioner in June 2002 and March 2008, driving licences were to be suspended for a minimum period of three months and six months in cases of over speeding and drunken driving respectively. Though monthly reports on action taken on the suspension or cancellation of driving licences were to be submitted by the field offices to the Commissioner, they were not furnished. Accepting this point, the Commissioner stated (August 2009) that introduction of smart card licences would solve the problems.

**Out of 635 cases reported by the police during 2004-09, action was taken only in 329 cases**

The police department was also reporting cases of violation of Rules to the concerned RTOs for suspension of driving licences. Out of 635 cases reported by the police during 2004-09 in the four districts test-checked, driving licences was suspended in 302 cases, fines were imposed in 27 cases while in the remaining 306 cases no action was taken. Audit found that in 140 out of 302 cases, driving licences were suspended for periods ranging from three to six months with retrospective effect. As a result, in 48 cases, the suspensions did not have any impact on the violators. In respect of 162 cases, the delays in suspension of driving licences were up to 34 months. The MVD did not intimate the Police Department regarding the action taken on the cases reported by them.

When a driving licence is seized by the police to effect suspension or cancellation for rule violations, a temporary authorization is issued to the driver under Rule 26 of the State Rules. The holder of this authorization is not entitled to drive a motor vehicle beyond the period specified therein. However, in all the 306 cases test-checked in RTO, Thiruvananthapuram, the period of expiry of the temporary authorization was not recorded. Thus, in the absence of any expiry period for the temporary authorization, the violators continued to drive the vehicles posing threats to other road users. No action was taken by MVD to suspend or cancel the driving licences also.

### ***1.3.6.11 Deficiency in enforcement due to shortage/defective equipment***

The Human Rights Commission suggested (April 2002) that every district should be provided with one Speed Check Radar per 10,000 vehicles and one breath analyser for every 10,000 driving licences issued. However, the police and MVD together had one Speed Check Radar for every 80,917 vehicles and one breath analyser for every 19,848 driving licences issued. Information received from selected districts revealed that police officials on traffic duty were not supplied with the required numbers of equipment.

**Out of 11 Speed Check Radars purchased during 2004-05, six radars were not used, resulting in idle investment of Rs 34.94 lakh**

Mention was made in Paragraph 3.5.13 of the Report of the Comptroller and Auditor General of India for the year ended 31 March 2006 (Civil) about extra expenditure incurred on purchase of 11 Speed Check Radar Guns during 2004-05. The Radar Guns were distributed to various police stations during April 2005 but remained unpacked till training was organised by the supplier in September 2006. During training, many of the equipment were found to be

defective and the supplier was not ready to repair the same on the plea that the warranty periods had already expired. Out of the 11 Speed Check Radars, six radars costing Rs 34.94 lakh were never used due to defects in the equipment, which resulted in wasteful expenditure. The Transport Commissioner, in response, stated (August 2009) that the radars were not giving accurate data and therefore better equipment was needed.

#### **1.3.6.12 Lack of enforcement on drunken driving**

As per Section 185 of the Motor Vehicles Act, if a driver has 30 mg of alcohol content in 100 ml of his blood while driving or attempting to drive a motor vehicle he is committing an offence. As per data made available to Audit, 42,994 cases of drunken driving were detected by police during the period 2006 and 2007, whereas only in 743 cases (less than 2 per cent) the causes of accidents were reported to be drunken driving.

Superintendent of Police, Thiruvananthapuram (Rural) received 20 breath analysers during the period November 2001 to August 2008 from police headquarters and distributed 10 of them to five Circle Inspectors. It was reported by the Superintendent of Police, Thiruvananthapuram (Rural) that four out of the ten breath analysers distributed were not functioning. During the period 2004 to 2009, only 29 cases were detected by utilising the breath analysers.

Seventy nine breath analysers were purchased against the recommendation of the purchase committee and later found to be of inferior quality

Under the 'Modernising Government Programme'<sup>55</sup>, the Police Department invited (July 2005) tenders for purchase of 83 breath analysers. Out of the four tenders received, the price per piece (Rs 3,796) quoted by M/s K C Services, Chennai was the lowest for their model EDKCA. The technical evaluation committee opined that the model EDKCA offered by M/s K C Services was of no use and was only a showpiece. In spite of this, the department purchased 79 breath analysers of the EDKCA model for Rupees three lakh. Subsequently, the department found that the instruments were of inferior quality and the results were erratic. This resulted in infructuous expenditure of Rupees three lakh.

Thus, the supply of inferior quality breath analysers to the enforcement personnel rendered detection of drunken driving largely ineffective.

#### **1.3.6.13 Erection of arches and hoardings causing threat to road safety**

Arches were installed on busy roads posing threats to vehicles, passengers and pedestrians

The Kerala State Human Rights Commission directed (April 2008) the District Collectors to issue necessary orders banning erection of arches in public places. Erection of arches in public places, especially on busy roads and placing of hoardings on the roadsides obstructed the view of drivers, diverted their attention and cause accidents. It was found that 879 accidents in 2006 and 3025 accidents in 2007 took place due to diversion of attention of drivers. The number of persons killed in these accidents was 51 and 205 and those injured were 1,318 and 4,452 respectively. The District Collector, Thiruvananthapuram issued orders in March 2009 banning erection of arches on public roads. However, it was noticed that the erection of arches continued (June 2009).

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<sup>55</sup> The State Government's programme to overhaul and improve its services to the people.



**1.3.6.14 Short utilisation of Road Safety Fund**

Rupees 24.02 crore remained unutilised in the Kerala Road Safety Fund

As stated earlier the Kerala Road Safety Fund (Fund) was to be set up as per the Kerala Road Safety Authority Act. However, the Kerala Road Safety Fund Rules (Rules) were notified only in December 2007, after a delay of nine months. Under the Rules, one time cess collected from vehicle owners and 50 per cent of the compounding fees collected during the previous year was to be transferred to the Fund every year. As at the end of March 2009, the Fund had a corpus of Rs 24.41 crore. Due to delay in issue of Rules, only Rs 38.75 lakh could be spent from the fund towards road safety activities and the balance of Rs 24.02 crore remained unutilised (June 2009).

**1.3.6.15 Lack of co-ordination in creating awareness**

Road policy approved by State Government in January 2006 envisaged the starting of awareness programmes among the public regarding road safety through the KRSA and other organisations. It was observed that:

- The Police Department and MVD were conducting road safety weeks once in a year. During this week, MVD was also imparting awareness training to drivers, students, teachers and the general public. These programmes were however, not continued after the completion of the road safety week, which rendered them ineffective.
- The Kerala State Road Safety Council decided (November 2000) to include road safety aspects in the State's school syllabus from the primary level. However, the subject was included in the text books of Classes 3,5,6,7 and 8 only during 2009. The Director, SCERT stated (May 2009) that directions were issued to include road safety aspects in the text books of Classes 9 and 10.
- KRSA decided in December 2008 to establish Road Safety Clubs in all schools in the State. However, such clubs were started only in 57 out of 3,943 schools in the selected four districts as of 31 March 2009. Moreover, there was no uniformity and co-ordination in the activities of the Road Safety Clubs. In response to this, the IG (Traffic) stated (August 2009) that action was being taken to create more clubs.
- CCARP decided (August 2007) to give wide publicity on road safety by telecasting one-minute visual media programmes through Kerala State Transport Project and the Police Department. However, the programmes had not been prepared for telecast (June 2009).

There was no uniform and co-ordinated effort to form Road safety Clubs in schools

Thus, the task of creating road safety awareness among the public had not been taken up in a systematic and planned manner by any agency so far. Moreover, different agencies were conducting awareness programmes independently without co-ordination. This could result in ineffective campaigning against the hazards of drunken driving, not wearing helmets/seat belts, using mobile phones while driving, improper lane driving habits, disobeying traffic signals, etc.

**1.3.6.16 Delays in road restoration works**

There were delays upto 23 months for restoration of cut roads

The Thiruvananthapuram District Public Utility Co-ordination Committee was constituted under the chairmanship of the District Collector for granting permission to various agencies seeking permission for digging of roads.

However, there was no system to ensure that the cut roads were restored without delay. In the cases of works arranged by the Roads Division of PWD, Thiruvananthapuram, delays up to 23 months were noticed in 106 out of 228 road restoration works. Considering the delays in completion of restoration works, the Government issued an order in May 2009 directing the agencies to complete the work of cutting and restoration within 15 days from the date of granting permission for the works, failing which penalty of Rupees one lakh per day would be payable by the concerned agencies. Inordinate delays in restoring road cuts could increase the number of accidents due to overturning and skidding of vehicles in the unrestored portions.

### **1.3.6.17 Non-completion of black spot rectification**

A junction or reach of a road where more than three major accidents take place in a year is identified as a 'black spot'. The responsibility for identification and rectification of black spots rests with the PWD. As per the recommendations of the Co-ordination Committee for Accident Reduction Plan, black spots are to be identified and rectified regularly. As of May 2008, PWD had identified 321 black spots in the 14 districts of the State. Of these, 137 black spots were rectified at a total cost of Rs 10.81 crore while the balance of 184 (57 per cent) black spots had not been rectified till May 2008.

List of black spots kept with PWD was not exhaustive

Audit also found that the list of black spots kept with the PWD was not exhaustive as it did not include black spots identified by the Police Department. The PWD had no system to collect details regarding black spots from other departments. In response to Audit, the Transport Commissioner stated (August 2009) that the total number of black spots identified by MVD were 896 and corrective action was being taken in this regard. PWD agreed (August 2009) to collect and include the information from other departments in their list.

### **1.3.7 Accident Care**

#### **1.3.7.1 Incomplete accident information**

The State Crime Records Bureau (SCRB) is the main source of accident information in the State and no other department maintains a comprehensive information system for collecting and compiling road safety parameters and accident-related data for further analysis by different departments such as PWD, Police and Motor Vehicles.

Audit observed that accident data maintained by SCRB did not represent the true picture of accidents in the State as it contained data taken only from the FIR registered on the accidents. The following accident types were not captured in the system:

- minor accidents where only General Diary (GD) entries were captured by the police stations,
- accidents settled between the parties without GD entry or FIR, but police was informed or was aware of the accident,
- accidents where the police were not informed initially by either parties but were later informed through witnesses or the local community,
- unknown accidents where no one reported to the police and

- antecedents of the victims and violators involved in accidents for criminal investigation to bring out motives of sabotage.

Thus effective monitoring and planning for accident reduction was not possible. In response to Audit, the IG (Traffic) stated (August 2009) that the cases entered in the general diary were only minor in nature.

### **1.3.7.2 Geographical Kerala Accident Management System**

With a view to supporting the development of road safety and traffic enforcement programmes of the PWD and the Police Department, KSTP purchased (2004) a software viz., the ‘Geographical Kerala Accident Management System (GeoKAMS) at a cost of Rs 18.50 lakh from M/s IBS Technologies. The Police Department installed the software at Thiruvananthapuram City traffic police station and decided (July 2006) to instal the same in 57 MGP<sup>56</sup> police stations also. The system was meant for storing details of road accidents captured in the police stations in the main server and to make available to the enforcement agencies and other stakeholders, the required information for planning and implementation of the road safety accident reduction plan. The following points were noticed in audit:

- Though it was decided to instal the software in 57 MGP police stations, it was installed only in 44 MGP police stations and three city traffic stations. Three lakh accident report forms printed and distributed to these police stations were not used in all the police stations. In some cases where these forms were used, the data was incomplete.
- GeoKAMS was developed as a ‘Desktop Software’ which required separate installation in each computer and essentially functioned as a stand-alone unit and was located in different locations throughout the State without any connectivity. Thus, sharing of data with other stakeholders was not effective.
- When these deficiencies were pointed out by the Chief Engineer, PWD (R&B and IT), the IGP stated (September 2008) that the Police Department was not keen to implement the present GeoKAMS system because of a lot of technical flaws. He had requested (July 2008) the Secretary, PWD for installation of new web-based software on the Road Safety Management System (RSMS) developed by IBS. As the hardware, costing Rs 9.79 lakh, purchased in May 2007, meant for GeoKAMS were not used, the IGP ordered (October 2008) to reallocate the same to the Forensic Science Lab (FSL), the Cyber Cell and SCRB.

**Software purchased for accident management system for Rs 18.50 lakh remained idle**

Thus, the purchase and installation of the software did not serve the intended purpose and the expenditure of Rs 18.50 lakh incurred thereon became wasteful. This was primarily due to lack of a proper system development procedure adopted by KSTP before procuring the computer.

### **1.3.7.3 Ineffective emergency response and trauma care**

Emergencies due to road accidents require a co-ordinated response from various departments such as Police, Medical and Fire and Rescue Services.

<sup>56</sup> Modernising Government Programme.

More than 50 per cent of all accident mortality takes place within the first hour of occurrence of the accident viz. the 'golden hour'. According to the recommendations (October 2007), of the CCARP, a policy on emergency management services and accidents was to be initiated by the Department of Health and Family Welfare. In spite of this, the Government did not provide emergency management services in the hospitals. Trauma resulting from road accidents remained the most common cause of death among people who died at less than 35 years of age.

Fifteen hospitals located near the national highways and major district roads in the selected districts referred 3326 major accident cases to the Medical College Hospitals and other major hospitals during the period from January 2007 to May 2009 which indicated that the emergency care facilities available for road accident cases were inadequate. Due to the lack of equipment for diagnosis and surgical treatment, accident victims did not get critical care during the 'golden hour' that could have saved their lives.

Based on a decision (June 2002) of the Road Safety Council to strengthen emergency management in health services, the Director of Health Services submitted a proposal for establishing 20 Primary, 22 Secondary and four Tertiary level trauma care units in the District Hospitals, Taluk Hospitals and Primary Health Centres. A detailed Implementation Plan for an estimated cost of Rs 35.52 crore was also submitted to the Government in December 2004. However, no decision was taken by Government on this (September 2009).

Government of India had sanctioned (2004-2007) grant-in-aid of Rs 5.91 crore to four hospitals<sup>57</sup> for capacity building for upgradation and strengthening of emergency facilities. The amount was for purchase of well-equipped ambulances and other essential equipment required for accident and trauma care services. The status of implementation of the projects was as follows:

**Table 1.14: Status of upgradation and strengthening of emergency facilities**

Name of hospital	Amount sanctioned	Expenditure	Year of sanction	Stage of implementation
	(Rs in lakh)			
Medical College, Kottayam	146.25	127.42	2005-06	Furnishing of the building not completed. Equipment costing Rs 73.96 lakh was purchased. Trauma Care Ward has been functioning near casualty as a temporary measure.
Medical College, Thiruvananthapuram	144.86	97.49	2004-05	Rupees 36.94 lakh was spent on civil and electrical work but the building was not being utilised as a Trauma Care Centre. Equipment costing Rs 60.55 lakh had been purchased and was being used in different departments.
District Hospital, Palakkad	150.00	46.19	2006-07	Civil works not completed
Taluk Headquarters Hospital, Neyyattinkara	150.00	45.07	2006-07	Civil works not completed

Source: Information received from the Director of Medical Education and the Director of Health Services

Though funds were released during 2004-07, emergency facilities in the above hospitals had not been upgraded and strengthened (September 2009).

#### **1.3.7.4 National Highway Accident Relief Service Scheme**

Under the National Highway Accident Relief Service Scheme, the Ministry of Shipping, Road Transport and Highways allotted six ambulances and six

<sup>57</sup> Medical College, Kottayam, Medical College, Thiruvananthapuram, District Hospital, Palakkad and Taluk Headquarters Hospital, Neyyattinkara.

cranes to the Transport Commissioner, Kerala in December 2004 and February 2005 which were distributed to six NGOs based on selection criteria approved by the GOI. Of these, one crane (Rs 19.81 lakh) allotted to Abhaya Charitable Society, Kollam was seized (September 2006) by MVD for unauthorised use and handed over to police. The crane was still in police custody (July 2009). In March 2005, GOI requested the Transport Commissioners of all States to send requirements of cranes and ambulances for rescue operation from two NGOs from each State. Accordingly, the Transport Commissioner, Kerala forwarded (June 2005), an application for cranes and an ambulance received from the Association for Welfare of the Handicapped, Kozhikode. Even though the ambulance costing Rs 8.60 lakh was allotted in 2007, it had not been registered in the name of the Transport Commissioner and put to use (June 2009) as the invoice was in the name of the NGO.

### 1.3.7.5 Motor accident claims

As per Section 140 of the Motor Vehicles Act, the owner of any vehicle involved in an accident has to make payment of compensation for the death or permanent disablement of any person resulting from that accident and to ensure payment of compensation against third party risk. No person should use a motor vehicle unless a policy of insurance is in force for the vehicle. The Act further provides that claims for compensation should be disposed of as expeditiously as possible.

The table below indicates the number of motor accident claim petitions filed, the number of claims disposed of and the number of claims pending during the five-year ending 31 March 2009.

**Table 1.15: Position in disposal of cases by Motor Accident Claims Tribunal (MACT)**

Year	Number of MACT Cases			
	Opening Balance	Filed	Disposed	Closing balance
2004-05	1,51,107	56,008	47,024	1,60,091
2005-06	1,60,091	52,096	54,275	1,57,912
2006-07	1,57,912	48,112	52,597	1,53,427
2007-08	1,53,427	43,710	53,860	1,43,277
2008-09	1,43,277	41,662	48,034	1,36,905

Source: Data from Kerala High Court

**1.37 lakh cases of motor accident claims were pending settlement in MACT at the end of March 2009**

During the period from 2006 to 2009, clearances by the Tribunals were more than the filing of claims, bringing down the number of pending claims from 1.58 lakh to 1.37 lakh. At the current disposal rate another three years would be required for clearance of 1.37 lakh claims.

### 1.3.8 Monitoring

#### 1.3.8.1 Lack of a proper system for monitoring and coordination

Section 135 of the Motor Vehicles Act, envisages that the State Government may make one or more schemes to provide for an in-depth study on the causes and analyses of motor vehicle accidents with the approval of the State Legislature. No such schemes had been formulated till June 2009. As per the existing practice, the accident data were collected only from FIRs. No in-depth studies on the causes of accidents were conducted either by the MVD or by the NATPAC and no corrective measures taken periodically.

No data management system on accident related parameters existed

As per the Road Policy 2006 issued by the Government, a systems approach was to be adopted in data collection, compilation and updation for analysis using the comprehensive system. However, it was noticed that there was no data management system relating to accident-related parameters in the Public Works, Motor Vehicles or Police Departments. The Chief Engineer (Roads and Bridges) did not have a system to compile information on black spots, road cutting, restoration, etc, for monitoring the work on a regular basis. Similarly, lack of an integrated licensing and enforcement database for both police and MVD resulted in ineffective planning, coordination and monitoring by other agencies involved in road safety related activities.

Further, recommendations of the committees constituted by the State Government for co-ordinating road safety activities were not effectively implemented because these issues were not pursued by conducting meetings regularly.

#### **1.3.8.2 Lack of control over driving schools**

RTOs/Joint RTOs were not conducting inspection of the driving schools as prescribed

The Transport Commissioner directed (February 2004) all RTOs to inspect at least one driving school in a month and Joint RTOs to inspect all driving schools once in six months and report on their functioning. Audit observed that the inspections were not conducted by the concerned RTOs/Joint RTOs as prescribed. This indicated lack of proper control over the functioning of the driving schools. The Commissioner stated (August 2009) that shortage of manpower was the main reason for not conducting regular inspections of the driving schools.

#### **1.3.9 Conclusion**

Government did not make concerted efforts to co-ordinate the activities of the various committees involved in road safety activities. Shortage of enforcement officers and lack of equipment and training diluted the enforcement of rules and regulations. There was no mechanism to identify habitual offenders of traffic rules and to impose penalties. Road safety awareness programmes lacked sufficient planning. Delays in road restoration works increased the risk of road accidents. GeoKAMS, the software for supporting road safety and traffic enforcement programmes did not serve the intended purpose. Emergency care services in the State were poor. Motor Accidents Claims Tribunals had the burden of clearing 1.37 lakh cases pending as at the end of March 2009.

#### **1.3.10 Recommendations**

- Government should review the multiplicity of committees in the field of road safety and the Kerala Road Safety Authority should be given adequate financial and executive powers for ensuring proper coordination between the various concerned agencies.
- Enforcement of the provisions of the Motor Vehicles Act and Rules should be strengthened by deploying sufficient and dedicated manpower in the Motor Vehicles and the Police Departments.
- A centralised database of accident details should be created by State Crime Records Bureau and the Motor Vehicle Department with a provision for sharing the data among the other regulating agencies.

- Government should frame a trauma care policy and create facilities for emergency management.
- A common hotline facility should be provided to the Motor Vehicles Department and the Police Department to receive information on road rage, over speeding, other violations, occurrence of accidents, etc., from the public and the hotline number should be displayed prominently on the rear side of all public transport vehicles.

The above points were referred to Government in September 2009. Reply had not been received (October 2009).

## INFORMATION TECHNOLOGY DEPARTMENT

### 1.4 IT Audit of Akshaya, an e-Governance Project of Government of Kerala

#### *Highlights*

*Akshaya, an ongoing e-governance project for providing Information Communication Technology accessibility and services to the citizens of the State aims to bridge the gap between 'the information rich and the information poor'. The project involves setting up of Information Communication Technology enabled centres called Akshaya e-kendras run by private entrepreneurs selected for the purpose. A review of the performance of the project revealed various shortfalls/deficiencies, viz., inadequate planning at various levels, inadequate monitoring during implementation, lack of coordination among Government departments, etc., resulting in non-sustainability of the e-kendras.*

- **Imparting 100 per cent e-literacy to every household, the primary objective of the project, was not completed even after three years. Only 28.62 lakh (41 per cent) out of the targeted 69.83 lakh households had been trained so far.**

*(Paragraphs 1.4.10.1 and 1.4.11.1)*

- **Owing to the low turn-out of beneficiaries in the roll-out phases, Rs 39.56 crore transferred from Local Self Government Institutions to the project remained idle.**

*(Paragraph 1.4.11.3)*

- **Due to improper selection of beneficiaries, 93.14 per cent of the sponsored candidates from among the socio-economically marginalised sections of society did not complete the e-vidya course.**

*(Paragraph 1.4.13.1)*

- **Insufficient server capacity led to overloading of the server on peak days of e-payments. A non-secured site was used for financial transactions and users were compelled to share passwords since the required number of user ids was not provided.**

*(Paragraphs 1.4.15.2, 1.4.15.3 and 1.4.15.4)*

- **The e-kendras could not perform the role of e-governance since the backend providers of information, ie. Government departments, were not ready for dissemination of information even after six years of implementation of the project.**

*(Paragraph 1.4.16)*

- **As against the targeted employment generation of 50,000 jobs and direct investment of Rs 500 crore by the Government, local self-government institutions and Akshaya Centre Entrepreneurs during 2003-06 the achievement was only 6,818 and Rs 124.46 crore respectively.**

*(Paragraph 1.4.19)*



### 1.4.1 Introduction

Government of Kerala launched (November 2002) the ‘Akshaya’ project, aiming to improve governance and ensure delivery of essential services to citizens in terms of e-technology enabled information and communication, particularly for the benefit of disadvantaged sections of society. The project involved setting up of around 9,000 multipurpose community technology centres called Akshaya Centres (e-kendras) across the State which were the facilitation centres of the project. Akshaya Centre Entrepreneurs (ACEs)<sup>58</sup> were to set up these e-kendras. The project catered to 65 lakh families. The proposed number of e-kendras across Kerala were subsequently (April 2005) reduced to 3,000.

#### 1.4.1.1 Delivery model planned for e-kendras

Akshaya aims at three types of service delivery models towards achieving sustainability. The first type comprises five core services in the model of ‘Government to Citizens’ (G2C). These services are (1) imparting training, (2) disseminating information, (3) enabling e-transactions, (4) facilitating e-governance and (5) acting as a communication hub. The second type relates to industry/business in the model of ‘Business to Consumers’ (B2C). Under this, e-kendras are at liberty to have tie-ups with various companies/business units to facilitate the services provided by them. The final type of models has a social perspective and provides room for social activities like clubs for kids, farmers, unemployed youth and women. The e-kendras were also endeavouring ‘Citizens to Citizens’ (C2C) services like establishing a networked farmers community throughout Kerala having access to information on market demand, prices, good agricultural practices, etc. They were also to help farmers for direct sale of their products without any intermediaries.

### 1.4.2 Organisational Set up

The Akshaya project is implemented through the Kerala State IT Mission (KSITM) and is governed at the apex level by the Information Technology Department headed by a Secretary who is also the Chairman of KSITM. Akshaya has a Director at the State level and district project offices in all districts, headed by Assistant District Coordinators. District Collectors act as District Coordinators who are vested with the responsibility of financial transactions.

The District Project Office, Malappuram, from where the activities are piloted, has been given the status of a State Field Office and is directly under the control of KSITM.

### 1.4.3 Objectives of the project

Akshaya was envisaged to achieve the following basic objectives:

- Ensuring access points for Information and Communication Technology (ICT) services to all sections of the society located in the remotest parts of the State so as to bridge the digital divide between the information rich and the information poor.

<sup>58</sup> Entrepreneurs selected under the project from the locality who were to function on the social entrepreneurship model for running the e-kendras.

- Providing e-literacy training to at least one member each in 65 lakh households.
- Facilitating locally relevant content and delivery of services such as e-transactions and e-governance.
- Generating over 50,000 employment opportunities and direct investment of over Rs 500 crore in three years.

#### **1.4.4 Financial Status**

Up to March 2009, Government incurred an expenditure of Rs 11.78 crore for the implementation of the project. Funds provided by Local Self Government Institutions (LSGI) were Rs 61.69 crore for e-literacy and e-learning activities.

#### **1.4.5 Scope of Audit**

Performance audit of the e-governance project, Akshaya, was conducted during May to August 2008 and covered Malappuram and Kannur districts in addition to KSITM and the State Project Office. A draft performance audit report was issued (September 2008) to which the Government replied in October 2008. Since project activities had not been implemented throughout the State by 2008, a further review was conducted during July-August 2009 covering four<sup>59</sup> out of 14 districts to especially examine the effectiveness of remedial measures stated to have been initiated by the Government.

#### **1.4.6 Audit Methodology**

As this is an e-governance project envisaged to convey the potential benefits of Information Technology to the general public, especially the rural masses through e-kendras, Audit mainly concentrated on the formation, management and functioning of these e-kendras. For this, visits to selected e-kendras and interviews with the field staff and entrepreneurs on the basis of a questionnaire prepared for the purpose, were undertaken. The validity of the survey findings were ensured by cross-checking the information with that of the project offices. In addition, analysis of the Akshaya household database using CAATs<sup>60</sup>, and examination of IT security of the network application and software for e-payment were done. An entry conference was held with the Secretary, Information Technology Department in January 2008. An exit conference was also held with the Secretary in October 2009.

#### **1.4.7 Audit Objectives**

The main objectives of audit were to examine whether the project succeeded in achieving the envisaged socio-economic development in general and in particular whether:

- ICT services could be provided to the entire rural population bridging the digital divide and whether entire households were covered under the e-literacy programme;
- the five core services were effectively implemented;
- e-kendras were economically viable to ensure sustainability to deliver the intended services to citizens;

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<sup>59</sup> Ernakulam, Kollam, Kozhikode and Malappuram.

<sup>60</sup> Computer Assisted Audit Techniques.

- the contents developed were useful, adequate and were effectively delivered to the citizens and
- the envisaged employment opportunities and direct investment in the project were achieved.

#### **1.4.8 Audit Criteria**

Audit depended on the project vision documents, guidelines and Government orders issued in this respect.

#### **1.4.9 Acknowledgements**

We would like to place on record our sincere thanks for the cooperation extended by the Government of Kerala, KSITM, Akshaya State Project Office, District Project Offices, especially the State field Office, Malappuram and the ACEs, who participated in the field survey.

#### **Audit Findings**

Audit noticed certain deficiencies in planning and implementation of the project. Some important findings are listed below.

#### **1.4.10 Digital divide: Rural coverage**

##### **1.4.10.1 Delay in implementation**

During November 2002, the Government of Kerala sanctioned the implementation of the project at an estimated cost of Rs 1.50 crore. The project was officially inaugurated by the President of India on 18 November 2002 and commenced in Malappuram District as a pilot project.

The e-kendras were envisaged to be run by ACEs selected for the purpose. The e-kendras were opened in locations proposed by local bodies with necessary infrastructure. The e-kendras were supposed to cater to the requirements of around 2000-3000 families. The initial activity, e-literacy envisaged training of one member from each household that had no e-literate member. For imparting e-literacy, an entrepreneur was paid Rs 140<sup>61</sup> per trainee and the amount was shared by the Local Self Government Institutions (LSGI) and the trainee at the rate of Rs 120 and Rs 20 respectively. Malappuram district was declared 100 *per cent* e-literate on 31 March 2004.

Followed by e-literacy, e-learning and e-pay programmes were introduced in Malappuram after a break of about two years. The project covered seven<sup>62</sup> districts in 2006 and the remaining six<sup>63</sup> districts in 2007. In the roll-out phases, all the programmes were taken up simultaneously. The first phase programme viz. imparting e-literacy to citizens had not been completed in 13 out of 14 districts in which the programme was rolled out in the first and second phases, even after three/two years respectively. Implementation of the follow-up activities viz. e-learning and e-payment programmes were not completed in six districts in the second phase (August 2009).

<sup>61</sup> The contribution was reduced to Rs 120 in a ratio of 80:40 after the State-wide roll-out.

<sup>62</sup> Ernakulam, Kannur, Kasaragode, Kollam, Kozhikode, Pathanamthitta and Thrissur.

<sup>63</sup> Alapuzha, Idukki, Kottayam, Palakkad, Thiruvananthapuram and Wayanad.

Implementation of each stage of the Akshaya project was *ad hoc*

Implementation of each stage was *ad hoc* in the absence of a project report detailing the strategies, target dates for completion of e-literacy, phases of roll-out, further services to be provided to citizens, steps for ensuring sustainability of e-kendras, etc. No social impact study was conducted on the pilot project before the project was rolled out. Empowerment of the State Project Office and the District Project Offices to enforce control measures and issue guidance was not done. Coordination of all the departments/LSGIs/bodies concerned was not ensured. All of these were found to be the reasons for the delays in implementation.

KSITM stated (October 2009) that the e-payment and e-learning programmes were implemented on the basis of demands from the local areas. This reinforces the conclusion that the implementation was on *ad hoc* basis.

#### 1.4.10.2 Non-representation of e-kendras in rural areas

According to the existing directions of the State Project Office, one e-kendra each was to be established to cater to 2000-3000 households in every LSGI. Accordingly, every Grama Panchayat (GP) was to have two<sup>64</sup> e-kendras to deliver the envisaged services to citizens. However, the representation of e-kendras in the GPs was found to be as shown below:

**Table 1.16: Representation of e-kendras in GPs**

Number of GPs with two or more e-kendras	602
Number of GPs with one e-kendra	346
Number of GPs with no e-kendra	51

Source: Details furnished by Director, Akshaya

The shortage or non-representation was caused either due to closing down of unviable e-kendras or lack of volunteers interested in opening new e-kendras.

In remote and rural areas, which lacked sufficient transportation facilities, e-kendras were not functioning effectively as they were not able to sustain themselves due to insufficient income.

Districts like Idukki and Wayanad are unevenly populated because of their hilly topography. Since e-kendras were limited to two each in a GP, citizens of these districts, who required the services most, could not avail of ICT services. These areas are sparsely populated and as a result, the number of people utilising the services rendered by e-kendras were less. So it was difficult for the ACEs to operate within the limited income generated by the available activities/facilities.

#### 1.4.11 e-literacy

##### 1.4.11.1 No source data to identify the eligible beneficiaries

Only 41 per cent of the targeted households was trained

The primary objective of the project was to make at least one person computer-literate in every household in the State. For achieving the objective, Government directed the Local Self Government Department to provide funds for the project for imparting e-literacy training at Rs 80 per trainee. Imparting e-literacy training at subsidized rates to more than one member in a family or

<sup>64</sup> Average population of a GP is taken as 6000-7000; so number of e-kendras in a panchayat is fixed as two.

to a member from a family where computer literates were already available was not envisaged. Government claimed that 28.62 lakh (41 *per cent*) families were trained under the scheme. The targeted number of households was stated to be 69.83 lakh on the basis of electoral rolls. However, no list of eligible households was available with the project. An amount of Rs 21.86 crore was spent on e-literacy alone. In the absence of the source database, payments made to ACEs could not be checked in audit. KSITM stated (October 2009) that the beneficiary list was based on the Census 2001. However, none of the auditee units was able to produce the list to Audit.

#### **1.4.11.2 Irrelevance of e-literacy in the roll-out phase**

Only 35.84 *per cent* of households joined the e-literacy training in the roll-out phases

The intention of the Government through the e-literacy programme was to provide e-literacy training to at least one member of each household, which did not have even a single e-literate member. However, the programme became insignificant in the roll-out phase due to the fast penetration of IT even in villages, mostly because of the compulsory and formal IT education introduced in schools. This was evident from the fact that only 35.84 *per cent* of households joined the course in the roll-out phases.

#### **1.4.11.3 Idling of funds transferred from Local Self Government Institutions**

Rupees 39.56 crore transferred to the project by the LSGIs remained idle

Owing to low response to the training programmes in the roll-out phases, funds to the tune of Rs 39.56 crore transferred by the LSGIs to the project remained idle in the project account for years. No decision was taken (August 2009) by the Government to re-allocate funds for other purposes. KSITM stated (October 2009) that the issue was under consideration.

#### **1.4.12 Unrealistic estimation of income**

A vision document published in the official website of Akshaya project, contained an income generation model for e-kendras from project activities. Accordingly, the monthly average net income of an ACE was projected to be Rs 9,000. However, the result of a field survey<sup>65</sup> conducted by Audit revealed that they were incurring a loss of Rs 1,069 per month on an average. A comparative analysis of the claims of the project and the audit findings are given in **Appendix III**. As evident from the analysis, the major income was derived from activities of their own and not from the programmes of Akshaya.

The vision document also envisaged reduced electricity tariff rates to ACEs at the rates applicable for educational institutions. However, it was observed that though the e-kendras were struggling with the problem of non-sustainability, Kerala State Electricity Board (KSEB) imposed commercial tariff on electricity consumed by e-kendras.

#### **Five core services**

The five core roles envisaged to be performed by e-kendras were those of training centres, information kiosks, e-transaction centres, e-governance cells and communication hubs.

<sup>65</sup> Sixty e-kendras in four districts were surveyed in July-August 2009.

### 1.4.13 Training

#### 1.4.13.1 e-vidya course

The main course developed as a follow-up training programme for the new e-literates viz. e-vidya<sup>66</sup> attracted less public response. The reasons for this were that the course content was too basic and that it lacked accreditation by any reputed agency and had no value in the job market.

93.14 per cent of the sponsored candidates dropped out from the e-vidya course

LSGIs earmarked funds for sponsoring women and socio-economically marginalised factions of the society for undergoing the e-vidya course. Selection of beneficiaries was also done by the LSGIs concerned. No minimum eligibility conditions were fixed for selection of candidates. Selection of candidates without considering their willingness, aptitude and minimum qualification resulted in a dropout rate of 93.14 per cent among the sponsored candidates. This resulted in deprivation of income for the ACEs.

#### 1.4.13.2 Lack of a comprehensive structured courseware

The vision document of the Akshaya project envisaged e-kendras to conduct courses like spoken English, Arabic Typing Tutor, hardware assembling and maintenance, e-tuitions, etc. However, no courseware was developed by the project except Arabic Typing Tutor and spoken English.

### 1.4.14 Information kiosk

One of the key roles of e-kendras was to function as information disseminators so that citizens living in rural areas and places far away from district/State Headquarters could get the required information from Government offices right from the Government Secretariat to village offices through their nearby e-kendras. It was found that many Government departments and other institutions had hosted information, forms, etc. which were required by the public on their websites. Dissemination of information to the public was, however, not done effectively by the e-kendras due to the following reasons:

- i) Directions were not given by the Government to their various departments, public sector institutions, LSGIs, etc., to provide the required information to the e-kendras.
- ii) Adequate publicity was not given by Government regarding the availability of facilities in the e-kendras so that citizens could approach these e-kendras for their needs.
- iii) The ACEs were not fully aware about the scope of services which they had to provide to the public. They were not trained to effectively liaise with departments/institutions for collecting the information to disseminate to the public.

Only two e-kendras were providing help desk activities in the State

The e-kendras were envisaged to act as front offices of Government departments and other public institutions. The services intended to be provided, *inter alia*, were issuing of forms relating to the services offered, and help desk activities like helping/advising citizens to fill forms, to prepare applications/requests/complaints etc. in specific prescribed formats. These

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<sup>66</sup> An MS Office tutorial package developed in vernacular mainly as a self learning package requiring less assistance of a tutor. Course fee was Rs 450 with an additional Rs 50 as examination fee.

activities would not only help the public especially illiterates, but also the Government departments. Audit found that, only two e-kendras<sup>67</sup> were providing help desk activities in the entire State. KSITM stated (October 2009) that action was being taken to implement the recommendations of Audit regarding the extent of information that can be disseminated through the e-kendras, issue specific directions to all departments/other public institutions involved in providing such information to e-kendras and also provide adequate publicity about the services/information that can be available in the e-kendras.

#### **1.4.15 e-payment**

The objective of introducing e-payment was to extend FRIENDS<sup>68</sup> services, which were located only in district headquarters, to rural and remote places. The various e-services intended to be included were e-transactions in respect of various utility bills, university fees, flight/train/bus tickets, etc.

##### **1.4.15.1 Limited coverage of utility bills**

Arrangements were made in the e-kendras for e-payment of utility bills/fees in respect of BSNL<sup>69</sup>, KSEB, the Kerala Water Authority and Calicut University. The other e-pay facilities available in FRIENDS centres such as those for building tax, property tax, land tax, road tax and fees etc. had not been extended to the e-kendras so far.

While BSNL gave commission at Rupees five per bill, ACEs were permitted to collect Rupees five per bill from the consumers in respect of all other bills in addition to the bill amounts. The commission received from making e-payments after deducting service tax was the main source of income to the ACEs from the envisaged activities.

According to the State Project Office figures, the average number of bills received for e-payment by an e-kendra in a month was 116, involving an average total cash transaction of Rs 42,108 and average total commission of only Rs 520. Had all the e-pay facilities available in the FRIENDS centres been extended to e-kendras, they would have succeeded in attracting more public support and become financially viable. KSITM stated (October 2009) that about 10 more services were planned for introduction at the Akshaya Centres.

##### **1.4.15.2 Server issues**

ACEs were provided login access to the Akshaya server through <http://www.e-kendra.org> for facilitating e-transactions. Utility bills were generally received by ACEs in large numbers on or close to the pay-by-dates. Owing to heavy net traffic on these days, the server became so busy that the ACEs found it difficult to make e-payments in respect of all the bills they had collected. The initial server capacity made available for starting e-transactions in Malappuram district in the pilot phase was not enhanced to meet the increased demands even after rolling out the scheme to the entire State. (August 2009).

**Server capacity in the roll-out phase remained the same as in the pilot phase**

<sup>67</sup> One in the District Collectorate and the other in the office of the Superintendent of Police, Kollam.

<sup>68</sup> Fast, Reliable, Instant, Effective, Network for Disbursement of Services (FRIENDS), an e-service project of the State Government set up in all district headquarters for enabling payment of utility bills.

<sup>69</sup> Bharat Sanchar Nigam Ltd.

Audit observed that as the ACEs had difficulty in remitting the bills on peak days, they had to restrict the number of bills on the last dates causing hardship to the public. KSITM stated (October 2009) that action was being taken to solve the problems.

#### **1.4.15.3 Non-secured site for financial online transaction**

Financial transactions enabled through web-based applications require secured websites, capturing of IP addresses, use of complex passwords, etc. Storage of transaction details and log files can act as an audit trail in locating unauthorised activities and for initiating timely remedial measures. Compromise in any of these control measures would lead to the risk of unauthorised access to the system and consequent malpractices.

**Financial transactions were carried out through an unsecured website**

The website of Akshaya enabling e-payment was seen as a secured one - <https://www.e-kendra.org/pay/login/login.aspx>. However, immediately after the login procedure, the site was seen to be proceeding to a non-secured site viz. <http://www.e-kendra.org/pay/akshaya/hhdetails.aspx>, wherein e-payments involving financial transactions were made. On this being pointed out in audit, KSITM stated (October 2009) that financial transactions were carried out through the State Bank of India (SBI) website and not through the Akshaya website (e-kendra.org). However, it was found that the transactions were carried out through the Akshaya web site which proceeded to a non-secured site. Thus, the particular webpage where financial transactions were being carried out was an unsecured one.

#### **1.4.15.4 Risk of fraud due to sharing of password**

**There was risk of fraud due to sharing of password**

Access to the Akshaya server was permitted to the ACEs and user ids and passwords were given to them for the purpose. The ACEs deployed employees for making e-transactions. Despite demands from them for additional user ids, only one user id was provided to an e-kendra, forcing them to share passwords among them. There was no provision to capture the IP addresses of computers from which logins were permitted. This could lead to malpractices being committed by employees without leaving an audit trail. Audit observed that in respect of an e-kendra in Malappuram district, one of the employees was logging on to the ACEs account and made e-payment of bills debiting the bank account of the ACE without his knowledge. By the time the ACE detected the malpractice, his account was siphoned of to the extent of above Rs 10,000. In the survey conducted by Audit two other ACEs also stated that similar type of incidents occurred in their centres. On this being pointed out, Government stated (October 2008) that new e-payment software was being developed for secured e-transactions. However, the new software had not been installed (August 2009).

#### **1.4.15.5 Denial of e-filing facilities to the ACEs**

**Commercial Taxes Department restricted the facility of e-filing of returns to some ACEs in some districts**

The Commercial Taxes Department allows online filing of tax returns. Some e-kendras have been authorised to provide e-filing services in respect of commercial tax returns, for which they have been given user ids and passwords by the department. ACEs are paid a commission of Rs 23 per case by the department. The facility is convenient for traders, especially those who do not have internet facilities of their own. Though the Government wanted to extend this service to all the ACEs, it was observed



that the Commercial Taxes Department restricted the facility to 58 out of 177 e-kendras in Kozhikode district.

#### **1.4.16 e-governance cell**

One of the objectives of the project was to convert e-kendras as last mile units for e-governance delivery in respect of the following:-

- i) public grievance redressal system
- ii) decision support system
- iii) online processing of application
- iv) information dissemination services
- v) digital extension of campaign/awareness programmes

However, none of the above services were available to the citizens since the backend providers of information were Government departments, which were not ready for dissemination even after six years of implementation of the project.

#### **1.4.17 Communication Hub**

The e-kendras were envisaged to perform the role of communication hubs, through which ICT based communication facilities were to be provided to citizens reaping benefits of the intranet. Programmes like ‘District Collector online’ by which citizens in remote localities and far-off places could communicate with the District Collector through the Akshaya intranet, seeking redressal of their grievances, were envisaged to be made available. However, except for a wireless network connectivity provided in Malappuram district, no other e-kendras were networked through intranet. Even in Malappuram, no intranet services were made available to the public and the available wireless connectivity has also ceased to exist (July 2009). The role of e-kendras as communication hubs was, therefore confined to only internet browsing centres.

#### **1.4.18 Non-achievement of target in respect of locally relevant content development**

The project envisaged enabling citizens to effectively acquire knowledge through a robust information system, including locally relevant information pertaining to each Grama Panchayat. Rupees one crore for every district was envisaged to be set apart for the development of locally relevant content. However, only general topic compact disks (CDs) on agriculture, health care, education, career and law were developed in 2002, at a total expenditure of Rs 57.02 lakh. The CDs were made available to all the e-kendras for public viewing. Eighty five *per cent* of the ACEs surveyed stated that these CDs attracted little response from the public.

#### **1.4.19 Non-achievement of target on employment generation**

One of the objectives of the project was generation of over 50,000 employment opportunities during the first three years (2003-06) of implementation of the project with a direct investment of over Rs 500 crore by the Government, local self-government institutions and ACEs. However, audit scrutiny revealed that the employment generated in eight years was only 6,818 as shown in the following table:

e-kendras were not networked through intranet

Against the target of generation of 50,000 opportunities, only 6818 were generated

**Table 1.17: Employment generation**

Area of employment	Employment generated
State Project Office	10
District Project Offices (5 x 14 Districts.)	70
Akshaya Centre Entrepreneurs	2,246
ACE's employees (2 x 2,246 e-kendras)	4,492
<b>Total</b>	<b>6,818</b>

Source: Information furnished by Director, Akshaya

Against the anticipated amount of Rs 500 crore, the direct investment was found to be only Rs 124.46 crore, as shown below:

**Table 1.18: Direct investment**

Source of investment	Total amount (Rupees in crore)
LSGI	61.69
Project	11.78
ACE investment (2,246 nos. x Rs 2.27 lakh)	50.99
<b>Total</b>	<b>124.46</b>

Source: Information furnished by Director, Akshaya and result of audit survey

#### **1.4.20 Lack of coordination with KSEB**

The success of the e-kendras mainly depended on their credibility and usefulness among the public. This success in turn was dependent on the support and co-operation of the departments/agencies whose services e-kendras helped to deliver to the public. Lack of an effective mechanism for co-ordination with KSEB resulted in frequent problems for the consumers who remitted power bills at e-kendras. A few instances noticed during field inspection are detailed below:

- i) KSEB fined consumers at Rs 30, when their bills were paid through e-transactions at e-kendras, claiming that they had later found shortage of Rupees one or two<sup>70</sup> in cases where the consumer paid the amounts as per the authentic bills issued to the consumers.
- ii) KSEB disconnected power supply of consumers who had paid their bills through e-kendras, before ensuring whether the payment scrolls had been received from FRIENDS.
- iii) KSEB did not accept proof of payments produced by ACEs to the effect that the payments had been made in time.

On this being pointed out, Government stated (October 2008) that steps had already been initiated to address the issue but Audit found that the issues still remained (August 2009) unattended. Despite the fact that the credibility and the existence of the project were at stake, Government had not succeeded in solving the issue even after nearly a year.

#### **1.4.21 Improper maintenance of household database**

To make e-payments easy, web-based software was developed by Akshaya and furnished to ACEs for making a database of the persons making use of

<sup>70</sup> In spot billing, manually calculated bills were served by spot billers to the consumers. When the meter reading was input into the information system, differences of Rupees one or two would arise due to rounding/carry over.

e-payment facilities through the e-kendras. ACEs were required to capture full details of the consumers from their bills when they approached the e-kendras for the first time so that the information could be made use of for future transactions. The database was maintained district-wise and centrally controlled by C-DIT<sup>71</sup>. The ACEs were not informed about the importance of the database as a result of which, care was not taken by them while capturing the details in the bills. Data analysis using CAATs<sup>72</sup> revealed the following:

- i) A total of 39,914 out of 2,13,389 records were found to be filled with junk characters due to improper data capture.
- ii) The system lacked input controls to ensure uniformity of data.
- iii) A total of 82,167 telephone numbers had been recorded without their STD codes.

Since there were no unique fields in the database like voters id, with which a consumer could be uniquely identified, the database could not be used for any useful purpose.

#### **1.4.22 Conclusion**

The Akshaya project started with expectations of bridging the digital gap and enabling of e-governance initiatives through e-kendras as a channel to reach citizens located even in the remotest parts of the State. After completion of the pilot phase of e-literacy implemented in Malappuram district the envisaged benefits had not been fully achieved in the roll-out phase. Inadequate planning at various levels, lack of a proper monitoring mechanism during implementation, lack of adequate Government support and lack of coordination among Government departments/institutions hindered the sustainability and further development of e-kendras. Even after six years of starting the project, the Government departments were not in a position to disseminate information properly through the e-kendras.

#### **1.4.23 Recommendations**

Government should:

- consider providing supportive measures to non-sustainable e-kendras so that the envisaged benefits of e-governance reach the rural populace, especially in districts like Idukki and Wayanad;
- examine fund requirements for e-literacy and initiate action to re-allocate the unutilised funds immediately;
- decide on the details of information that can be made available for dissemination to the public and issue specific directions to all departments/other public institutions involved in providing such information to e-kendras;
- provide adequate publicity about the services that are available in the e-kendras;

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<sup>71</sup> Centre for Development of Imaging Technology, a public sector undertaking of the State Government.

<sup>72</sup> Computer Assisted Audit Techniques.

- extend services of e-payment facilities for all types of payments relating to all departments and
- ensure that a mechanism is in place to effectively co-ordinate all stakeholder departments to extend support to Akshaya for the smooth functioning of e-kendras, which would eventually enhance its credibility and acceptability among the public.

The above points were referred to Government in September 2009. Reply had not been received (October 2009).