CHAPTER - II
PERFORMANCE AUDIT

AGRICULTURE DEPARTMENT

2.1 Implementation of Rashtriya Krishi Vikas Yojana (RKVY)

2.1.1 Introduction

RKVY is a Centrally Sponsored State Plan Scheme with 100 *per cent* Central assistance. The broad objective of the scheme was to increase agricultural production and productivity keeping in line with the National Agricultural Policy which aimed at achieving a growth rate of four *per cent* in the agriculture sector on a sustainable basis. It has been under implementation in the State from 2007-08 with the objective of providing incentives for increasing public investment in agriculture, reduce the yield gaps in important crops, maximise returns to farmers and bring about quantifiable changes in production and productivity of agriculture and allied sectors.

The eligibility for Government of India (GoI) assistance under the scheme depends upon the amount provided in the State Plan budget for Agriculture and allied sectors over and above the baseline percentage of expenditure incurred by the State Government on the sector prescribed on the basis of certain parameters.

Scheme guidelines prescribes at least 75 *per cent* of the allocated amount to be proposed under Stream I[5] for specific projects and up to 25 *per cent* to be available to the State under Stream II for strengthening the existing State sector schemes and filling specific resources gap.

The Agriculture department is the nodal department under the scheme to effectively coordinate with other departments/ implementing agencies for preparation, appraisal of projects, implementation, monitoring and evaluation at regular intervals.

The State Level Sanctioning Committee (SLSC) headed by the Chief Secretary is responsible for sanctioning and monitoring the progress of sanctioned projects/schemes.

2.1.2 Sectors covered

Agriculture is the predominant sector. The allied sectors as indicated by the Planning Commission are Crop Husbandry including Horticulture, Animal Husbandry and Fisheries, Dairy Development, Agricultural Research and Education, Agricultural Marketing, Food Storage and Warehousing, Soil and Water Conservation etc.

[5] Streams are the priorities given by GoI for implementation of the scheme. Stream I identifies new projects and Stream II is for the existing projects which are incomplete.

2.1.3 Organisational set up

Agricultural Production Commissioner is the head of Agriculture department and is assisted by Secretary (Agriculture) and Secretary (Animal Husbandry and Dairy) at Government level. Director, Project Preparation and Monitoring (PPM) Cell is in charge of monitoring the preparation of District Agriculture Plan (DAP) and a comprehensive State Agriculture Plan (SAP) and implementation of the projects. Director of Agriculture is the functional implementation head who is assisted by four Additional Directors, five Joint Directors and seven Deputy Directors. At district level there are Principal Agriculture Officers. The allied departments of Agriculture which implement RKVY scheme are Animal Husbandry, Dairy Development, Fisheries headed by Directors of Animal Husbandry, Dairy Development, Fisheries respectively and Co-operation headed by Registrar of Co-operation.

2.1.4 Audit coverage and methodology

The Directorates of Agriculture, Animal Husbandry, Dairy Development, Fisheries, District level offices and field offices in 14 districts of Kerala were selected for test check using Probability Proportional to Size With Replacement (PPSWR) method considering the criteria of expenditure incurred in the district during 2007-08 to 2012-13.

2.1.4.1 Methodology of selection of sectors

Since implementation of RKVY involves specific projects under defined sectors, the data of sector-wise expenditure reported by the State for the period 2007-08 to 2012-13 has been collected and arranged according to the amount of expenditure incurred under the sector(s). For the purpose of representation of entire sample, three categories of sectors have been made and based on it, the percentage of selection of sectors has been done and nine sectors were selected as per the following criteria.

Category of Sector wise expenditure and number of sectors falling in each category	Percentage of sample sector to be selected	Selected Sectors
A. (Expenditure More than ₹ 100 crore)- 2 sectors	100	Animal Husbandry (ANHB) Crop Development (CROP)
B. (Expenditure Between ₹ 50 – ₹ 100 crore)- 3 sectors	60	Fisheries (FISH) Agriculture Mechanisation (AMEC)
C. (Expenditure Less than ₹ 50 crore)- 21 sectors	30	Research (Agriculture, Horticulture, Animal Husbandry etc.) (AGRE) Natural Resource Management (NRM) Micro/Minor Irrigation (IRRI) Marketing and Post Harvest Management (MRKT) Sericulture (SERI)

2.1.4.2 Methodology of selection of projects within selected sectors

From the consolidated list of sector-wise expenditure, three projects each from AMEC (60.54 *per cent*) and AGRE (3.79 *per cent*), four projects each from Animal Husbandry (19.97 *per cent*), Crop Husbandry (30.35 *per cent*) and Natural Resource Management (4.35 *per cent*), five projects from Fisheries (9.46 *per cent*), two projects each from Irrigation (16.68 *per cent*), Marketing

(17.44 *per cent*), Sericulture (46.92 *per cent*) and one from Horticulture (0.71 *per cent*) Sectors were selected by audit. Total expenditure of selected projects comes to 20.06 *per cent* of total expenditure of selected sectors. Stream I and II were not segregated by Nodal Agency and so selection was not possible separately for Stream I and II.

2.1.5. Planning process

RKVY scheme stipulates preparation of DAP projecting the local needs for development of Agriculture and Allied sectors of the district. DAPs should be integrated into a comprehensive SAP to become eligible for grants under RKVY. DAPs are mandatory from 2008-09 onwards for getting funds under RKVY schemes and should be prepared by including resources available from other existing schemes, District, State, Central schemes etc. and adhere to the guidelines circulated by the Planning Commission for District Planning. While preparing the SAP, State's priorities should be ensured with respect to Agriculture and Allied sectors. The Nodal Agency should place the SAP before the SLSC for consideration, discussion, finalisation and sanction of projects.

Audit scrutiny revealed deficiencies in planning process as discussed below:

2.1.5.1 Multiplicity of projects and exclusion of certain districts from project plans

Audit scrutiny revealed that DAP was not prepared by any of the districts of the State in 2008-09 and from 2012-13 onwards. Comprehensive plan was prepared in 2009-10 for the XIth Five Year Plan (2007-2012) period and used by department as DAP for the purpose of RKVY assistance. DAP was not prepared annually.

In the absence of DAPs, the eligible districts were not considered against the schemes in a comprehensive way for Agriculture and Allied sectors while sanctioning projects.

Audit scrutiny revealed that SAP was not prepared by integrating the project proposals of all the districts. Instead, district wise proposals were compiled and included in the agenda notes for approval at SLSC meetings. It also revealed that in many projects sanctioned by SLSC, there could have been better integration by clubbing of similar projects had the SAP been prepared by the State. Some instances are shown below:

Project ID	Project Name	Project Cost (₹ in lakh)	District
KE/RKVY-DDEV/2009/407	Automatic milk collection unit	5.00	Kottayam
KE/RKVY-DDEV/2009/408	Automatic milk collection unit	4.95	Kasaragod
KE/RKVY-ANHB/2009/406	Automation of milk collection in dairy co-operatives	15.75	Thiruvananthapuram
		10.50	Idukki
		10.50	Kollam
KE/RKVY-ANHB/2009/369	Calf feed subsidy (calves)	37.50	Pathanamthitta

Project ID	Project Name	Project Cost (₹ in lakh)	District
KE/RKVY-ANHB/2009/378	Calf feed subsidy	18.75	Kottayam
KE/RKVY-ANHB/2009/381	Calf feed subsidy (per calf) - First year cost	37.50	Alappuzha
KE/RKVY-ANHB/2009/391	Calf feed subsidy (per beneficiary)	22.50	Kozhikode
KE/RKVY-ANHB/2009/372	Cattle insurance scheme	6.33	Pathanamthitta
KE/RKVY-ANHB/2009/363	Cattle insurance programme - Insurance premium @ ₹ 15,000 per animal for 3yr.@ 6.25 %	13.94	Thiruvananthapuram
KE/RKVY-ANHB/2009/384	Cattle insurance @ 5.9 % of cost (₹ 20,000) of cow	17.70	Thrissur
KE/RKVY-ANHB/2009/370	Cattle shed flooring	30.00	Pathanamthitta
KE/RKVY-ANHB/2009/394	Cattle shed flooring (per shed @ ₹ 50 per sq ft)	20.00	Kozhikode
KE/RKVY-ANHB/2009/400	Cattle shed flooring	30.00	Kannur

Non integration of projects of similar nature proposed by different districts resulted in multiplicity of projects and non consideration of other eligible districts. Besides, the requirement from other sectors were not taken care of adequately.

2.1.5.2 Violations of RKVY guidelines

Projects proposed to be implemented under RKVY scheme should be formulated and implemented in accordance with prescribed guidelines. There were instances of non compliance as detailed below.

i) Projects approved as outside agenda of SLSC meeting – ₹ 144.19 crore

The Nodal department had to compile projects received from each district, prioritise and include them in the agenda for consideration and sanction by SLSC. As per RKVY guidelines, the nodal department should give agenda along with a gist of projects for the SLSC meeting to the representatives of the GoI, giving notice of at least 15 days.

Audit test check of 35 (**Annexure I**) out of 949 cases (15 *per cent* of total project cost of ₹ 995.39 crore and 3.69 *per cent* of total sanctioned projects), revealed that the projects originated at State Level were approved in SLSC meetings as outside agenda items in violation of the guidelines of RKVY.

As a result, the criteria for selection of projects involving participation from the lower formations was compromised. Since agenda notes on items considered as outside agenda items were not circulated to the GoI representatives in advance, decision on items not included in the agenda denied opportunity of the representatives to study thoroughly about the projects and offer their remarks effectively.

ii) Sanctioning of projects without DPRs

The Nodal department (Agriculture) should satisfy that projects which are feasible, fulfilling RKVY objectives and duly supported by Detailed Project Reports (DPR) only are recommended to SLSC for approval.

Audit test check revealed that 11 out of 62 projects costing ₹ 27.79 crore **(Annexure II),** were approved by SLSC in its meeting held in September 2011 even though they were not duly supported by proper DPRs. It was observed that there was no indication regarding submission of the said DPRs to SLSC in subsequent meetings. Further the nodal agency was not able to confirm whether DPRs of the said projects were produced for consideration of SLSC.

The action of SLSC in approving projects without DPRs and failure of nodal agency to ascertain whether the project fulfills the objectives of RKVY before recommending the DPRs to SLSC were violations of RKVY guidelines.

iii) Approval of projects without feasibility study resulted in idling of funds/non-completion of project – ₹ 5.24 crore

The Nodal Agency should place the SAP before the SLSC for consideration, discussion, finalisation and sanction of projects after ensuring that the department sponsoring the project was convinced about the feasibility of the project. Audit test check revealed that feasibility of the project was not established prior to approval of DPR by SLSC in the following case.

The project 'Bull Spermatozoa Sexing and Commercialising Sexed Semen in India for uplifting National Dairy Sector' was sanctioned (March 2011) with an outlay of ₹ 5.25 crore and allotted (July 2011) to implementing agency, M/s. Kerala Livestock Development Board (KLDB). The project was intended to increase the number of female calves of the State by four lakh per year using Flow Cytometry equipment for bovine sperm sexing. Global tenders were invited (June 2011) for procurement of Flow Cytometer, an equipment for frozen semen processing, with the specific nozzle for sexing of bovine spermatozoa. KLDB incurred ₹ 0.01 crore towards the cost of invitation of tenders etc. M/s Inguran LLC dba Sexing Technologies in United States of America, was the only competent firm in the world, which had the patent to produce the equipment, declined to sell the equipment to India. Though it was established beyond doubt that the possibility of getting the equipment was remote, the implementing agency (KLDB) did not refund the amount of ₹ 5.25 crore allotted till date (February 2014). Out of the balance amount of ₹ 5.24 crore, ₹ five crore was deposited in fixed deposit and the balance kept in savings bank account of KLDB. It was observed that ₹ 1.11 crore accrued as interest on the unspent RKVY funds was kept in bank accounts of KLDB providing an unwarranted advantage of interest and liquidity to KLDB at the cost of RKVY funds. The amount sanctioned for this project could have been utilised for the implementation of other important projects.

2.1.5.3 Approval of inadmissible items out of RKVY funds – ₹ 6.93 crore

RKVY guidelines explicitly prohibit utilisation of funds allotted for purchase of tractors, vehicles and creation of permanent employment.

Audit test check revealed that approval was accorded for inadmissible items of expenditure in violation of RKVY guidelines in the following cases:

i) Approval and purchase of tractors out of RKVY funds – ₹ 4.74 crore

The SLSC sanctioned (February 2010) a project for Agriculture mechanisation under Kuttanad Package to be implemented by Kerala Agro Industries Corporation Ltd. (KAICO) with total project outlay of ₹ 85 crore. The project included supply of 150 tractors to farmers through Custom Hiring Service cum Training Centres in a phased manner in three years.

It was observed that ₹ 47.63 crore was spent up to October 2013 on the above projects including ₹ 4.69 crore towards purchase of 92 tractors.

In another case the SLSC sanctioned (June 2010) a project 'Augmentation of Vegetable Production through Technological Interventions' with a project cost of ₹ 3.01 crore. The implementing agency Kerala Agricultural University (KAU) purchased a mini tractor costing ₹ 0.05 crore under the project. The action of SLSC approving projects involving purchase of tractors was in clear violation of RKVY guidelines.

ii) Approval and purchase of vehicles and construction of buildings - ₹ 2.18 crore

Audit test check revealed that the State had approved 20 projects from 2007-08 to 2011-12, which provided for construction of buildings and purchase of vehicles. A sum of ₹ 2.18 crore was incurred on the said components. However, as the components were explicitly prohibited and not approved through SAP or DAP, the entire expenditure of the components detailed below were not eligible for assistance under RKVY schemes.

Implementing Agency	Amount spent (₹ in crore)	Purpose
KAICO	0.34	Purchase of vehicles
KAICO	0.25	Construction of additional store and renovation of building
KAICO	0.22	Purchase of excavator
Assistant Executive Engineer (Agriculture), Wayanad	0.15	Construction of Office Building
Kerala Agricultural University	1.22	Purchase of vehicles
Total	**2.18**	

2.1.5.4 Defective planning by implementing agency and consequent non implementation of projects

Government accorded sanction (June 2008) to implement the project 'Matsyakeralam', by Special Officer, Matsyakeralam under Fisheries department. The project envisaged to integrate various activities of fish culture and to provide infrastructure linkage for the development of inland fisheries and aquaculture by constructing building for 100 Fish Farmers Clubs (FFCs) with common facilities such as fish booth, conference hall, pump sets, drag nets etc. at a cost of ₹ 0.05 crore each and also for necessary insurance to shrimp farming. Accordingly, sanction was accorded to release the grant of ₹ three crore in four instalments (November 2009 to May 2012) for 60 FFCs.

The Nodal department released the amount to the Director of Fisheries who in turn released the amount to Special Officer, Matsyakeralam (October 2010 – August 2012). As the Special Officer, Matsyakeralam, was not a drawing officer, the amount released was kept with the Agency for Development of Aquaculture (ADAK) in their savings bank account.

Even though the Special Officer submitted utilisation certificates for ₹ three crore, Audit scrutiny revealed that the implementing agency failed to implement the project in time and a sum of ₹ 2.69 crore remained as unutilised balance (March 2013) in the accounts of ADAK (₹ one crore), Fish Farmers Development Agency (FFDA) (₹ 1.53 crore) and construction agencies (₹ 0.16 crore).

As against the stipulated number of construction of buildings for 60 FFCs, only five were completed (March 2013). Many FFDAs could not identify the site for the construction of building for FFCs and entrust the work to construction agencies in time.

Defective planning of the project by the implementing agency resulted in non achievement of objectives due to non implementation of the project and consequent idling of plan funds.

2.1.6 Financial Management

Allocation and Release of Funds

Funds would be released by GoI to GoK which would allocate and release funds to the nodal department for release to directors of allied departments/CEOs of autonomous bodies/ Principal Agriculture Officer. They in turn would release funds to implementing officers/ agencies and the nodal department would submit Utilisation Certificate (UC) to GoI.

Number of Projects approved, Receipt from GoI/Release by GoK and Expenditure incurred

Year	No. of project proposals	Total cost of the projects	Receipt from GoI (as on March 2013)	Release by GoK (as on March 2013)	Expenditure incurred (up to January 2014)	Position of UC (up to January 2014)
		₹ in crore				
2007-08	91	55.01	55.40	55.31	55.15	55.15
2008-09	96	59.11	30.06	30.00	29.86	29.86
2009-10	278	129.32	110.92	110.92	105.99	105.99
2010-11	132	218.79	149.65	149.65	144.06	144.06
2011-12	249	300.86	182.89	182.89	182.45	191.17*
2012-13	103	232.30	253.03	253.03	252.69	252.69
Total	**949**	**995.39**	**781.95**	**781.80**	**770.20**	**778.92**

*This amount includes UC for ₹ 8.72 crore relating to the unspent amount of previous years.

2.1.6.1 Submission of inflated Utilisation Certificates – ₹ 37.45 crore

As per RKVY guidelines funds for Stream I projects are released in three instalments (50 *per cent* on receipt of sanction, 40 *per cent* when physical progress of 50 *per cent* is achieved and balance 10 *per cent* on completion of the project). The amounts of second and final instalments depend upon

utilisation of funds by States. Non-utilisation of central assistance will hinder further release of funds.

Audit test check revealed that in 19 approved projects (**Annexure III**) against the release of ₹ 52.09 crore, though actual expenditure was only ₹ 14.63 crore the nodal department / agency had furnished UCs for ₹ 52.09 crore.

In response to audit query the nodal department/ agency stated (January 2014) that UC was issued to GoI based on the UCs received from various implementing agencies and it did not possess any mechanism to verify the actual utilisation of funds by various implementing agencies. This confirmed that the nodal department/ agency did not exercise any further control to verify the authenticity of actual utilisation of plan funds under RKVY resulting in submission of inflated UCs to GoI. Further, all the 19 projects mentioned above were shown in the Relational Database Management Information System (RDMIS) database as completed, though only one project was completed.

Furnishing of incorrect UCs by nodal department without attaining the prescribed physical progress, with a view of obtaining further grants from GoI, is a serious undermining of the entire system of Government interventions to bring about improvements in the State's agricultural production.

2.1.6.2 Misutilisation of interest accrued in accounts operated by implementing agencies

Interest is being accrued in the accounts of implementing agencies due to advance release/delay in utilisation of RKVY funds. However, neither GoI nor the GoK issued instructions regarding the accounting and utilisation of interest accrued from RKVY funds.

However, test check in seven institutions alone revealed that interest to the tune of ₹ 5.14 crore had accrued in the accounts of respective implementing departments/agencies till December 2013.

Lack of instruction regarding the accounting and utilisation of interest resulted in use of amounts by implementing agencies for purposes not approved by SLSC/PPM Cell.

Finance department needs to look into the matter and release further funds to these projects keeping in view the amount of interest accrued.

2.1.6.3 Diversion of funds and consequent extension of unwarranted benefit to an agency

Audit scrutiny revealed that Director of Fisheries diverted plan fund under RKVY to an external agency as detailed below:

Construction of Fishery Harbour at Kasaragod was sanctioned (December 2008) at a total project cost of ₹ 29.85 crore under Fishery sector and the implementation was entrusted to Harbour Engineering department (HED). However, the Director of Fisheries (DoF) decided (June 2009) to implement the scheme through Kerala State Coastal Area Development Corporation (KSCADC) with the support of HED and to transfer the fund to KSCADC. Based on this decision, funds released by Nodal department to Fisheries department (₹ 19 crore) was further released to KSCADC (during June 2009

to November 2012) even before actual requirement. KSCADC had no role except release of funds on demand.

As the implementing and executing agencies were State departments, the decision taken by DoF to entrust the work and transfer funds to KSCADC was irregular and was tantamount to diversion of funds. It also resulted in unwarranted advantage to KSCADC who had deposited the planned fund in the commercial bank account upto one year and earned an interest of ₹ 0.41 crore.

2.1.6.4 Non-refund of unspent amount – ₹ 54.90 lakh

On completion of implementation of projects, the implementing officer had to furnish necessary UC and the balance amount was required to be refunded.

Audit test check revealed that in respect of the following projects, the implementing agencies received ₹ 2.34 crore. Even after completion of the work, the agencies did not refund the unutilised balance as shown below:

Project Name	Implementing agency	Amount received	Unspent balance	Remarks
		₹ in lakh		
Deepening and widening of side protection of Kundoor thodu – Nennambra point	District *Panchayat* Malappuram	31.25	7.07	The project was completed and UC furnished for ₹ 24.18 lakh.
Two projects	Principal Agriculture Officer, Kannur	Details* not available	19.82	The unspent balance of ₹ 19.82 lakh remaining in TSB account from 2010 onwards.
Establishment of lead centres for organic farming at Vellayani	Kerala Agricultural University	109.60	8.70	Though the project was completed, the unspent balance kept idling in TSB account.
Mulberry cultivation and distribution of equipment	SERIFED	33.00	9.25	The agency was liquidated on 15 March 2010, but the amount not refunded and UC not furnished.
Infrastructure works in *padasekharams* for paddy cultivation	Principal Agriculture Officer, Ernakulam	40.00	1.82	The unspent balance is pending with Minor Irrigation Division, Ernakulam since February 2011.
Pig rearing	MPI	20.00	8.24	
Total		**233.85***	**54.90**	

** Figure is incomplete as the details in respect of two projects implemented by PAO Kannur are not available.*

The implementing agencies kept the funds in interest bearing bank accounts resulting in blocking up of Government funds in the form of interest from deposits which had to be refunded. This also indicated lack of proper monitoring by the Nodal department regarding the implementation of project and utilisation of amount.

2.1.7 Implementation

The implementing units/agencies included *Grama panchayats*, primary level offices of allied and autonomous institutions such as Kerala Land Development Corporation (KLDC), Kerala Livestock Development Board Ltd. (KLDB), Kerala Co-operative Milk Marketing Federation Ltd.

(MILMA), State Horticulture Mission (SHM), Vegetable and Fruit Promotion Council of Kerala (VFPCK), Kerala Feeds Ltd. (KFL), Meat Products of India (MPI), Kerala Agro Industries Corporation Ltd. (KAICO), Kerala Agricultural University (KAU) etc. RKVY funds from the nodal department reach the Principal Agriculture Officers directly through allotments and by demand draft to allied departments and implementing agencies.

As per details available in RDMIS (**Annexure IV**), out of the total number of 949 projects sanctioned by SLSC during the period from 2007-08 to 2012-13, 865 projects were completed, 63 projects were in progress, five projects were not yet implemented and 16 projects were abandoned as on January 2014.

Audit scrutiny revealed the following defects in the implementation of the projects.

2.1.7.1 Undue benefit to contractor in the project Eradication and Utilisation of Water Hyacinth – ₹ 7.40 crore

Water hyacinth, a water plant, had been labelled as world's worst water weed and has gathered increasing international attention as an invasive species. It can cause extensive environmental, social and economic problems. The success of this invasive alien species is largely due to its reproductive output. Water Hyacinth can flower throughout the year and releases more than 3,000 seeds per year. The seeds have a life span of over 20 years. Threats posed by Water Hyacinth include destruction of biodiversity, oxygen depletion and reduced water quality, breeding ground for pests and vectors and blockage of waterways hampering agriculture, fisheries, recreation and hydropower.

In order to eradicate Water Hyacinth spread over Kuttanad wet lands, a project 'Eradication and utilisation of water hyacinth' was approved by SLSC (February 2010) with a total outlay of ₹ 21.29 crore and its implementation was entrusted with State Fisheries Resource Management Society (FIRMA). The main components of the project included mechanical removal of Water Hyacinth from Kuttanad wetlands (₹ 15 crore) and establishment of 2,000 vermi compost units (₹ three crore) for production of vermi compost from water hyacinth removed from water bodies and construction of three biogas plants (₹ 2.1 crore).

The work for the mechanical removal of 3,00,000 m^3 of water hyacinth was tendered by FIRMA (April 2010) and awarded (August 2010) to M/s Ornamental Fish Farming (P) Ltd. at the rate of ₹ 485/m^3 (Agreed PAC ₹ 14.55 crore) with a time of completion of 12 months which ended on 31 July 2011. The contractor was permitted by the implementing agency (FIRMA) to continue the work even after expiry of contract period. As the progress of the work was very slow, in a meeting convened by the Hon'ble Minister for Fisheries, Port and Excise, it was decided to stop the work (July 2012).

The work for the removal of water hyacinth was subsequently tendered (November 2012) and awarded to M/s Bombay JCB Earth Movers Ltd. (January 2013) at the rate of ₹ 220/ m^3 *plus* taxes and levies and the work is in progress (January 2014).

Audit scrutiny relating to contract with M/s Ornamental Fish Farming (P) Ltd. revealed the following irregularities:

A. Undue favour to the contractor

The period of contract for mechanical removal of water hyacinth as per agreement was 12 months. However, by the end of September 2011 the contractor had only removed 56,563.72 m^3 of weeds as against the stipulated quantity of 3,00,000 m^3. Though the contractor failed to fulfil his commitment as per the agreement no action was taken against him. Further, despite the expiry of one year period by 31 July 2011, the implementing agency (FIRMA) did neither extend nor terminate the contract.

The contractor was allowed to continue the work till September 2012 without any orders/supplementary agreement. Even after 26 months, the contractor removed only 209,203.886 m^3 of weeds for which he was paid a sum of ₹ 10.02 crore as of June 2013[6].

The quantity of weeds removed after the period of contract comes to 1,52,640.166 m^3 for which he was paid a sum of ₹ 7.40 crore. The work executed by the contractor after the period of contract was not supported by any valid order/agreement and hence the payment of ₹ 7.40 crore made to the contractor was irregular and an undue favour to the contractor.

As the contractor failed to complete the work in time, FIRMA should have resorted to retendering the work on risk and cost basis immediately after the period of contract. Penalty clause should be inserted in contracts for such delays.

B. Unscientific method of measurement

The work of measurement of weeds removed by the contractor was initially entrusted with Harbour Engineering department and then to Kerala State Coastal Area Development Agency. The practice followed by Irrigation department for valuation of removed quantity of weeds is based on the coverage area (sq m) of water hyacinth in wet lands and not on the quantity of weeds removed and dumped. But in the present work, the volume of weeds removed and dumped was arrived at based on tape measurement. As the volume of removed weeds would vary due to change in climate or passage of time, the method adopted for measurement was neither scientific nor reliable.



[6] Balance amount of ₹ 0.12 crore retained by FIRMA.

C. Non achievement of benefit envisaged in the scheme

The total area of Kuttanad lake was 256 sq.km and an estimated quantity of 3,00,000 m^3 of Water Hyacinth was required to be removed at an agreed cost of ₹ 14.55 crore. The Task Implementation committee under the Agricultural Production Commissioner observed (September 2010) that the present system of weed removal could not achieve the required objective of making Kuttanad a weed-free zone. It was noticed from the reports of FIRMA that the weeds grow rapidly and could multiply within 13 days and cover over a hectare within nine months. The review committee meeting under the Chairmanship of Principal Secretary (Fisheries) also observed that the speed of removal of weeds was slow and at that speed, the weeds get enough time to re-establish in the water body by the time they were removed.

There was no direction to the contractor to remove the weed completely from the location taken up for removal and there was no provision in the agreement to maintain the water body weed free. All these indicated that the removal of weeds did not achieve the benefit envisaged in the scheme and the purpose of making the Kuttanad lake weed free was defeated despite spending ₹ 10.02 crore during the period from August 2010 to September 2012.

2.1.7.2 Sale of blasted hard rock to contractor resulted in undue benefit to contractor – ₹ 124.22 lakh

The project 'Infrastructure development work in Thrissur Kole area' (Project cost ₹ 617 lakh) included excavation of five canals including formation of bunds with an outlay of ₹ 218 lakh. The excavation work was awarded to a contractor in March 2010 (including blasting of 22,922 m^3 hard rock) at an agreed Probable Amount of Contract of ₹ 1.84 crore. The actual blasted quantity of rubble was 30,444.18 m^3 (1.5 times of 20,296.122 m^3) as per Standard Data Book.

There was no provision in the agreement for sale of the blasted rock. However, the implementing agency M/s KLDC sold 30,444.18 m^3 of blasted rock to the contractor recovering ₹ 7.75 lakh, which was stated to be 10 *per cent* of the value of rock. But the actual value of blasted rock comes to ₹ 117.79 lakh. As the sale was outside the terms of agreement, it extended an undue advantage of ₹ 110.04 lakh to the contractor. Besides KLDC incurred labour charges for conveying blasted rubble up to 50 m for which contractor was paid a sum of ₹ 14.18 lakh.

In response to the audit query KLDC justified the sale citing the instructions of July 1994 by the Chief Engineer (Irrigation and Administration) wherein it was iterated that stacking charges might be deducted by issue of the blasted rock to the contractor at site itself recovering 10 *per cent* of the value.

However, the reply of the department is not tenable as there was no provision in agreement for stacking and that the sale of blasted rock at site was obvious. The non inclusion of the provision for sale of blasted rock in tender schedule resulted in restricting competition and extended unwarranted advantage of ₹ 124.22 lakh (**Annexure V)** to the contractor.

2.1.7.3 Non-achievement of target and consequent non-utilisation of funds – ₹ 5.52 crore

The project 'Rice Development' was sanctioned (June 2010) with the objective of increasing rice production in an area of 66,000 ha. identified in 14 districts with the help of three major components of the scheme such as increasing cropping intensity, paddy cultivation in fallow land kept uncultivated for several years and to bring more area under upland rice cultivation. Utilising the assistance, the expected additional minimum outturn of rice production was 64,000 MT per year (25,000 MT from increasing cropping intensity, 9,000 MT from upland cultivation and 30,000 MT from fallow land). The physical and financial target and achievement thereon are as shown below:

Particulars	Physical (Area Ha)			Financial (₹ in crore)		
	Target	Achievement	Excess (-) Shortfall (+)	Outlay	Expenditure	Excess (-) Shortfall (+)
Rice production in rice growing tracts	50,000	55,974.97	(-) 5,974.57 (- 11.95 %)	25 (@ ₹ 5,000/ha.)	27.99	(-) 2.99
Upland cultivation of rice	6,000	1,760.82	(+) 4,239.18 (+ 70.65 %)	3 (@ ₹ 5,000/ha.)	0.88	(+) 2.12
Fallow land cultivation of rice	10,000	3,795.14	(+) 6,204.86 (+ 62.05 %)	12 (@ ₹ 12,000/ha.)	4.55	(+) 7.45
Total	**66,000**	**61,530.93**		**40**	**33.42**	

The amount of assistance was provided as input subsidy to the farmers under the scheme without linking the subsidy to the output/ production. The major share of the project was earmarked for the component 'Rice Production in rice growing tracts', a lenient target, where the department spent an additional amount of ₹ 2.99 crore. The department was not able to provide the quantity of rice expected from the implementation of the scheme. In respect of upland and fallow land cultivation, the department failed to achieve the stipulated target.

2.1.7.4 Expenditure on ineligible items utilising allocation towards administrative expenses - ₹ 1.11 crore

In terms of RKVY guidelines, State is permitted to use up to one *per cent* of its total RKVY funds towards administrative expenses. However, the nature of expenditure explicitly specified should be adhered to and deviations are not allowed.

Audit scrutiny revealed that in the following cases the State had utilised the share towards administrative expenses for activities/components expressly not permitted, viz. (i) Purchase of vehicles and (ii) Non recurring expenses (modernisation of directorate building) .

Year	Amount released by GoK	Total expenditure incurred	Inadmissible expenditure incurred	Purpose
	₹ in crore			
2009-10	0.93	0.89	0.47	Purchase of 11 vehicles for departmental purpose
2010-11	1.93	1.46	0.46	Modernisation, electrification and civil works of Directorate building
Total	**2.86**	**2.35**	**0.93**	

2.1.7.5 Unfruitful expenditure due to delay in taking over project – ₹ 38.18 lakh

The project 'Infrastructure works in *padasekharams* for paddy cultivation' having an outlay of ₹ 815.40 lakh was sanctioned during 2008-09; out of which ₹ 40 lakh was allotted to Principal Agricultural Officer, Ernakulam for development of Thottarapuncha *padasekharam* for augmenting rice production. Thottarapuncha *padasekharam* comprise of 700 ha. of land and paddy cultivation was restricted to 450 ha. of land. The project was intended to bring the balance 250 ha. under cultivation.

The work included construction of tractor passage, installation of '*Petty* and *Para*'[7] with necessary motor and pump sets. The Executive Engineer, Minor Irrigation Division, Ernakulam, completed the work at a cost of ₹ 38.18 lakh. Irrigation department requested (February 2011) Agriculture department to take over the project. But neither Agriculture department nor any other authority took over the project (December 2013) and hence the intended purpose could not be achieved. The unspent balance of ₹ 1.82 lakh was still pending with Minor Irrigation Division, Ernakulam.

The maintenance and operation of the '*Petty* and *Para*' should have been entrusted to a suitable agency so as to make the project fruitful.

2.1.7.6 Failure of implementing agency to ensure proper infrastructure resulted in undue favour to an external agency - ₹ 1.25 crore

Prawn Shell waste is a raw material for production of Glucose Amine which is used extensively for treatment of arthritis. 'MATSYAFED', an autonomous body in the State, prepared DPR (₹ 3.66 crore) for (a) production of Glucose Amine from prawn shell (b) disposal of prawn shell waste from coastal areas and (c) generation of employment opportunities for 100 youths (direct) and 4,000 women (indirect). The project was approved by SLSC during November 2008 and funds of ₹ 2.39 crore sanctioned under RKVY towards purchase of machinery. The Agriculture department (nodal department) released ₹ 1.25 crore (2009-11) to the implementing agency, MATSYAFED. As the fund received for the project was insufficient, a revised project with an outlay of ₹ seven crore had been submitted, which is yet to be approved.

The scheme was proposed to be implemented after constructing a building utilising assistance of ₹ 2.92 crore from Government and National Fisheries Development Board (NFDB). Construction of building started in August 2010 without getting prior sanction from Town Planner. The time of completion

[7] A machinery used for the regulation of water flow into and out of the paddy fields

was stipulated as ten months (June 2011). However, the building could not be constructed as it violated the norms of Pollution Control Board (PCB).

Failure to comply with the stipulations of PCB/District Town Planner and failure to obtain prior sanction from Town Planner, Alappuzha for the construction of the plant led to the following.

- The project approved in November 2008 with stipulated period of completion of nine months is yet to be completed. Delay in completion of the project resulted in failure of objectives.
- The implementation of the project prolonged with the delay in construction. This resulted in idling of plan funds in commercial bank accounts from 2009 onwards.
- Loss of potential income of ₹ 10.13 crore per annum projected by the implementing agency from the sale of Glucose Amine products.
- Denial of hygienic environment to the coastal people through removal of prawn shell waste as envisaged in the DPR.

2.1.7.7 Irregular payment of mobilisation advance - ₹ 50 lakh

In terms of RKVY guidelines, payment of mobilisation advance to contractor is not permissible.

The project for enhancement of Shell fish production in the State by strengthening the Seed Production Centre of Agency for Aquaculture Development Kerala (ADAK), at Odayam, Varkala, was sanctioned (February 2009) with an outlay of ₹ 253.25 lakh and the entire amount released for the project. One of the components of the said project was 'Establishment of Aquarium' for which ₹ 33 lakh was earmarked. As the allotment of ₹ 33 lakh was insufficient, it was delinked from the main project and a fresh project for 'Establishment of Aquarium Complex cum Training and Awareness Centre at Odayam' was sanctioned (May 2011) with a project cost of ₹ 350 lakh. The amount was released to the implementing agency ADAK (₹ 150 lakh in December 2011 and ₹ 200 lakh in January 2013). The work of establishment of Aquarium Complex cum Training and Awareness Centre was awarded to M/s. COSTFORD in December 2012.

Audit scrutiny revealed that ADAK, advanced ₹ 50 lakh to the contractor, (M/s COSTFORD) (January 2013). Though payment of advance is permissible as per GoK instructions, the same is prohibited as per RKVY guidelines. Hence the action of ADAK in advancing ₹ 50 lakh to the contractor was not in order and in violation of provisions of RKVY.

2.1.8 Monitoring and supervision

As per RKVY guidelines, SLSC was responsible for monitoring the progress of sanctioned projects/schemes and reviewing implementation of schemes' objectives and ensure that programmes were implemented in accordance with the guidelines laid down.

Government of Kerala formed a State Level Monitoring Committee (SLMC) (August 2008) under the chairmanship of Agricultural Production Commissioner exclusively for monitoring the implementation of RKVY

scheme, review the implementation of RKVY on a monthly basis and submit reports to SLSC. SLMC should also finalise the agenda for SLSC meetings.

Audit scrutiny revealed the following lapses in the prescribed internal control mechanisms:

2.1.8.1 Failure in Internal Controls of Monitoring and evaluation by SLSC, SLMC and Nodal department

According to RKVY guidelines, SLSC meetings should be held at least once in three months. From January 2008 to March 2013 (63 months) there were only 11 meetings as against the required minimum of 21 meetings. The gap between meetings was up to 10 months.

RKVY guidelines stipulate SLMC to meet monthly, but the first meeting was convened after 18 months (18 February 2010) of its formation. Up to 31 March 2013, only five meetings were conducted. The gap between consecutive meetings ranged up to 11 months. It indicated that SLMC failed to review the implementation of RKVY schemes as stipulated in RKVY guidelines.

As per RKVY guidelines, the nodal department (Agriculture) was required to effectively coordinate with various departments and implementing agencies with respect to preparation and appraisal of projects, implementing, monitoring and evaluating them and also to submit quarterly reports of physical and financial progress to GoI.

Audit scrutiny revealed that Nodal department did not have a system of either monitoring the progress of each project physically and financially or submitting the detailed reports of their physical and financial progress to Department of Agriculture and Co-operation (DAC). The funds were released without taking into consideration the actual requirement for implementation of the scheme. The utilisation certificates submitted by the Nodal department based on the utilisation certificates submitted by the implementing departments/agencies did not represent the actual spending as the funds were still remaining idle with implementing agencies in many cases.

2.1.8.2 Wide variation in data on expenditure renders RDMIS unreliable

The web based RDMIS provided for the nodal department and the implementing agencies to enter the progress of each project concerned both physical and financial so that the controlling and monitoring departments/units even up to the level of DAC would be able to get the up to date position of implementation of each project.

Audit scrutiny revealed that details filled in by each department from the level of nodal department to the level of implementing units were neither correct nor up to date. Some instances are given below:

1. As per the details furnished by the nodal department, the total expenditure on RKVY projects as at the end of January 2014 was ₹ 770.20 crore whereas the expenditure as per RDMIS was ₹ 810.45 crore showing a difference of ₹ 40.25 crore.

2. Two projects[8] with a total project cost of ₹ 4.1 crore were shown in RDMIS as abandoned projects whereas the department had stated that the projects were completed.
3. As per the details available in the RDMIS in February 2014, 10 projects sanctioned without DPRs were completed at a cost of ₹ 25.76 crore. The status of physical progress of the said projects could not be ascertained due to mismatch between target and achievement shown in database of RDMIS.

The RDMIS was not populated with data in 'work-flow' mode and regular update of project status was not made. This method of updation without any scrutiny defeated the very purpose of RDMIS. This indicated that data available in RDMIS lacked credibility and any analysis done based on such data would be unrealistic and unreliable.

2.1.9 Recommendations

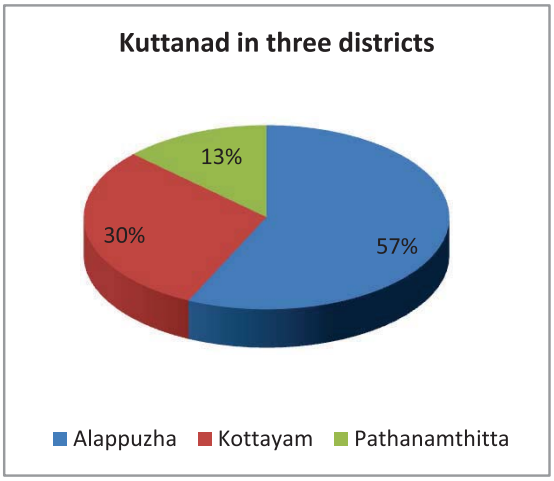
- PPM Cell should ensure that projects which are feasible only are proposed and approved.
- Nodal department should ensure that UCs are issued by respective implementing agencies only after the funds are spent completely.
- SLSC and SLMC should monitor each project and should ascertain whether the projects are implemented adhering to RKVY guidelines.
- The authenticity and reliability of RDMIS should be ensured.
- Government should issue instructions regarding the accounting and utilisation of interest earned by implementing agencies on RKVY funds deposited in banks.

[8] 'Kuttanad Package – Onattukara First Paddy Cultivation (2010-11)' and 'Kuttanad Package – Sesamum cultivation in Onattukara region (2010-11)'.

2.2 Implementation of Kuttanad Development Package

2.2.1 Introduction

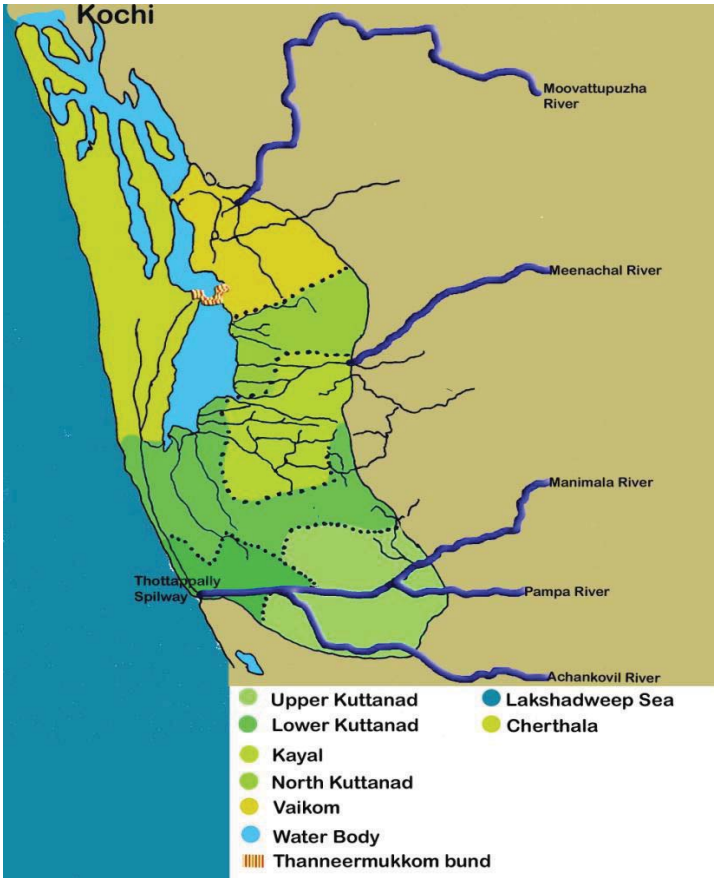
'Kuttanad' is a geographical region covering parts of Alappuzha, Kottayam and Pathanamthitta districts, forming the floodplain[9] of four rivers namely, Pampa, Achenkovil, Manimala and Meenachil of the Vembanad Wetland System stretching from Kayamkulam Backwaters in the south to Cochin in the north. Its flood plains also comprise of marshy low-lying areas below mean sea level. The land in Kuttanad was partly a natural formation in the backwater caused by deposit of silt and sand by the rivers while the other parts were developed through reclamation. Nearly 57 *per cent* of Kuttanad falls in Alappuzha, 30 *per cent* in Kottayam and 13 *per cent* in Pathanamthitta districts as depicted in the chart below.



Kuttanad was once considered as 'rice bowl of Kerala'. Agricultural practices of Kuttanad are unique as rice cultivation is practiced two meters 'below sea level'. Cultivation in these fields below sea level is a huge gamble with the floodwaters brought by the northeast monsoon during October-November and tidal intrusion of saline water during summer, where outer bund plays a critical role in minimising risks due to natural causes. This wetland was declared a Ramsar[10] Site in November 2002.

[9] A low plain adjacent to a river that is formed chiefly of river sediment and subject to flooding

[10] The Convention on Wetlands, signed in Ramsar, Iran, in 1971, is an inter-Governmental treaty, which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.



In spite of its natural wealth, Alappuzha district has a high proportion of population living in poverty. Thus GoI approved (September 2006) a specific package for Alappuzha and Idukki districts at the request of GoK and Members of Parliament from the region along with a 'Special Rehabilitation Package' for distressed farmers of the 31 districts of Andhra Pradesh, Karnataka, Maharashtra and Kerala.

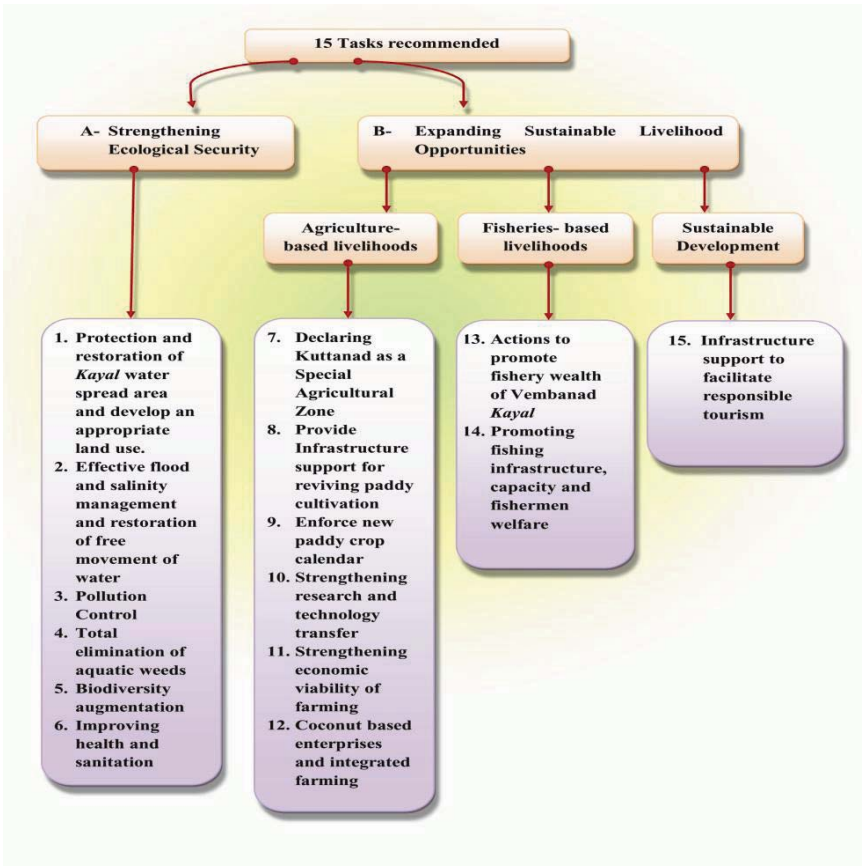
Ministry of Agriculture, GoI, engaged (November 2006) M. S. Swaminathan Research Foundation[11] (MSSRF), Chennai to conduct a study on the economic and ecological problems of Alappuzha district as well as the Kuttanad Wetland Ecosystem (KWE) as a whole. MSSRF was also required to report on sustainable development of KWE and make specific recommendations on measures for strengthening the ecological security of the KWE, and measures for expanding sustainable livelihood opportunities for the area.

MSSRF submitted (August 2007) its Report to GoI recommending 15 tasks[12], with a financial outlay of ₹ 1,840.75 crore. GoI granted (July 2008) 'in-

[11] M S Swaminathan Research Foundation (MSSRF) is a non-profit research organisation established in 1988 for research and development in pro-nature, and pro-sustainable on-farm and non-farm livelihoods through appropriate eco technology and knowledge empowerment.

[12] Tasks are specific programmes/interventions recommended for implementation in the study area with a view to achieve the stated objectives of the study.

principle' approval for providing financial support for implementing various programmes/interventions suggested by MSSRF, through the Ministries/departments concerned within their existing schemes[13] of funding pattern. A formal order for implementing the recommendations of MSSRF was issued by the GoK in October 2008. For receipt of assistance, GoK was to identify different activities and formulate Detailed Project Reports (DPRs) conforming to the guidelines/procedures of existing Central schemes and submit them to the departments/Ministries concerned under GoI. DPRs prepared by implementing departments/agencies were sent to GoI for release of funds with the approval of GoK. The 15 tasks were broadly grouped under two heads - Strengthening of Ecological Security and Expanding Sustainable livelihood opportunities, for which ₹ 335.50 crore and ₹ 1,505.25 crore respectively were proposed by MSSRF. The project was to be implemented within a period of five years, as informed by the Minister of State for Agriculture to Rajya Sabha in December 2008.



[13] Rashtriya Krishi Vikas Yojana (RKVY), Flood Management Programme (FMP), Seed Village Programme (SVP), Agricultural Technology Management (ATMA) Scheme, Coconut Development Board (CDB), National Project for Cattle and Buffalo breeding (NPCB) Scheme, Integrated Development of Small Ruminants and Rabbits (IDSRR) Scheme, National Wetland Conservation Programme (NWCP), grants under XIII Finance Commission (ThFC) and Development of Inland Aquaculture and Fisheries (DIAF).

Seventy five works (including sub works) are being implemented by 10 departments[14] and 11 allied agencies[15]. The total amount sanctioned and actual expenditure as on February 2014 was ₹ 1,261.31 crore and ₹ 314.43 crore respectively.

2.2.2 Scope of Audit

A Performance Audit was conducted during February 2013 to September 2013 covering the period from 2009-10 to 2012-13. The Performance Audit involved scrutiny of records of 17 projects covering 80 *per cent* of the total expenditure incurred under the Kuttanad Development Package (KDP), up to 31 March 2013, by various implementing departments/agencies. The criteria adopted for sampling is explained in detail in **Annexure VI.** Thrust was given to Irrigation as major share (*82 per cent*) of the outlay for the KDP was for this department.

2.2.3 Audit Objectives

The main objectives of this Performance Audit were to ascertain whether:

i) the project planning was effective and efficient;

ii) financial controls were in place, effective and adequate;

iii) project implementation was economic and effective to avoid cost and time over-run, at all stages of execution; and

iv) the principal objectives of strengthening ecological security, and, expanding sustainable livelihood opportunities in Kuttanad, were achieved to the extent implemented.

2.2.4 Audit Criteria

The implementation of various components of selected projects was audited with reference to the criteria derived from following documents:

i) M.S. Swaminathan Research Foundation Report;

ii) Guidelines/instructions issued by GoI with relation to Funding Schemes;

iii) State Government Orders released in connection with KDP;

iv) Kerala Public Works Account Code, Kerala Public Works Departmental Code and Manual of Public Works Department;

v) Sanctioned DPRs, sanctioned original/revised estimates, working instructions of projects; and

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[14] Irrigation, Agriculture, Fisheries, Soil Survey and Conservation, Animal Husbandry, Forest, Local Self Government Department, Health, Tourism and Social Welfare.

[15] Kerala Agro Industries Corporation (KAICO), Onattukara Vikasana Agency (OVA), Kerala State Seed Development Authority (KSSDA), Kerala Livestock Development Board (KLDB), Agency for Development of Aquaculture Kerala (ADAK), Fisheries Resources Management Agency (FIRMA), Kerala State Co-operative Federation for Fisheries Development Ltd.(MATSYAFED), Kerala Agricultural University (KAU), State Horticulture Mission (SHM), Suchitwa Mission and Asoka Trust for Research in Ecology and Environment (ATREE).

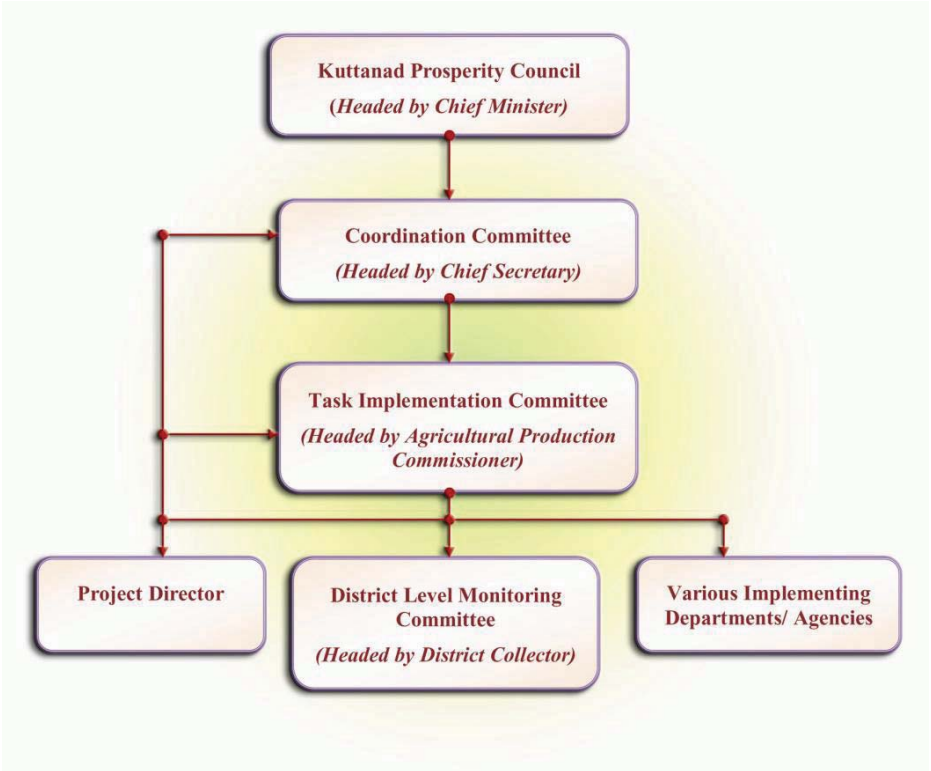
vi) Agreements executed between implementing departments and the contractors/beneficiaries and quality control reports of Rajiv Gandhi Institute of Technology and Kerala Agricultural University.

2.2.5 Audit Methodology

The methodology adopted for attaining audit objectives with reference to audit criteria consisted of explaining audit objectives to the Top Management in an entry conference held in April 2013, scrutiny of records at controlling office of the line departments and selected units, interaction with auditee personnel, analysis of data with reference to audit criteria, raising of audit queries, discussion of audit findings with Heads of department and issue of draft performance audit report to the Government.

The exit conference was conducted on 29 April 2014 with Additional Chief Secretary, Water Resources department along with various implementing officers and Audit observations discussed. The comments of the departmental authorities were taken into account and incorporated appropriately in the Report.

2.2.6 Governance structure for implementation of KDP



A separate wing headed by Chief Engineer, Kuttanad Package (CE/KP) was created (June 2011) for the purpose only in Irrigation department. The CE was assisted by 371 staff.

2.2.7 Audit findings

For the successful and smooth implementation of recommendations, the MSSRF divided various activities into 15 tasks which were interdependent. GoK, however, failed to implement some of these important tasks. The deficiencies noticed in planning and implementation of the KDP are discussed in the following paragraphs:

2.2.7.1 Inaction on priority/recommended tasks

Strengthening of ecological security:

- Non-identification of implementing agencies for Task 1 and 6 till July 2013 has resulted in failure to take even the initial steps to get approval/sanction from GoI.
- There was delay in preparation and forwarding of two DPRs in respect of Thaneermukkom Bund (TMB) and Thottappally Spilway (TSW) by the GoK in respect of Task 2. Consequently, the approval by the Ministry of Water Resources, GoI, is still awaited though they are ecologically important tasks (July 2013).
- Tender for Phase I of "Complete construction of Alappuzha Changanacherry (AC) Canal" was not finalised. DPRs for the remaining phases were yet to be approved (July 2013).
- Non-finalisation of design of the side protection wall for creating a wide channel between Rani and Chithira as well as C and D[16] blocks in *kayal*[17], a component of Task 2, is leading to delay in completion of an important flood control measure.
- Non-preparation of DPRs for Task 3 for execution of measures for pollution control is causing delay in addressing the issue of exceedingly high concentrations of plant nutrients, high levels of bacterial coliform, pesticide concentration and heavy metal contamination at distressing levels at different locations.

Expanding sustainable livelihood opportunities (Agriculture-based):

- Kuttanad is yet (March 2014) to be declared as a "Special Agricultural Zone" (Task 7) though it is an important task included in MSSRF recommendation for promoting an eco-system friendly farming, generation of additional economic activity, promotion of investment, creation of employment opportunity and development of farming infrastructure. The Prosperity Council could not take effective steps to declare Kuttanad as a Special Agricultural Zone.
- Implementation of Crop calendar, as recommended in Task 9 of MSSRF Report for facilitating sowing of *punja*[18] crop by November and its harvest by February, so as to enable opening of TMB by late February, could not be implemented up to October 2013, though the

[16] C, D, Rani and Chithira are the names for identifying *padasekharams* reclaimed from *Kayal* (Lake).
[17] *Kayal* is the malayalam word for backwater/lake.
[18] *Punja* crop is paddy cultivated in the largest area of Kuttanad, grown from November to February

Agriculture department prepared one in May 2012. Such a calendar would have facilitated longer opening time of TMB, which in turn would strengthen the general ecology of Kuttanad.

With regard to tasks yet to be taken up under both the groups, the Secretary (Agriculture department) stated (October 2013) that Director, Centre for Earth Science Studies (CESS) had been entrusted to prepare an integrated action plan with focus on restoration of water spread area of the lake, salinity and flood management, pollution control, prevention of soil erosion. It was further stated that a full-fledged crop calendar could be insisted only after strengthening outer bunds.

Failure to take effective steps to plan for implementation of these important tasks resulted in delay in achieving both the objectives of strengthening ecological security and expanding sustainable livelihood opportunities.

2.2.7.2 Physical and financial progress

The physical and financial progress achieved by various line departments/ agencies and the deficiencies noticed therein, are discussed below:

i) Physical Progress

The Scheme/Activity-wise status as of July/August 2013 covered under KDP is given in **Annexure VII.** The physical status of Irrigation and Agriculture department revealed that the targets set were not achieved adequately even after a period of five years since the approval of the Package (July 2008) resulting in non-achievement of intended objectives of KDP. Audit also noticed that the reported physical status did not match with actuals as exampled below:-

Sl. No.	Department / Agency	Scheme/Activity	Progress of implementation reported for the month July/August 2013	Audit findings
1	Kerala Agricultural University	Strengthening of ORARS[19] Lab complex	Strengthening of laboratory complex, renovation of existing laboratory and training hall including seed production unit and Mobile Agro Clinic cum mobile lab established	Structure for laboratory and Training Centre is yet to be completed (March 2014).
2	Agriculture	Agriculture Mechanisation- Distribution of 328 motors and 121 *Petty-para*	Distributed 328 motors and 121 *petty para*[20]	Partly completed.
3	Irrigation	*Orumuttus* creation of 33 permanent Kottachira across Kariyar	Work implemented under XIII Finance Commission Award	Regulator across Kariyar not completed. Only one *orumuttus* out of 33 completed.

[19] Onattukara Regional Agricultural Research Station

[20] *Petty para* is an indigenous pumpset used for dewatering paddy fields for enabling cultivation.

ii) Financial Progress

Though GoI fully approved the recommended tasks of MSSRF with an outlay of ₹ 1,840.75 crore, GoK decided (October 2008) to implement projects for ₹ 1,825.75 crore, after excluding the seventh task of declaring Kuttanad a 'Special Agricultural Zone' with an outlay of ₹ 15 crore. The funds sanctioned, released and utilised as of July 2013 is given in the following table:

(₹ in crore)

Department/Institution	Funds sanctioned	Funds released	Funds utilised as of July 2013
Irrigation	821.99	144.80	112.79
Agriculture	131.59	71.64	68.61
State Horticulture Mission	15.23	9.40	9.29
Kerala Agricultural University	42.06	31.28	10.15
Animal Husbandry	46.81	25.55	13.43
Kerala Livestock Development Board	5.26	3.18	2.87
Fisheries	24.43	10.84	5.77
Forest	4.95	2.75	2.72
Fisheries Resources Management Agency	21.29	8.68	8.68
Tourism	0.50	0.50	0.12
Suchitwa Mission	5.93	3	0.02
Local Self Government	9.54	4.45	0.11
Health	0.22	0.22	0.50
Agency for Development of Aquaculture, Kerala	20.71	13.20	9.69
Soil Conservation	15.25	7.28	6.76
Total	**1,165.76**	**336.77**	**251.01**

(*Source: Status Reports compiled by Project office available in official website of Kuttanad Package*)

2.2.8 Deficiencies in Management

2.2.8.1 Financial Deficiency

i) Maintenance of Accounts

The implementing departments receive funds from GoI and GoK. Though the Irrigation and Fisheries departments had sub heads for ongoing Central schemes for booking expenditure, other eight departments had no such budget heads. As a result, expenditure on KDP could not be easily identified and correlated with the amount booked in the State's account.

Short release of funds was mainly seen in the Irrigation department. Audit observed that the delay in preparation and submission of DPRs and under-utilisation of earlier instalments of funds led to delay in release of funds.

ii) Non-utilisation of sanctioned fund by Irrigation department

Funds for projects under KDP entrusted with the Irrigation department were released from Flood Management Programme (FMP) and XIII Finance Commission (ThFC) grants. The CE (KP) was maintaining two Special Treasury Savings Bank (TSB) Accounts[21] with the District Treasury Alappuzha.

Total provisions in the Budget and expenditure details of FMP Schemes disclosed the non-utilisation of sanctioned fund as given below:-

(₹ in crore)

Year	Total grant in Budget (Original *plus* Supplementary)	Expenditure	Surrender
2010-11	84.63	36.48	48.14
2011-12	350.00	2.79	347.21
2012-13	200.00	100.95	98.81
Total	**634.63**	**140.22**	**494.16**

(*Source: Compiled by audit from details furnished by Irrigation department*)

From the above table it could be seen that out of ₹ 634.63 crore sanctioned, ₹ 494.16 crore was surrendered due to delayed implementation of projects. It was further seen in audit that out of ₹ 140.22 crore shown as expenditure, an amount of ₹ 51.61 crore was lying in TSB Account (March 2013).

In addition to above, the Irrigation department received ₹ 24.72 crore[22] from ThFC grants as some projects did not match with FMP guidelines. Out of this, only ₹ 8.40 crore was spent and the unutilised balance of ₹ 16.31 crore was kept in the TSB account (March 2013). Thus, total unutilised balances in two TSB accounts stood at ₹ 67.92 crore.

The slow progress in implementation of the projects had adversely affected the agriculture in Kuttanad due to saline intrusion as barriers remained incomplete and outer bund breach due to non-strengthening of outer bunds.

2.2.8.2 Organisational Deficiency

On approval of Project by GoK in October 2008, an Indian Forest Service Officer, was appointed[23] (December 2008) as the first Project Officer for Kuttanad Package, for co-ordination of various implementing departments/agencies and to liaison with the Central/State Governments for obtaining required funds for different Tasks/Activities. Currently an Indian Administrative Service Officer is holding additional charge of Project Officer with effect from 23 May 2013.

KDP is to be implemented through 10 departments and 11 allied agencies spread across three districts. The Project Officer was to co-ordinate with different line departments and agencies implementing the projects and to

[21] Account Nos. 4821 for FMP and 4868 for ThFC.
[22] ₹ 11.68 crore in 2011-12 and ₹ 13.04 crore in 2012-13.
[23] Government Order (Rt.) No.9555/08/GAD 9 dated 12.12.2008.

facilitate the preparation and submission of DPRs by line departments under the existing schemes to obtain funds from the Government for tasks envisaged in the Package. Instead of approving the request by the Project Officer for a Special Purpose Vehicle as recommended in MSSRF Report, the Co-ordination Committee decided (October 2010) to strengthen the Project Office by providing additional staff including a Public Relations Officer to improve the co-ordination activities. But this was not yet done. Audit noticed that there was no co-ordination among these departments and with Project office. Decisions taken at different levels within the different departments were not known to the other departments and even to the Project Officer. Further, funds were released directly to the line departments. Project Officer had no financial monitoring over these departments. Hence the Project Officer could not synchronize different activities of the line departments and agencies which were vital for proper implementation. His functions were limited only to transmission of the DPRs for approval and compilation of progress reports as and when received. Project Office intimated (November 2013) Audit that Agriculture, Animal Husbandry, Soil Conservation and SHM submitted their progress only on request.

GoI, with the concurrence of State Government, decided to fund KDP under on-going Central Schemes. Hence the requirements of several tasks could not be accommodated within the guidelines of such schemes, causing deviations from the recommendations of MSSRF. The Secretary to GoI (Agriculture and Co-operation) stated (February 2009) in a review meeting that the Package was quite flexible and the State Government had the discretion to decide the funding sources for projects. Therefore, State Government could have explored alternate funding sources without violating the recommendations.

The details of meetings conducted by the three important Committees from inception to March 2013 are given below:-

Name of Committee	Chaired by	Committee formed on	No. of meetings held during each financial year
Kuttanad Prosperity Council	Chief Minister	15 October 2008	2008-09: 1 2009-10: 2 2010-11: 1 2011-12: 3 2012-13: 1
Coordination Committee	Chief Secretary	15 October 2008	2008-09: 1 2009-10: 7 2010-11: 5 2011-12: 3 2012-13: 1
Task Implementation Committee	Agricultural Production Commissioner	15 October 2008	2008-09- 1 2009-10: 5 2010-11: 4 2011-12: 2 2012-13: 1

It was also seen in audit that all the three committees had conducted only one meeting during 2012-13. This indicated the poor monitoring of the implementation of KDP.

2.2.9 Issues relating to Irrigation department

Irrigation department had a significant role in the implementation of KDP as projects involving an outlay of ₹ 1,518.50 crore (82 *per cent*), out of the total project cost of ₹ 1,840.75 crore was to be executed by that department. The department, however, had not drawn up a comprehensive plan, determining the time line and quantum of work for effective execution of the project as discussed in the following paragraphs.

2.2.9.1 Delay in preparation and submission of DPRs

The total projected cost of 13 DPRs prepared by the Irrigation department amounted to ₹ 3,804.65 crore (July 2013) (**Annexure VIII**) which showed an increase of 151 *per cent* over the projected outlay of ₹ 1,518.50 crore. The projected cost was based on the Schedule of Rates (SoR) of 2006 and there were revision of SoRs every year. Thus, delayed submission of DPRs, approval from GoI and invitation of tenders led to huge escalation in cost of the project. The delays at various stages in planning are detailed below:-

- As the DPRs prepared by Agriculture department were not in conformity with the FMP guidelines, same were rejected by GoI in December 2008. Consequently, a task force was formed for preparation of revised DPRs in Irrigation department (February 2009) which took nine months (November 2009) to send the first DPR. Lack of clarity regarding the funding scheme and long line of institutional approvals for sanction were other noted reasons for delay.
- The Irrigation department submitted two[24] DPRs with an estimated cost of ₹ 631.90[25] crore in September/November 2010, the implementation period of which spilled over beyond XI Plan period (2007-12). Hence, GoI partly approved (May/November 2011) the DPRs for ₹ 176.13 crore for the XI Plan period. The unapproved portion of the DPRs amounting to ₹ 451.31 crore has to be met by GoK which included, GoI share of ₹ 338.48 crore (75 *per cent)* of project cost. Since the FMP guidelines clearly stated that it was only applicable to XI Plan, DPRs should have been prepared immediately on approval (July 2008) of the Package by GoI.
- Five DPRs, prepared for assistance under FMP, estimated at ₹ 2,978.05 crore, remained unapproved (July 2013), which include ecologically important DPRs such as Modernisation of TMB and TSW. GoI intimated (April 2013) the State Government that Package period was over, but implementation of sanctioned schemes could be continued. Consequently, the delay in preparation of DPRs may provide additional burden to GoK to the tune of ₹ 2,233.54 crore (75 *per cent* of ₹ 2,978.05 crore) to complete the recommended projects in their full scope.

[24] Mitigation of floods in Kuttanad Region Phase I- 231 padasekharam (₹ 379.15 crore) and Mitigation of floods in Onattukara region (₹ 252.75 crore).

[25] Investment Clearance obtained from Planning Commission was for ₹ 627.44 crore, against estimated cost of DPRs amounting to ₹ 631.90 crore.

2.2.9.2 Implementation

The projects under Tasks 2 and 8[26] recommended in the MSSRF Report with an estimated cost of ₹ 1,518.50 crore was entrusted to the Irrigation department which were further divided into eight sub-tasks/programmes /interventions. Audit test checked the works executed under KEL I and II[27], Regulation of flood water in *kayal* near C and D, Rani and Chithira and Construction of Bridge-cum- Regulator across Kariyar and found that projects remained incomplete even after the scheduled date of completion of three projects. In the exit conference the ACS stated that in respect of the time lag in the implementation of the package, though the scheme was sanctioned in 2008 "in principle", it was conceptualised in 2009 and launched in 2010. The remark is not acceptable to audit as GoI had intimated (April 2013) GoK that the implementation period of the package is over. Moreover, Audit observed that there was deviation from the recommendations of MSSRF on actual execution. The said aspects are discussed in succeeding paragraphs.

i) Incorrect fixing of outer bund height

Paddy fields in Kuttanad exist in clusters called *Padasekharams*, which are bound by an outer bund, to protect them from surrounding water bodies. Strengthening of outer bund during every crop season is very crucial to safeguard crop from frequent flooding and intrusion of saline water. Works relating to outer bund strengthening and allied infrastructure were funded under FMP. The bund height recommended in the Report was to be determined by reckoning the average flood level during the last 10 years. Against this the bund height was arrived at by reckoning the flood frequency of 25 years (FMP guidelines), consequently increasing bund section and cost. The bund height recommended by MSSRF was to avoid problems of adverse ecological impact from reduced flood plain. As flood mitigation was one of the important services performed by the Kuttanad Wetlands, which included paddy polders[28], constructing a higher outer bund to paddy polders than recommended, would cause flooding in the inhabited area as the bund would not be submersible and hence would not allow the flood waters to overflow in to the paddy polders.

Thus the decision of the Irrigation department to deviate from MSSRF recommendation had resulted in defeating the objective of enabling the *padasekharams* of Kuttanad Region to function as flood plains.

ii) Usage of pile and slabs instead of bio-bunding for outer bunds resulting in adverse effect on ecology and reduction in water spread area

The Report had recommended[29] that the material to be used for protecting water-facing sides of outer bunds should be stiff clay, wherever feasible, with

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[26] Task 2 Effective flood and salinity management under Strengthening Ecological Security and Task 8 Provide Infrastructural Support to Paddy cultivation under the group "Strengthening Livelihood Security-Agriculture based livelihoods".

[27] KEL I, II are scheme codes assigned to approved schemes by Ministry of Water Resources, GoI.

[28] Group of paddy fields.

[29] Paragraph 8.1.2

bio-bunding on the water side, while restricting rubble masonry to areas where requirement of strength was critical. As against this, the Irrigation department constructed pile and slab type protection, using costly Reinforced Cement Concrete.

The Associate Director of Research at Regional Agricultural Research Station, Kumarakom opined (November 2013) that natural bund made of stiff clay is better suited for the flora and fauna in the lake. It was also stated that the egg depositing substratum and feeding ground for many fishes including the much caught *Karimeen*[30] (Pearl Spot) are natural hard objects and small plants in the shallow waters. Hence conversion of such bunds to a vertically built smooth pile and slab structure will definitely hinder the feeding and breeding activities of fishes.

Thus, the decision to protect the bunds with pile and slabs defeated the very purpose of implementation of the Project.

Pile and slabs were erected on the *kayal* bed at a distance of 0.80 to 1.00 m away from face of outer bunds, despite specific recommendation of MSSRF that the task of strengthening outer bunds should not reduce canal width. Reduction of water spread area had adverse impact on flood plain services of the wetlands, resulting in increased frequency of floods.



The Member Secretary, Planning Commission, GoI, observed (January 2012) that using pile and slab over rubble masonry was duplication of work and expensive with no additional benefits. It was directed to strengthen the existing rubble masonry and pile and slab need be provided only in areas where rubble masonry did not exist, however the department did not adhere to the directions.

To the remarks that the strengthening of the bunds with rubble masonry in terms of MSSRF recommendations instead of pile and slab structure, the ACS stated in the exit conference that the work of pile and slab was carried out only in five *per cent* of length proposed due to high cost. The remark is not tenable

[30] Pearl spot is a highly demanded and priced variety of fish, which is declared the State Fish.

as the work of pile and slab was not recommended by MSSRF as it would not allow seepage of water through rubble masonry.

iii) Cost escalation amounting to ₹ 1.05 crore due to change in width of outer bunds after approval of DPR by GoI

The MSSRF Report recommended to provide an outer bund with a top width of 3 m for road space, facilitating movement of farm machinery. However, approved DPRs under the schemes KEL I and II had proposed outer bunds of 2 m width. In the Co-ordination Committee meeting convened (October 2010) by the Chief Secretary to GoK, the department informed that DPRs with 2 m bund width was prepared based on decisions taken during earlier meetings to ensure that Kuttanad was not converted into a real estate haven. Later, the Kuttanad Prosperity Council decided (January 2011) to provide width of 3 m, based on necessity in *Kayal* areas and Lower Kuttanad. Accordingly, the estimates were revised and consequent increase in estimate was ₹ 1.05 crore. Since approved cost was firm, additional expenditure of ₹ 1.05 crore will have to be borne by GoK.

The ACS remarked in the exit conference that the excess cost would be borne by the State.

iv) Unwarranted strengthening of outer bunds for Rani and Chithira under FMP resulted in avoidable expenditure of ₹ 17.31 crore

MSSRF Report recommended to strengthen outer bunds to Rani (T block) and Chithira (Q block) *padasekharams* comprising of 402 hectare, lying abandoned for years together due to abuse by dredging and not suitable for paddy cultivation, to enable regular cultivation. In case, this could not be done, it was suggested to convert these blocks into a fishery sanctuary. The Irrigation department carried out the work of strengthening of outer bunds of these *padasekharams*. As per the progress report compiled by the CE (KP) the work was incomplete and hence neither of the recommended objectives could be achieved despite spending ₹ 17.31 crore. The Irrigation department took up this work on priority basis despite knowing the fact that the land was abandoned for a long time and not suitable for paddy cultivation. In this connection, Audit noticed that an amount of ₹ 13.34 crore was paid as compensation to farmers of Alappuzha district alone for crop loss arising due to bund breach during the period 2009-10 to 2012-13. Expenditure incurred on repair of breach of bunds during the same period in Alappuzha and Kottayam districts was ₹ 1.16 crore.

This unwarranted work also came up for discussion in the Task Implementation Committee meeting, where the officials from Irrigation department admitted (September 2011) that bund constructed in Rani and Chithira was not necessary and was a mistake. Thus, this amount could have been used for strengthening outer bunds to *padasekharams* which were vulnerable to breach.

v) Slow progress in implementation of the project

KEL-I

This scheme for mitigation of floods in 14 *Padasekharams* (KEL I[31]) in Nedumudy *Panchayat*, Alappuzha district received investment clearance in May 2010. The scheme was sanctioned for a cost of ₹ 24.70 crore, under FMP, at the 2009 SoR and was to be completed by 31 March 2012. Works included raising and strengthening existing bunds by using clay excavated from adjacent water bodies, protection with rubble masonry etc. Audit found that as against stipulated period of completion of March 2012 for 14 works, only two were completed.

The CE (KP) reported (April 2013) to GoK that works could be completed only by March 2014. Reasons attributed for slow progress of the scheme was delay in according Technical Sanctions (TS), difficulty in transporting materials to site, scarcity of materials, obstruction to work due to cultivation etc. The reasons stated were not acceptable as the responsibility of according TS rested with the same department and the fact that the works could be executed only by bringing materials to the site was known both to the department and the contractors. Due to the slow progress of the works and expiry of approved time of completion, ₹ 11.10[32] crore, being balance portion of Central Share receivable, was not released as of March 2013.

KEL-II

The works consisted of cutting of existing barriers and constructing channels between C and D as well as Rani and Chithira blocks to regulate flood waters as shown in the diagram below, strengthening of their outer bunds and raising and strengthening of existing outer bunds of five *padasekharams* in Group nine. The estimated cost of the scheme (KEL II) approved (July 2010), under FMP, was ₹ 118.91 crore. Though it was scheduled for completion by 31 March 2012, no works were completed as of March 2013 and physical progress achieved ranged from 20 to 71.50 *per cent.*



Barrier to be opened between C -D and Rani - Chithira blocks.

[31] KEL I and KEL II are codes assigned by GoI to Schemes while according Sanction.
[32] 75 *per cent* of 24.70 – 7.425

The CE (KP) reported (April 2013) to GoK that these works also could be completed only by March 2014. Reasons attributed for delay by the department in implementing the scheme was time-lag in according TS and tendering, difficulty in transporting materials to site, litigation, non-sanction of Revised Estimates (RE) despite their submission nine months back, etc. REs for C, D blocks and Rani, Chithira blocks were pending approval from Finance department and approval for structural adequacy and design from the Irrigation Design Research Board. On the delay being pointed out in audit CE, (KP) replied (July 2013) that no milestones/time-frames were fixed for implementation of the project and that department was unaware of any time-frame for implementation. Moreover, due to the slow progress of the works and expiry of approved time of completion, ₹ 74.18[33] crore, being balance portion of Central Share receivable, was not released as of March 2013.

Audit observed that there was delay ranging from two to 10 months for according TS by GoK. The RE was necessitated as length of pile and slab provided as well as the design of the protection wall was insufficient despite the fact that DPR was prepared by an expert team.

Further, delay in work resulted in denial of intended benefit to the farmers and non-release of subsequent instalments of Central Assistance. It was also observed that substantial variations brought after GoI's approval to estimates, would further burden the State's resources as the estimate cost approved by the GoI was firm.

vi) Crop loss due to non-completion of salinity barriers

MSSRF recommended[34] construction of 33 *Orumuttus* or salinity barriers in order to prevent intrusion of salt water into paddy fields. It was observed in audit that proposals were approved for only five numbers of which only one work could be completed. Thus, due to non-completion of the salinity barriers, total crop loss assessed in Kuttanad region due to salinity intrusion for the period from 2010-11 to 2012-13 was ₹ 16.25 crore.

vii) Payment on incidental items of work in violation of tender conditions resulted in undue benefit to the contractor ₹ 73.36 lakh

During execution of the work of Bridge-cum-Regulator across Kariyar, RE was proposed with increase in dimensions of ring bund - 'Putting up ring bund with 6.25 m average bottom width and 4 m average top width' was introduced as an extra item to substitute the originally agreed item of 'Putting up ring bund with bottom width of 4.25 m average and top width of 3.00 m average etc'. The Irrigation department stated (May 2012) that the substitution was necessitated as the actual depth of water to be held was 6.5 m against 2.5 m proposed, the quantity of earthwork excavation for preparing the bed increased and ring bund section provided was unable to withstand heavy vibration caused by the six piling rigs working simultaneously after dewatering. On consideration of the RE, Water Resource department (WRD) directed (November 2012) to review the expensive design, since the original rate for the item was only ₹ 5,283/m against ₹ 25,014/m proposed in RE. But CE (KP)

[33] 75 *per cent* of 118.913 – 15.
[34] Sub task 8.1.7 under Task 8 of MSSRF Report.

declined (December 2012) the possibility of reducing the RE, as provision was the least and the minimum required for satisfactory completion of work and RE was approved by WRD in March 2013.

In terms of Clause 5 of Special conditions of Contract the rate quoted by the tenderer for schedule items of work shall cover such charges as are incidental and for proper execution of the item of work. The clause also stipulated that no extra claims on account of incidental charges, like ring bund etc., carried out as per necessity for proper execution of the item shall be admissible. Since the contractor would have reckoned site conditions before quoting his rate, and as the RE did not propose change in the site or type of foundation, any additional provisions for ring bund which was incidental to the work, relating to concreting of pile and its cap, was to be borne by the contractor.

Thus, the revision of estimate for proposing increase in dimension of ring bund resulted in additional expenditure of ₹ 73.36 lakh[35] and extension of undue benefit to the contractor.

viii) Injudicious decisions led to cost escalation of ₹ 2.34 crore and delayed the arrangement of works

Tenders for the works costing ₹ two crore and more in the Irrigation department had to adhere to the Pre-qualification (PQ) process, where a minimum of four pre-qualified contractors were necessary to ensure fair and reasonable competition in a PQ process. Otherwise, the works had to be re-tendered and finally open tender should be resorted to, if necessary.

Due to absence of the stipulated minimum number of PQ tenderers for the three works as detailed in the Table below, CE requested (September 2010) WRD, GoK to relax the stipulation of minimum number of participants for a PQ tender process to avoid cost escalation. WRD, however, turned down the request because such relaxation required concurrence of Finance department and approval of Council of Ministers which was time consuming and hence directed CE (KP) to revise the estimate based on SoR 2010 and re-tender the works. Complying with the above directions the three works were re-tendered. Details of the works are given below:-

(₹ in crore)

Sl. No.	Name of work	Estimated PAC on original tender (SoR 2009)	Estimated PAC on subsequent award of work (SoR 2010)	Cost escalation in estimate	Accepted PAC
1.	KP-FMP-Mitigation of flood in Manthrakkal Ganapathypadom in Group I *padasekharams*	4.01	5.23	1.22	4.76
2.	KP-FMP-Mitigation of flood in Muttanavelipadom in Group I *padasekharams*	3.21	4.16	0.95	4.16
3.	KP-FMP-Mitigation of flood Puthenkarypadom in Group I *padasekharams*	2.14	2.78	0.64	2.78
Total		**9.36**	**12.17**	**2.81**	**11.70**

(Source: Compiled by Audit from the information furnished by Irrigation department)

[35] (₹ 25,014 – ₹ 5,283) x 361m x 1.03 (3 *per cent* tender excess).

As seen from the above table the works were initially tendered based on SoR 2009, but retendered based on SoR 2010. In respect of three works, under KEL I, total cost escalation in estimate was ₹ 2.81 crore and works were finally awarded at total cost of ₹ 11.70 crore.

It was observed that in a similar situation, when the CE requested (January 2012) for relaxation of PQ requirement, WRD gave its consent on the grounds that Irrigation and PW departments were one and the same before bifurcation and they follow the same Manual and SoR. Had such an approval been given on the earlier request, cost escalation of ₹ 2.34[36] crore could have been avoided. Considering the fact that the cost approved by GoI for the scheme was firm, and no cost escalation would be considered, the State will have to bear the escalated cost.

2.2.10 Impact of Observations

i) Ecological Impact

Sl. No.	Para No.	Subject of Para	Ecological Impact
1	2.2.7.1	Non-identification of implementing agencies of Task 1 and 6	Restoration of water spread area to increase accommodation of floods could not be achieved
2	-do-	Non-approval of DPRs for TMB and TSW	i) TMB was erected to prevent the intrusion of salinity into the paddy fields, but the structure was not completed as envisaged. Modernisation of TMB was recommended for better control of salinity and to prevent ecological decay, as it would facilitate expunging of aquatic weeds and impurities from KWS and also to increase fishery wealth. Non-implementation of the project failed to achieve the projected benefits. ii) Improving efficiency of TSW aimed at improving flood control, but the stated objective could not be achieved as the project could not be implemented.
3	-do-	Work of 'Complete construction of AC canal' not taken-up	Flood Control was the major objective of the work. As this project did not take off, Kuttanad continues to be affected by floods.
4	-do-	DPR for Task 3- 'Measures for Pollution Control' not prepared	Due to non-implementation of the task, water pollution due to plant nutrients and bacterial coliform in high concentration continued. Similarly, the pesticide concentration and heavy metal contamination in water remained at distressing levels.
5	-do-	Non-implementation of Crop Calendar	Non-enforcement of Crop Calendar resulted in the TMB remaining closed for a longer duration, thus affecting general ecology and its decay.
6	2.2.9.2 (ii)	Usage of Pile and Slab instead of bio-bunding for outer bunds resulting in adverse effect on	i) Construction of vertically built pile and slab with smooth surface will hinder the feeding and breeding activities of fishes. ii) Erection of pile and slab on the *kayal* bed

[36] ₹ 11.70 crore - ₹ 9.36 crore

		ecology and reduction in water spread area	at a distance of 0.80 to 1.00 m away from the existing face of the bunds resulted in reduction of canal width, thus reducing water spread area. Reduction of water spread area had adverse impact on the floodplain services of wetlands, which would result in increasing frequency of floods.

ii) Financial Impact

Sl. No.	Para No.	Subject of Para	Financial impact (₹ in crore)
1	2.2.7.2(ii)	Financial Progress- Under utilisation	251.01
2	2.2.8.1(ii)	Non-utilisation of sanctioned fund by Irrigation department 1. FMP provision 2. ThFC grants	 494.16 16.32
3	2.2.9.1	Delay in preparation and submission of DPRs (Irrigation) 1. Possible financial burden on GoK due to partial sanction of two schemes. 2. Possible financial burden on GoK due to non-approval of DPRs.	 338.48 2,233.54
4	2.2.9.2(iii)	Cost escalation due to change in width of outer bund.	1.05
5	2.2.9.2(iv)	Unwarranted strengthening of outer bunds of Rani-Chithira *padasekharams*.	17.31
6	2.2.9.2(v)	Strengthening of outer bunds of 14 *Padasekharms* in Nedumudy *Panchayat* (KEL I) – Non- receipt of Central share receivable due to slow progress of work.	11.10
7	2.2.9.2(v)	Strengthening of outer bunds of five *padasekharams* in Group nine and demolishing barrier between C-D blocks and Rani- Chithira blocks (KEL II)- Non-receipt of Central share receivable due to slow progress of work.	74.18
8	2.2.9.2(vi)	Crop loss due to non-completion of salinity barrier.	16.25
9	2.2.9.2(vii)	Payment on incidental items of works for construction of Bridge-cum-Regulator across Kariyar.	0.73
10	2.2.9.2(viii)	Injudicious decision led to cost escalation and delayed arrangement of works.	2.34
Total			**3,456.47**

2.2.11 Conclusions

- Ecologically significant projects such as Protection and restoration of *Kayal* water-spread area, Modernisation of Thaneermukkom Bund and Thottapally Spillway, Flood control in *kayal* area, complete construction of AC canal, declaring Kuttanad as Special Agricultural Zone and Enforcement of a crop calendar could not be implemented so far. Thus, by not taking effective steps to implement these important tasks, GoK failed to achieve the prime objective of strengthening ecological security.
- The Project Officer failed in his role as a Co-ordinator in implementing the Project.
- Though ₹ 1,165.76 crore was sanctioned, only ₹ 336.77 crore (29 *per cent)* was released by GoI/State Government.
- Failure to conduct regular meetings of the Kuttanad Prosperity Council, Coordination Committee and Task Implementation Committee led to poor monitoring of implementation of the package.
- Reasons for short release of funds were the delay in preparation and submission of DPRs and under utilisation of funds released. Of the released funds, ₹ 67.92 crore (March 2013) remained idle in Special TSB Accounts maintained by Irrigation department.
- Delay in preparation and submission of DPRs by Irrigation department resulted in cost increase by 151 *per cent* of the recommended outlay, non-receipt of ₹ 338.48 crore due to partial approval, and possibility of burdening GoK to the tune of ₹ 2,233.54 crore, being 75 *per cent* (Central share) cost of unapproved DPRs.
- Deviation in implementation of Projects from MSSRF recommendations such as fixing bund height, usage of pile and slab instead of bio-bunding resulted in reduction of flood plain and water spread areas, apart from affecting the feeding and breeding activities of fishes.
- Strengthening of outer bunds of Rani and Chithira blocks, which was unsuitable for paddy cultivation, resulted in unfruitful expenditure of ₹ 17.31 crore. These funds could have been effectively used where risk of natural calamity was imminent and approved projects were available for implementation.
- Due to non-completion of salinity barriers, as recommended in the Report, salinity intrusion caused crop loss amounting to ₹ 16.25 crore during 2010-11 to 2012-13.
- Of the 14 works for strengthening outer bunds under KEL I, only two could be completed as of March 2013, though the approved time of completion expired in March 2012. Similarly, all the three works under KEL II scheme remained incomplete (March 2013) even after a year had elapsed since expiry of stipulated completion date of 31 March 2013. Non-completion of works as per schedule was due to laxity on the part of the Irrigation department, which also resulted in

non-release of subsequent installments of Central shares and denial of intended benefits to the farmers.

2.2.12 Recommendations

- GoK may take effective steps to implement ecologically significant projects.
- The meetings of various committees may be held regularly to monitor/ review the progress achieved by implementing departments/agencies.
- Effective steps may be taken to secure the balance unreleased funds in respect of sanctioned projects by GoI and speed up implementation of projects so that funds do not idle in special TSB accounts.
- Efforts may be initiated to obtain early approval from GoI in respect of unapproved projects.
- Deviations from recommendations should be avoided, especially where the ecology of the Kuttanad is affected.
- *Padasekharams* may be prioritised according to their vulnerability to bund breach and balance 28 salinity barriers recommended by MSSRF may be taken up immediately for construction.
- Works under the Schemes KEL I and II may be fast tracked to complete it without further delay.