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Development and Management of Research and Office Information system – Facility Development

[Final Report of the Research Project RP 664/2013]

E. A. Jayson

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Research Coordinator, RME Unit

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Title of the project	:	KFRI RP-664/2013-Development and Management of Research and Office Information system- Facility Development.
Objectives	:	• To coordinate, manage, monitor and evaluate projects running and completed. • To convert the stored details of the Virtual Office to a database retrieval system. • To record the main activities of the projects to this information system. • Manage and maintain the information system thus evolved.
Principal Investigators Address	:	• Dr. E. A. Jayson (From 1 December 2013 to 28 February 2017) Research Coordinator RME Unit, KFRI,Peechi, Kerala 680653 • Dr. M. Balagopalan (July 2013 to 30 November 2013) Research coordinator RME Unit, KFRI,Peechi, Kerala 680653
Co- Investigator	:	Mr. A. R. Rajan (July 2013 to 31 July 2014)
Address		RME Unit, KFRI,Peechi , Kerala 680653
Project Staff	:	

Project Fellows

Ninto Antony	05-Jul-2013 to 04-Oct-2013
Ragi P G	11-Jul-2013 to 02-Mar-2015
Bineesh V	19-Oct-2013 to 16-Nov-2013
Aswathy C G	11-Dec-2013 to 28-Feb-2017
HindujaHariharan	11-Jun-2015 to 10-Nov-2016

Technical Assistants

Nidhin P P	05/Jul/2013 to 13/Nov/2013
Sohan I S	05/Jul/2013 to 02/Aug/2013
Vijil V	11/Oct/2013 to 20/Nov/2013
Shiya V R	13/Dec/2013 to 28/Feb/2017
Rejitha K J	30/Jan/2014 to 30/Mar/2015

Project tenure	:	July 2013 – February 2017

Contents

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I am thanking Dr. M Balagopalan (Former Research Coordinator), Mr. A. R. Rajan, Scientist E, RME Unit for their support and initiating this project. I am also grateful to Dr. P.S. Easa (Former Director, KFRI), Dr. P.G. Latha (Former Director, KFRI) and Dr. Bransdon S. Corrie, Director, KFRI for their constant encouragement and valuable suggestions at all stages of the project implementation.

The project was immensely assisted by the hands on work of Mr. Abdhul Vahab T. M. (Typist) and Mrs. Sujatha C. (Office Attendant). I record my thanks to all the project staff who worked in the project. I am also much thankful to Ms. Ragi P.G., Project Fellow for whole heartedly assisting in the preparation and typing of the manuscript.

Dr. E. A. Jayson
Research Coordinator

ABSTRACT

Research evaluation and monitoring Unit was established on 1st April 1997 to coordinate and monitor the progress of various research projects, and to evaluate the findings in the final research report. Monitoring and evaluation are vital management utilities that are essential and equally useful for the progress of projects. They help ensure accountability in the use of resources, provide a clear basis for decision making and offer practical lessons from experience to guide future development interventions. The research monitoring and evaluation unit has overall control on the research and supporting work executed in the Institute. The unit monitors all project activities, expenditures and progress towards achieving the project output and provide recommendation for further improvement of the logical frame work. The unit reports the progress of the projects monthly, quarterly, half-yearly and annually on all project activities to the Kerala State Council for Science, Technology and Environment and other concerned funding agencies on demand. In the earlier (KFRI 576/2009) Research Project entitled "A compendium of project profiles and a digital archive of project records in Kerala Forest Research Institute" an archiving system had been developed. It needed changes in the database and software to be more user friendly. The present project KFRI RP 664/2013 "Development and Management of Research and Office Information system- Facility Development", is intended to do the above purpose apart from daily monitoring and evaluation of the projects.

This project was initiated with a component for digitizing the information and communications associated to the research and administration in the RME Unit and a component for the development of a software module to automate the RME Unit. Another objective was to make changes in the database and software to be more user friendly by adding new modules. Apart from the support to research and administration work, RME Unit has developed software tools needed for data analysis, daily monitoring and management of the day-to-day functioning in RME Unit. The developed software is named as OAIS, which has four inter related packages/modules namely 1. Leave/Tour application module 2. Advance Request module 3. Sanction Order Request module and 4. Tax Report mining module. The software was developed after completing the system analysis and the Flow chart and other operating details are given in the report.

During the project period, 68 Research Projects (RP) were sanctioned, 65 Extension Projects (EP) implemented, 34 Training Programmes (TP) conducted and three Consultancy Projects (CP) were also executed. All the above projects were monitored and reviewed as required by the RME Unit. Assisted in the annual budget preparation of the Institute by preparing the research module of the annual budget. Apart from the above, RME Unit supported the answering of Right to Information Act enquiries, prepared reports to Central and State Government Departments, KSCSTE and other funding agencies and provided full administrative support to Director and Registrar for efficient management of the Institute.

RME conducted four Research Council meetings of KFRI during the period from July 2013 to February 2017 as follows:-

1. 19th Research Council meeting on 25th April 2014
2. 20th Research Council meeting on 19th September 2014
3. 21st Research Council meeting on 14th May 2015
4. 22nd Research Council meeting on 18th& 19th November 2015.

The project paved the way to streamline the research activities of the Institute, apart from developing a software for efficient functioning of the Institute.

1. INTRODUCTION

The Kerala Forest Research Institute (KFRI) is an Institution primarily meant to fulfill the forestry research requirements of the Kerala State. Research, Monitoring and Evaluation Unit (RME) was established for the sound implementation of the research projects in the institute. The prime responsibility of Research Monitoring and Evaluation Unit is to improve the project implementation, so that ultimate objectives of the project can be met and periodical measures taken to achieve these objectives.

RME Unit monitor the quantity, quality and timing of input delivery and output produced and assess the efficiency of the result thus gained. Monitoring usually includes the tracking of both financial and physical activity through regular quantified reports. Financial details are usually verified at the stage of project proposal presentation in Research Council meetings. The relationship between financial expenditure and physical output are not usually evaluated in the RME Unit and hence little is known, whether the lower costs would have produced equivalent results. The results are verified by evaluating the report by a panel of experts from the Institution and also outside.

It is essential for KFRI to produce a precise and cutting-edge annual budget in order to continue the control over the funds and to present before the KSCSTE and other funding agencies. RME Unit is accountable to do the periodic annual budget preparation of the Institute. RME Unit is responsible for hosting the Research Council meetings once in six months to ensure the excellence in the research projects to be initiated, progressing and completed in the Institution. RME is responsible for implementing the directions, procedures and remedial measures indicated by the Research Council members who are experts in forestry and allied fields.

As per the ‘Right to Information Act 2005’ of Govt. of India, Kerala Forest Research Institute is also responsible for timely response to citizen requests. To promote transparency

and accountability in forestry and areas related to forest research, RME Unit is responsible to prepare reply to the queries related to research.

It is the responsibility of the institution to report the progress of the research projects to the funding agency. RME Unit is also answerable for the queries regarding the progress of projects, annual progress reports, final Technical reports, reports on equipments, patent and invention details. RME Unit is responsible for the preparation of annual research plan for inclusion in the annual plan fund proposal. This module is then annexed to the annual plan fund proposal for administrative sanction of the Institute.

Extensive software development has become a part of Research Monitoring and Evaluation Unit. For the stress-free working of RME Unit, office administration and fast retrieving automation is a necessity. RME Unit worked for the efficient execution of the research projects. The Unit also assisted the Director in all the matters related to the Research projects. This Unit is a unique feature of the Kerala Forest Research Institute and within this project, we attempted to automate some of the functions also. This report presents a brief write up of the functioning of the RME Unit in administering the research projects of the Institute. A diagrammatic chart on the functions of the RME Unit is given in Fig. 1.

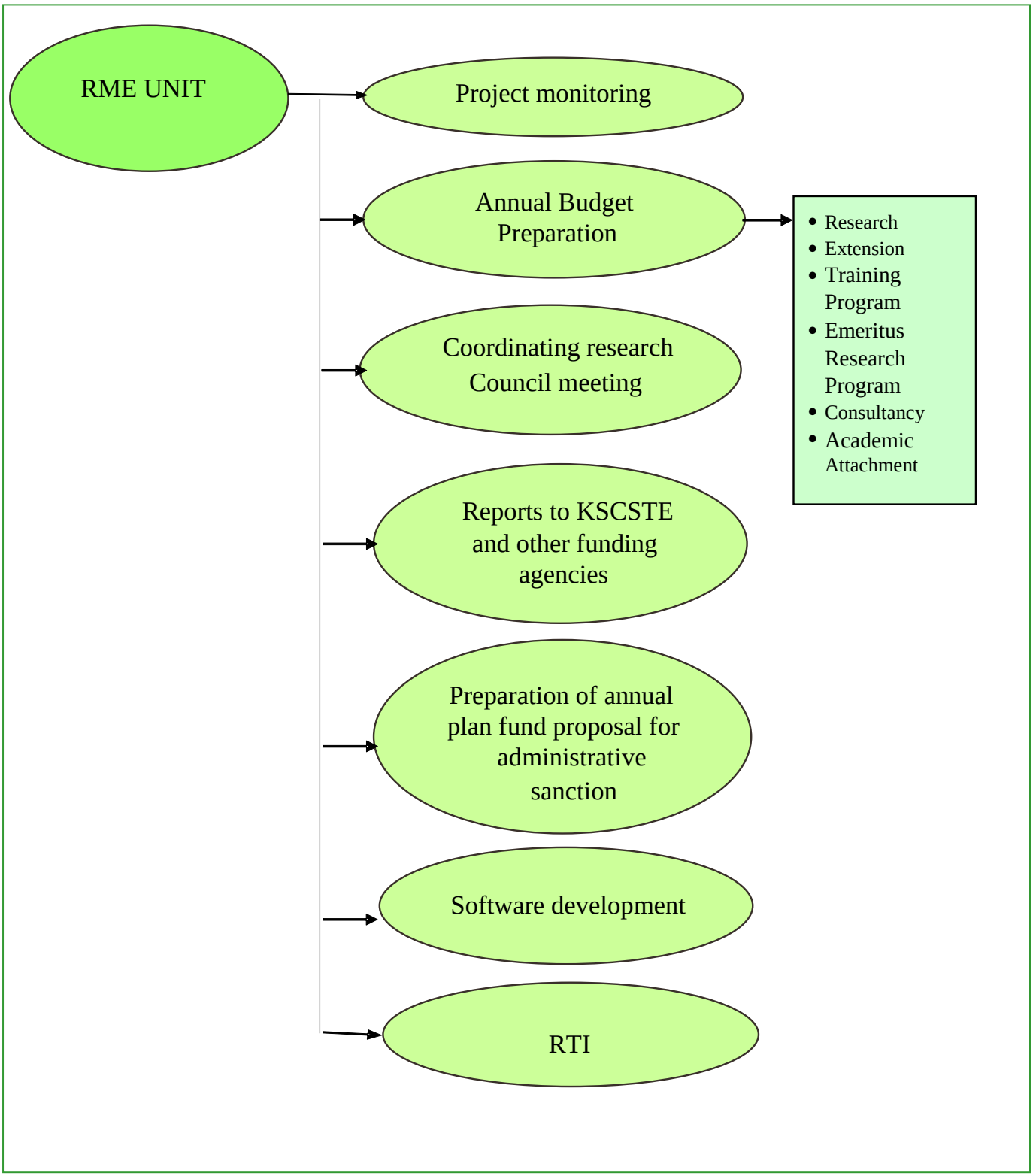


Fig. 1 Functions of the RME Unit

1.1 Background of the project

Research Monitoring and Evaluation (RME) Unit is an administrative cell directly under the control of the Director. The Unit provides services of record keeping, maintaining databases of the research projects, reporting the progress of the projects to the Director and administration as and when required. Issuing Notes on project approvals, extension of tenure of projects etc. are also performed by the Unit.

The RME Unit facilitates identification of active/ long-term research frontiers through discussion with the scientists. Being the registry of all research, extension and other projects undertaken by the Institute, the RME Unit plays a pivotal role in networking with other institutions and funding agencies. The RME Unit facilitates approval of final technical reports from various projects before they are disseminated. The Institute receives a large number of requests for extension services and Environmental Impact Assessment. Identifying the right personnel for performing the task is also carried out through the Unit.

RME Unit assists the Director on all matters connected with research, including the conduct of the meetings of the Research Council, gathering details of progress and achievements by the scientists and preparation of the Annual Report of the Institute, providing summarized information for budget preparation and reporting progress of projects, are other spheres of activity in the unit. Kerala Forest Research Institute, Peechi is one of the pioneer research institute in Kerala to use computers for the research activities. In 1978, the Institute acquired MICRO2200 Microprocessor system which was the early form of digital computer. Using the Micro2200, the statistical problems were solved at that time.

The microprocessor was replaced by the Workhorse (single user) and later by the Multi user version. Kerala Forest Research Institute is one of the first institutions to use computers for data analyses, research and Desk Top Publishing.

Till 1990, only statistical analyses were done using computers. In 1992 the payroll program was developed in dbase later it was changed to clipper and then to C. The payroll program is now running on FoxPro single user system. The accounts section is partly computerized using FoxPro package. With the help of Word Bank Forestry Project Local Area Network (LAN) was developed in 2000.

In the Research Project entitled "A compendium of project profiles and a digital archive of project records in Kerala Forest Research Institute" an archiving system (KFRI 576/2009) has been developed. It needed changes in the database and software to be more user friendly. The present project KFRI RP-664/2013-Development and Management of Research and Office Information system- Facility Development, is intended to achieve the above objective apart from daily monitoring and evaluation of the projects.

2. OBJECTIVES

Well-timed accessibility of appropriate material is important for productive execution of decision-making tasks such as planning, organizing, leading, and control. An information system in an Institute is similar to the nervous system. It is the bond that joins all the establishment's modules together and delivers a worthy end result. The term information system usually denotes a software that is designed to support the operations, management and decision making functions of an organization. Information systems in organizations thus provide materials or data that support for decision making. Information systems incorporate transaction processing systems, management information systems, decision support systems, and strategic information systems. The project emphasizes on refining the research monitoring, management and evaluation performance of research progressing in KFRI.

The main objectives of the project were:-

1. Development and management of research and office information system.
2. Research project monitoring and administrative support.

3. METHODOLOGY

This programme is developed using Visual Studio .Net framework-C#, Ajax tool kit, jQuery, Javascript, SQL Server, Crystal reports etc. and development was done in Windows environment but is compatible and can be accessed in different OS systems. The visual studio .net framework was selected for this study for the following reasons like portability, efficiency, robust, independency of layers and easy integration with other sources. Visual Studio is a complete suite of tools for building both desktop and team-based enterprise Web applications. Visual Studio, .NET and C# offers lot of different techniques for communication with Databases, especially SQL Server. SQL Server is an embedded database engine that enables easy database storage. It does not require to run a setup process or to install a database server. It can be used with medium-trust applications running in a Web hosting environment. SQL Server Compact is a good choice for use in development, testing, and low-traffic production scenarios. Thus SQL server was used here as the database.

Ajax tool kit provides a powerful infrastructure to write reusable, customizable and extensible ASP.NET AJAX extenders and controls, as well as a rich array of controls that can be used out of the box to create an interactive Web experience. JQuery is not a language, but it is a well written JavaScript code. It is a fast and concise JavaScript Library that simplifies HTML document traversing, event handling, animating, and Ajax interactions for rapid web development. Crystal Reports is a business intelligence application, currently marketed to small businesses by SAP SE. It is used to design and generate reports from a wide range of data sources.

4. RESULTS

Project monitoring and administrative support was the fundamental aim of the project. RME Unit supported the administration at various levels of the Institution and Kerala State Council for Science Technology and Environment (KSCSTE) according to the requirements. RME Unit monitored and evaluated both the internal and external projects on behalf of the institution and there by mandated to develop excellence in research culture in the institution.

The project is expected to fulfill the KFRI vision and mission by developing, research monitoring and evaluation policy and procedures, development and continuous updating of KFRI research priorities and specific research agendas. Development of research knowledge resources at KFRI, managing and facilitating research grants, helping researchers to apply for external grants and bringing them to application and facilitating the planning and formation of specialized research in KFRI was other requirements.

The project had developed a LAN based web application named “Office Automation and Information System (OAIS)”, which has four modules.

1. Leave/Tour module
2. Advance request module
3. Sanction request module
4. Tax report mining

The leave/tour module is simple and well-organized web based application to support the institute administration. The leave/tour module communicates between the administration and every individual staff and assists a simple-to-use, yet efficient system to manage all leave matters of employees. Advance request module handles the tour/work advance requests. Using this, user can send requests for advance. Sanction request module is for obtaining sanction from the Institute for project works such as engineering, purchase of equipments, labour charges etc. Tax report mining module extract the data from the excel sheets to pdf format for easy use.

4.1 Development and management of research and office information system

The new application “Office Automation and Information System (OAIS)” is simple in its edifice and operations. The operation procedures are easily understandable and sufficiently flexible to cope up with the future requirements. The future requirements can be easily incorporated in the system without the need for redesign of the whole system. It is a user friendly menu driven system, so that the user can easily enter data and get the reports on timely basis. It enables the management to get reports for making quick decision, which is not possible in the existing manual system. This application is developed using visual studio .net framework, Ajax tool kit, jQuery, Javascript, SQL Server, Crystal reports etc. The visual studio .net framework is selected for this software for the following reasons like portability, efficiency, robust, independency of layers and easy integration with other sources.

OAIS is basically concerned with processing data into information, which is then communicated to various departments of organization for appropriate decision-making. The processing of data happens at four stages: input, data processing, output and information storage. OAIS has four modules.

1. Leave/Tour module
2. Advance request module
3. Sanction request module
4. Tax report mining

Some of the key features of OAIS are as follows:

1. Application Design & Development
2. Application Design & Maintenance
3. Content Management Solutions
4. Management Information System

4.1.1 Database description

The centralized database structure of OAIS minimizes the labor and time. This database delivers the proper data input forms with self-descriptive labels and consist of inter-related modules for better reviews. It also optimizes the computer by proper consumption of available space by removing the replication of files and records. These features remove the possibility of data redundancy and generate accurate and error free reports of all type of schedules. The main advantage of the OAIS database is, minimizing the amount of input requirements, avoiding delay, controlling errors and keeping the steps simple. It provides the modules for insertion, data update and deletion, and this user friendly system can be directly implemented on the server environment. Furthermore, this comprehensive database facilitates fast online data upload (with in LAN), data retrieval and reports generation.

4.1.2 Materials and methods

Before designing the OAIS, necessary objectives of the system were established. The objectives were created after the detailed analysis of organization structure, limitations and concerns in the existing manual system. The necessary details in the report generation also gathered from the concerned authorities. This helped us to plan an effective OAIS system. Based on the required data, employees were divided into different level and priorities are assigned. Based upon seniority and functional behavior, the employees were divided into four categories as (1) Top level management including Director, Registrar, Research Coordinator, Deputy Registrar (Accounts), Deputy Registrar (Administration), Deputy Registrar (Accounts), (2) Various Section Officers, (3) Scientists, (4) Office Assistants etc.

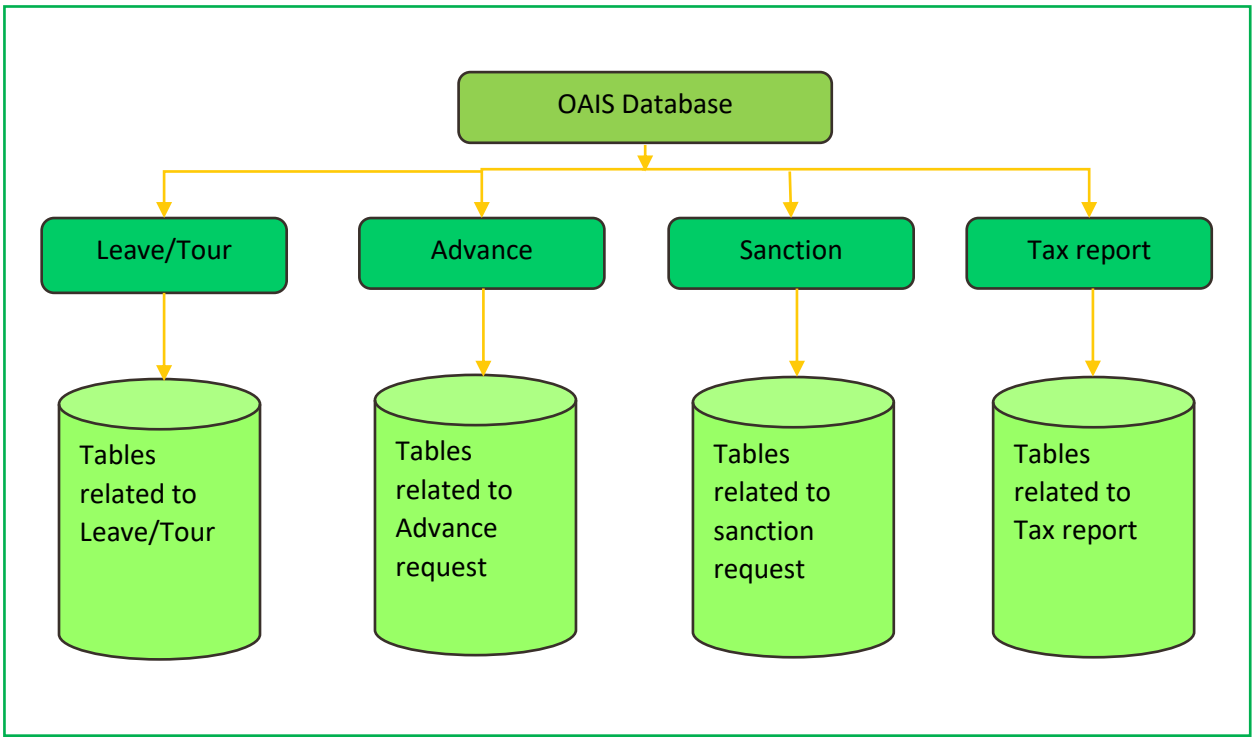
4.1.3 System analysis

The system development mainly requires quick report generation and further, this process should not be delayed by the data accumulation. So the process requirements of the

system were completely analyzed and documented. All the data processing including addition, deletion and editing permission is given to system admin.

4.1.4 Logical design

A database management system allows the organization to structure its information, so users can retrieve data, update data, generate reports and so forth, in a flexible manner as well as prevent the users against unauthorized access. The database management system helps the organization to organize or structure their data in a logical way. This concept of database management system is applied in OAIS for data accessibility.



Among the conceptual, logical and physical database models, our design is based on logical database for system design. This database method is mostly used in design because it helps in establishing a simple data Entity Relationship (ER) models.

4.1.5 Database Structure

Table name: Login

Column Name	Data Type	Allow Nulls
login_id	varchar(50)	☑
login_password	varchar(50)	☑
id	float	☑

Table name: Project Details

Column Name	Data Type	Allow Nulls
project	nvarchar(255)	☑
project_title	nvarchar(255)	☑
projectpin	nvarchar(255)	☑
project_agen	varchar(100)	☑
projectpii	float	☑
budget	varchar(12)	☑

Table name: Registration

Column Name	Data Type	Allow Nulls
name	varchar(50)	☑
designation	varchar(50)	☑
project_number	varchar(50)	☑
username	varchar(20)	☑
password	varchar(20)	☑
id	float	☑

Table name: Employee Details

Column Name	Data Type	Allow Nulls
id	float	☑
name	nvarchar(255)	☑

Table name: Advance Clarification

Column Name	Data Type	Allow Nulls
clarif_id	int	☑
clarif_msg	varchar(250)	☑
clarif_advid	int	☑
clarif_verifid	int	☑
returned_to1	varchar(50)	☑
returned_to2	varchar(50)	☑

Table name: Advance Recommended

Column Name	Data Type	Allow Nulls
recm_id	int	☑
recm_msg	varchar(250)	☑
recm_advid	int	☑
recm_verifid	int	☑
recm_date	varchar(30)	☑

Table name: Advance Sanctioned

Column Name	Data Type	Allow Nulls
sanct_wrkadvid	int	☑
sanct_verifid	int	☑

Table name: Director Clarification

Column Name	Data Type	Allow Nulls
dir_clarid	int	☑
dir_wrkadvid	int	☑
dir_verifid	int	☑
dir_clarifmsg	varchar(200)	☑
dir_returned1	varchar(10)	☑
dir_returned2	varchar(10)	☑
dir_returned3	varchar(10)	☑
dir_returned4	varchar(10)	☑

Table name: Director Sanctioned

Column Name	Data Type	Allow Nulls
dir_sanid	int	☑
dir_wrkadvid	int	☑
dir_verifid	int	☑
dir_sanmsg	varchar(200)	☑
dir_date	varchar(30)	☑

Table name: Engineering projects

Column Name	Data Type	Allow Nulls
pro_no	float	☑
pro_title	nvarchar(255)	☑
budget	float	☑
pro_type	nvarchar(255)	☑
pi_empno	varchar(10)	☑

Table name: Extension projects

Column Name	Data Type	Allow Nulls
PIN	nvarchar(255)	☑
Title	nvarchar(255)	☑
PI	nvarchar(255)	☑
Funding	nvarchar(255)	☑
Emp_no	float	☑
Budget	float	☑

Table name: Holiday

Column Name	Data Type	Allow Nulls
date	date	☑
description	varchar(50)	☑

Table name: Pending Request

Column Name	Data Type	Allow Nulls
verif_id	int	☑
wrk_advid	int	☑
wadv_pending	numeric(10, 2)	☑
bal_avai_proj	numeric(10, 2)	☑
commit_expens	numeric(10, 2)	☑
tot_budget	numeric(10, 2)	☑
grant_recvd	numeric(10, 2)	☑
net_bal	numeric(10, 2)	☑
msg	varchar(300)	☑
verif_date	varchar(30)	☑

Table name: Leave request

Column Name	Data Type	Allow Nulls
project_number	varchar(50)	☑
doj	date	☑
doa	date	☑
credit	float	☑
availed	float	☑
[left]	float	☑
required	float	☑
[from]	date	☑
from_noon	varchar(50)	☑
[to]	date	☑
to_noon	varchar(50)	☑
suffix	float	☑
intervening	float	☑
prefix	float	☑
total	float	☑
reason	varchar(500)	☑
investigator_name	varchar(50)	☑
investigator_id	varchar(50)	☑

Table name: Leave Status

Column Name	Data Type	Allow Nulls
id	float	☑
l_req_id	int	☑
recommended	varchar(50)	☑
recommended_id	float	☑
sanctioned	varchar(50)	☑
sanctioned_id	float	☑

Table name: Pending request

Column Name	Data Type	Allow Nulls
verif_id	int	☑
wrk_advid	int	☑
wadv_pending	numeric(10, 2)	☑
bal_avai_proj	numeric(10, 2)	☑
commit_expens	numeric(10, 2)	☑
tot_budget	numeric(10, 2)	☑
grant_recvd	numeric(10, 2)	☑
net_bal	numeric(10, 2)	☑
msg	varchar(300)	☑
verif_date	varchar(30)	☑

Table name: Registrar clarification

Column Name	Data Type	Allow Nulls
reg_clarifid	int	☑
reg_recid	int	☑
reg_wrkadvid	int	☑
reg_verifid	int	☑
reg_clarifmsg	varchar(200)	☑
return1	varchar(50)	☑
return2	varchar(50)	☑
return3	varchar(50)	☑

Table name: Project staff details

Column Name	Data Type	Allow Nulls
id	float	☑
name	varchar(50)	☑
name_of_father	varchar(50)	☑
name_of_mother	varchar(50)	☑
house_name	varchar(50)	☑
street_name	varchar(50)	☑
locality	varchar(50)	☑
[village/town]	varchar(50)	☑
post_office	varchar(50)	☑
[pin code]	varchar(50)	☑
district	varchar(50)	☑
state	varchar(50)	☑
house_name_per	varchar(50)	☑
street_name_per	varchar(50)	☑
locality_per	varchar(50)	☑
[village/town_per]	varchar(50)	☑
post_office_per	varchar(50)	☑
pin_code	varchar(50)	☑
district_per	varchar(50)	☑
state_per	varchar(50)	☑
landline	varchar(50)	☑
mobile	varchar(50)	☑
email	varchar(50)	☑
blood_group	varchar(50)	☑
qualification	varchar(50)	☑
mode_of_appointment	varchar(50)	☑
appointment_order	varchar(50)	☑
pay_details	varchar(50)	☑
hra	varchar(50)	☑
experience	varchar(250)	☑

[religion&caste]	varchar(100)	☑
[sc/st]	varchar(50)	☑
designation	varchar(50)	☑
department	varchar(50)	☑
project_no	varchar(50)	☑
date_of_join	date	☑
dob	date	☑
bank	varchar(150)	☑
account	varchar(150)	☑
ifsc	varchar(50)	☑
leave_credit	float	☑

Table name: Project staff details

Column Name	Data Type	Allow Nulls
empname	varchar(50)	☑
desig	varchar(50)	☑
dep	varchar(50)	☑
div	varchar(50)	☑
pjcthead	varchar(50)	☑
type	varchar(50)	☑
budjet	numeric(12, 2)	☑
instwrk_dtls	varchar(50)	☑
pjctno	varchar(10)	☑
pjct_name	varchar(50)	☑
pur_rqst	varchar(50)	☑
pur_lbr	varchar(25)	☑
pjctwrk_dtls	varchar(100)	☑
pur_date	varchar(25)	☑
remark	varchar(25)	☑

Table name: Registrar recommended

Column Name	Data Type	Allow Nulls
reg_forwid	int	☑
reg_recid	int	☑
reg_wrkadvid	int	☑
reg_verifid	int	☑
reg_forwmsg	varchar(250)	☑
reg_date	varchar(30)	☑

Table name: Registrar sanctioned

Column Name	Data Type	Allow Nulls
reg_sanid	int	☑
reg_recid	int	☑
reg_wrkadvid	int	☑
reg_verifid	int	☑
reg_sanmsg	varchar(250)	☑

Table name: Sanction request

Column Name	Data Type	Allow Nulls
sanc_id	int	☑
sanc_wrkadvid	int	☑
sanc_verifid	int	☑
sanc_msg	varchar(200)	☑
sanc_money	numeric(12, 2)	☑
sanc_dt	varchar(50)	☑
sanc_pers	varchar(15)	☑

Table name: Sanction message

Column Name	Data Type	Allow Nulls
wrk_advid	int	☑
emp_id	varchar(8)	☑
msg	varchar(250)	☑

Table name: Sanction order

Column Name	Data Type	Allow Nulls
empname	varchar(50)	☑
desig	varchar(50)	☑
dep	varchar(50)	☑
div	varchar(50)	☑
pjcthead	varchar(50)	☑
type	varchar(50)	☑
budjet	numeric(12, 2)	☑
instwrk_dtls	varchar(50)	☑
pjctno	varchar(10)	☑
pjct_name	varchar(50)	☑
san_rqst	varchar(50)	☑
san_lbr	varchar(25)	☑
pjctwrk_dtls	varchar(100)	☑
san_date	varchar(25)	☑
remark	varchar(25)	☑

Table name: Tour application request

Column Name	Data Type	Allow Nulls
id	float	☑
emp_id	int	☐
applied_date	date	☑
from_dt	date	☑
to_dt	date	☑
total	float	☑
places	varchar(150)	☑
purpose	varchar(150)	☑
type	float	☑
staff	varchar(50)	☑
mode	varchar(50)	☑
tour_stat	nchar(10)	☑

Table name: Tax details

id	float	☑
name	nvarchar(255)	☑
gross	float	☑
pft	float	☑
col8	float	☑
hlint	float	☑
col10	float	☑
[VIA amt]	float	☑
tot_dedu	float	☑
col12	float	☑
col13	float	☑
edu_cess	float	☑
tax_payable	float	☑
less	float	☑
tax_pay2	float	☑
pan_no	nvarchar(255)	☑
epf	float	☑
lic	float	☑
house_loan	float	☑
tuition_fee	float	☑

[80ccc]	float	☑
[80d]	float	☑
[80e]	float	☑
[80g]	float	☑
[80ccf]	float	☑
[80dd]	float	☑
section	float	☑
nsc	float	☑
ulip	float	☑
others	float	☑
[80db]	float	☑
tot_tax	float	☑
HL_PRI	float	☑
fig_words	varchar(250)	☑

Table name: Tax details 15-16

Column Name	Data Type	Allow Nulls
[Sl No]	float	☑
Name	nvarchar(255)	☑
pan_no	nvarchar(255)	☑
Gross	float	☑
PFT	float	☑
[(6-7)]	float	☑
[HL INT]	float	☑
[(8-9)]	float	☑
EPF	float	☑
[LIC/PLI]	float	☑
[NSC/NSS]	float	☑
[H LOAN PRI]	float	☑
[TUTION FEE]	float	☑
[FIVE YR DE]	float	☑
[80CCC]	float	☑
[80D]	float	☑
[80DD]	float	☑
[80EE]	float	☑
[80G]	float	☑

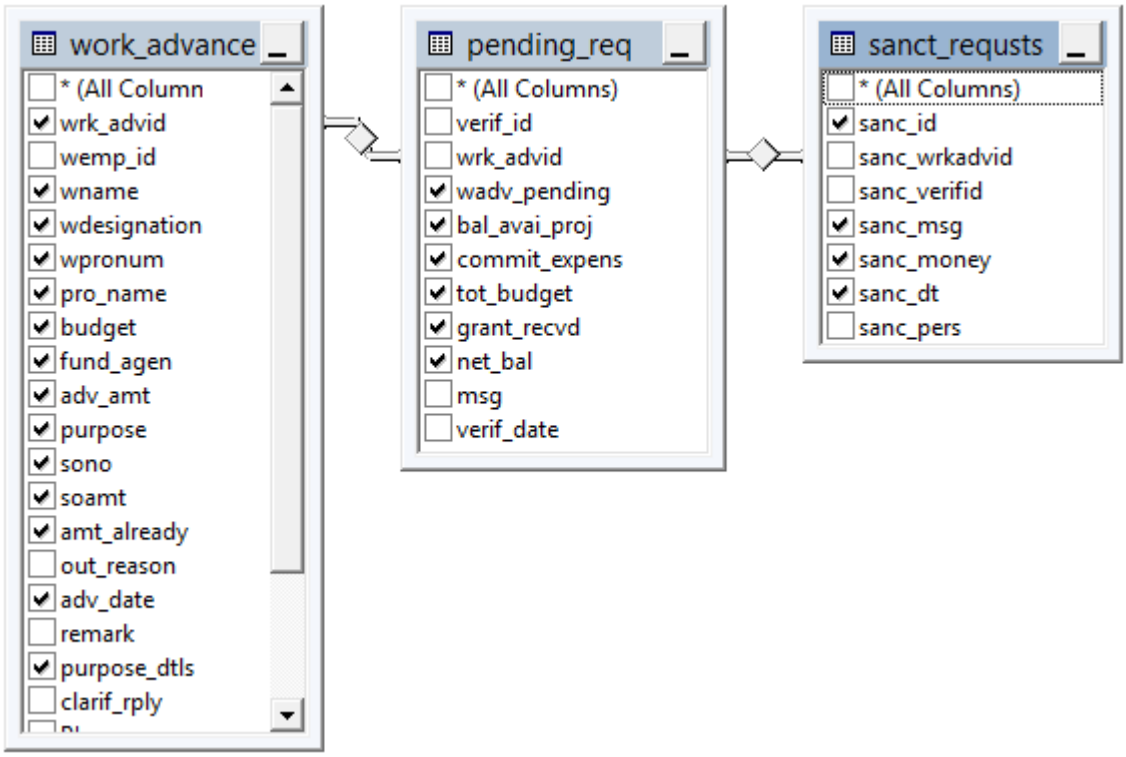
[80CCG]	float	☑
total_deduct	float	☑
[col 10-11]	float	☑
tax	float	☑
cess	float	☑
[net tax]	float	☑
paid	float	☑
[2pay]	float	☑
VI_A_deduct	float	☑
[80E]	float	☑
aggre_ded	float	☑
cess1	float	☑
fig_words1	varchar(250)	☑

Table name: Tax details 16-17

[Sl No]	float	☑
name1	nvarchar(255)	☑
[total income]	float	☑
pft	float	☑
[bal-incom]	float	☑
hl_int	float	☑
grosspay	float	☑
pf	float	☑
lic	float	☑
itax	float	☑
plic	float	☑
hl_princ	float	☑
ttn_fee	float	☑
oth_6a	float	☑
vla_tot	float	☑
d80	float	☑
dd80	float	☑
g80	float	☑

ee80	float	☑
u80	float	☑
oth_ded	float	☑
tot_ded	float	☑
taxbl_incm	float	☑
taxonincm	float	☑
cess	float	☑
tot_tax	float	☑
paid_tax	float	☑
payabl_tax	float	☑
excesstax	float	☑
figwords	varchar(250)	☑

4.1.6 View name: Sanction view



4.1.7 Result

The OAIS has four inter-related packages/ modules. All the users have their own user Id and Password to login into the system and the same username and password is used for whole package. The below listed building blocks are common in all the modules.

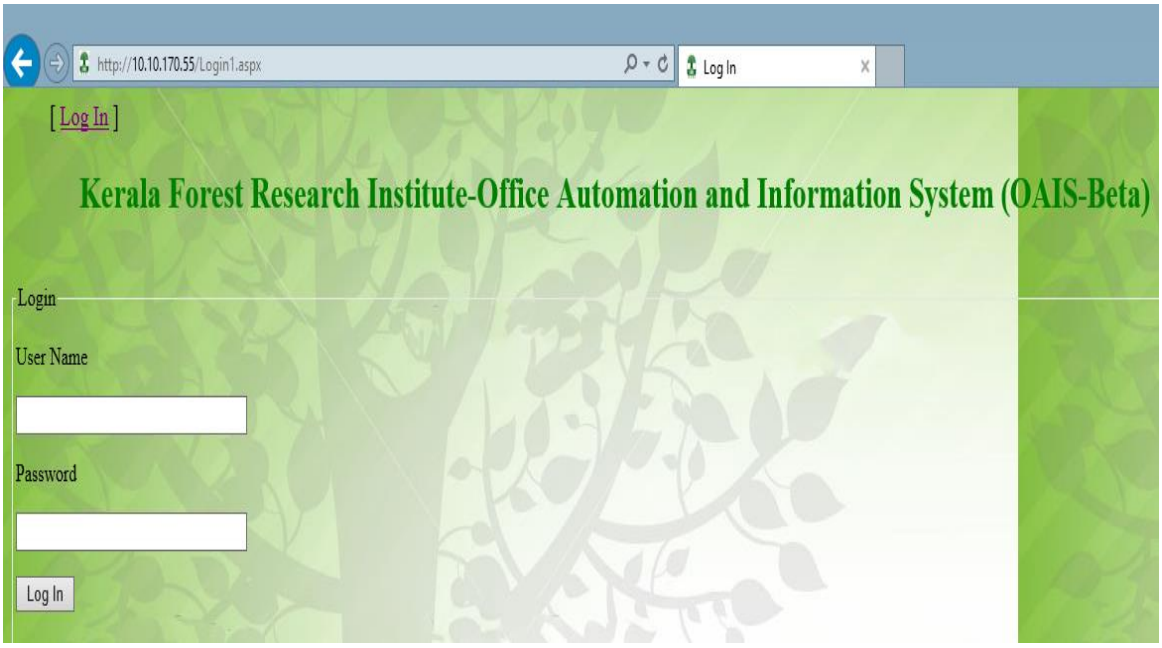
- User registry with username and password.
- Institutional structure (Divisions and Department)
- Employee details
- Employee access priority
- Organizational work calendar
- Project details including budget and details of project staff

Basic information of the newly joined employees can be easily added into the data base using the Add Employee form. Using this form user can enter the basic employee information like Id, Name, Basic Pay, Grade Pay, Designation, and all other details.

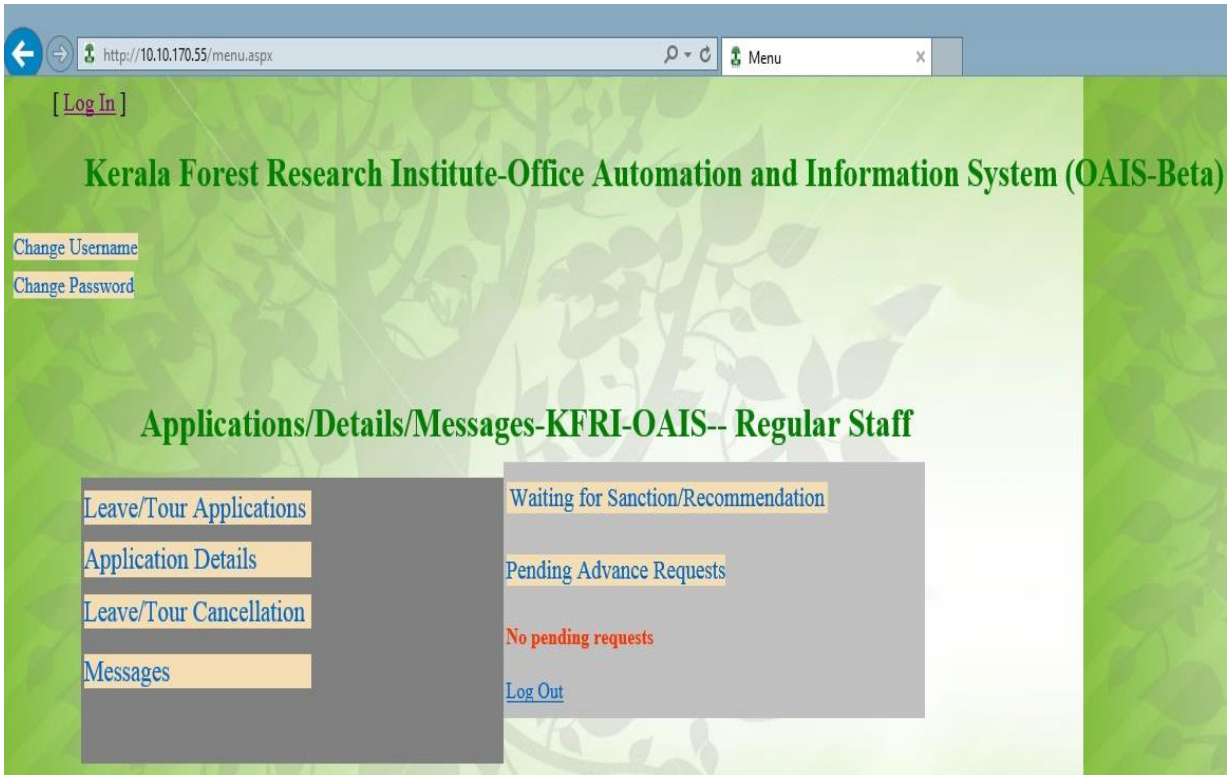
4.1.8 Accessing OAIS

The OAIS is intended as a muti-user system and is accessible for any permanent staff of the Institute. The steps for accessing the package are given below:

- Open any browser (Internet Explorer/ Mozilla Firefox/ Google Chrome).
- Type **'http://10.10.170.55'** in the browser.
- Press **'Enter'**- This will take you to the Homepage.
- In the homepage, Click **Login.**
- Next, you can see spaces to enter your username and password.
- Enter the details and press **Login.**



- After Login, it directs to a Home page



4.1.9 Leave/Tour Application module

4.1.9.1 Overview

The new leave and tour module streamlines communication between every individual staff and facilitates a simple-to-use yet efficient system to manage all employee leave and tour matters. At the same time, the leave and tour module ensures that all leave and tour application requests are accurately accounted so that staff can apply, approve and view leave and tour records without any delay through administration – it's all with a few mouse click.

The minimum system requirement is any computer (or PC notebook) that is connected to KFRI-LAN.

The new leave and tour module has many features that benefit the staff which are listed below

• Fast and efficient, the improved leave/tour system has further streamlined the leave and tour application/approval workflows such that it is much more convenient for staff to make leave and tour application and managers to approve.

• Easy-to-Use, this module is specifically designed to be intuitive so that the system is very easy to learn and use by the administrators, approving offices and applicants.

• Real-Time Information, this module operates on Real-Time whereby information in it is updated instantly whenever a leave/tour transaction is completed. As such, all staff can check instantly who is on leave/ tour, applying for leave/ tour or other status, etc.

• Supports all Leave/ tour Types, this module is designed to support all existing leave/ tour types in the organization. All history of leave records are tabulated automatically and archived securely in the system.

• Can be integrated with administration, Attendance and Payroll System in future.

4.1.9.2 Leave and tour module-Flowchart

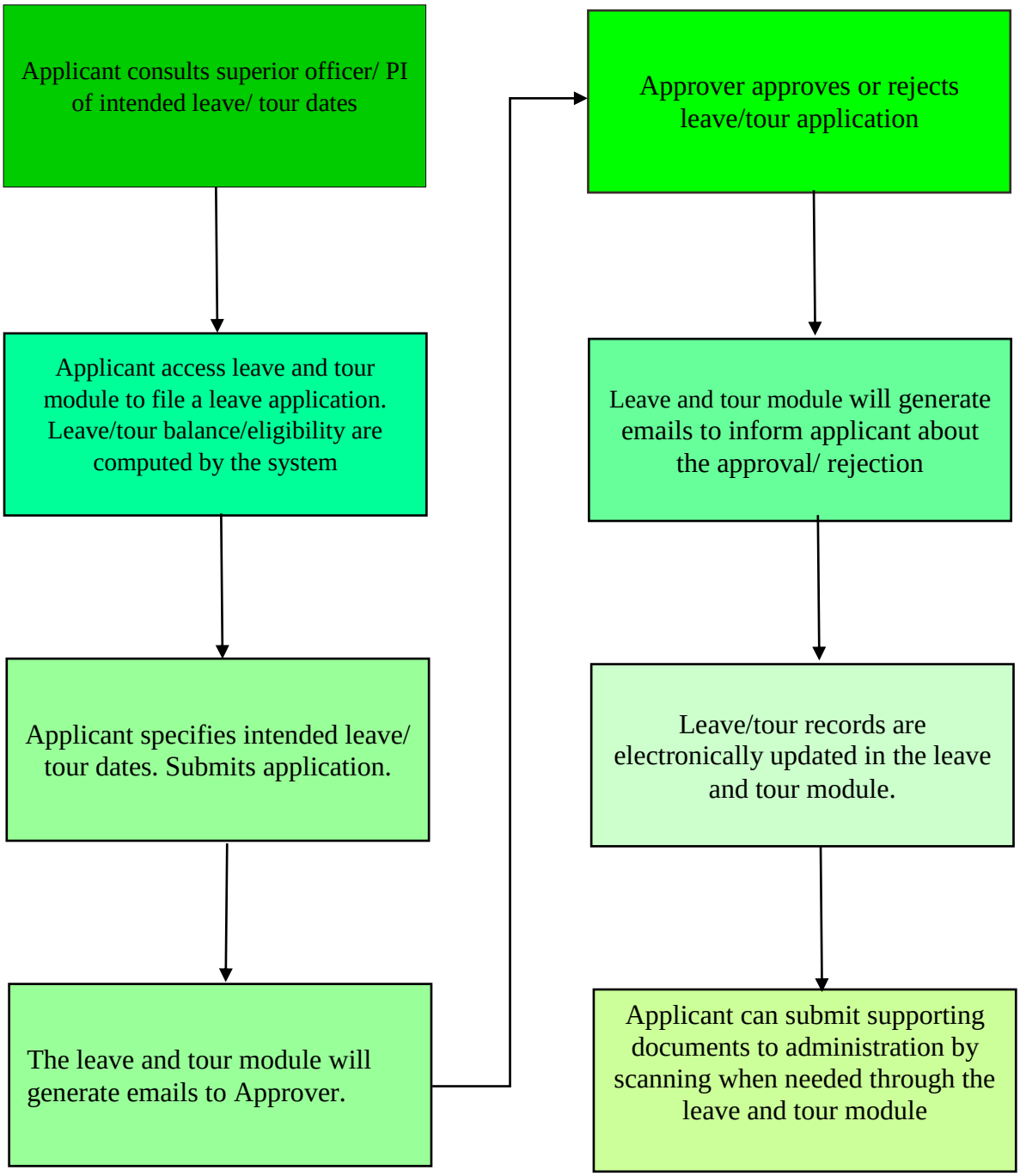


Fig. 2 Leave and tour module-Flowchart

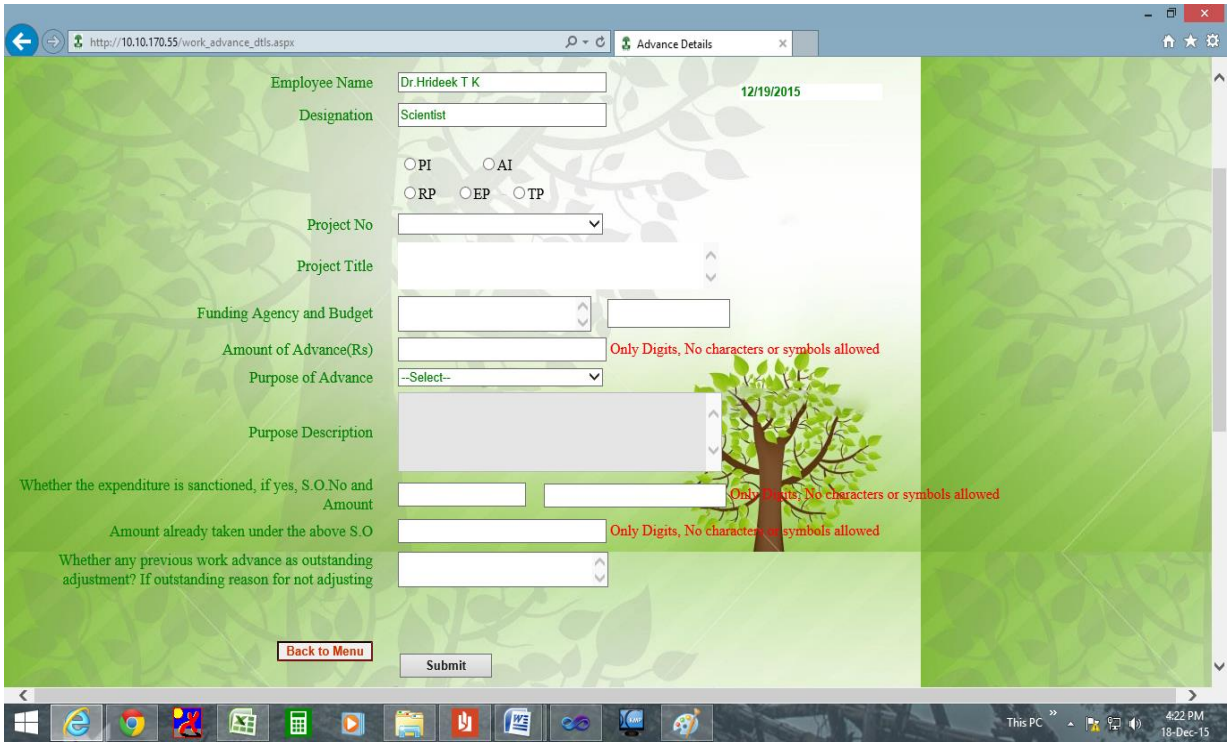
`In Leave/ Tour Applications, there are 7 modules

- Casual Leave
- Tour
- Leave without allowance
- Compensatory Off
- Advance Request
- Sanction Order Request
- Purchase Request

In application details, one can check the status of application that he/she had sent. In Leave/ Tour Cancellation, one can cancel the request that already applied.

4.1.10 Advance Request

Advance request module handles the tour/work advance requests. Using this, user can send request for advance.



The request is then forwarded to Principal Investigator if the request is send by Associate Investigator of the project. If the request is sent by Principal Investigator, it directly goes to the dispatch section. After entering the No. and date, it is forwarded to accounts section. At accounts section, they enter the details of fund related to that project and after that, it is forwarded to DRF. After checking, it goes to Registrar and he can sanction or recommend the request to Director and then, the next verification is by Director. Director can approve or return the request. The sanctioned requests are received by the Accounts section and they provide cash or cheque to the applicant. In every part, there is a text box to add the suggestion or notes, which can be seen by everyone included in the process. There is also an option to return the request if any correction is needed.

4.1.11 Sanction Order Request

Sanction order request


eLeave Use
SYNOPSIS
Report053
A PROJECT
GayathriSu
New Tab
Menu
localhost:51030/KFRI/menu.aspx
Apps
Chrome
OAIS
Chapter 43. Managing
Microsoft Word - PRC
Employee Payroll Mar
Research, Monitoring
Buy Berrypeckers Red
Applications/Details/Messages-KFRI-OAIS-- Regular Staff
Leave/Tour Applications
Application Details
Leave/Tour Cancellation
Messages
Waiting for Sanction/Recommendation
Pending Advance Requests
Sanctioned Advance Requests
Please Check pending requests
Log Out
Sanctioned Advance Requests
ID | Name | Project No | Amount | | Print | Cash/Cheque
121 | Dr.Jayaraj R. | RP 702/2015 | 4900.00 | View | Go
120 | Dr.P A Jose. | EP 240/2012 | 5800.00 | View | Go
119 | Dr.P A Jose. | EP 240/2012 | 23500.00 | View | Go
118 | Dr.P A Jose. | EP 240/2012 | 2500.00 | View | Go
117 | Dr.P A Jose. | RP 684/2014 | 2400.00 | View | Go
116 | Dr.P A Jose. | RP 657/2013 | 800.00 | View | Go
115 | Dr.Jayaraj R. | RP 694/2014 | 9500.00 | View | Go
114 | Dr.P A Jose. | EP 240/2012 | 5230.00 | View | Go
114 | Dr.P A Jose. | EP 240/2012 | 5230.00 | View | Go
113 | Dr.Thulasi G.Pillai | EP 266/2012 | 10000.00 | View | Go
110 | Dr.Jayaraj R. | RP 632/2012 | 7000.00 | View | Go
109 | Dr.R.Sugantha Sakthivel | RP 692/2014 | 2000.00 | View | Go
108 | Dr.R.Sugantha Sakthivel | RP 692/2014 | 3500.00 | View | Go
4:07 PM
3/2/2017

4.2 Research project monitoring and administrative support

A sound and effective RME Unit is a significant part of a research institute for effective project management and evaluation. Timely and reliable monitoring and evaluation provides information to support project implementation with precise, evidence based reports. This information helps the Institution for decision-making and to guide and improve project performance. Monitoring and evaluation Unit maintain accountability and compliance by validating whether or not project work has been carried out as agreed, and in agreement with recognized standards and funding agencies requirements. Unit also deliver timely reports for sponsor, especially beneficiaries, to provide input into and insights of our work, revealing honesty to criticism, and readiness to learn from experiences and to adapt to changing needs. Monitoring and evaluation frames the basis for perfect and precise reporting on the results attained in projects. In this way, information reporting becomes an opportunity for critical analysis and organizational learning, informing decision-making and impact assessment.

Currently, the responsibilities of RME Unit are as follows:-

- Project monitoring
- Call for regular progress reports
- Coordinate editorial and scientific review of final reports
- Assist the Director in matters relating research as and when required
- Annual budget preparation
- Coordinating research council (RC) meeting
- RTI
- Reports to KSCSTE and other funding agencies
- Preparation of annual plan fund for administrative sanction

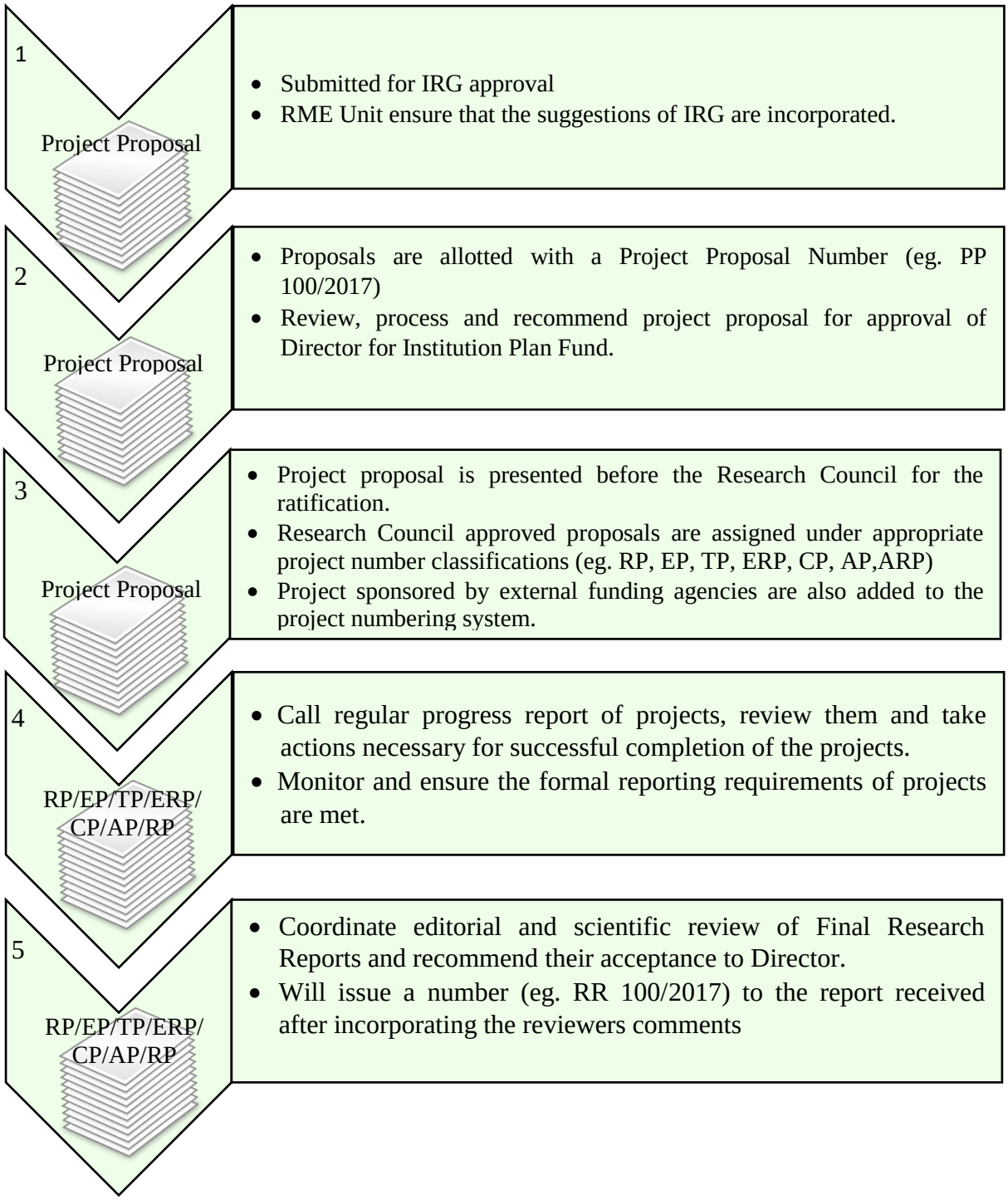


Fig. 3 Project Life cycle (Plan Fund)

4.2.1 Project monitoring

Concepts and research proposals, discussed and finalized in Programme Divisions, are presented for initial assessment in the Internal Research Group (IRG) meeting. This is done to determine whether a project is essential and, if so, how to improve the methods and analysis in the proposal.

RME Unit will receive reviewed and approved proposals from the Scientists after incorporating the suggestions of the IRG meetings and the proposal will be allotted with a number revealing the year of submission with a key word PP. The Research Coordinator will ensure that the suggestions of IRG are incorporated before recommending the proposal to the Director for approval, and fund allotment from the plan fund of the Institution. After the Director's approval, project proposal is presented before the Research Council for ratification. The ratified proposals are assigned under appropriate project number classifications. The projects sponsored by external funding agencies are also added to the project numbering system.

The projects are classified as per the nature of the work proposed. They can be under the following heads, and they are named with the abbreviation RP/EP/TP/ERP/CP/AP/ACP and the year initiated.

- Research Project (RP/20XX)
- Extension Project (EP/20XX)
- Training Program (TP/20XX)
- Emeritus Research Program (ERP/20XX)
- Consultancy Project (CP/20XX)
- Attachment Project (AP/20XX)
- Academic Project (ACP/20XX)

During the period of the project 150 project proposals ranging from PP 858/2013 to PP 1007/2017, were submitted for funding from the plan fund of KFRI. The numbers of projects initiated in the above period are as follows:-

- Research Project – 68 Projects, ranging from RP 664/2013 to RP 731/2017.
- Extension Project - 65 Projects, ranging from EP 277/2013 to RP 341/2017.
- Training Program – 34 program, ranging from TP 1/2013 to TP 34/2017.
- Consultancy Project – 3 projects.

The progress of the projects are monitored and evaluated once in six months through a review meeting of the concerned scientists, on the basis of the work plan. The merits and demerits were noted. The outcome of the meeting is intimated as report to the Director with the measures for improvement. Copies of such reports were marked to the concerned Scientist for compliance.

RME had issued notes to the Scientist one month before the date of completion reminding Scientists of the due date for submission of the reports. Reports, which are delayed for more than one month were reported to the Director for further action. The final reports received by the Research Coordinator were sent to three referees, one of whom will be an outside expert in the concerned field. The comments from the reviewers were received in a month and it is communicated to the Scientists. Suggestions of the reviewers are incorporated in the report by the Scientists within a month and any disagreements to the reviewer's comment were instructed to communicate to the Research Coordinator stating the explanation. After the submission of the final report, RME will issue a number to the reports received after incorporating the reviewer's comments. During the period of the project 59 reports were brought out, ranging from RR 464/2013 to RR 522/2017. The authors of the reports were given a list of people to whom copies should be sent, to the library from where the copies will be dispatched (Fig. 04).

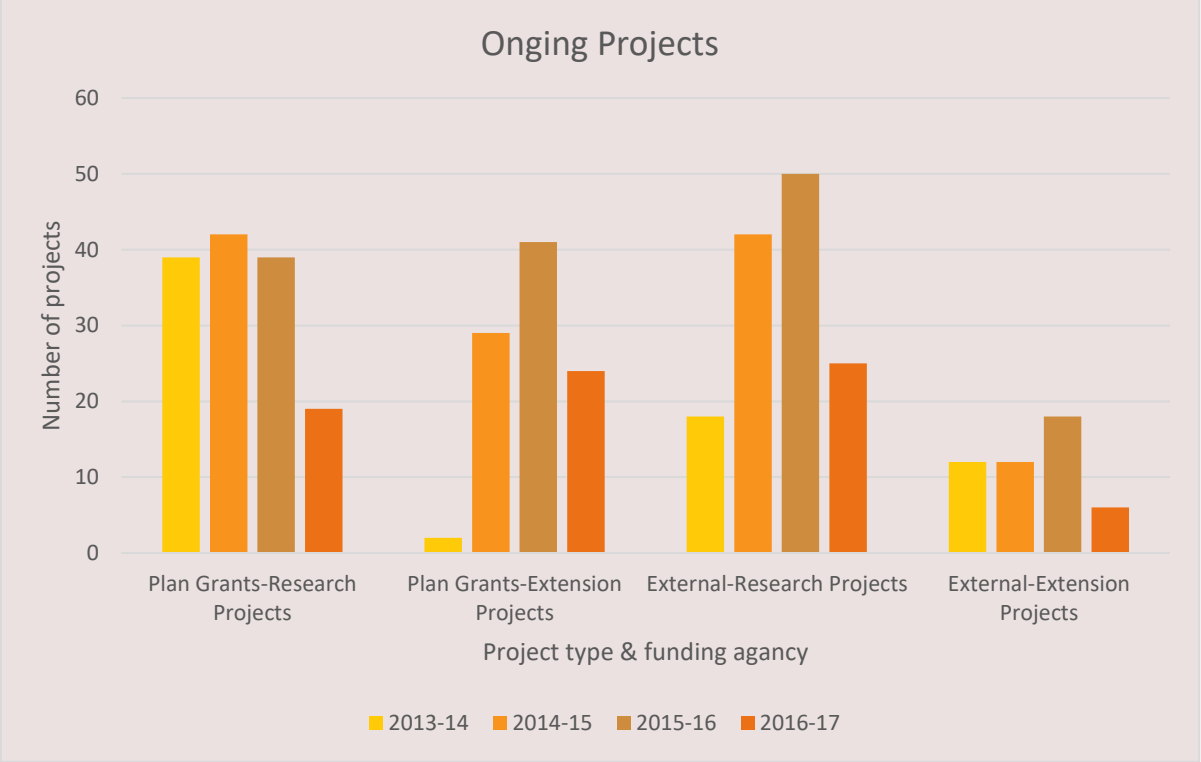


Fig. 04 Ongoing projects in the Institute for the period April 2013-March 2017

4.2.2 Annual Budget Preparation (Plan Fund)

Annual budget of the Institute is prepared for a financial year and is a complete plan, a synchronized set of detailed financial statement of operating plans and schedule. It is the institution's formal plan of action for the budget period. Annual budget is the finest text for understanding the micro economics of the Institute for the forthcoming budget period.

Research module of the annual budget is prepared by the RME Unit. For the preparation of the annual budget, all Scientists are requested to submit the estimated budget with budget break-ups for the upcoming financial year to RME Unit. After analyzing the estimated budget with budget break-ups received from the Scientists, RME Unit will prepare the final annual budget needed for the research in the institute. The total research budget project cost is made up of all direct and indirect costs.

During the period RME Unit had prepared annual budget for the following financial years.

1. 2014-15
2. 2015-16
3. 2016-17

4.2.3 Research Council Meeting

The mandate of the Research Council is the upkeep of excellent research and to recognize resourceful individuals with advanced concepts, designs thus empowering a vibrant research community which enhances forest research. Research Council comprises four expert members from outside Kerala and three including the Director from the State. One of the external member is appointed as Chairman. The Director is the convener of the Research Council. RME had conducted four RC meetings during the period from July 2013 to February 2017 and is as follows:-

1. 19th Research Council meeting on 25th April 2014
2. 20th Research Council meeting on 19th September 2014
3. 21th Research Council meeting on 14th May 2015
4. 22th Research Council meeting on 18th& 19th November 2015.

4.2.4 Right to Information

Right to Information Act 2005 commands timely response to citizen requests for information from government. RME Unit has responded to 12 RTI queries in connection with the research projects that is redirected from the administration during the period from July 2013 to February 2017.

4.2.5 Reports to Central & State Govt. departments, KSCSTE and other funding Agencies

On demand, various reports are submitted to Central & State Govt. departments, KSCSTE and other funding Agencies. The reports are mostly based on the progress of research projects, final reports of research projects, technical reports of research projects, research outputs , financial position of research projects, committee reports etc.

4.2.6. Preparation of annual plan fund proposal for administrative sanction

RME Unit provided all the details on research needed for the preparation of Annual reports.

4.2.7 Administrative Support

All the files related to research projects and research personal are given to RME for comments before decision making. No liability certificate for scientists were issued by RME.

5. CONCLUSIONS

The project paved the way for efficient functioning of the RME Unit with the support of project staff. The main purpose of the project was to make available the human resources additionally needed in the RME Unit. The project enabled to develop a software with four modules. The developed software is named as OAIS, which has four inter related packages/modules namely, 1. Leave/Tour application module 2. Advance Request module 3. Sanction Order Request module and 4. Tax Report mining module. The software was developed after completing the system analysis and the Flow chart.

During the project period, 68 Research Projects (RP) were sanctioned, 65 Extension Projects (EP) implemented, 34 Training Programmes (TP) conducted and three Consultancy Projects (CP) implemented. All the above projects were monitored and reviewed as required. Assisted in the annual budget preparation of the Institute by preparing the research module of the annual budget. Apart from the above, RME Unit supported the answering of Right to Information Act enquiries, prepared reports to Central and State Government Departments, KSCSTE and other funding agencies, and provided full administrative support to Director and Registrar for efficient management of the Institute.

RME conducted four RC meetings during the period from July 2013 to February 2017 as follows:-

1. 19th Research Council meeting on 25th April 2014
2. 20th Research Council meeting on 19th September 2014
3. 21th Research Council meeting on 14th May 2015
4. 22th Research Council meeting on 18th & 19th November 2015.

The project helped to streamline the research activities of the Institute apart from developing a software for efficient functioning of the Institute.