

**UNIVERSITY GRANT COMMISSION  
BAHADUR SHAH ZAFAR MARG  
NEW DELHI-110002**

Statement of Expenditure in respect of Minor Research Project title: **Biodiversity survey and control measures of mosquitoes in Bada Makan Slum, opp Lalbagh, Hosur road, Bangalore.**

- 1) Name of Principal Investigator: **Nayaz Ahmed .G**
- 2) Dept. of University/College: **Botany, Al-Ameen Arts, Science & Commerce College, Bangalore.**
- 3) UGC approval No. and date: **MRP(s) - 0355/13-14/KABA004/UGC - SWRO**
- 4) Title of the Research Project - : **Biodiversity survey and control measures of mosquitoes in Bada Makan Slum, opp Lalbagh, Hosur road Bangalore.**
- 5) Effective date of starting the Project: **June 2014**
- 6) (a) Period of Expenditure: **June 2014-Feb 2015**  
(b) Details of Expenditure

SI. No.	Item	Amount Approval (Rs)	Actual Expenditure Incurred)
I	<b>RECURRING GRANT :</b>		
a.	Chemicals and Glass wares	19000.00	19000.00
b.	Fieldwork and travel- Field Visits And Travel- Awareness Programme and Film Shows-	9500.00	3000.00 6500.00
II	<b>NON-RECURRING GRANT:</b>		
a.	Books & Journals	10000.00	10000.00
b.	Equipment- Digital Camera Microscope Nets And Headgear Aquarium 3 Nos	40000.00	8000.00 9000.00 14000.00 9000.00

7. If as a result of check or audit objection some irregularly is noticed at later date ,strict action will be taken to refund, adjust or regularize the objected amount.

8.It is certified that the grant of Rs.78500(Seventy Eight Thousand five hundred) received from the University Grants Commission under the scheme of support for Minor Research Project entitled-**Biodiversity survey and control measures of mosquitoes In Bada Makan Slum, opp Lalbagh, Hosur road Bangalore**, vide UGC letter No **MRP(S)-0355/13-14/KABA004/UGC-SWRO 28 Mar 2014** has been fully utilized for the purpose for which it was sanctioned and in accordance with the terms and conditions laid down by the University Grants Commission. .

**PRINCIPAL INVESTIGATOR**

**Dr. B. M Zakir  
PRINCIPAL**

## **AUDITED UTILIZATION CERTIFICATE**

Certified that the grant of Rs. 107000/- (Rupees one lakh seven thousand only) approved by University Grants Commission (out of which Rs. 78500/- has been received from UGC for Minor Research Project vide UGC Utter No. **MRP(s)-0355/13-14/KABA004/UGC-SWRO Dt 28Mar 2014** for the purpose for which it was sanctioned and in accordance with the terms and conditions laid down by the University Grants Commission.

**PRINCIPAL INVESTIGATOR**  
(Nayaz Ahmed .G)

**Dr.B.MZakir**  
**PRINCIPAL**

**STATUTORY AUDITOR**

**UNIVERSITY GRANT COMMISSION  
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**Annual/Final Report of the work done on the minor research project (Report to be submitted within 6 weeks after completion of each year)**

1. Project report no - **1**
2. UGC reference no. F: **MRP(s)-0355/13-14/KABA004/UGC-SWRO**
3. Period of report from - **June 2014 – June 2015**
4. Title of the research project: **“Biodiversity survey and control measures of mosquitoes in Bada Makan Slum’ opp Lalbagh, Hosur road, Bangalore.**
5. (a) Name of the principal Investigator - **Nayaz Ahmed G**  
(b) Department - **Botany**  
(c) College where work has progressed - **Al-Ameen Arts Science & Commerce College, opp Lalbagh, Hosur road Bangalore**
6. Effective date of starting the project -
7. Grant approved and expenditure incurred during the period of report - **78500/**
  - a. Total amount approved - **107000/**
  - b. Total expenditure - **78500/**
  - c. Report of work done – **Separate sheet is attached.**

**c. Annual report of the work done:**

**i. Brief objectives of the project**

- Identification of the site.
- Collection of data about Mosquito born diseases.
- Collection of Mosquito adults Larvae from the Site of study.
- Study the behavior and morphology of the mosquitoes.
- Identification of breeding ground.
- Check the various physical and biological control methods that can be adopted to suit the local conditions.
- Create awareness about prevention of mosquito born diseases.
- Eliminate breeding sites of mosquitoes.

**ii. Work done so far and results achieved and publications if any resulting from the work.**

Questioners were meticulously planned and prepared.

By door to door visit data was collected from a sample size of 130 people residing permanently at the study site. Questioners were used for recording the data.

Details like Mosquitoes borne disease that occurred during a period of one year and Symptoms observed were noted down.

Treatment carried out, was also recorded.

Control measures adopted locally and local mosquito breeding spots were identified.

Results of the primary data regarding mosquito borne diseases since Jan 2014 to March 2015 are as follows.

1. Malaria – 38 cases
2. Chickengunya – 30 cases

3. Dengue – 20 cases
4. Elephantiasis - Nil
5. Mosquito induced dermatitis. 28.

- Mosquito adults and larvae were collected from the site of study using nets and sterilized containers over a period of 6 months so as to get a wide range of species. Slides of both adults and larvae were prepared. (*Photos enclosed*).
- Behavior and morphology indicates the presence of atleast 20 different species in the study site. Anopheles, aedes and culex were common. This work is still in progress because quite often new species are being detected. It is not clear whether they are new species or already existing breeds appearing seasonally.
- In the study site several breeding grounds were identified. Infact every house is surrounded by numerous breeding areas like pools, containers, garbage, gutters etc.
- Awareness about prevention of mosquito borne diseases, through film shows and other ways are in progress.
- The following physical, mechanical and biological control methods are recommended to be adopted to suit the local conditions.
- Physical and mechanical control methods which are being employed are,  
Electric bats – 23%  
Nets-11.5%
- Chemical control:  
Coils – 46%  
Liquid repellents-15%  
Cream – 1-2%  
Garbage smoke – 20%
- In view of the presence of deadly mosquitoes species immediate awareness programmes have to be started in the form of, physical elimination of the breeding sites of mosquitoes, such as by closing open gutters and leaking pipes have been advised.
- Biological methods – Larvae from the breeding sites were brought and tested in aquarium where mosquitocidal fishes like, green terror, zebra carvet and Tiger Oscar were found eating the larvae. The process of checking the mosquitocidal plants is in progress.

**iii. Has the progress been according to original plan of work and towards achieving the objective?**

**If not state reasons. – Yes.**

**iv. Please enclose a summary of the findings of the study. One bound copy of the final report of work done may also be sent to the concerned Regional office of the UGC.**

**V. Any other information.**

At the study site there is a perennial problem of garbage dumping and open drainage. Since the area is not well lit and eternally dark the mosquito menace is further compounded, posing a huge challenge for the both the study and methods of elimination.



**PRINCIPAL INVESTIGATOR**  
**(Nayaz Ahmed .G)**

**Dr.B.MZakir**  
**PRINCIPAL**

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**Statement of expenditure incurred on field work**

Name of the principal investigator: **Nayaz Ahmed. G**

Certified that the above expenditure is in accordance with the UGC norms for minor research projects.

<b>Name of the places visited</b>	<b>Duration of the visit</b>	<b>Mode of journey</b>	<b>Expenditure incurred</b>
	<b>On</b>		
<b>Hoskote</b>	<b>06/01/15</b>	<b>Car</b>	<b>500/</b>
<b>Gandhinagar</b>	<b>10/01/15</b>	<b>Two wheeler</b>	<b>200/</b>
<b>JC road</b>	<b>12/01/15</b>	<b>Two wheeler</b>	<b>100/</b>
<b>Shivajinagar</b>	<b>15/01/15</b>	<b>Two wheeler</b>	<b>100/</b>
<b>Shivajinagar</b>	<b>18/01/15</b>	<b>Car</b>	<b>100/</b>
<b>Benson town</b>	<b>22/01/15</b>	<b>Car</b>	<b>100/</b>
<b>Ganaganagar</b>	<b>31/01/15</b>	<b>Car</b>	<b>300/</b>
<b>Shivajinagar</b>	<b>10/2/15</b>	<b>Car</b>	<b>200/</b>
<b>Yelhanka</b>	<b>18/03/15</b>	<b>Car</b>	<b>500/</b>
<b>Malur</b>	<b>28/4/15</b>	<b>Car</b>	<b>1000/</b>
<b>Kengari</b>	<b>13/6/15</b>	<b>Car</b>	<b>400/</b>
<b>Kengari</b>	<b>22/6/15</b>	<b>Car</b>	<b>400/</b>
			<b>Grand total =3000/</b>

**PRINCIPAL INVESTIGATOR**  
(Nayaz Ahmed .G)

**Dr.B.MZakir**  
**PRINCIPAL**

**STATUTORY AUDITOR**