

ACCELERATING HIGHER EDUCATION EXPANTION AND DEVELOPMENT

(AHEAD)

Result Area Two:

IMPROVE THE QUALITY OF EDUCATION

ENRICHING LEARNING, TEACHING, ASSESSMENT

AND

ENGLISH LANGUAGE SKILL ENHANCEMENT

DEVELOPMENT PROJECT (ELTA – ELSE DP)

ACCELERATING HIGHER EDUCATION EXPANTION AND DEVELOPMENT
(AHEAD)

DEVELOPMENT PROJECT: ELTA – ELSE (Department / Unit)

Name of the University : University of Jaffna
Name of the Faculty : Faculty of Science
Name of the Department : Zoology

Names and Signatures of the team involved in the preparation of the proposal:

1. Dr. Mrs. Abyerami Sivaruban :

2. Dr. Mrs. Thulasitha William Shanthakumar :

Signature of the Head :

Signature of the Dean :

Signature of the Vice-Chancellor :

T. Eswaramohan
Head 28/8/2016
Department of Zoology
University of Jaffna
Jaffna, Sri Lanka

J. P. J
DEAN
Faculty Of Science
University Of Jaffna
Jaffna, Sri Lanka

Prm
VICE CHANCELLOR
University of Jaffna
Jaffna, Sri Lanka

Primary contact person (Project Coordinator):

Name : Dr. Mrs. Abyerami Sivaruban
Senior Lecturer,
Department of Zoology,
University of Jaffna

Mobile: 0773506501

E-mail : abyerami@gmail.com

Date of submission:

2: Activity Team

Project Coordinator :

Dr.Mrs. Abyerami Sivaruban
Senior Lecture Gr. I
Department of Zoology
University of Jaffna

Coordinator for Activity – V

Team Members :

1. Dr. Mrs. Thulasitha William Shanthakumar
Senior Lecturer Gr. II
Department of Zoology
University of Jaffna

Coordinator for Activity – I and III

2. Dr. Kanapathy Gajapathy
Senior Lecturer Gr. II
Department of Zoology
University of Jaffna

Coordinator for Activity – II and IV

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3: Background

The Faculty of Science of the University of Jaffna was established in October 1974 in the premises of undergraduate section of Jaffna College in Vaddukoddai offering an undergraduate programme in Mathematics and Statistics initially. It was shifted to the present premises (now the Natural Science Block-I) at Thirunelvely during 1975 where the Biological and Physical Sciences were started with the establishment of Departments of Botany, Chemistry, Physics and Zoology. Later in 1999 Computer Science was incorporated and in 2009 Department of Fisheries was added to the entity. At present students from all ethnicity are studying in the University of Jaffna including the Faculty of Science.

As far as Department of Zoology is concerned, well-structured syllabi from 1st year to 4th year are incorporated in its curriculum. To maintain its standards, all final examination papers of the Zoology are externally moderated and all special degree question papers are sent to overseas examiners (University of Aberdeen, UK). In addition, 15 out of thirty course units are incorporated with field visits thereby different learning levels endowed with these courses along with practical sessions. This provides another avenue for students to mingle with each other and to interact with local community as well. As such Department of Zoology maintains its standard in producing quality graduates to meet the present day challenges posed nationally and internationally.

As per the current requirements and to satisfy the SLQF standards Faculty of Science revises its curriculum regularly. In this regard, Department of Zoology has revised the curriculum 6 times during the span of nearly 40 years and this includes 3 revisions within the last 10 years. In 2013 a revision was made which was facilitated by the competitive Quality Innovation Grant (QIG of HETC of project) won by the Biological Science stream of the University of Jaffna which was effective from 2013 – 2015. Latest revision was commenced in 2017 as a regular revision in the programmes of Faculty of Science.

Further, with the financial support of HETC/QIG/JFN/W2/Biological Sciences study programme, Department of Zoology has refurbished one molecular laboratory, one lecture hall with multimedia inbuilt, to a considerable extent upgraded the general laboratory, museum and animal house with infrastructure facilities.

QIG has also provided an avenue to establish a University - Industrial link through which the students had opportunity to work in the industrial environment for a stipulated time period.

Department of Zoology utilized this opportunity and exposed the students by taking them to various industrial sectors located all over Sri Lanka. Eventually an Applied Science degree programme was formulated and commenced from the academic year 2014/2015 onwards (Appendix I - Table 2) where Department of Zoology also developed courses relevant to the industrial sector.

Though students expressed interest in the programme, the number was less than the expected. Limited number of students successfully followed applied science programme in Biology; a combined courses from Botany and Zoology. The lack of preference for the applied science programme shall be attributed to the desire of the majority of the students to prefer teaching profession. This is mainly because of the lack of big industrial sectors in the region. However in recent times there are number of local industries functioning in the northern region which are expected to provide training platform for our students. This has resulted in a gradual transformation among the students attitude in recent times. So it is anticipated that the students might prefer the applied science programme more in the future (Appendix II). Beside this, Department of Zoology actively involves in various outreach activities with student and community participation such as conducting short courses, workshops, training and awareness programmes and national conferences in selected fields.

Extension programmes: A Certificate course in “Molecular biology laboratory techniques” was started during 2017/2018 as an extension programme of the department to provide technical knowledge and experiences to the undergraduates, graduates, postgraduates, laboratory technicians under SLQF frame work. First batch of students have completed this course successfully, and the second batch is being recruited.

Workshops: In order to familiarize with the handling and catching of live animals, a two day workshop on “ Hands on training on Herpetology - Amphibians” was conducted at the department in 2017 where field sampling, data records along with identification in the field were taught. Academic staff members, special and general degree biology students, technical staff as well as school students have been benefitted by this workshop.

In addition, three National workshops in “Insect gene transformation and micro manipulation” were also conducted during the period from 2011 - 2017. Students and researchers from other universities and institutes have also been participated the workshops.

National conference: The Department of Zoology has organized a National conference on “Insect Vector Biology – 2017”. This has provided a platform for the researchers, undergraduates to present their findings in the field of insect vectors and vector borne diseases.

Current student enrolment:

The student intake to the Biological Science varies considerably (123 in 2014; 124 in 2015 and 134 in 2016 academic year) from year to year with varying ethnic ratio (Appendix I - Table 1). The number of students who preferred Zoology as one of their subjects for the last three years are also given in the same table. During these years a drop in student number is seen in the 2nd year; from 64 to 23 (in 2014 / 2015) and from 66 to 14 (in 2015 / 2016).

The reason for the above may be the design of the curriculum. So far the Faculty of Science adopts two principal subjects combination from the 2nd year onwards and there are four departments namely Botany, Chemistry, Fisheries and Zoology offering courses for the Biology stream students. So students get deviated and a less numbered student pool is resulted.

However Feedbacks from the stakeholders revealed that the two principal subject combinations had severe draw backs and affected the capacity of the graduates. To overcome this problem and to alleviate its impacts in the job market, the study programme design is again revised in 2017. To provide a comprehensive knowledge in Biology, the two principal subject combinations have been transformed into three principal subject combinations from the academic year 2016/2017 onwards. This has an additional advantage as a constant student number can be maintained throughout 3 years for a department. In the current academic year (2016/2017), 93% (91 students) of the 98 enrolled students choose Zoology as one of their subjects in their 1st year and expected the same number to follow Zoology in the second year as well.

- **Existing activities to promote socio-emotional skills**

Further, the Department of Zoology has a well-established University registered (approved by the 380th council meeting of the University of Jaffna) and NSF registered (NSF registration No: NSF/ USS/ JFN/ 043) student body called Zoological Students' Association - ZSA which was founded in 2013. A student who take Zoology as one of their subjects during their undergraduate period or who shows interest on nature/natural science can become a member of this association. ZSA members participate in national level competitions or sometimes jointly makes programme with student bodies of other universities as well. ZSA actively undertakes various community based projects, school science programmes and environment related awareness activities. All these provide a platform for the students to work together to develop their socio-emotional skills-coordination, communication and collaboration.

In addition, another non-credit course under Auxiliary and Enhancement subject area named "Active Citizen and Social Harmony" was introduced from 2016 onwards for the 1st year students. Here, social action projects pertaining to local area problems such as solutions for mosquito menace, waste water utility, recycling and reuse of plastics, etc. are identified by the group of students and the activity plan for the projects are presented in front of facilitators and other students. They will either demonstrate with a model or explain in front of the students and evaluators. This would give an excellent opportunity for the students to interact among themselves, come up with new ideas and to develop leadership ability with the thoughts of benefit of the societies. Though it is not limited to the department, this is one of the strong holds in the curriculum through which many soft skills can be built among the students.

The followings are some of the examples for the commitment of Department of Zoology and ZSA to work for the benefit of the society.

Programme of "Tree Planting Campaign" (TPC) : It was a two day programme held at the Department of Zoology, University of Jaffna during February, 2017 with the support of ZSA where the student body "BEEZ" (Base for Enthusiasts for Environment and Zoology) of Department of Zoology University of Colombo has been invited as collaborators. The program targeted 50 schools from 5 zones of Jaffna namely Valikamam, Thenmarachchi, Vadamarachchi, Nallur and Islands. These schools were donated with 1000 plants. The basic idea of the programme was to expose the school children to the climate changes, tree plantation and to mix up students of two universities for a unanimous cause.

Annual Northern Provincial Agricultural Exhibition- 2017: It was a five day knowledge dissemination program conducted during September 2017, with the sole objective of creating awareness to the general public especially to the farmers on the merits of “Integration of Biodiversity in the ecosystem” and the demerits of “Disturbance on to the ecosystem due to Anthropogenic activities”.

In addition, some of the ZSA activities were financially supported by NGOs. The following three community development projects in environmental conservation were funded by UNDP in 2014. The staff and members of the student organization of the Department of Zoology (ZSA) were contributed in the form of periodical consultation and field assistance in biological and environmental related aspects in the project respectively.

Project1: “Sustainable Organic Home Gardening with the mitigation of climate change (drought) in Maravanpulo GS J- 298 Jaffna district” Maravanpulo Thirumagal Mathar Thrift and Credit cooperative Society (Ltd), Maravanpulo, Chavakachcheri.

Project 2: “Replantation of Indigenous plants through Thellipalai Ayurveda hospital and Create herbal based livelihoods in the resettlement areas of Thellipalai, Jaffna” by Kaarunya Foundation, Jaffna.

Project 3. “Improve flow of agro ecosystem and forest ecosystem services to sustain livelihood of local communities by providing protection for agriculture crops from Monkey’s damages in Thenmaradchy area” by Chavakachcheri Fruit Producers and Sales Co-operative society (CFPS).

At present, an ecotourism project funded again by UNDP titled “Establishing home stay based ecotourism by sustainable usage of coastal boundaries in Poonneryn area” is being carried out by the Department of Zoology where ZSA is acting as partner of the project.

- **Existing activities to promote English language skills**

The Faculty of Science has some non-credit courses assigned in one of the subject areas called Auxiliary and Enhancement subject areas where English language is one of the mandatory courses.

This course is designed to provide basic knowledge in speaking and writing skill. The English language is taught by the staff from the English Language Teaching Centre (ELTC) of the Faculty of Arts of the University of Jaffna. Weekly two hours are allocated for the 1st and 2nd year undergraduate students in regular time table for a semester. Though these are non-credit courses, they shall be evaluated with a written paper and a viva type examinations. A student is only eligible to obtain the award of degree if she or he hold minimum of 'C' grade in this English language programme.

Further, Department of Zoology sometimes practices oral presentations as one of the assessment methods. Here, a student or a group of students are asked to make a presentation on a given title. But these are limited and only courses with field visits will provide opportunity for this type of assessment method which will develop students' speaking and presentation skills.

- **Undergraduate course units and medium of instruction**

General, special and applied science courses offered by the Department of Zoology from 2012 - 2016 are given in (Appendix I - Table 2). All the courses are taught in English.

- **Graduate employment experience**

Recent graduates from the Department of Zoology have acquired jobs in various public sectors as well as in private sectors. The most recent graduates passed out in 2018 have been recruited as research coordinators in medical laboratory, demonstrators at the Department of Zoology and teachers at international school. Meanwhile, those who were graduated in year 2016 and 2015 are working in different institutes such as NAQDA and NIE, as well as in Education sectors, Environmental sectors and private firms. Only few of them gained admission for following post graduate studies in Sri Lanka and abroad. The detail is given in Appendix I - Table 3.

- **Qualification of academic staff**

The detail is given in Appendix I - Table 4

- **Physical resources**

The detail is given in Appendix I - Table 5

4. Activity Plan

4.1 Proposed Activities / sub activities

Table 4: Rationale for activities

Activity and Sub activity	Description of Activity / sub-activity	Rationale
<p>1. Enriching the teaching and learning environment for students and staff</p> <p>1.1 Strengthening the Learner Centered Teaching and learning via LMS</p> <p>1.2 Expansion of e - based conference hall or Bioinformatics laboratory</p> <p>1.3 Accessibility to books, journals, and e – books</p>	<p>Sub-activities of this activity mainly focus on the expansion of e-based conference hall to improve the learner centered teaching via various LMS tools, use the e-learning facilities for bioinformatics and use as library with e-resources. All these three sub-activities will use the same physical resources (e-conference hall) and goods (computers and accessories) with the activity 4 which is to develop English language skills. As such training workshops, seminars, video conferencing lectures, practical sessions for bioinformatics and assignments related to activity 1 and 4 will utilize the same space; the e-conference hall.</p>	<p>Higher education system plays an important role in the process of national development and building. Therefore, to meet the international standard and to produce marketable graduates from our nation, there is a necessity to introduce innovative learner centred teaching and learning methods supported by the quality environment. At present Department of Zoology offers basic and advanced courses in the discipline of Zoology which include class room lectures, practical and field sessions. Though LMS usage is encouraged, due to some constrains, only a limited extent it has been practiced so far. As the situation is improved, we hope to reintroduce it and utilize various LMS tools in teaching learning and assessment reforms.</p> <p>Further, innovative teaching and learning with increasing number of students from first year to final year (4th) will also be managed by various LMS tools. Even though, bioinformatics is one of the major courses</p>

		<p>for special degree students, there is no computer or bioinformatics laboratory either for students and staff at the Department. Applications of bioinformatics are shared by other courses such as evolutionary biology and comparative physiology or Immunology, Entomology, Vector biology and control, and Herpetology which are incorporated in the special as well as general degree programmes. And there are no computers or internet facilities for the students to prepare their assignments, research proposals, presentations and seminars at the department. Development of this laboratory will be utilized by undergraduates and post graduates of the Department, academic staff and by the students those who follow certificate course in molecular biology laboratory techniques which is an extension programme of the Department of Zoology.</p> <p>In addition, development of e-based conference hall at the department will provide space and facilities to conduct video conferencing, seminars and training workshops with field specific experts from abroad for students and academic staff.</p>
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<p>2. Benchmarking with internationally recognized courses or programmes</p> <p>2.1 Introducing new courses for widening student choice</p> <p>2.2 Refurbishing the laboratories and departmental museum</p>	<p>Enriching the existing curricula by introducing new courses in the general and special degree programme at the department level for widening student choice.</p> <p>In this regard refurbishment of laboratories and museum of the department include the renovation of existing laboratories, fixing air conditioners, purchasing of equipment, improvement of safety, preservation and</p>	<p>In par with the world's employability needs, the biological study programme has adopted newer subject combinations from time to time and the present curricula were revised recently during 2013 to 2015 under the QIG grant. At present, department of Zoology offers number of courses in the basic and advanced levels. But, apart from the general degree (B.Sc General degree - 3 years) the number of degree programmes are limited to only two namely B.Sc Special degree in Zoology and B.Sc Applied Science in Zoology of 4 year duration.</p>

<p>2.3 Establishing student exchange programme with other relevant Universities</p>	<p>display of museum specimens to facilitate the teaching and learning in international standard are essential. Student exchange programme with other universities and institutes will be conducted for selected courses to increase the exposure during the undergraduate period. Purchasing of a set of laboratory table and chair with adjustable height for differentially able students will also be done.</p>	<p>To widen the student choice and to meet the demand of the job market, introduction of new courses such “ Advanced Physiology and Molecular Biology; Integrated Coastal Management, Economic Zoology etc.” at the department level particularly in the third and fourth year will strengthen the graduate profile for international recognition. Also this will help to meet the benchmark with the international standards. Further these actions will support the commencement of new degree programme/s in near future as well (Eg. B.Sc Special in Integrated Physiology and Molecular Biology; B.Sc Special in Biology; B.Sc Special in Environmental and Conservation Biology). Present staff profile of the department is eligible to introduce these new courses (Appendix III).</p> <p>To achieve the bench mark with internationally recognized courses or programmes, existing courses in the curricula will be enriched by providing standard laboratory with new techniques and facilities. Infrastructure of the laboratories needs to be improved to provide quality environment for the study programme. At present there is no laboratory except</p>
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		<p>molecular biology laboratory is equipped with air conditioner, which is very important to ensure the ambient room temperature to conduct experiments and laboratory sessions. Particularly to conduct the courses for animal physiology, cell biology, bio-molecules, histology, and behaviour and also to conduct research projects. It will ensure the student and staff welfare also. In addition, lack of facilities for laboratory safety also a major concern in laboratories. Safety in laboratory will be improved by fixing fume hoods and glass fronted laboratory doors.</p> <p>Further, to provide comfortable environment during practical sessions for differently abled students, the current facilities have to be improved. At present we have one special degree student in third year with this condition, there is no table or chair with adjustable height at departmental laboratories. This will facilitate the microscopic analysis and observations, dissections and other laboratory experiments.</p> <p>Further, student exchange programme with other relevant universities will fulfil the gaps in certain courses under the discipline of Zoology such as wildlife</p>
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		conservation, marine biology etc.
<p>3. Enriching the curricula in line with strengthening research</p> <p>3.1 Short term training or training workshops on selected fields for students</p> <p>3.2 Short term training for academic and non-academic staff</p> <p>3.3 Staff - student collaborative research</p>	<p>This activity includes short term training or training workshops in selected fields for students, academic and non-academic staff for modern techniques, and introduction of student-staff collaborative research at department level and externally with other institutes.</p>	<p>A passion on research by the students and staff will contribute to the national development and to enhance graduate profile. As such, modern techniques in line with the laboratory skills will enrich the present curricula. It will also encourage the interaction and skills of timely actions among students of various ethnicities. Facilities available at the department are not enough to improve the quality of research in some disciplines. Collaborative research with other institutes, conduct training workshops on selected fields and short term training for academic staff and students at other institutes will strengthen the research output. In addition, introduction of small group research project for students and student – staff collaborative research will enhance the marketable graduates for the global needs as well as improve the socio –emotional skills and English language skills.</p>
<p>4. Developing English language and socio-emotional skills among staff and students</p>	<p>Improve the infrastructure facilities with e-learning tools to teach English language for biology students at the department. This activity includes the</p>	<p>English is the global language in the field of science in all aspects. Producing graduates with skills and attributes to meet the requirements of the 21st century is vital in the context of human resource development for</p>

<p>4.1 Introducing English language training course for scientific writing and presentation in Biology.</p>	<p>setting up of e-conference hall with computers and accessories, internet facilities and library facilities at first level; thereafter to conduct training workshop for students to enhance report writing, presentation and speaking skills.</p>	<p>national benefits. Therefore, English language skills play a vital role in obtaining jobs nationally or internationally and for getting admissions and scholarships for postgraduate studies at reputed institutes in the world. A meeting conducted with stakeholders of different fields revealed that most of the recent graduates were not successful in English language skills such as in report writing, presentation and speaking (Appendix II). Even though our degree programme is conducted in English medium, most of the students are still poor in English language skills; which has been noticed in seminar presentations, group presentations and report writing for field sessions and all forms of written exams. In addition, external examiner from abroad also mentioned that the proficiency in written English of students has to be improved. Further, it should also be noted that many graduates failed to obtain foreign scholarships and admission due to their inadequate English language proficiency and lack of awareness. Therefore, it is very important to enhance the English language proficiency of students to meet the above targets.</p>
<p>4.2 Introducing individual or group presentation and viva components as mandatory elements in the existing curricula</p>	<p>In the second stage expert from the ELTU of the University of the Jaffna and from other professional institutes (British council) will be invited for the short term training. Certificate will be issued at the end of the training programme by the department on English language for Scientific writing and presentation skills.</p>	<p>At the same time, individual and group presentations will be conducted as mandatory elements in assignments and ICAs.</p>
<p>4.3 Reforming the student welfare or student interaction room</p>	<p>Student welfare and interaction room at the department along with necessary</p>	<p></p>

	<p>goods will facilitate the where student forums and other activities such as scientific toastmaster programmes etc.</p>	<p>To produce potential candidates in the competitive job market, developing socio-emotional skills are very important in addition to the subject knowledge. These skills will help the graduate to understand the situation and to manage their emotions. Present facilities or practices in the department are not enough to enhance the socio-emotional skills of the students and staff. This point was also reported in stakeholder meeting recently conducted at the faculty. They mentioned that the interview performance, presentations skills and social engagement are very poor among recent graduates. Lack of facilities for student – student interactions and student - staff interaction to develop these skills at the department and even at the faculty were identified at the meeting with biological students. Reforming the existing curricula to enhance the English language and Socio-emotional skills will be a practical solution to improve the graduate profile at the department level.</p>
<p>5. Reactivation of University - Industrial links 5.1 Reactivation of University - Industrial links</p>	<p>Industrial linkage will be reactivated via field visits and internships. Industrial training for selected courses will be listed as mandatory elements in the present</p>	<p>University - industry linkage is an essential component in the development of the practical and professional skills expected from a biologist and an aid to prospective employment. Industrial visits and trainings</p>

<p>5.2 Developing industrial training programme for selected courses</p>	<p>curricula.</p>	<p>will be useful to learn and practice industry oriented research and to get innovative ideas in research. One of the reasons for our graduates to get inadequate field specific job opportunities is due to lower exposure to the industrial environments. Though consequently 3 years industrial visits were made in the past, only a few got the job in industries away from teaching. However, industrial links have to be improved to full fill the graduate profile. Acquaintance with various industries will help students to develop various skills including communication skills and socio-emotional skills and enhances their job opportunities. The exposure will mould the students to become more competitive in national and international job market. The industrial visits will give students opportunities to interact with employers and thus increases the probability of getting employment in their field of interest.</p>
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4.2 Activities and plan to achieve the KPIs

Table 5a: Activities and plan to achieve KPIs

Activity	Sub activity	KPIs	
		Intermediate outcomes	Outcomes
1. Enriching teaching and learning environment for students and staff	1.1 Strengthening the Learner Centered Teaching and learning via LMS	Number of staff undergo training on digital based teaching, learning and assessment	Percentage of courses enriched by Digital Based Teaching Learning and Assessment
	1.2 Expansion of e - based conference hall or Bioinformatics laboratory	Purchasing of specified equipment required for Digital Based Teaching Learning and Assessment	Number of students benefitted.
	1.3 Accessibility to books, journals, and e – books	Purchasing of books, journals, and e - books	
2. Benchmarking with internationally recognized courses or programmes	2.1 Introducing new courses for widening student choice	Number of new courses introduced	Number of students benefitted
	2.2 Refurbishing the laboratories and departmental museum	Procurement of laboratory equipments and uplifting the infrastructure facilities (including the facilities for differently abled students) and	

		uplifting the museum essential infrastructure facilities	
	2.Establishing student exchange programme with other relevant Universities	Number of courses identified for student exchange programme	Number of students benefitted
3. Enriching curricula in line with strengthening research	3.1 Short term training or training workshops on selected fields for students.	Number of training workshops conducted	Number of students benefitted
	3.2 Short term training for academic and non-academic staff	Number of short term workshops or training programme attended	Number of academic and non-academic staff benefitted
	3.3 Staff - student collaborative research	Number of research programme initiated	Number of research programme completed
4. Developing English language for biology and socio-emotional skills among staff and students	4.1 Introducing English language training course for Scientific writing and presentation in Biology	Number of students benefitted	Number of students certified in English language training course for Scientific writing and presentation in Biology
	4.2 Introducing individual or group presentation and viva components as mandatory elements in the existing	Number of course units adapted at least one of these assessment methods	Number of assessments conducted

	curricula		
	4.3 Reforming the student welfare or student interaction room	Procurement of accessories and other essential facilities	Number of students benefitted through student forums
5. Reactivation of University - Industrial links	5.1 Reactivation of University - Industrial links	Visit to the industries by staff and students	Number students benefitted
	5.2 Developing industrial training programme for selected courses	Number of students entered for the training / internship programme	

Table 5b: Key Performance Indicators (KPIs)

Activity / Sub activity	Indicators	Baseline	End of Year 1	End of Year 2	End of Year 3	Methods
Activity 1	Outcome Indicator					
Related Sub - activities	Intermediate outcome					
1.1 Strengthening the Learner Centered Teaching and learning via LMS	1.1 Number of staff undergo training on digital based teaching, learning	10%	40%	60%	60%	Student feedbacks, assessment and no. of uploaded materials

	and assessment					
1.2 Expansion of e - based conference hall or Bioinformatics laboratory	1.2 Purchasing of equipment required for Digital Based Teaching Learning and Assessment	0	45%	100%		Number of e based Assessments and attendance
1.3 Accessibility to books, journals, and e – books	1.3 Purchasing of books, journals, and e - books	Only a few books and journals	2	2	2	Purchased record entries
Activity 2	Outcome Indicator					
2.1 Introducing new courses and degree programme for widening student choice	2.1 Number of new courses and degree programmes introduced	0	45%	100%		Faculty board minutes and curriculum committee meeting minutes
2.2 Refurbishing the laboratories and departmental museum	2.2 Procurement of laboratory equipments and museum tools and uplifting the infrastructure facilities (including the facilities for differentially able students)	40%	50%	100%		Procured record entries

2.3 Establishing student exchange programme with other relevant Universities	2.3 Number of courses identified for student exchange programme	0	20	40%	40%	Department records
Activity 3	Outcome Indicator					
3.1 Short term training or training workshops on selected fields for students.	3.1 Number of training workshops conducted	2	1	2	2	Student attendance and feed backs
3.2 Short term training for academic and non-academic staff	3.2 Number of short term workshops or training programme attended	0	1	1	1	Student attendance and feed backs
3.3 Staff student collaborative research	3.3 Number of research programme initiated	0	2	3	5	Department records
Activity 4	Outcome Indicator					
4.1 Introducing English language training course for Scientific writing and presentation in Biology	4.1 Number of students benefitted	0	1	1	1	Student attendance, feed backs and marking sheets
4.2 Introducing individual or group presentation and viva	4.2 Number of course units adapted at least one	4	6	8	10	No. of assessments and marking sheets

components as mandatory elements in the existing curricula	of these assessment methods					
4.3 Reforming the student welfare or student interaction room	4.3 Procurement of accessories and other essential facilities	0	50%	75%	100%	Procured record entries
Activity 5	Outcome Indicator					
5.1 Reactivation of University - Industrial links	5.1 Visit to the industries by staff and students	0	1	1	1	Student attendance
5.2 Developing industrial training programme for selected courses	5.2 Number of industrial visits conducted	0	1	2	2	Student attendance

6 : Time Schedule

Activity	Sub Activity	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Enriching teaching and learning environment for students and staff	1.1 Strengthening the Learner Centered Teaching via LMS			J	J	J	J	J	J	J	J	J	J
	1.2 Expansion of e - based conference hall or Bioinformatics laboratory	J	J	J	J	J	J	J	J				
	1.3 Accessibility to books, journals, and e – books			J	J	J	J	J	J	J			
2. Benchmarking with internationally recognized courses or programmes	2.1 Introducing new courses and degree programme for widening student choice	J	J	J	J	J	J	J	J				
	2.2 Refurbishing the laboratories Departmental museum	J	J	J	J	J							
	2.3 Establishing student exchange programmes with other relevant Universities			J	J			J	J			J	J

3. Enriching curricula in line with strengthening research	3.1 Short term training or training workshop on selected fields for students.			J	J		J	J	J			J	J
	3.2 Short term training for academic and non academic staff		J	J			J	J			J	J	
	3.3 Staff student collaborative research	J	J	J	J	J	J	J	J	J	J	J	J
4. Developing English language and socio-emotional skills among staff and students	4.1 Introducing English language training course for scientific writing and presentation in Biology			J	J			J	J		J	J	
	4.2 Introducing individual or group presentation and viva components as mandatory elements in the existing curricula		J	J	J	J	J	J	J	J	J	J	J
	4.3 Reforming the student welfare or student - staff interaction room		J	J	J	J	J						
5.	5.1 Reactivation of			J	J			J	J			J	J

Reactivation of University - Industrial links	University - Industrial links												
	5.2 Developing industrial training programme for selected courses			J	J			J	J			J	J

4.4 Stakeholders

During the development of AHEAD - ELTA ELSE Department proposal, regular meetings were held at departmental level (Appendix IVa). Detail elaboration and discussions were done at department level with academics, other stake holders (Appendix IVb) special students (Appendix IVc) and recent graduates (Appendix IVd). Consequently feedbacks and suggestion were collected from them. Space was given to each member to express his/her views freely. The report from the Coordinator / University Business Link (UBL) at the faculty level is also annexed (Appendix II). The following are the feedbacks received from the special degree students and recent graduates to improve the graduate profile:

- ❖ Make a framework to support the industry-university partnership
- ❖ Make career guidance module to train students in different career opportunities
- ❖ Make industrial training/ internship mandatory
- ❖ Make the students aware of local issues
- ❖ Make facilities to horn the presentation and writing skill in English
- ❖ Introduce research project to general degree students
- ❖ Make facilities to participate student forums/ competitions and other activities at the department in English medium
- ❖ Conduct workshops and training programmes at the department level

4.5 Budget justification

Table 7: Proposed budget

Activity	Sub-activity	Estimated cost (in Million LKR)					Total
		Goods	Works	Services		OVAA	
				Consultancies	Non-consultancies		
1. Enriching the teaching and learning environment for students and staff)	1.1 Strengthening the Learner centred Teaching and learning via LMS	- Goods will be shared with Activity 4.1 (ELSA) -Procuring computers, desk chairs, WiFi access points, Smart board, Multimedia projector & screen	0.6 Refurbishing the conference room with air conditioner	0.03 Payment for resource person	0.05 Expenses for Training workshop to staff and students		0.68
	1.2 Expansion of e - based conference hall for Bioinformatics laboratory	0.75 Purchasing of bioinformatics tools/ e-resources -Purchasing video-conferencing kit (Space, computers & other goods will be shared with activity 1.1)	-		0.05 Expenses to conduct training workshops for staff and students	0.1 Allowances for project coordinators and activity coordinators	0.9
	1.3 Accessibility to books, journals, and e – books	0.5 Purchasing books, e-books and journals	0.1 fixing of library				0.6

			shelves				
2. Benchmarking with internationally recognized courses or programmes	2.1 Introducing new courses and degree programme for widening student choice			0.05 Meeting with expert for curriculum development	0.05 Expenses for the meeting	0.1 travelling and subsistence	0.2
	2.2 Refurbishing the laboratories and departmental museum	2.7 -Procuring the Laboratory tables with shelves for advanced laboratory (NSB II) -At least one set of movable table and chair for differentially abled students -Storage cabinets & shelves -Dry cabinets -Fume hood -lab freezers (-20°C)	2.2 -Fixing air conditioner for laboratories (NSB I & NSB II) -fixing glass fronted doors for all laboratories			0.1 Allowances for project coordinators and activity coordinators	5.0
	2.3 Student exchange programme with other				0.5 Travelling and		0.5

	relevant universities				subsistence for staff and students		
3. Enriching curricula in line with strengthening research	3.1 Short term training or training workshop on selected fields for students.	0.5 -outdoor camping facility -night vision camera -head lights -field life safeguard/ jacket		0.05 honorarium for resource person	0.07 Workshop expenses	0.5 Travelling and coordinator s expenses	1.12
	3.2 short term training for academic and non-academic staff	-	-	-	0.2 -course fee	0.1 Travelling and subsistence	0.3
	3.3 Staff student collaborative research	0.7 -purchasing of laboratory equipment: digital balance (5 decimal) - Microtome					0.7
4. Developing English language and socio-emotional skills among staff and students	4.1 Introducing English language training course for Scientific writing and presentation in Biology	2.5 - Purchasing of computers, desks and chairs - Purchasing of self-learning and preparation tools for IELTS, TOFEL and GRE - purchasing of audio-visual aids	Space will be shared with activity 1.1	0.1 Consultancies and charges for resource persons	0.18 -Conducting training course -Seminars guest lectures	0.02 - Stationeries	2.8

	4.2 Introducing individual or group presentation and viva components as mandatory elements in the existing curricula	0.5 Procuring laptops and accessories for General laboratories Purchasing of poster stands to showcase their findings and for discussions					0.5
	4.3 Reforming the student welfare and interaction room	0.6 -Procuring movable desk and chairs (at least 20 Nos) -white board -purchasing of cupboard	0.4 Refurbishment of student welfare room		0.2 Expenses for student forums		1.2
5. Reactivation of University - Industrial links	5.1.Reactivation of University - Industrial links					0.3 -fuel charges -travelling and subsistence for academic staff and students	0.3
	5.2 Developing industrial training programme for selected courses					0.2 Fuel charges, travelling and subsistence for students	0.2

4.6 Sustainability

Once the e-conference hall is established at the Department of Zoology, a number of activities can be continued for a longer time. LMS can be practiced effectively, e - conference, e - books, journals, bioinformatics related information can be accessible to the students. Seminars, student assignments, student action projects and even candidates for the short term training can utilize the same hall. Together with the above, refurbishing the laboratories and museum will enhance the quality of teaching and learning environment. Conducting the short term training courses and conferences can be possible, because financial support to these type of programmes by the university are incorporated within the strategic management plan of the University of Jaffna. Staff - student collaborative research is also possible at the University level. When new courses are introduced, a non-credit course as “Scientific Presentations and Report Writing” can also be added which shall be taught by the staff of the Department of Zoology, University of Jaffna without interruption. Addition of new courses will lead to the commencement of new degree programmes, so that our graduates can compete with others, nationally and internationally. This will definitely make a positive impact on the graduate profile and can be continued. Reactivation of University -Industrial links is another avenue for the students. If a MOU is signed between the University and selected industries, the sustainability of the programme will be ensured, considering a degree programme called B.Sc Applied Science in Zoology is already incorporated in the existing curricula.

Appendix I

**Table I: Current student enrolment by year and gender
Department of Zoology 2014**

Faculty of Science - 260	Department of Zoology	Level 1G						Level 2G						Level 3G + 3M						Level 4M								
		Male			Female			Male			Female			Male			Female			Male			Female					
		T	M	S	T	M	S	T	M	S	T	M	S	T	M	S	T	M	S	T	M	S	T	M	S			
	General (G)	10	3	21	19	3	8	10	-	-	15	7	5	5	-	-	-	1	-	-	-	-	-	-	-	-	-	-
	Special (M)	-	-	-	-	-	-	-	-	-	-	-	-	3	-	1	5	-	1	2	-	-	3	-	1	-	-	-
	Applied Science 4X)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1st year to 4th year Total - 123		34			30			10			27			9			7			2			4					
		64						37						16						6								
Department of Zoology - 2015																												
Faculty of Science - 285	Department of Zoology	Level 1G						Level 2G						Level 3G+ 3M						Level 4M								
		Male			Female			Male			Female			Male			Female			Male			Female					
		T	M	S	T	M	S	T	M	S	T	M	S	T	M	S	T	M	S	T	M	S	T	M	S			
	General (G)	4	1	11	15	9	26	2	1	11	2	1	6	8	-	-	3	6	2	-	-	-	-	-	-	-	-	-
	Special (M)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	4	-	2	3	-	1	5	-	-	-	-	-
	Applied Science(X)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1st year to 4th year Total - 124		16			50			14			9			9			17			4			5					
		66						23						26						9								
Department of Zoology- 2016																												
Faculty of Science - 287	Department of Zoology	Level 1G						Level 2G						Level 3G						Level 4M								
		Male			Female			Male			Female			Male			Female			Male			Female					
		T	M	S	T	M	S	T	M	S	T	M	S	T	M	S	T	M	S	T	M	S	T	M	S			
	General (G)	14	2	15	21	15	24	2	1	3	4	3	1	3	1	4	-	-	1	-	-	-	-	-	-			
	Special (M)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	4	1	2	1	-	-	4	-	2			
	Applied Science(X)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
1st year to 4th year Total - 134		31			60			6			8			14			8			1			6					
		91						14						22						7								

T - Tamil S - Sinhala M - Muslim

Appendix I

Table 2: Undergraduate course units and medium of instruction

Academic year 2012

Year (2012/2013)		Total no of course units offered by the Department/ Unit					Medium of instruction*			
		Core	Elective	Auxiliary	Supplementary	Total	Only Sinhala	Only English	Only Tamil	Offered in more than one language
1 st year		4	-	3	-	7		*		
2 nd year		4	4	-	1	9		*		
3 rd year	3G	4	4	-	1	9		*		
	3M	6	-	-	-	6				
4 th year (4M)		7	7	-	-	14		*		

Academic year 2013

Year (2013/2014)		Total no of course units offered by the Department/ Unit					Medium of instruction*			
		Core	Elective	Auxiliary	Supplementary	Total	Only Sinhala	Only English	Only Tamil	Offered in more than one language
1 st year		4	-	3	-	7		*		
2 nd year		4	3	-	1	8		*		
3 rd year	3G	4	5	-	1	10		*		
	3M	6	-	-	-	6				
4 th year (4M)		7	7	-	-	14		*		

Academic year 2014

Year (2014/2015)		Total no of course units offered by the Department/ Unit					Medium of instruction*			
		Core	Elective	Auxiliary	Supplementary	Total	Only Sinhala	Only English	Only Tamil	Offered in more than one language
1 st year		4	-	3	-	7		*		
2 nd year		4	3	-	1	8		*		
3 rd year	3G	4	5	-	1	10		*		
	3M	6	-	-	-	6				
4 th year (4M)		7	7	-	-	14		*		

Academic year 2015

Year (2015/2016)		Total no of course units offered by the Department/ Unit					Medium of instruction*			
		Core	Elective	Auxiliary	Supple mentary	Total	Only Sinhala	Only English	Only Tamil	Offered in more than one language
1 st year		4	-	3	-	7		*		
2 nd year		4	4	-	1	9		*		
3 rd year	3G	4	4	-	1	9		*		
	3M	6	-	-	-	6				
4 th year	(4M)	7	7	-	-	14		*		
	(4X)	6	-	-	-	6		*		

Academic year 2016

Year (2016/2017)		Total no of course units offered by the Department/ Unit					Medium of instruction*			
		Core	Elective	Auxiliary	Supple mentary	Total	Only Sinhala	Only English	Only Tamil	Offered in more than one language
1 st year		Principle subjects - 05				5		*		
2 nd year		4	4	-	1	9		*		
3 rd year	3G	4	4	-	1	9		*		
	3M	6	-	-	-	6				
4 th year	(4M)	7	7	-	-	14		*		
	(4X)	6	-	-	-	6		*		

Appendix I

Table 3: Graduate Employment Experience in the year in the year 2016 from the Department of Zoology

15 students graduated in 2016			
Employment experience	Male	Female	Total
Average time taken to get first job after graduation (months)	06	06	06
Number of students employed in the private sector	01	03	04
Number of students employed in the public sector	-	11	11
Total number of students who graduate in the given year	01	14	15

06 students graduated in 2017 (in 2018)			
Employment experience	Male	Female	Total
Average time taken to get first job after graduation (months)	03	03	03
Number of students employed in the private sector	01	03	04
Number of students employed in the public sector	01	01	02
Total number of students who graduate in the given year	02	04	06

Appendix I

Table 4: Qualification of Academic staff	PhD		MPhil/ Master's		Postgrad Diploma		Bachelor's		Other academic awards/scholarships (Including CTHE)	
	M	F	M	F	M	F	M	F	M	F
No. of Professors	01								FRES Fellowship – 02 NRC award - 01 Chartered Biologists - 01 Presidential award - 01	
No. of Senior Lecturers	02	03	01	02					Fellowship – 01 Commonwealth split site doctoral scholarship -01 Presidential award - 02	KIOST–AMETEC International Fellowship - 01 Chartered Biologists - 02 Chartered Environmental Professional - 01 Fellow of the Royal Entomological Society - 01 Member of Crocodile specialist group- 01 NSF Merit award - 01
No. of Lecturers	-	-	-	-	-	-	-	-	-	
No. of Lecturers (probationary)							01	02		Fellowship - 01
No. of Temporary Assistant Lecturers							01			
Number of tutors							-	-		
Number of demonstrators							02	07		
No. of Visiting Lecturers										

Appendix I

Table 5: Physical Resources -2018

Department/unit	Library	Computer units	Computers for staff use	Computers for student use	Classrooms with multimedia	Laboratories	Others
Zoology	Mini-library	–	Academic Staff use – 8 Office use – 2 Others - 2	–	2	General laboratory – 1 Special lab – 1 Molecular lab – 1 Medical entomology lab - 1 *	Animal house - 1 Insectary - 1 **

Note:

*Space for Animal Physiology laboratory and Environmental Sciences laboratory are allocated in Natural Science Block II of the department of Zoology. Facilities have to be provided for the proper usage and functioning.

** Space for seminar room / e-conference room is allocated in the Natural Science Block I of the Department of Zoology. But facilities have to be provided for the proper usage and functioning.

Appendix II

Report on the multi stakeholder meeting

UBL cell

Faculty of Science

The meeting was held on 6th July 2018 at 10 am in the Physics Mini auditorium. The meeting was attended by representatives/ heads from the following institutions;

- Water Supply and Drainage Board
- Ministry of Agriculture, North Province
- HSBC bank
- Zonal education office, Jaffna
- Department of Fisheries
- NAQDA
- MEPA
- PRI
- Thambatti Maha Vidyalayam

In addition to that thirteen recent graduates from the faculty of Science (from the last four passed out batches) have attended the discussion. The meeting was chaired by the Dean, Faculty of Science. The meeting was coordinated by Dr.K. Velayuthamoorthy along with the UBL cell coordinator.

The discussion started with the introduction to the meeting and self-introduction. A feedback to get the skill level of our graduates was obtained in the form of structured questionnaire. Among the asked skills, the following were found to be within either moderately / less satisfied from more than 40% of the respondents;

1. Interpersonal communication
2. Problem solving
3. Analytical
4. Leadership

Then the discussion started with the potential employers/ partner institutions give their verbal feedback about the general performance of our graduates. The following were some concerns raised by them;

- Lack of industrial exposure
- Lack of practical in most subjects
- Need to develop second language skill
- Presentation skill should be developed
- Report writing skill should be developed
- Lack of depth in the subject knowledge- teachers who refuse to teach certain section in the subject

- Lack of data sharing among researchers
- Less confidence among the graduates
- Personality development should be ensured
- Lack of collaboration
- Lack of social engagement among the graduates and the lecturers
- Lack of programmes targeting the empowerment of school education

From the recent graduates, the following concerns were received;

- Lack of time to develop spoken English
- Career guidance opportunity is not available
- Personality development and interview opportunities are less
- Lack of industrial exposure
- Lack of facilities to develop the skills
- Lack of moral support from staff

The following suggestions were put forward by the participants;

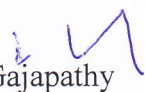
- ❖ Make a framework to support the industry-university partnership
- ❖ Make career guidance module to train students in different career opportunities
- ❖ Make industrial training/ internship mandatory
- ❖ Make the students aware of local issues
- ❖ Make facilities to hone the presentation and writing skill

The participants were thanked by the coordinator, UBL cell and ensured that their concerns will be addressed in the policy document to be developed for the UBL of the University. All the participants have agreed to support the UBL in the future. The meeting was adjourned at 11.30 am.

The UBL cell thank;

- Dean, Faculty of Science for arranging the refreshment and facilities.
- The head, department of Physics and Director, SDC for allowing us to have this meeting in the hall
- The office staff of Dean's office for arranging the event
- Dr. K. Velayuthamoorthy and Mr. S. Arthiyan for their support

Signed


Dr.K.Gajapathy
Coordinator, UBL cell
Faculty of Science

Appendix III

Staff Profile of the Department

No.	Name	Designation	Academic Qualification	Field of Specialization
01	Prof. S. N.Surendran	Professor	Ph.D	Medical & Molecular Entomology
02	Mr. W. Venkatesh Luckshman	Senior Lecturer Gr.II	M.Sc	Aqua biology , Aquaculture, ecology, animal behavior
03	Dr. Mrs. R. Gnaneswaran	Senior Lecturer Gr. I	Ph.D	Biodiversity, Entomology, Ecology, Mangrove diversity and conservation
04	Mrs. N. Rajan	Senior Lecturer Gr. I	M.Phil	Entomology, Insect Pest Management, Insect physiology
05	Dr. T. Eswaramohan	Senior Lecturer Gr. I	Ph.D	Molecular biology, Physiology, animal diversity
06	Dr. Mrs. A. Sivaruban	Senior Lecturer Gr. I	Ph.D	Herpetology, Vertebrate Biodiversity, ecology, Mangrove diversity and conservation
07	Dr. K. Gajapathy	Senior Lecturer Gr. II	Ph.D	Molecular taxonomy and evolution
08	Mrs. P. Sivakumar	Senior Lecturer Gr. II	M.Phil.	Aqua biology and Aquaculture
09	Dr. Mrs. T.W.Shanthakumar	Senior Lecturer Gr. II	Ph.D	Molecular biology and Immunology, Animal Physiology, Marine Biology and Aquaculture
10	Miss.K. Gajavathany	Lecturer (Prob.)	B.Sc. (Hons.)	Following PG in Ornithology
11	Miss. K. Sivapalakashnan	Lecturer (Prob.)	B.Sc. (Hons.)	
12	Mr. S. Arthiyan	Lecturer (Prob.)	B.Sc. (Hons.)	

Appendix IVa

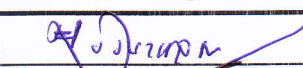


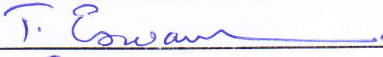
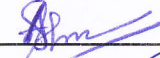
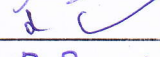
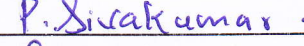
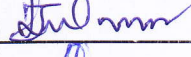

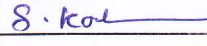
**Staff Meeting Attendance
Department of Zoology
Faculty of Science , University of Jaffna**

Meeting No. :⁰⁵.....

Date : 31/05/2018

Time: 11.00am -

Venue : Department of Zoology , Office 1

No.	Name	Signature
1	Prof. S.N.Surendran	
2	Dr.(Mrs.) R. Gnaneswaran	
3	Mrs. N. Rajan	
4	Mr. W.Venkatesh Luckshman	
5	Dr. T. Eswaramohan	
6	Dr. (Mrs.)A. Sivaruban	
7	Dr. K. Gajapathy	
8	Mrs. P. Sivakumar	
9	Dr. (Mrs.) T.W.Shanthakumar	
10	Mr. S. Arthiyian	
11	Miss. K.Sivabalakrishnan	
12	Mr.N.Bakeerathan	
13	Mr.K.Sribandakaran	
14	Mr. V. Jegathambikaipakan	
15	Mrs.K.Niranjan	
16	Mr.P.Gajanthan	
17	Mr.P.Vimalananthan	
18	Mr.E.Amirthalingam	
19	Mr.S.Thangarajah	
20	Mr.S.Ganasekaram	
21	Mr.S.Sivadenthiran	
22	Miss.A.Arunthavaselvan	
23	Miss.K.Thavarasa	
24	Mr.R.Sivaharan	
25	Mr.V.Thunushan	
26	Mr.M.Rajahkumar	

Appendix IVa

Department staff Meeting

14/08/2018

Staff Meeting of the Department of Zoology

Meeting No: 07

The above meeting will be held on 16/8/2018

Venue: Natural Science Block (NSB-II, 2nd floor)

Time: 09.00 am

Agenda

1. Feedback on final draft version of the AHEAD proposal (Dr.Mrs.A.Sivaruban will be briefed)
2. Finalizing Level 2G Syllabus
3. In cooperating Applied Zoology courses as cert
4. ZSA Project
5. Final presentation of Thesis / Poster Presentation
6. Any other matters

The minutes of the last meeting (Meeting No 06) will be circulated through e-mail in due course.
Please be present.

T. E. Sivaruban
14/8/2018.

Head/Zoology

Appendix IVa

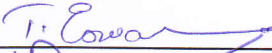
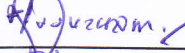



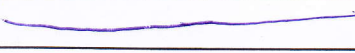

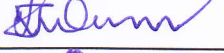

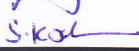
Staff Meeting Attendance
Department of Zoology
Faculty of Science , University of Jaffna

Meeting No. :07.....

Date : 16/8/2014

Time: 9.30 am -

Venue : NSB-II

No.	Name	Signature
1	Dr. T. Eswaramohan	
2	Prof. S.N.Surendran	
3	Dr.(Mrs.) R. Gnaneswaran	
4	Mrs. N. Rajan	
5	Mr. W.Venkatesh Luckshman	
6	Dr. (Mrs.)A. Sivaruban	
7	Dr. K. Gajapathy	
8	Mrs. P. Sivakumar	
9	Dr. (Mrs.) T.W.Shanthakumar	
10	Mr. S. Arthiyan	
11	Miss. K.Sivabalakrishnan	

Appendix IVa

Department staff Meeting

24/08/2018

Staff Meeting of the Department of Zoology

Meeting No: 08

The above meeting will be held on 29/8/2018

Venue: Environmental Conservation Lab (NSB-II, 2nd floor)

Time: 09.30 am

Agenda

1. Final version of the AHEAD proposal (presentation by Dr.Mrs.A.Sivaruban and Dr.T.W.Shanthakumar)
2. Explaining to staff and ZSA members on Re:SGP Grant Project- SRL/SGP/PO6/CC/201
3. Marking of special degree examination
4. Any other matters

The minutes of the last meeting (Meeting No 07) will be sent through e-mail.

This is an urgent and important meeting. Please be present.

T. Sivaruban

Head/Zoology

24/8/2018

Appendix IVa

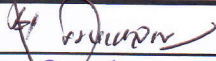


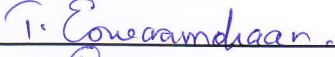


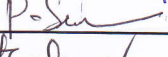
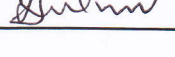
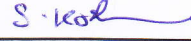
Staff Meeting Attendance
Department of Zoology
Faculty of Science , University of Jaffna

Meeting No. :08.....

Date : 29/08/2018

Time: 9.00 am - 12.00 pm.

Venue : Department of Zoology.

No.	Name	Signature
1	Prof. S.N.Surendran	
2	Dr.(Mrs.) R. Gnanaswaran	
3	Mrs. N. Rajan	
4	Mr. W.Venkatesh Luckshman	
5	Dr. T. Eswaramohan	
6	Dr. (Mrs.)A. Sivaruban	
7	Dr. K. Gajapathy	
8	Mrs. P. Sivakumar	
9	Dr. (Mrs.) T.W.Shanthakumar	
10	Mr. S. Arthiyan	
11	Miss. K.Sivabalakrishnan	

Appendix IVb

UBL cell, Faculty of Science, University of Jaffna (Stakeholders' discussion 1: 06.07.2018)

	Full name	Designation	Official Address	Email ID/ T.P. No
1.	Thirunavokkarasu. Kathirgamanathan.	Asst. Director of Education (Science)	Zonal Education office Jaffna	Kathirgamanathanthiru@yahoo. 0774161006
2.	ARUNASALAM SIVANATHAN -ARAVINTHON	MANAGER	HSBC, JAFFNA	saravinthon@hotmail.com asivananthanaravinthon@hsbc.com.lk. 0777 589728
3.	KANAGALINKAM KALAVANAW.	Biology Teacher.	J/Chendikuligul's college.	barathyvanan@gmail.com .cbms. 0713438442
4.	E. Jaganthasam	Regional Manager	Water Board (NWSDB) Jaffna	rmjaffna@yahoo.com 0773928634
5.	Elanganathan Surendranathan	Assistant Director, Planning	Ministry of Agriculture Northern Province	esurendranathan72@gmail.com 0774840199.
6.	Mahenthiram Anunmaran.	Temporary Assistant Lecturer	University of Jaffna	manunmaran03@gmail.com
7.	Mr. Nalliah William Shanthakumar	Principal	J/Thambaddy G.S.M. Vid Royls	shanthakumarnw@gmail.com 0773258361

UBL cell, Faculty of Science, University of Jaffna (Stakeholders' discussion 1: 06.07.2018)

	Full name	Designation	Official Address	Email ID/ T.P. No
8.	Sivasingham Arthiyar.	Lecturer [Probation -any]	Dept. Zoology, University of Jaffna.	arthiyar.s@gmail. com 0770848327
9.	DR. KUGAMOORTHY VELAUTIAMURTY	SENIOR LECTURER IN CHEMISTRY,	DEPT. OF CHEMISTRY UNIVERSITY OF JAFFNA	kvels@jfn.ac.lk 0718402356.
10.	Murukaiyah Kesavan	Assistant Marine Environment officer	MEPA Jaffna.	Kesavanlavk@gmail 07777 966 72
11.	Nadarajah Ragavan	Lecturer (Prob)	Dept. of Fisheries, University of Jaffna.	ragavansms@gmail.com 0770072328
12.	Rushani Vivekanandaraja	Temporary demonstrator	Dept. of Botany, University of Jaffna.	rushani17@gmail.com 076-3060794.
13.	Jeyrajasingam Sulthrajagan	Assistant Director.	Dept. of Fisheries & Aquatic Resources	sulthra75@yahoo.com 0779072967
14	Victor Suresh. Samson Kapil	Quality Controller.	Annam Beer food (Pvt). Ltd Jaffna.	samsankapil@gmail.com 0772463021

UBL cell, Faculty of Science, University of Jaffna (Stakeholders' discussion 1: 06.07.2018)

	Full name	Designation	Official Address	Email ID/ T.P. No
15.	John Priyarth	Assistant Lecturer	Dept of Zoology University of Jaffna	mjpriyarth@gmail.com
16.	Janarthi Sivarasa	Demonstrator	Dept of Chemistry University of Jaffna	sjanarthi@gmail.com
17	Karthikayini Kanthasamy	Research Assistant	Dept of chemistry University of Jaffna	karthikanda.04@gmail.com

Appendix IVc

**Department of Zoology, Faculty of Science, University of Jaffna, Sri Lanka
Students' Self Assessment Questionnaire
Accelerating Higher Education Expansion and Development (AHEAD) Programme**

Level 3M

No	Name	Reg. No	Signature
1)	K. Vithushni	2014/SB/073	K. Vithushni
2)	M.A.F. Hasna	2015/SB/015	M.A.F. Hasna
3)	Nadika Abegameera	2015/SB/041	Nadika
4)	V.O. Patrick	2015/SB/Dis/100	V.O. Patrick
5)	H.G.D. Madhusanka	2015/SB/086	Geys
6)	K.A.L.K.J. Kirillawala	2015/SB/079	Kirillawala
7)	Dayananda D.N.G.	2015/SB/047	Dayananda
8)	G.W.A.L.K. Wijewantha	2015/SB/067	G.W.A.L.K.
9)	B.G.I.D. Gamage.	2015/SB/042	B.G.I.D.
10)	N.M. Liyanagedara	2015/SB/065	N.M. Liyanagedara
11)	A. Salomi	2015/SB/060	A. Salomi
12)	A.A.K.P. Amarasinghe	2015/SB/040	A.A.K.P.
13)	R. Malarini	2015/SB/007	R. Malarini

Appendix IVc

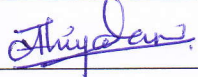

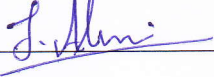

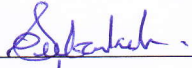




**Department of Zoology, Faculty of Science, University of Jaffna, Sri Lanka
Students' Self Assessment Questionnaire
Accelerating Higher Education Expansion and Development (AHEAD) Programme**

Level 4M

No	Name	Reg. No	Signature
01)	Miss Vithusha Aramparnacorthy	2014/SB/025	A. Vithu
02)	Miss. vihara Gumaratne	2014/SB/1103	Vihara
03)	Miss. K. SHANIKKA LAKMATH	2014/SB/071	Shanika
04)	Miss. Arani Yogalingam	2014/SB/027	Y. Arani
05)	Miss. Anitha Ganeshwara -nathan	2014/SB/043	Gr. Anitha
06)	Miss. N. Tharay. Sivarama	2014/SB/081	N. Tharay
07)	Mr. A. Tharshan	2014/SB/041	A. Tharshan

Appendix IVd

Department of Zoology, Faculty of Science, University of Jaffna, Sri Lanka
Recent graduates' Self Assessment Questionnaire
Accelerating Higher Education Expansion and Development (AHEAD) Programme

No	Name	Reg. No	Signature
01	Arthiya Thiyalan		
02	John Priyath		
03	Abirami John Priyath		
04	Tharmega Sivaratnam	2013/SB/032	
05	Subanki Loganathan	2013/SB/014	
06	T. Aravraj		
07	G. SUBOTHINI		
08	G. Gowthami		
09	T. Janaran		

Appendix V

Office of the Dean,
Faculty of Science.
28/08/2018

..Dr. Mrs. T. K. Shanthakumar

...Department...of Zoology.

SPECIAL MEETING OF THE FACULTY BOARD OF SCIENCE

The above meeting will be held on Wednesday, 29th August 2018 at 11.30 a.m. in the Department of Computer Science, Main Laboratory.

AGENDA

- Approval of the Department level proposal writers for AHEAD project

Please be present.

J. P. J
Prof. J. P. Jeyadevan
Dean/Science



SFB/166/SP-1/01

**FACULTY OF SCIENCE
UNIVERSITY OF JAFFNA
SRI LANKA**

**Approval of the Department Level Proposal Writers for
AHEAD Project**

- Department of Botany
- Department of Chemistry
- Department of Computer Science
- Department of Mathematics and Statistics
- Department of Physics
- Department of Zoology

**SPECIAL MEETING OF THE
FACULTY BOARD OF SCIENCE**

29 – 08 – 2018

AHEAD – ELTA –ELSE Development Project at the Departmental Level

It is to inform the Faculty Board that the following academic staff members are involved in the AHEAD – ELTA - ELSE Development Project at the Departmental Level in the Department of Zoology, University of Jaffna. The EOI for the proposal was submitted on 25/05/2018.

Principal proposal writer (s) : Dr. Mrs. Abyerami Sivaruban and
Dr. Mrs. Thulasitha William Shanthakumar

Project Coordinator : Dr. Mrs. Abyerami Sivaruban

Team Members

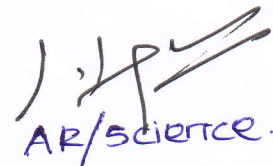
- 01. Activity Coordinator (Activity I and III)** : Dr. Mrs. Thulasitha William Shanthakumar
e-mail: thulasiwilliam@gmail.com
- 02. Activity Coordinator (Activity II and IV):** Dr. Kanapathy Gajapathy
e-mail: gayan156@gmail.com
- 03. Activity Coordinator (Activity V)** : Dr. Mrs. Abyerami Sivaruban
e-mail: abyerami@gmail.com

Faculty Board approval is solicited.

sgd.

Head / Zoology

Approved by the SFB at its 166th
(Special) meeting held on 29/08/2018


AR/science.

Assistant Registrar
Faculty of Science
University of Jaffna
Jaffna, Sri Lanka.